**RÉPUBLIQUE FRANÇAISE** 

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# ARCEP's Annual Report 2012



Autorité de régulation des communications électroniques et des postes

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Activity report 2012

2012 was an important and special year in many respects. ARCEP's 15<sup>th</sup> anniversary provided an opportunity to measure the effects of regulation over a long period of time. But 2012 was also a time of profound changes for the electronic communications sector's businesses. These changes required ARCEP, and all of the other State administrations concerned, to work, more than ever before, on making decisions that would ensure balanced and lasting development for this sector which lies at the heart of the digital ecosystem, which is itself a vital part of our economy's growth potential.

# 15 years of regulation: building a market with four fixed and mobile operators

Since its creation in 1997, ART – which later became ARCEP – has worked to enable the development of a thriving electronic communications market, populated by operators whose revenue has increased in value by 70% in 15 years. During that time, service prices decreased by 25%, which in turn helped accelerate the emergence of innovations in the arena of services, enabled more widespread access to these services, a steady increase in consumption levels and the spread of applications that have been vital to ongoing growth. A first stage in opening the market up to competition ended with fixed and mobile infrastructures upgrading to superfast broadband, and the ubiquity of IP technologies whose value derives chiefly from providing access to data services.

Even more than in 2011, this past year was marked by a decrease in operators' income – which stood at  $\in$ 42 billion in the retail market (-4 %) – as the rise in revenue earned by fixed and mobile broadband and superfast broadband was unable to offset the drop in earnings from traditional services. Telcos spent more than  $\in$ 10 billion last year, which is a record high, while traffic on their networks skyrocketed, thanks to the widespread availability of high-volume plans and a huge (67%) increase in data traffic on mobile systems. Mobile operators also saw the highest increase

# Introduction

in customer numbers (+4.6 million) of the past 10 years, as a fourth MNO entered the marketplace. Meanwhile, operators' employment levels remained largely unchanged.

### Mobile market: increased competition and preparing for the transition to superfast access

Two major developments occurred in the mobile market last year: the arrival of a fourth network operator, and the deployment of 4<sup>th</sup> generation (LTE) systems.

The advent of the fourth MNO in January 2012 marks the completion of the convergence of fixed and mobile services, which has been ongoing for several years and resulted in the creation of four major national telcos operating in both markets. It has also led to a sizeable decrease in prices – 11.6% annually, on average – and accelerated a shift in revenue generation from voice calls to data services.

Meanwhile, the successful allocation of digital dividend frequencies in the 800 MHz band early in the year, on the heels of the 2.6 GHz band spectrum allocated in late 2011, also enabled operators to begin upgrading their mobile infrastructure. Swift rollouts brought the first commercial solutions in 2012.

In early 2013, ARCEP gave Bouygues Telecom the green light to reuse the 1800 MHz-band frequencies it currently employs to deliver GSM (2G) services for 4G. In accordance with the provisions of the European framework that was transposed into national law in 2011, the aim of this measure is to achieve more efficient use of the spectrum – for which demand will only continue to rise – and help accelerate investments.

Lastly, as Free Mobile began deploying a new 3G network, and all operators began their pioneer 4G rollouts, ARCEP began important work on mobile coverage and service quality. In November, we produced a detailed scorecard and suggested improvements, particularly in the area of customer information. In 2012 we worked to ensure, as we will continue to do in 2013, that all operators make the investments needed to meet their coverage obligations.

#### Fixed access market: superfast broadband rollouts accelerating

The fixed access market is also in the process of transitioning to superfast broadband, through the deployment of optical fibre local loops across the country. Rollouts that were well underway in high-density areas steadily expanded into more sparsely populated ones in 2012, thanks to the combined impetus of private sector operators and local authorities with their public-initiative networks. The number of homes eligible to receive a fibre-to-the-home (FTTH) service consequently grew by 46% during the year: to a total 2,165,000 at the end of 2012, of which 20% are located outside high-density areas. If we add in upgraded cable networks, close to 9 million households are now able to access a superfast service (over 30 Mbps) and 1.6 million have actually signed up for one.

The regulatory framework that ARCEP established between 2009 and 2011 has now been fully implemented in the whole of France: co-investment agreements signed in 2011 are being applied locally, and more than 50% of eligible homes are outfitted thanks to network-sharing schemes, giving consumers access to a choice of several retail plans. ARCEP also committed to performing an interim assessment of the regulatory framework 18 months after it came into effect: our examination of the emerging superfast broadband market allowed us to conclude that, by and large, the current framework matches the market's needs, in addition to providing us with valuable information as we prepare for the fourth round of market analysis in 2014.

That said, without undermining the framework that currently provides clear and stable rules and incentives, ARCEP is nevertheless keen to tweak certain aspects of it. We have therefore continued to work in tandem with the sector's stakeholders on several issues, including the last metres of NGA systems, obligations to complete rollouts outside of very high-density areas, FTTH line identification and standardizing operational processes and information systems. Our initiatives in support of fixed superfast

broadband rollouts across the country have also been completed by the gradual introduction of a system of government oversight and support, which ARCEP had put on its wishlist back in 2011 and which led to the creation of an superfast broadband task force, under the aegis of the minister responsible for the digital economy, and to the production of a superfast broadband roadmap for France.

#### Net neutrality: moving into the operational stage

The discussions that ARCEP began on net neutrality in 2010 led, first, to 10 proposals to ensure the internet's smooth operation and balanced development, and to define the tools needed to maintain this balance. The work performed in 2011 and 2012 translated the actual implementation of these tools.

A decision issued in March 2012 gave us the ability to gather information on the market for interconnection between ISPs and the main content and application providers, on a regular basis. This will allow us to better track the development of relationships between the market's players, and so to increase our knowledge and expertise notably with a view to settling future disputes. On the other side of this market, the work carried out all year long resulted in a decision in March 2013, introducing a QoS monitoring mechanism for internet access services, which will provide an accurate measure of the service actually being provided, in addition to supplying end users with clear and objective information. The first results are expected in late 2013. In addition, a working group made up of ARCEP, DGCCRF<sup>1</sup> and DGCIS<sup>2</sup> drafted a set of recommendations on traffic management practices to ensure that consumers are properly informed. We also produced a survey of the various traffic management practices being used today, which were highlighted in the resulting report to Parliament and the Government.

The methods we choose must be pragmatic and progressive. They must correspond to the ever-evolving needs of the internet's technical-economic regulation, and the means of intervention at our disposal. So our actions at this stage are preventative, in that they are rooted in improving transparency and the information provided to consumers and, if necessary, on settling disputes that

2 - DGCIS: General directorate for competition, industry and services (Direction générale de la compétitivité, de l'industrie et des services),

<sup>1 -</sup> DGCCRF: General directorate for fair trade, consumer affairs and fraud control (Direction générale de la concurrence, de la consommation et de la répression des fraudes).

might arise between operators and online service providers, on a case-by-case basis. More prescriptive measures – notably setting minimum quality of service requirements – which are provided for in the transposed European framework, can be introduced if there is a proven market failure.

# Postal service: qualitative developments in a shrinking market

If the state of competition in the postal sector has not evolved substantially two years after it was opened up to competition, we did see significant developments in the universal postal service in 2012.

This was the first full year of sales for the La Poste "*lettre verte*" universal service: an economical two-day delivery service. The sale of this service was attached to commitments that La Poste made to ARCEP to continue to offer its priority, one-day delivery service. In a series of opinions on planned price changes, ARCEP expressed its views on an increase in national and international postal tariffs, and on operational and pricing changes to parcel services. In particular, we expressed our commitment to having a low-cost solution for sending small items.

Looking at the medium term, the supervision of universal postal service tariffs has been renewed for 2013-2015, to ensure that the universal postal service will continue to be financed at a time when traffic is shrinking.

ARCEP also welcomed significant improvements in the quality of the La Poste registered letter service, in addition to issuing recommendations to ensure that registered letters handled by alternative operators be given equal status. Lastly, the Postal Act of February 2010 stipulates that users can appeal to ARCEP to settle claims that have failed to be resolved by the operators' own systems. These requests, which result in an opinion from the ARCEP Board, allow us to identify those areas of the postal service where concrete improvements are needed, and to suggest courses of action. These are included in the annual scorecard produced by ARCEP, whose first edition was published in 2012.

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The sectors of the economy that fall under ARCEP's purview continue to evolve at a tremendous pace, which requires us to continually adapt the way we respond - notably to support the renewal of electronic communications infrastructures, and to keep up with the changing relationships between stakeholders along the internet value chain. These changes demand a full commitment from our institution and from all of our staff who, during these times of budgetary cutbacks, have maintained the effectiveness that one would expect from a State administration. These changes also require a regulator to be forward-looking and capable of clear recommendations. This is why the work being done by our Forward-planning committee, which was renewed earlier this year, will focus on how new sources of revenue can be created and shared in the digital technology market, and how suitable regulation can help the market develop. Our annual conference in October will provide the first opportunity to translate these discussions into something concrete.

> Jean-Ludovic Silicani ARCEP Chairman

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# PART ONE

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# ARCEP responsibilities and activities

### 1. ARCEP's responsibilities

ARCEP is an independent administrative authority that was created on 5 January 1997, under the name of ART – which stands for *Autorité de régulation des télécommunications*, or Telecommunications Regulatory Authority – to accompany the French telecommunications sector as it was opened up to competition, and to regulate the markets created in the process. We therefore celebrated our 15<sup>th</sup> anniversary in early 2012.

In 2005, the Law on postal regulation<sup>1</sup> expanded the Authority's powers. We thus became the Electronic communications and postal regulatory authority, or ARCEP (*Autorité de régulation des communications électroniques et des postes*), as we assumed the responsibility of overseeing the postal market's liberalisation and proper operation.

Since 1 January 2011, the date on which the French postal market was fully opened up to competition, in accordance with the Law on postal regulation and postal activities<sup>2</sup>, the Authority has been responsible for:

- issuing authorisations to exercise a postal activity;
- issuing opinions, which are made public, on tariffs and universal service quality objectives;
- approving the tariffs applied in the reserved area;
- · and processing complaints received from users of the

postal service which were unable to be resolved through the procedures put into place by authorised postal service providers.

ARCEP's chief role in the electronic communications sector is to ensure fair and effective competition in the electronic communications market, which benefits consumers.

Our primary tool is market analysis which consists of defining relevant markets, of designating those operators that enjoy significant market power (SMP) and of setting the obligations to which they are subject, generally in wholesale markets — in other words markets where operators bill for services provided to one another – to resolve competition issues that have arisen. This is referred to as "asymmetrical" regulation as it does not apply equally to all of the market's operators.

ARCEP also has the power to set the general obligations that apply to all operators, within the scope set by law. This is what is known as "symmetrical" regulation as it applies equally to all market operators. In addition, the Authority has the power to impose penalties on any operator that does not meet its obligations, and to settle disputes between operators on the technical and pricing terms governing network access. The allocation of spectrum and numbering resources is another responsibility entrusted to ARCEP. And, finally, the Authority sets the amount of the contributions to the universal service fund, defined by the Law of 1996, and ensures the oversight of these financing systems.

affairs

<sup>1 -</sup> Law No. 96-659 on telecommunications regulation of 26 July 1996, Journal Official Journal) of 27 July 1996.

<sup>2 -</sup> Law No. 2010-123 of 9 February 2010 on postal activity regulation, JO of 10 February 2010.

The legislative provisions that define ARCEP's role and status are contained in the French Postal and electronic communications code or CPCE (Code des postes et des communications électroniques).

# 2. ARCEP's activities

#### 2.1 Performance indicators

When enacting the Finance Act of 2006, referred to as the LOLF<sup>3</sup> (Loi organique relative aux lois de finances), a common performance objective was set for all three of the independent administrative authorities responsible for economic regulation, namely to "make quality decisions within a set timeframe". This objective has resulted in similar indicators for compliance with those timeframes being set for the three bodies.

In 2012, ARCEP's average timeframe for issuing opinions on texts were:

- 11.6 business days for opinions on tariffs (compared to 15.7 in 2011):
- 14.3 business days for adopting opinions on regulatory texts (compared to 12.1 in 2011).

Additional indicators were defined in 2009 and updated in 2012 which pertain more specifically to "professional" performance (see table below).

"Professional" performance indicators				
	2009	2010	2011	2012
Regulator's administrative efficiency				
- Number of opinions or decisions issued	1 1 3 3	1 377	1 510	1 674
- Number of decisions cancelled by the courts	1	0	0	1
lectronic communications: regulated market development				
a) Equipment				
- Number of broadband and ultra-fast broadband subscribers (million)	19.7	21.3	22.7	24
- Number of ultra-fast broadband subscribers (million) <sup>4</sup>	0,7	1,1	1,3	1.6
- Number of mobile subscribers (million)	61,5	65	68.6	73.1
- Number of Internet subscribers (% of households)	62.6	69.2	72.9	74.5
b) Regulated market development: geographical coverage (by technology)				
- Mobile (% of the population)	99.8	99.9	99.9	99.9
- Broadband (access at 512 Kbit/s or more) (% of lines)	98.7	99.0	99.1	99.3
- Fibre (% of homes passed)	2.4	3.2	4.4	6.5
Postal sector				
a) Quality of service				
- % of single-piece priority letters delivered in $D+1$	84.7	83.4	87.3	87.9
- % of "Colissimo guichet" parcels delivered in D+2	87.7	84.8	88.7	89.8
b) Number of operators	22	22	29	32

Source: ARCEP.

#### 2.2 Decisions and opinions

#### a/ Decisions

The ARCEP Board issued 1,674 opinions and decisions in 2012, of which 24 concerned the postal sector.  1,574 concerned the allocation of resources: 1,294 on spectrum resources and 280 on numbering resources;

As to the decisions relating to the electronic communications sector:

<sup>3 -</sup> Finance Act No. 2001-692 of 1 August 2001, JO of 2 August 2001.

<sup>4 -</sup> Pursuant to the European regulatory framework, ARCEP has updated its figures in accordance with the new threshold set for ultra-fast broadband, i.e. 30Mbps instead of 50Mbps

- five decisions concerned the Authority's ex ante regulatory powers, and two were new wholesale market analyses: analysis of the market for call termination on Free Mobile, Lycamobile and Omea Telecom's networks, and analysis of the market for digital terrestrial broadcasting services, referred to by the European Commission as "market 18";
- six decisions concerned administrative enquiries. ARCEP launched an enquiry into the terms made available by La Poste for single-piece items under the universal postal service. A second decision closed this same enquiry. We also launched an enquiry into the technical and financial terms between the provider of public online communication services, Google, and operator Free.

#### b/ Opinions

In 2012, ARCEP issued 30 opinions, including:

- 12 opinions on draft legislation, decrees and orders;
- 6 opinions submitted in response to a request from the Competition Authority;
- 5 opinions on La Poste tariff decisions;
- 10 opinions on postal complaints.

#### 2.3 Consultations, surveys and reports

Twenty six public consultation were launched in 2012, either as part of market analyses procedures, on matters that are within the Authority's regulatory purview, or as part of the process of implementing operators' asymmetrical obligations and market-wide schemes, e.g. use of spectrum, universal service, numbering, fibre rollouts, call termination.

En 2012, l'Autorité a publié trois rapports :

- a report to Parliament and the Government on net neutrality;
- a report on the coverage and quality of mobile services supplied by the four mobile network operators in metropolitan France;
- a status report on the work performed by the forum for discussions between ARCEP, local authorities and operators, GRACO (groupe d'échange entre ARCEP, les local authorities et les opérateurs), titled: "Local

authority involvement in the electronic communications sector";

ARCEP also published four market reports whose topics included "the dissemination and use of information technologies in French society", and "methods used to assess quality of service on mobile networks".

In July 2012, the Authority published a handbook on FTTH rollouts (guide sur le déploiement de la fibre optique jusqu'à l'abonné) aimed at elected officials and local authorities – containing a glossary and diagrams whose purpose is to establish a shared vocabulary for what is an often complex subject.

To assist local authorities in their transition to superfast broadband, in November 2012 we also published a handbook aimed at deepening their understanding of the networks, as well as a practical guide on increasing bandwidth on the copper network, and particularly the introduction of sub-loop unbundling schemes attached to France Telecom's PRM (*Point de Raccordement Mutualisé*) shared access point solution.

Lastly, the Authority published a practical guide for telcos and value-added service (VAS) operators on reorganising blocks of numbers starting with 08 and short numbers.

#### 2.4 Operator licences and declarations

The Act of 9 July 2004 on electronic communications and audiovisual communication services altered and simplified the regulatory framework that applies to electronic communications in France, as a result of which operators are required only to declare themselves to the Authority prior to doing business, whereas they had previously been required to apply for an authorisation..

In 2012, 221 new operators declared themselves, of which a third have an only department-wide service area. As of 31 December 2012, ARCEP recorded **1,328** declared operators, of which 824 were operating a

network, 718 were providing a fixed telephone service, 744 an Internet access service and 139 were providing mobile services.

In March 2013, ARCEP informed the Paris public prosecutor of the company Skype's possible failure to comply with its obligation to declare itself as an electronic communications operator in France.

#### 2.5 Dispute settlements

ARCEP issued three decisions settling disputes between operators in 2012

#### Dispute between SRR and France Telecom<sup>5</sup>

ARCEP rejected a request from the company SRR concerning the price that France Telecom was charging for international transit link services. for the link between Mayotte and the Union of the Comoros: the Authority concluded that SRR had not provided any evidence that made it possible to ascertain that the prices set by France Telecom - what is more, for a non regulated offering - were set unfairly.

#### Dispute between Lleida.net and SFR<sup>6</sup>

Lleida.net, a company that markets a service for sending person-to-person SMS, wanted to sign an interconnection agreement with the company SFR that would allow its customers to send SMS to SFR customers, and to receive SMS sent by SFR customers. ARCEP concluded, first, that it was unnecessary to rule on the company's request to enter into an interconnection agreement as SFR proposed just such a contract to Lleida.net, after the complaint to ARCEP had been filed. Second, the Authority rejected the overload of applications that Lleida.net filed concerning the technical terms of call termination set by SFR, as no negotiations had been carried out on the matter.

#### Dispute between Dauphin Telecom and France Telecom<sup>7</sup>

In settling this dispute, ARCEP concluded that there was no mark-up for value-added services in France Telecom's invoices to the firm Dauphin Telecom.

In November 2012, ARCEP also received a request from companies Afone and SFR to settle a dispute – which was eventually withdrawn in March 2013. The Authority issued a total of three dispute settlement decisions in 2012

#### 2.6 Formal notices and penalties

In 2012, ARCEP opened nine penalty procedures whose purpose was to require operators to comply with their obligations<sup>8</sup>.

The Director-General also adopted two decisions of formal notice.

Lastly, ARCEP adopted three decision<sup>9</sup> during the year that were follow-ups to earlier formal notices issued by the Authority's Director-General.

ARCEP thus concluded that there was no need to adjudicate on the penalty procedures engaged against the firms Bolloré Telecom and Société du Haut Débit (SHD), in light of the efforts these companies made in achieving more efficient use of the wireless local loop frequencies assigned to them in the 3.4-3.6 GHz band, and of the specific commitments they made to the Authority which concluded that there was no need to impose a penalty on them.

ARCEP also concluded that there was no need to adjudicate against Altitude Wireless on the matter of the company's optimum use of radio spectrum. It did,

9- Decisions No. 2012-1312, 2012-1313 and 2012-1314 of 22 and 23 October 2012.

<sup>5 -</sup> Decision No. 2012-0157, of 7 February 2012

<sup>6 -</sup> Decision No. 2012-0205, of 14 February 2012.

<sup>7 -</sup> Decision No. 2012-365, of 20 March 2012.

<sup>8 -</sup> In accordance with Article L. 36-11 of the French Postal and electronic communications code (CPCE).

ARCEP

#### **ARCEP responsibilities and activities**

however, fine the company  $\in 19,000$  for failing to pay its outstanding frequency management and usage fees. After having filed an appeal with the Conseil d'Etat on 21 November 2011, against the formal notice from ARCEP's Director-General to comply with its obligations, Altitude Wireless withdrew its application and did not seek to appeal the penalty decision.

# 3. The legal framework and its development: introduction of the regulation on international roaming within the European Union

On 1 July 2012, the 3<sup>rd</sup> European regulation on international roaming inside the European Union<sup>10</sup>. came into effect. ARCEP provided French authorities with our expertise during the negotiations over the text in 2011 and 2012. BEREC also shared its analysis of the subject, at the request of European institutions.

Despite the introduction of pricing obligations in the two previous versions (maximum wholesale price for calling, SMS and data, and a maximum retail price for calling and SMS), market competition continued to be very weak. In addition to these pre-existing obligations, the new regulation introduces maximum retail prices for data services, and a series of new provisions that aim to alter the market's structure to make it more competitive.

#### 3.1 The regulation's provision

The regulation aims, first, to strengthen wholesale market competition by introducing an obligation for operators to grant all reasonable requests for access to their network from other operators, including MVNOs, wanting to develop a retail roaming offer. The most novel measure, however, enables the separate sale of retail market roaming services ("decoupling") which – starting on 1 July 2014 – will allow consumers to choose an operator other than their national one for the supply of calling, SMS and data services when travelling in Europe.

The regulation also enables a "light" version of this decoupling with what is called "local break-out" (LBO)<sup>11</sup>: a user travelling in another European Union Member State will be able to access a mobile data service provided by a local operator, using an approach similar to Wi-Fi hotspots.

In addition, the regulation maintains pricing obligations in the form of a "Eurotariff"<sup>12</sup> that applies to the same services as the previous regulation, but adjusts the maximum retail price for data services. Depending on the state of market competition at this stage, the set maximum prices could start being lifted in 2017, following a decision from European institutions.

Lastly, the regulation strengthens a certain number of obligations that benefit consumers, especially in terms of transparency and involuntary roaming in border regions, etc.

# 3.2 Work performed on implementing the regulation

The introduction of structural remedies (decoupling and LBO) requires a substantial amount of technical preparation to specify how the regulation will be implemented from a practical standpoint. This stage, which is provided for in the regulation, involves the European Commission, market players and BEREC (in whose work ARCEP took an active role). These parties

12 - European Commission press release.

<sup>10-</sup> Regulation (EU) No 531/2012 of the European Parliament and Council of 13 June 2012 on roaming on public mobile communications networks within the Union.

<sup>11 -</sup> Local break-out refers to the local provision of data services by a visited network operator. From a technical standpoint, this requires the user wanting to access international roaming to alter the APN (access point name) on their device (smartphone, tablet, dongle, etc.) so that the data services connect to the local operator's GGSN (gateway) rather than the national operator's.

have maintained an ongoing dialogue through a dedicated sectoral platform that is open to all market stakeholders, and which defines the purely technical aspects of decoupling.

In autumn 2012, BEREC thus adopted guidelines on application of the obligation to provide access to wholesale services<sup>13</sup>. The Commission adopted a implementing regulation in December 2012<sup>14</sup> which describes the technical solutions for introducing

wholesales solutions, with the goal of providing retail services by July 2014. In addition, BEREC is due to publish guidelines on the more regulatory aspects of the issue in summer 2013.

In the coming months and years, the Commission, BEREC and NRAs will continue to support the introduction of structural remedies, and will monitor the market's development – particularly in the area of competition.

#### Change in the maximum price charged for international roaming inside the European Economic Area (EEA)

	Outbound voice (retail price) (€c/min.)	Outbound voice (wholesale price) (€c/min.)	Inbound voice (retail price) (€c/min.)	SMS (wholesale price) (€c/min.)	SMS (retail price) (€c/min.)	Data (wholesale price) (€c/min.)	Data (retail price) (€c/min.)
1 July 2012	29	14	8	3	9	25	70
1 July 2013	24	10	7	2	8	15	45
1 July 2014	19	5	5	2	6	5	20
1 July 2015	19	5	5	2	6	5	20
1 July 2016	19	5	5	2	6	5	20
1 July 2017	-	5	-	2	-	5	-

Source: ARCEP.

<sup>13 -</sup> BEREC guidelines.

<sup>14 -</sup> Commission's implementing regulation (EU) No. 1203/2012 of 14 December 2012 on the separate sale of regulated retail roaming services within the Union.

**ARCEP responsibilities and activities** 



# The ARCEP Board in March 2013.

From left to right: Pierre-Jean Benghozi, Daniel-Georges Courtois, Françoise Benhamou, Jean-Ludovic Silicani (Chairman), Marie-Laure Denis, Jacques Stern, Philippe Distler

# ARCEP's organisation and operation

# 1. The Executive Board

Since the adoption of the Law of 5 March 2007<sup>1</sup>, this appointment of the Chairman of ARCEP takes place after receiving the opinion of parliamentary commissions.

Members of the Board cannot be dismissed, their six-year term is not renewable and their position is incompatible with any other business activity, national appointment or civil service position.

The code of conduct that the Authority adopted in 2007 applies to all ARCEP Board members<sup>2</sup>.

In early 2012, the Senate appointed Françoise Benhamou, professor of social sciences and economics, to replace Nicolas Curien. The Chairman of the National Assembly appointed Jacques Stern, Doctor of science, cryptologist and professor of mathematics, to replace Joëlle Toledano.

In early 2013, the President of the Senate appointed Pierre-Jean Benghozi, Director of Research at France's National Centre for Scientific Research (CNRS), to replace Denis Rapone.

The President of the Republic appointed Philippe Distler, member of the Corps of Engineers and ARCEP's Director-General since 2003, to replace Jérôme Coutant.

2 - Decision No. 2007-0461 of 7 June 2007 adopting the code of conduct for ARCEP Board members.

<sup>1 -</sup> Law No. 2007-309 of 5 March 2007 concerning modernisation of audiovisual broadcasting and television in the future, JO of 7 March 2007.

# 2. Organisation and department budgets

### 2.1. ARCEP's organisation and operation

Organisation chart as of 1 July 2013

Advisors to the Chairman Christian GUENOD (Synthesis) Patricia LEWIN ((Institutional relations)

Forward-planning Committe

Interconnection and Access Committee

**Consumer Affairs Committee** 

GRACO (Working group between ARCEP, local authorities and operators)



#### ARCEP's organisation and operation

# **Executive Board**

Chairman Jean-Ludovic SILICANI

Members Pierre-Jean BENGHOZI Francoise BENHAMOU Daniel-Georges COURTOIS Marie-Laure DENIS Philippe DISTLER Jacques STERN

#### **Directorate-General**

Director General Benoit LOUTREL

Deputy Directors General Stéphane HOYNCK François LIONS

Director to the Director-General Jérôme ROUSSEAU

#### Departments

#### Department of mobile access and equipment manufacturer relations

Spectrum planning and allocation Frequency licence awards Wholesale mobile market regulation

Rémi STEFANINI Deputies: Julien MOURLON Guillaume MELLIER

Mobile spectrum Julien MOURLON

Mobile markets Guillaume MELLIER

Regulation, strategy and manufacturer relations *Thomas GOUZENES* 

Spectrum management Jean-Luc STEVANIN

#### Department of fixed line access and local authority relations

Regulation of wholesale broadband and superfast broadband fixed access markets Monitoring relations with local authorities for purposes of regional digital development

Romain BONENFANT Deputy: Renaud CHAPELLE

Relations with local authorities Julie CHABROUX

Copper access networks and superfast broadband infrastructure *Thomas HOARAU* 

Optical fibre access networks and superfast broadband usage *Guillaume MEHEUT* 

#### Department of electronic communication services and consumer relations

Communications

Jean-François HERNANDEZ Deputy: Ingrid APPENZELLER

Regulation of interconnection markets and capacity services Monitoring general authorisations



General authorisations, network security and numbering Catherine GALLET-RYBAK

Capacity services and fixed telephony markets Thibaud FURETTE

Consumer relations Delphine GOMES DE SOUSA

#### Department of postal activities

Regulation of mail-related postal activities: operator authorisations, universal service controls, accounting and tariff supervision of the universal service operator

#### François LIONS Deputy: Lionel JANIN

Accounting, modelling and economics Lionel JANIN

Authorisations and universal service Julien COULIER

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#### 2.2 ARCEP's budget and management

#### Credits

Since 2009, ARCEP's budgetary allotment has constituted Action 13 – "electronic communications regulation" – of programme 134 of the Finance Act's economic mandate, "business and job development". For 2012, Parliament allocated ARCEP a budget of €15.9 million in payment credits for personnel expenses (item 2) and €7 million for operating expenses (item 3). These amounts were reduced to match the precautionary resources voted by Parliament (0.5% for item 2 and 6% for item 3) and, for item 3, supplemented by the carryover of appropriations to the extent set out in the Finance Act.

We have made considerable efforts since 2009 to reduce our operating expenses, which has resulted in an overall 24% decrease in our annual expenditures (excluding rental fees). This is consistent with the "model state" guidelines given to all State administrations. All cost items have been subjected to systematic and voluntary cutback measures: conference fees, travel and overseas missions, fleet of vehicles (reduced from 22 in 2009 to four by the end of 2013), PR spending and the IT blueprint. The Authority has also been engage in an ongoing effort for the past two years to become a paperless office, not only as a way to reduce costs on a continuing basis, but also to modernise and increase the reliability of in-house processes. A model administration, ARCEP thus reduced our overall operating expenses by 16% between 2009 and 2012, while continuing to optimise the resources allocated to it by Parliament, maintaining the quality of our work and performing all of our duties.

#### Revenue

As in 2011, this past year was marked by an especially high level of revenue (licensing fees and taxes) collected by the Authority, which is deposited into the State's general budget: **coming to a total**  $\in$ **2.9 billion,** of which  $\in$ 2.6 billion from auctions for 800 MHz band frequency licences.

ARCEP has thus collected a total €5.6 billion for the State since 2009, of which €3.6 billion for superfast (4G) mobile services .

#### 2.3 Human resources

As of 31 December 2012, in addition to the Executive Board, ARCEP had a staff of 172 people (45% women and 55% men), of which 35% are civil servants (either secondments or on assignment) and 65% are contractors. The average age of our personnel is 40.8 years.

In 2012, staff credits listed in the Finance Act increased by 2.7%, with an authorised maximum staff that has remain unchanged in five years at 174 full-time equivalent employees (FTEE). The full quota was almost



Source: ARCEP.

#### ARCEP's organisation and operation

reached for the first time ever in 2012, with an average annual of 173.8 FTEE. Twenty staff members left the Authority in 2012, of which 17 were replaced

### 2.4 Outside expertise

The pace of the changes at work in the sector, and the highly technical nature and importance of regulatory issues have led ARCEP to seek outside technical, economic, statistical and legal expertise.

The work of consulting firms has allowed ARCEP to benefit from specialised skills and unbiased outside

advice. For the Authority, this usually results in the appropriation of tools for internal use which are not intended to be made public. However, certain reports and certain consumption or quality of service (QoS) surveys are intended as a means of informing the sector, are thus freely available on our website.

In 2012, the report budget amounted to  $\in$ 715,314. Seventeen reports were commissioned, at an average cost of  $\in$ 42,077 and an average duration of four months.

Chief external reports and surveys commissioned in 2012
Fibre and broadband
How unbundling affects the development of the DSL broadband market
Voice and capacity services
Developments in mobile network architecture and rollout methods
Market knowledge
Monitoring the price residential users are charged for the various types of call: local, long distance and international calls, calls
to special numbers, fixed to mobile and mobile calls in mainland France and the overseas departments in 2012
Deployment and use of information technologies in French society
Obligation enforcement and audits
Audit of electronic communications services' 2011 revenue statements
Technical-economic cost model for SMS for a mobile network operator in metropolitan France
Annual audit of the quality of voice services on 2G and 3G mobile networks A •
Annual audit of the quality of data services on 2G and 3G mobile networks •
Coverage survey of 3G mobile networks in Metropolitan Francee •
Verification of Free Mobile's 3G mobile network coverage •
Measuring 3G mobile network coverage
Methods for assessing quality of service on mobile networks •
Pilot mobile service QoS assessment using fixed sensors •
Measuring blocked and deteriorated services on mobile networks
Regulatory rate of return for regulated fixed, mobile and broadcasting businesses
Postal activities
Information provided to consumers on affordable solutions for sending small items
Assessment of the impact of demand for La Poste, its brand image, the size of its network of contact points

Source: ARCEP.

<sup>▲</sup> Report commissioned jointly by the Committee for industry, energy and technologies, CGIET (Conseil général de l'industrie, de l'énergie et des technologies) and ARCEP.

<sup>•</sup> Available on our website: <u>www.arcep.fr</u>

# 2.5 Documentary resources and open data

 ARCEP's information and documentation centre is responsible for maintaining the Authority's documentary database. It capitalises on and makes use of in-house and outside expertise, sharing them on an ongoing basis, both via Kentika integrated document management software and on demand, using professional external sources. The centre also maintains an online service and answers requests for information from members of the Executive Board and from ARCEP staff, as well as enquiries from the public about the Authority's areas of activity.

The centre is involved in cross-department information management projects within the Authority. It also works with a network of documentary resource centres – including the Cujas legal library, the Ministry of the Economy, Industry and Employment documentary resource centre, the documentation network of independent administrative authorities and the association of Kentika software users

 ARCEP is fully involved in the process of making government data publicly available which was initiated following the Prime Minister's circular of 27 May 2011, and the work performed by the state agency responsible for open government data, Etalab, which is available online at: <u>data.gouv.fr.</u>

This site aggregates and makes information produced or collected by the State, and by local authorities and other entities mandated to fulfil a public service remit, available to the public.

Already in Q1 2012, ARCEP began publishing the quarterly and annual scorecards produced by our electronic communications market observatories for fixed and mobile services since 1998 and 2000, respectively.

# 3. ARCEP's advisory bodies

#### 3.1 Forward-planning committee

The purpose of the Forward-planning committee is to better identify and understand medium and long-term developments and disruptions in the electronic communications and postal sectors. Reappointed by and large in 2013, the committee is made up of the seven members of the ARCEP Board and outside experts: Michèle Debonneuil, member of the economic analysis committee, Elisabeth Flüry-Hérard, vice-chairperson of France's Competition Authority, Catherine Lucet, President of publishing houses Nathan, Editis and Sejer, Bruno Patino, Managing director of programming, broadcasting and digital development for France Télévisions, Guy Roussel. Vice-chairman of the digital services strategic planning committee, Bernard Stiegler, philosopher and professor at the Ecole des hautes études en sciences sociales and Henri Verdier, director of Etalab.

After a first cycle of meetings devoted to analysing supply and demand mechanisms in the digital technologies sector, and particularly the role that public authorities need to play to stimulate the development of new markets, the Forward-planning committee began a new cycle of discussions in 2011 that continued on into 2012, dedicated to "the regions of the digital economy". This work served to reveal the paradoxical nature of the digital ecosystem: an intangible universe where our actions are instantaneous and indifferent to the players' geographical location, but nonetheless transform a country's geographical and social organisation in a very concrete fashion.

This cycle of work concluded on 25 September 2012 with a conference on the theme of "Digital landscapes," during which elected officials, researches, operators and industry stakeholders helped deepen the committee's investigation, and provide new perspectives on the topic. Discussions were structured around three roundtables:

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#### ARCEP's organisation and operation



- one on "digital behaviours" that tackled the topic of how digital technologies are changing our daily lives, our relationship to space, how we communicate, our social behaviour, the questions of how these new behaviours play out in our personal and working lives, and their permutations in individual, family and collective circles, as well as the opportunity to build a universal digital service;
- one on "how digital is transforming our landscapes" which addressed the topic of how digital technologies and their use can increase a region's currency, the question of the correlation between a region's digital mesh and density, and the competitiveness of its economic fabric, the role played by regional public and economic actors and how to prevent regional digital divides;
- and a third, titled, "Digital without borders" that looked at how the digital ecosystem changes the business of government at the regional, national and international level, and whether digital power transcends all frontiers?

In late 2012, ARCEP began the committee third work cycle.

### 3.2 The Electronic communications advisory committee (CCCE)

The Electronic communications advisory committee, CCCE (*Commission consultative des communications* 

*électroniques*) is composed of 24 members, and provides equal representation to network operators and service providers, consumer representatives and experts. ARCEP acts as the committee's secretary. Under the aegis of the Government and ARCEP, the CCCE is consulted on all draft measures concerning electronic communications.

The Government set the list of CCCE members for the next three years, through an order of 24 October 2012. Engineering Corps member, Charles Rozmaryn, has been the committee chairman since 2009

The committee was consulted on three occasions in 2012, notably on the reuse of the 1800 MHz band for technologies other than GSM, and on the methods to be used for producing and verifying quality of service indicators for fixed internet access and fixed telephony services in France.

# 3.3 Interconnection and access committee

The Interconnection and access committee (*Comité de l'interconnexion et de l'acc*ès) is made up of representatives of public network operators and service providers, appointed by ARCEP decision. The Authority's Chairman presides over the committee, and the Authority itself ensures its secretarial duties.

The committee provides a forum for discussions between ARCEP and the sector's stakeholders. It met three times in 2012, and its worked focused primarily on:

- the experiment on phasing out copper systems, carried out in Palaiseau;
- changes to France Telecom's interconnection architecture;
- the quality of service provided by wholesale products for enterprise customers;
- updating the regulatory models for unbundled access

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and backhaul;

- the new version of France Telecom's offer for accessing its civil engineering;
- the QoS monitoring system for internet access services:
- · fixed ultra-fast broadband, and particularly the issue of completing rollouts;
- regulation of mobile voice call and SMS termination;
- international roaming:
- the terms of the general authorisation system (number portability, emergency calls, work on changes to VAS number pricing. etc.):

# 4. A broad palette of information and communication tools

For it to be efficient, the business of regulation needs the information produced by ARCEP to be disseminated quickly to all of the stakeholders: elected officials, consumer associations, economic actors, etc.

To this end, the Authority employs a wide array of modern communication tools - whose frequency varies: daily, weekly, guarterly, annual - and which guarantee that the entire sector will have access to the most exhaustive and useful information possible, as much on the work being performed by ARCEP as on the sector itself. These tools are also used to solicit the opinions of the sector's players on regulatory issues, and to stimulate dialogue and debate.

#### ARCEP website: increased security, and a facelift

ARCEP's website (arcep.fr)<sup>3</sup> is the preferred platform for disseminating information, in both French and English. Updated on a daily basis, it satisfies the essential requirement of providing instantaneous information on a sector in a state of constant flux.

Considerable efforts were devoted in 2012 to increasing the site's security. This was followed by a complete overhaul of the site's design, which started in the summer and was completed in 2013. The newly



Interconnection and access committee, 21 November 2012

renovated site has dynamic graphics, a modern design and clearer information display... making it easier to read and easier to use.

The redesigned home page now displays four newsworthy items side by side (In the news), a feed of all the latest information published (Newswire) and an area devoted to key events (Now playing).

#### Traffic on the rise

Traffic on the site increased substantially in 2012, climbing from 7,000 unique visitors a day in 2011 to 9.000.

#### Practical

The site provides several ways to perform online searches: on ARCEP opinions and decisions, on the frequencies the Authority is responsible for allocating, on the telephone numbers that the Authority assigns to telecom carriers, and on articles published in the our quarterly review, "Les cahiers de l'ARCEP".

Also, the RSS feeds on several pages (e.g. opinions and decisions, press releases, job opportunities) allow readers to keep abreast of updates.

3 - ARCEP also runs a website aimed specifically at telecommunications services users: telecom-infoconso.fr (see p. 53)

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#### Accessible

Since 2009, a portion of the ARCEP website has been providing dedicated access for the visually impaired: most press releases and some of the speeches by the Chairman of ARCEP are systematically "translated" into an audio version.

#### Informatif

The main information is pushed via e-mail to users who sign up for either of the two ARCEP mailing lists – on telecommunications or the postal sector – both available in French and English, and which have a total 38,574 subscribers (compared to 21,000 in 2011). Ninety eight messages were sent out in 2012.

#### · Weekly e-newsletter

Launched in September 2010, ARCEP's weekly e-newsletter published its 100<sup>th</sup> issue on 1 March 2013. Acting as a complement to our institutional site and our "Cahiers de l'ARCEP" quarterly review, this format allows us to send out regular, succinct and recent newsworthy items.

Upcoming events, news, the latest from local authorities, European and international affairs, noteworthy figures and statements, every week the e-newsletter provides readers with an update on both ARCEP's activities and the latest news from the two sectors it regulates: i.e. the postal and the electronic communications market.

The Chairman's editorial looks at current debates and the latest ARCEP decisions (4G licence awards, fibre and ultra-fast broadband regulation, net neutrality, digital regional development, the postal sector, etc.).

In late 2012, two new sections were added to the newsletter:

 "Video interview" - From Jérôme Delormas, Director of the "La Gaîté lyrique" digital cultural centre, to Reine-Claude Mader, President of consumer protection association, CLCV, by way of Patrick Pailloux, Director-General of France's national information systems security agency, ANSSI, and Antoine Darodes, head of the government task force on superfast broadband. A short video interview each week with a figure from the digital or postal ecosystem.

 "The digital ecosystem" - Exhibitions, books, magazines, innovations, live shows, festivals, conferences: each issue takes a look at a recent event in this vast ecosystem.

Originally available to a very small audience, the weekly e-newsletter is enjoying a growing popularity. It is now opened and read by a thousand recipients every week.

#### • Les cahiers de l'ARCEP

Three times a year, ARCEP publishes a review that examines a variety of topics and themes – such as net neutrality or digital regional development – from different angles, including a forward-looking perspective.

To help broaden readers' perspective, the *Cahiers de l'ARCEP* devote a great deal of space, in the form of interviews and articles, to the views of market players and personalities from a wide range of backgrounds – institutions, businesses, universities, associations, etc. – from both France and abroad. The published articles can be browsed by theme or author on the site.

Because of budgetary restrictions, the review's print run was cut in half, from 6,500 to 3,000 print copies which are still distributed for free. Thousands of PDF copies of the Cahiers are downloaded from our website: 8,446 for the special "15th anniversary" issue, 9,865 for issue 9, "Globalisation and the digital economy" and 3,665 for issue 10, "Digital landscapes".

The three issues of the *Cahiers de l'ARCEP* published in 2012 were:

- "1997-2012: from telecom monopoly to digital revolution – 15 years of regulation". Including a large selection of articles from outside sources, this anniversary issue takes a look back at 15 years of regulation, and the benefits incurred by opening the telecommunications and postal markets up to competition.
- "Globalisation and the digital economy". Globalisation has risen to another level with and thanks to the internet. This issue puts particular emphasis



on the fact that a regulator's actions are part of a vast system, now that the Web and networks have become channels that open our country up onto the world.

- "Digital landscapes". Echoing the theme of ARCEP's 2012 conference, this issue of the Cahiers continues the discussion and proves that, while being a complex subject with a multiple ramifications, the link between digital and the national territory lies in services of general interest, employed by citizens, public authorities and businesses.
- A fourth issue devoted to "**4G**" was published in March 2013.

#### Annual conference

Since its creation in 1997, the Authority has been holding regular conferences on topics that relate either directly or indirectly to our areas of responsibility. These events provide an opportunity to have open discussions on what are often complex issues, to exchange ideas with speakers from foreign markets, and to engage in forward-looking analyses.

On 25 September 2012, ARCEP held its conference devoted to the theme of "Digital landscapes," which brought together 345 participants for eight hours of discussions structured around three roundtables, and two "Telcos' viewpoint" sessions. The moderators were Solveig Godeluck and Guillaume de Calignon, both journalists from les *Echos*.

The Junior Minister for Small and Medium Businesses, Innovation and the Digital Economy, Fleur Pellerin, opened the conference with a talk about the French government's ultra-fast broadband policies and CNIL president, Isabelle Falque-Pierrotin, closed the proceedings.

Live streaming of the conference on the ARCEP website was tremendously popular (16,255 connections). The proceedings are also available on our website in VoD.



ARCEP's 2012 conference «Digital Landscapes»

#### Other ARCEP publications

Every year, ARCEP also publishes several brochures and booklets on our website.

- In 2012, these included:
- a report to Parliament and the Government on net neutrality
- summary of the "Digital landscapes" conference
- summary of the work performed by GRACO in 2012

#### Social networking sites

ARCEP has been on Twitter and Facebook since September 2011, which allows us to reach a new audience and to be increasingly reactive.

An average 25 tweets are sent out each month to our more than 1,000 followers (as of 1 April 2013), and our Facebook page is updated on a weekly basis.

### Follow the guide!

To improve efficiency and the information available to stakeholders, ARCEP also publishes practical guides, many of which are aimed at elected officials and local authorities.



Increasing bandwidth: how to implement France Telecom's "PRM" solution Published in November 2012, this handbook provides local authorities with a very concrete explanation of how to implement France Telecom's, PRM (*point de raccordement mutualisé*) shared access point solution which is regulated by ARCEP, for their sub-loop unbundling schemes.



#### Network information

Produced by ARCEP and the centre for technical design and planning, CETE de l'Ouest, this handbook was also published in November 2012 and details the system in place for gathering information from operators deploying their electronic communications networks in the local authority's area, and suggests best practices for better organising requests (ranking, prioritising).



"Optical fibre rollouts", a glossary. Let's all speak the same language The first step in reaching an agreement in contract negotiations is to speak the same language which, when it comes to optical fibre, can be a complex affair. This is why ARCEP produced a glossary in July 2012, to provide stakeholders with a common terminology and diagrams they can use for their FTTH rollouts.

#### A few figures

- **3,280,000** visitors to our institutional site, or around 9,000 visitors a day (vs. 2,500,000 visitors and 7,000 a day in 2011)
- 361,868 visitors to the Telecom-Infoconso.fr site (58,462 in 2011)
- 38,574 mailing list subscribers (21,000 in 2011)
- **45,000** downloads: the handbook titled "La fibre optique arrive chez vous" (Fibre optic coming to your home) was downloaded close to 45,000 times, and viewed a total 529,000 times in 2012
- 73,200 downloads of the "Cahiers de l'ARCEP" quarterly review
- 3,858 weekly e-newsletter subscribers



# Relationship with other public authorities and actors

# 1. Relationship with Parliament

ARCEP's independence from the French Government, which is embedded in both European and national Law, means that the Authority gives a regular account of our activities to Parliament. This interaction is in the form of regular meetings with the National Assembly and Senate Economic Affairs Committees, and reports to Parliament – either at that body's behest or on ARCEP's own initiative.

ARCEP may also be called on by members of Parliament to provide expertise on certain dossiers being drafted by National Assembly members, or when reviewing proposals, bills or projects that will affect the electronic communications or postal sectors.

### 1.1 Hearings and meetings

ARCEP was consulted on 13 occasions in 2012.

### a/ Hearings on the market's organisation and future development

 After Free Mobile entered the marketplace in January 2012, ARCEP Chairman, Jean-Ludovic Silicani, was interviewed two occasions – on 28 February and on 11 July 2012 – by the National Assembly's Economic Affairs Committee. The purpose of these hearings was to determine the consequences of increased market competition, and to specify the terms governing the deployment of Free Mobile's network.

- As in 2011, the work performed by Parliament focused on the issues and challenges surrounding digital regional development. ARCEP Board member, Jérôme Coutant, thus appeared before the Senate task force on forward-planning for ultra-fast broadband in rural areas (délégation sénatoriale à la prospective sur le très haut débit dans les zones rurales).
- ARCEP was also queried on two occasions on topics that are European in scale. On 21 February Director-General, Philippe Distler, went before Roland Ries, rapporteur appointed by the Senate economic committee for the motion for a resolution on the Connecting Europe Facility (CEF). Meanwhile, Jean-Ludovic Silicani was interviewed by Senator Catherine Morin-Dessailly on digital governance in Europe.

Lastly, on 12 December, the Chairman of ARCEP appeared before Senator François Fortassin, member of the Senate Board's task force on ways to improve Parliamentary control over independent administrative authorities.

#### b/ Draft proposal and bill reviews

The review of the Finance Act resulted in three separate consultations in 2012: on 23 July, the Chairman of ARCEP was interviewed by Deputy Martine Martinel – rapporteur for the opinion of the "Audiovisual" task force for the draft Finance Act of 2013 – on changes in the audiovisual sector and its regulation. He also went before Corinne Erhel in the National Assembly on

17 October, and before Pierre Herisson in the Senate on 7 November, as part of each body's review of electronic communications and postal issues in their respective budgetary reports.

A bill drafted by Senators Philippe Leroy and Hervé Maurey, "to ensure regional digital development," also resulted in two interviews with the appointed rapporteurs: in the Senate where Jean-Ludovic Silicani went before Hervé Maurey on 11 January 2012; and before Thierry Benoit on 8 November in the National Assembly.

#### c/ Consultations when preparing **Parliamentary reports**

ARCEP was involved in the preparation of two parliamentary reports. In the National Assembly, Jean-Ludovic Silicani was interviewed on 5 December by Corinne Erhel and Laure de la Raudière - rapporteurs for the fact-finding mission on "how telecoms regulations affects the industry," which resulted in a report that was published on 6 February 2013.

Meanwhile, in the Senate, the Chairman of ARCEP went before Pierre Hérisson and Yves Rome on 5 December. as part of preparations for a report on "law enforcement in the area of local authorities' regional digital coverage policies," by the Law enforcement committee and the sustainable development committee (commission de contrôle de l'application des lois and la commission du development durable). This report was published on 19 February 2013

#### 1.2 Reports

ARCEP submitted its annual report for 2011 to the Presidents of the National Assembly and the Senate, to the President of the Republic, the Prime Minister and concerned ministers on 28 June 2012. On 14 December 2012, we also submitted a report on assessing the net cost to La Poste of fulfilling its regional development mandate, in accordance with the Law of 9 February 2010<sup>1</sup>. The Public service commission for

posts and electronic communications, CSSPPCE (Commission supérieure du service public des postes et des communications électroniques) had issued an opinion on the report prior to its publication.

In accordance with the provisions contained in the Law of 22 March 201<sup>2</sup>. ARCEP produced a complete report on net neutrality for the Government, exploring the key issues at stake, providing a status update on the work being performed by ARCEP along with an analysis of the observed changes in operators' business practices.

# 2. Relationship with the French Government and its agencies

ARCEP is a State administration that operates independently from the Government. Under administrative law, these independent authorities constitute non-governmental executive power. ARCEP is nevertheless determined to work in in tandem with the Government, and all of the concerned administrations. on the various matters that fall under our purview.

To ensure consistency in government actions in the regulated sectors, Article L.32-1 of the French Postal and electronic communications code, CPCE (Code des postes et des communications électroniques), sets common objectives for the Minister responsible for electronic communications and ARCEP. The Law also defines the Government and the Authority's respective responsibilities. By law, the minister must approve the regulatory decisions issued by the Authority, and the Government must obtain ARCEP's opinion on any legislative or regulatory bills relating to the electronic communications or postal sectors.

On a day-to-day basis, this coordinated action translates into in-depth dialogue between the various ARCEP departments and the ministries concerned. We therefore works closely with the General directorate for competition, industry and services, DGCIS (Direction générale de la compétitivité, de l'industrie et des services), but also with the General directorate for fair

Law No.2010-123 of 9 February 2010 on the public company La Poste and postal activities, JO of 10 February 2010
 Law No.2011-302 of 22 March 2011 bringing several amendments to European Union legislation in the areas of healthcare, labour and electronic communications, JO of 23 March 2011.

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#### Relationship with other public authorities and actors

GRACO technical meeting on 3 October 2012



GRACO plenary meeting on 12 December 2012





trade, consumer affairs and fraud control, DGCCRF (Direction générale de la concurrence, de la consommation et de la répression des fraudes) – which is involved in the work that ARCEP is doing on net neutrality – and with the Ministry of Economic and Financial Affairs' Legal affairs department, DAJ (*Direction des affaires juridiques*). ARCEP also interacts more periodically, and depending on the matters it is called on to address – with the General Directorate for local authorities, DGCL (*direction générale des collectivités locales*), the General Directorate for media and culture industries, DGMIC (*direction générale des médias et des industries culturelles*) and the different departments of the Ministry for Overseas France.

Matters pertaining specifically to regional development, in the area of fixed and mobile networks, also require us to work closely with the Inter-ministerial land planning and regional action delegation, DATAR (*Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale*), the General Commission on Investment (*Commissariat général à l'investissement*) – which is under the aegis of the Prime Minister – and regional government authorities, and particularly those responsible for ICT development initiatives working for the General Secretariats for Regional Affairs, SGAR (secrétariats généraux pour les affaires régionales).

Lastly, because we are the body responsible for allocating the frequencies used to provide electronic communications services, ARCEP sits on the Board of the National frequency agency, ANFr (Agence nationale des fréquences). The two authorities interact on a regular basis on spectrum management issues arising in their respective areas of responsibility (cf. p177).

# 3. Relationship with local authorities

#### 3.1 GRACO

Local authorities are authorised to act as electronic communications operators by virtue of Article L. 1425-1 of the local and regional collectivity code, CGCT (*Code Général des Local authorities*). The main reason for doing so is to further digital development in their region, in other words to reduce the digital divide by providing local businesses, government agencies and residents the fastest internet access and the broadest selection of services.

This is why ARCEP created a forum back in 2004 called GRACO (*groupe d'échange entre ARCEP*, *les collectivités et les opérateurs*). The group holds three technical meetings a year, and one plenary session – each of which is attended by more than a hundred of the sector's stakeholders: operators, experts, local authority departments, institutional partners such as the Caisse des dépôts, the General Commission on Investment (*Commissariat général à l'investissement*), DATAR<sup>3</sup> and DGCIS<sup>4</sup>.

These meetings allow participants to discuss publicinitiative network projects being carried out by local authorities, to keep up with the latest developments in regulation, to share difficulties encountered in the field and, if possible, to reach suitable solutions.

<sup>3 -</sup> Inter-ministerial land planning and regional action delegation.

<sup>4 -</sup> General directorate for competition, industry and services

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To this end, in December ARCEP published a summary of the work performed within GRACO in 2012, a year in which the working groups made considerable progress was made on several priority issues. The two main areas of work were:

- improving access to existing fibre backhaul networks,
- and finalising, with France Telecom, the processes for

introducing its bandwidth increase (sub-loop unbundling) schemes, and especially its PRM solution.

ARCEP also met on two occasions with local authorities' project management assistants. These technical and legal experts were able to discuss with us the obstacles that arise when applying regulation to local projects.

#### Creating a forum for discussions between elected officials and the ARCEP Board

In response to requests from a number of elected officials, and in a bid to go beyond the technical work performed by GRACO, in 2012 the ARCEP Board held meetings with local officials involved in digital regional development for the first time.

With ARCEP Chairman, Jean-Ludovic Silicani, and the members of the Executive Board, these meetings were attended by several members of Parliament and elected officials representing some 10 associations of elected officials, including the Association of French communities, Association of the departments of France, Association of the mayors of France, Association of the mayors of large French cities, Association of mayors of rural towns in France, National association of the small towns of France, AVICCA<sup>5</sup> and FNCCR<sup>6</sup>).



Elected officials involved in digital regional development



ARCEP Board members

During this meeting, elected officials stressed the need for concerted national supervision of optical fibre rollouts, which would help strengthen the country's economic competitiveness and provide all citizens with access to the essential services supplied by superfast broadband. They particularly underscored the need to prevent a digital divide from forming between the most densely populated and the most sparsely populated, remote regions and especially mountain areas.

ARCEP hopes to hold further meetings of this kind at least once a year.

6 - National federation of licensing authorities (La fédération nationale des collectivités concédantes et régies)

<sup>5 -</sup> Association of cities and local authorities for electronic communications and audiovisual media (Association des Villes et Collectivités pour les Communications électroniques et l'Audiovisuel)
#### Relationship with other public authorities and actors

### 3.2 Board members' travels and local authority services

ARCEP assists local authorities in implementing their digital regional development projects.

Our Board members are regularly involved in regional advisory committees for digital regional development, CCRANT (commissions consultatives régionales pour l'aménagement numérique du territoire), and provide all of their expertise in regulating electronic communications, which is vital to achieving consistent and efficient digital regional development across the country.

Board members also travel regularly to the different regions of France. On 24 and 25 October 2012, Jean-Ludovic Silicani and Jérôme Coutant travelled to Brittany. Starting in Rennes where they met with regional chairman, Pierrick Massiot, and a number of Breton elected officials with whom they were able to discuss the "Bretagne Très haut débit" ("Superfast Brittany") initiative. They travelled next to Brest (which ARCEP has qualified as a lower density area), at the invitation of France Telecom, where they were able to visit the first fibre-to-the-premises rollouts in distinct housing areas, in the city centre and in residential neighbourhoods. This visit - which took place with Michel Briand, Vice-chairman responsible for social and economic support and digital regional development led to a better understanding of the difficulties that operational teams have encountered, and highlighted



Visit to the Marais plant Visiting a network concentration point in Brest city center.



From left to right: Pierrick Massiot, regional chairman of Brittany, Jean-Ludovic Silicani and Jérôme Coutant.

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the importance of increased cooperation between private operators and local authorities.

ARCEP takes a keen interest in optical fibre's industrial ecosystem. To deepen their knowledge of industrial and operational processes, the Chairman and Board members take regular field trips to meet with stakeholders. In early 2013, at the invitation of Etienne Dugas, President of the Marais group – a manufacturer and operator of trench excavators – our Chairman, Jean-Ludovic Silicani, and several ARCEP staff members travelled to the Anjou region to visit the company's plant.

Our departments are dedicated to listening to and providing a response to local authorities' concerns and the difficulties encountered when deploying or operating their public-initiative network. This support and dialogue occur primarily within GRACO meetings, but also during multilateral working meeting and through personalised support that is provided when required. As a result, ARCEP staff are required to travel as often as necessary to understand problems occurring in the field, and to attend local training sessions – as was the case in Moselle last October. All in all, Authority staff made some forty trips across the whole of France in 2012, from Dunkirk to Saint-Denis in Reunion, by way of Lons-le-Saunier, Strasbourg, Bourges and Chevry-Cossigny (Seine-et-Marne).

## 3.3 Digital territories

In 2012, we devoted an issue of our Cahiers de l'ARCEP journal to the topic of "Digital territories".

Digital technologies are indeed in the process of redrawing national borders and creating new, shared living and working spaces. This revolution will have a profound effect on how we live together in cities, which is a major source of concern for both the State and local authorities.

The views of the ministers responsible for this issue were especially prominent in this issue: Cécile Duflot, minister responsible for regional equality, and Fleur Pellerin, minister responsible for the digital economy. A number of elected officials (members of Parliament, mayors, chairs of inter-communal associations, etc.) also agreed to share their thoughts.

ARCEP's annual confe rence, which took place on 25 September 2012, was also devoted to the topic of digital territories. Several elected officials were on hand to express their views on the questions surrounding digital regional development (cf. p. 30).



#### In their own words



#### Corinne Erhel, Deputy for the Côtes d'Armor

"Digital regional development is of vital strategic importance for our country: important economically and for industrial development, and important from a societal and social perspective. Regardless of who they are or where they live, everyone has the right to access the same services for the same uses."



#### Yves Rome, Senator for the Oise, President of AVICCA

"Digital is an essential, if not primordial ingredient in the country's digital regional development, provided it is endowed with the core values of the Republic, in other words regional equality."



#### Laure de La Raudière, Deputy for Eure-et-Loir

"If we do not provide the same services, the same access speeds and the same plans in rural and mountain areas, we will see another rural exodus. Today, superfast broadband is a criterion affecting development, tomorrow it will affect where people choose to live."



# Catherine Morin-Desailly, Senator for Seine-Maritime, Chairman of the Media and new technologies study group

"I believe that we need a Charter of fundamental digital rights. At the European level, we might need to add, "the right to digital dignity..." [...] A code of conduct seems more necessary today than ever before."



# Gwenegan Bui, Deputy for Finistère, Vice-chairman of the Breton regional council for digital affairs

"Digital allows us to have a connection that erases all distances. And this was the moment when outlying regions realised that it would be a factor in future growth. For local authorities in Brittany, it has become an obligation to join the fight."

#### Relationship with other public authorities and actors

## 4. Relationship with the courts and other independent authorities

## 4.1 The courts

Because ARCEP is a State administration, our actions can be brought before a judge under the terms of ordinary law: the Authority's independence does not confer on us any exceptional judicial status.

When national law is silent on the point, the administrative judge has the jurisdiction to rule on the actions and decisions of ARCEP, which is administrative authority. By way of derogation from that rule, however, the code governing French postal and electronic commu-nications. CPCE, stipulates that appeals of dispute settlement decisions issued by ARCEP fall under the jurisdiction of the Cour d'Appel de Paris (Paris Court of Appeal).

The administrative and judiciary tribunals handed down several decisions in 2012 that warrant attention.

#### a/ Administrative courts

In its role of court of first instance and last resort for appeals of ARCEP decisions, the Conseil d'Etat (France's highest administrative court) issued the following decisions in 2012:

Applicant	Appeal filed on	Subject of the dispute	Decision on appeal		
BT France	17 August 2011	Annulment on the grounds of misuse of authority of Decision No. 2011-0669 of 14 June 2011 on analysis of the relevant wholesale market for broadband and ultra-fast broadband (bitstream) access	Rejected		
Association française des opérateurs de réseaux et services de télécommunication (AFORST)	24 November 2009	Annulment on the grounds of misuse of authority of the implicit decision, through which the Director General of ARCEP rejected the applicant's request for France Telecom to be given formal notice – under the provisions of CPCE Article L. 36-11 – to cease its failure to comply with its pricing obligations, as revealed by the publication of its accounts for fiscal year 2008	Rejected		
CFE-CGC union France Télécom-Orange et al.	22 February 2012	Annulment on the grounds of misuse of authority of several decisions on the use and operation of frequencies	Rejected		

#### Judgments of regulatory dispute settlement appeals issued by the Conseil d'Etat in 2012

Source ARCEP.

In its judgement of 4 June 2012<sup>8</sup>, the Conseil d'Etat rejected a request filed by the firm BT France to appeal the ARCEP decision of 14 June 2011 on the third round of analysis of the market for wholesale broadband and ultra-fast broadband access. On the merits of the decision, the Conseil d'Etat was able to rule that, without committing an error of assessment. ARCEP was able to continue to forbid predatory pricing by France Telecom in this market, to prevent the incumbent carrier from obtaining a new de facto monopoly ..

In its judgement of 4 July 2012<sup>9</sup> at the request of the French association of telecommunications network operators and service providers, AFORST (Association francaise des opérateurs de réseaux et services télécoms). the Conseil d'Etat provided certain important clarifications on how ARCEP exercises its powers. AFORST was contesting the conclusion by our Director-General that there was no cause to pursue an open penalty procedure against France Telecom - charging the incumbent carrier for failure to comply with its regulatory pricing obligations in the wholesale fixed telephony and capacity services markets.

<sup>8 - &</sup>lt;u>Decision No. 351976, of 4 June 2012.</u>
9 - Decisions No. 334062 and No. 347163 of 4 July 2012.

- The first point of contention for AFORST was the very principle of there being no grounds for pursuit, as France Telecom failed to meet its pricing obligations in the past - even if it subsequently complied with the formal notice issued by the Director-General. The Conseil d'Etat gave a very clear response to this claim, saying that ARCEP is not authorised to impose a penalty on an operator until after it has issued a formal notice to comply with regulation, and only after that operator has failed to comply with this notice. On this basis, the Conseil d'Etat concludes that, "in a situation where, in the course of the investigation of a procedure launched by the Authority. the operator's or provider's failure to meet its obligations ceases, whether before or after receiving a notice to comply with said obligations, the Authority can only bring the penalty procedure to a close". If, during the penalty procedure, the operator rectifies the failures at the root of the procedure, ARCEP's Director-General is obliged to put an end to that procedure, even though the rectification concerns only future actions.
- The second point of contention for AFORST were the very merits of the decision to discontinue the procedure. In a recital of principles, the Conseil d'Etat clarified the conditions under which ARCEP could exercise its power to impose penalties, offering a reminder that, as with all administrative authorities, it had a system of discretionary proceedings available to it: "(...) it is up to the Electronic communications and postal regulatory authority, invested by Article L. 36-11 with a power to impose penalties which it can exercise at its own initiative or following a complaint, to decide when informed by a third party of facts that justify the use of this power, and after having investigated them, to decide what course of action to take ... as a result of which the Authority has broad discretionary powers, and can weigh the severity of the alleged breaches with respect to the law or the regulations it is responsible for enforcing, of the seriousness of the alleged infringements, the date on which they occurred, the context in which they occurred and, more generally, all of the general interests it is

responsible for; [...] the decision it makes, when it refuses to pursue a complaint. has the status of an administrative decision which the court tasked with iudging misuse of authority can annul if an error of law or fact was committed. or in the case of obvious error, misuse of power, or any clear overshoot of the discretionary remit".

By this token, the Conseil d'Etat reiterated that the decision to discontinue the procedure falls under the jurisdiction of the judge of the misuse of authority, as opposed to a decision imposing a penalty, which falls under the remit of full jurisdiction proceedings.

On 23 July 2012, the Conseil d'Etat dismissed as inadmissible requests from France Telecom and Orange employee trade unions, CFE-CGC, which were requesting the withdrawal of several licences to use the 2.6 GHz band that had been issued by ARCEP, as well as cancellation of the decree and orders that formed the basis of decisions to issue these licences. The Conseil d'Etat ascertained that these trade unions, whose purpose is to protect the interests of the employees, could not justify a direct threat to the interests it was responsible for protecting. As a result, the trade unions did not have the power that would give them a legal interest to act in this instance. For these same reasons. on 15 November 2012 the Conseil d'Etat rejected another request from these same trade unions seeking the cancellation of other frequency allocation decisions.

On 29 October 2012, the Conseil d'Etat issued four decisions on appeals concerning the administrative tax imposed on telecom carriers. According to the court, this administrative tax has the status of a tax of all kinds whose rules of appeal and collection are set, not by the tax procedures handbook, but by unwritten rules that are applicable to non-tax claims of the State, established primarily by the Decree of 1962 on general government accounting regulations. This decree was abrogated by Decree No. 2012-1246 of 7 November 2012 on budget management and government accounting.

#### b/ Legal jurisdiction

The Paris Court of Appeal has an economic regulation division that specialises in regulation and competition disputes, and which rules on the Authority's decision in the form of an appeal. The Court may therefore uphold, cancel or amend a decision.

On 30 May 2012, the Court of cassation reversed the decision of 24 February 2011 whereby the Paris Court of Appeal ruled on the ARCEP decision of 1 July 2010, settling a dispute between Mobius and La Réunion numérique (LRN). ARCEP had concluded that it was up to the public service concession holder to take all of the measures needed to ensure the full execution of the dispute settlement decision, if necessary by appealing to the delegating authority. The Court of Appeal had upheld the ARCEP decision in both form and substance. The Court of Cassation nevertheless ruled that the Court of Appeal had committed a procedural error by failing to cite the region of La Réunion, as "by requiring the public service concession holder to amend the prices set by public service contract, through a decision issued without the delegating authority being present, and thus void and of no effect on the latter, the Court of Appeal violated" Article 4 of the Code of Civil Procedure. The Court of Appeal' opinion was thus nullified for this reason.

On 25 September 2012, the Court of cassation largely upheld the Paris Court of Appeal's order of 23 June 2011, which had approved ARCEP's settlement of a dispute between France Telecom and Numericable, on 4 November 2010. France Telecom had filed a request with ARCEP that Numericable companies<sup>11</sup> be required to subscribe to the France Telecom civil engineering offer for accessing the incumbent carrier's ducts. Following a merger, Numericable had in fact inherited old contracts authorising the use of France Telecom ducts for cable networks, whose terms and conditions were more advantageous than those contained in the agreements that France Telecom was offering new operators for using its ducts for optical fibre.

Numericable had upgraded a portion of its coaxial cable networks by deploying optical fibre cable, without complying with the rules contained in France Telecom's civil engineering access offer, and by invoking contracts that were and remain valid only for existing cable networks, excluding all upgrades. ARCEP had therefore required Numericable to comply with the obligations attached to the France Telecom civil engineering access solution that is sold to all operators deploying optical fibre in France Telecom civil engineering ducts.

Judgements issued by the Court of Appeal and the Court of Cassation in 2012					
Court	Parties	Subject of the dispute	Judgement issued		
Court of cassation	LRN v/ Mobius	Dispute over the wholesale prices charged by a public service concession holder	Order reversed due to a procedural error committed by the Court of appeal		
Court of cassation	Numericable v/ France Télécom	Demand that the operational and technical modalities that Numericable employs in France Telecom ducts be brought into compliance	Largely rejected		
Paris Court of Appeal	TDF v/ Towercast	Applying a new reference offer from the SMP operator to an existing contract, pursuant to the second cycle of wholesale market analysis	Annulled: an appeal of this order is still pending with the Court of cassation		

Source: ARCEP.

11 - Two distinct companies share the legal administration of Numericable's management: Numericable SAS and NC Numericable SA (ex Noos).

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The Court of cassation confirmed the Court of Appeal's reasoning. It concluded that ARCEP had not imposed any discriminatory treatment of Numericable since, "the Authority had rightly considered that when overhauling its networks, Numericable found itself in an identical situation to that of operators deploying optical fibre from scratch". The Court of cassation considered that all of the operational and technical restrictions that ARCEP imposed on Numericable were justified and proportionate.

However, the Court of cassation did reprove the Court of Appeal for having ruled as inadmissible requests from Numericable concerning the timeline for implementing the ARCEP decision, without having first invited the parties to submit their remarks on the measure the Court imposed through its own motion. This was thus the only point on which the Court of Appeal order was overturned.

• On **25 September 2012**, the Paris Court of Appeal ruled on the decision of 12 July whereby ARCEP had settled a dispute between the companies Towercast and TDF. In substance, the Authority had concluded that Towercast could benefit from newly introduced pricing schemes for accessing broadcasting infrastructure listed in company TDF's reference offer, resulting from the second cycle of analysis for "market 18" (wholesale television broadcasting), even though the access agreement signed by the two companies, which was still in effect on 25 September 2012, had been concluded during the first cycle of market analysis.

The Court of Appeal confirmed ARCEP's procedure, notably by dismissing the complaint of a failure to meet the terms of a fair trial resulting, according to TDF, from the partial opinion issued by broadcasting authority, CSA. On the other hand, the Court concluded that ARCEP did not have the right to impose changes to an existing contract, given that the decision on the second cycle of market analysis does not itself provide for such a measure. Towercast has filed an appeal against this order. • oLastly, the Chairman of ARCEP informed the Public prosecutor of facts that may prove criminal in nature (as the CPCE provides for penalties to be imposed for electronic communications and postal infractions). In early 2013, the Chairman thus informed the Public prosecutor of the company Skype's possible failure to meet its obligation to declare itself as an electronic communications operator in France<sup>12</sup>.

#### 4.2 The Competition Authority

ARCEP has close institutional ties with the Competition Authority (Autorité de la Concurrence), and can solicit its opinion when it believes that an SMP operator is abusing its dominant position, or in the event of practices that are preventing competition from being exercised freely in the electronic communications sector or in the area of postal activities.

Moreover, when we perform an analysis of electronic communications markets to determine whether or not any operator enjoys significant power in a relevant market, ARCEP must hold public consultations on our draft decisions and solicit the opinion of the Competition Authority on the market definition and the SMP operator analysis. In 2012, ARCEP thus sought the Competition Authority's opinion on the adoption of the third cycle of market 18, i.e. TV broadcasting.

In return, the Competition Authority informs ARCEP of any incoming matters concerning the electronic communications and postal sectors that it is responsible for regulating. In 2012, ARCEP sent several opinions to the Competition Authority on mergers in the media sector, the terms governing site sharing and roaming on mobile networks, and on the practices put into place by an electronic communications operator in an overseas market.

In March 2013, for instance, at the request of the Government the Competition Authority issued an opinion on the terms governing site sharing and roaming on mobile networks. Invited by the Competition Authority to share their remarks on the matter, ARCEP

ARCEP

issued an opinion on 20 December 2012, in which it specified that sharing and roaming are not, in theory, incompatible with the goal of infrastructure-based competition, and that only a concrete assessment could determine any possible anti-trust behaviour resulting from mobile operators pooling their means and resources. These conclusions were largely echoed in the Competition Authority's opinion.

## 4.3 CSA

In 2012, we contributed to an investigation initiated at the request of the Government on a possible merger of ARCEP and the French broadcasting authority, CSA (*Conseil supérieur de l'audiovisuel*). It was ARCEP's belief that the first step would be to examine the changes at work in the electronic communications and broadcast media sectors, to then determine what changes need to be made to the regulatory objectives for those sectors and, if ultimately necessary as a final recourse, to the regulatory bodies themselves. Discussions over regulatory institutions should not precede or even overshadow an in-depth review of regulation governing electronic communications and broadcast media. Once this investigation is complete, several administrative structures are possible.

There are already exists an in-depth, ongoing dialogue between CSA and ARCEP. Indeed, the legislature has sought to strengthen the cooperation between the two institutions by putting mutual consultation procedures in place. ARCEP must obtain the Broadcasting Authority's opinion when making decisions that will have a significant impact on the broadcast of radio and television services. In exchange, CSA must obtain ARCEP's opinion on any decision it makes that concerns electronic communications.

CSA and ARCEP created a working group which is chaired by their respective boards. The group meets on a regular basis to address topics where their interests overlap.

### **4.4 CNIL**

When performing its market analyses, ARCEP is careful to solicit the opinion of the French National commission on computing and freedom, CNIL (Commission nationale de l'informatique et des libertés) on matters that concern the treatment of personal data. The two authorities have therefore discussed the issues that the application of the Law on Computing and Freedoms of 1978 raises for telecom carriers.

ARCEP has appointed a "CNIL correspondent" to its Legal Affairs Committee who is responsible for keeping all ARCEP departments apprised of details on the use of computer files that are likely to affect privacy protection.

# 5. Relationship with European and international bodies

In 2012, ARCEP was involved – either by providing support for French authorities, through BEREC or directly – in the work performed on electronic communications in Europe.

### 5.1 European Union institutions

The European Union (EU) Council of Ministers worked on several pieces of legislation. In March 2012, the multi-annual Radio Spectrum Policy Programme (RSPP) was officially adopted after 18 months of negotiation (cf. p 180). This regulation on international roaming inside the European Union was adopted in June 2012 (cf. p 17). It was during this same period that the telecommunications portion of the Connecting Europe Facility (CEF) was discussed. CEF is a new European fund whose chief purpose is to support targeted investments in telecom infrastructure projects (currently pending following a decision from the European Council on the EU's 2012-2020 budget). In the second half of 2012, European Union Member States adopted a negotiating position for the European Commission, in the run-up to the World Conference on International Telecommunications (WCIT) in December 2012<sup>13</sup>. The aim of the position was to determine, first. how the EU would be represented at the Conference and, second, the broad strokes of Europe's position on topics that would be addressed at WCIT: net neutrality, international roaming, numbering, network security, etc.

Work was also done on implementing European laws inside the Communications Committee (COCOM) where Member States each have the opportunity to express their position on draft application texts prepared by the Commission. In 2012, this work focused on the recommendation establishing the notification procedure provided for in Article 22.3 of the Universal Service Directive of the regulatory framework, relating to minimum quality of service requirements - notably to ensure net neutrality (cf. p?) that NRAs can impose on operators - and to implementing regulation on international roaming (cf. p. ?). ARCEP provided French authorities with its expertise on all of these texts which were highly technical in parts.

In 2012, the Commission held three public consultations: on net neutrality, on reducing broadband infrastructure rollout costs and on State aid guidelines for broadband and superfast broadband infrastructure deployments, to which ARCEP contributed in tandem with French authorities.

ARCEP maintains regular contact with Commission departments on topics that fall under our purview, particularly market analysis draft notifications, and planned remedies (cf. p. 174).

### **5.2 BEREC**

In 2012, the Body of European Regulators for Electronic Communications (BEREC) continued to work with the European Commission on pressing issues:

- Net neutrality, and particularly the investigation into traffic management practices in Europe<sup>14</sup>, and a set of three reports (cf. p. 118);
- Ireview of the Commission guidelines on state aid for broadband and superfast broadband network rollouts. which defines those areas (referred to as white, grey or black) where the Commission permits public financing for these networks, the characteristics of the access solution that the network manager must provide to operators, and the tools available to NRAs for prior control of these resources at the national level, along with the revised guidelines that were published in January 201315:
- the Commission's draft guidelines on non-discrimination obligations and costing methodologies, as part of the transition from copper legacy to fibre networks, for which BEREC has been asked for an opinion<sup>16</sup>;
- review of the recommendation on relevant markets that sets the list of markets likely to be regulated ex ante17; the public consultation to which BEREC responded will enable the Commission in preparing a first draft by late 2013 with a view to an official adoption in 2014;

• the third European regulation on international roaming: after its contribution to drafting the regulation in 2011, BEREC was involved in its actual implementation in 2012. It thus drafted guidelines on direct access and selling wholesale roaming access to MVNOs (article 3 of the regulation) <sup>18</sup> and is in the process of drafting guidelines for the introduction of decoupling. BEREC also provided the Commission with its opinion on wholesale roaming costs<sup>19</sup> and on the implementing act for the technical solution for decoupling<sup>20</sup> (cf. p. 17).

16 - Further information on the Digital Agenda.

- 18 BEREC guidelines, 27 septembre 2012.
- 19 BEREC analysis of wholesale costs, 23 february 2012.

<sup>13 -</sup> Treaty of Lisbon, come into effect on 1 December 2009, giving the European Commission a role of external representation of the EU.

<sup>14 -</sup> European Commission press release. 15 - EU guidelines for or the application of State aid rules in relation to the rapid deployment of broadband networks.

<sup>17 -</sup> European Commission press release 16 October 2012.

<sup>20 -</sup> BEREC opinion on the draft implementing act, of 27 September 2012

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#### BEREC

Body of European Regulators for Electronic Communications (BEREC) in 2009<sup>21</sup>.

Composed of the national regulatory authorities (NRA) of European Union Member States, its chief role is to strengthen cooperation between NRAs and to advise European institutions (Commission, Parliament and Council). It also works to promote an interior electronic communications network market. NRAs from European Economic Area (EEA) member countries and EU candidate nations have the status of observers. The BEREC Office is located in Riga, Latvia. In 2012, the Body's chairmanship was assumed by Austrian regulator, RTR, and will be taken over by Greek regulator, EETT, in 2013.

Since the European regulatory framework was introduced in 2009, whenever the Commission expresses "serious doubts" over market analyses notified by any of the NRAs, BEREC also gives its opinion on the draft decision.

In 2012, BEREC defined its positions on unbundling, bitstream and leased line<sup>22</sup>, in addition to providing its analysis of the current accessibility of numbering resources . The Body also proposed a harmonised cooperation process for operators for blocking numbers in the case of fraud or misuse . In addition, as it does every year, BEREC published its twice-yearly benchmark of call termination rates for fixed and mobile voice calls and for SMS, as well as roaming tariffs in Europe<sup>23</sup>.

## 5.3 International bodies

In addition to its work at the European level, ARCEP also maintains relations with international bodies.

## a/ International Telecommunication Union (ITU)

ARCEP participated in the different ITU meetings in 2012: the World Radiocommunication Conference (WRC), the World Conference on International Telecommunications (WCIT) and the World Telecommunications Standardization Assembly (WTSA).

- The **WRC** was held in Geneva, from 23 January to 17 February 2012. This conference achieved a major resolution in the area of electronic communications: allocation of the 700 MHz band to the mobile services on a co-primary basis with other services, including broadcast services – with each country having the option of keeping this band for broadcasting or, on the contrary, assigning it to the mobile service. The resolution will come into effect in 2015 in Europe (more broadly, Region 1 in the ITU definition)
- The **WCIT** was held in Dubai, in the United Arab Emirates, from 3 to 14 December 2012, to review international telecommunications regulation which dates back to 1998. It was unable to reach a consensus, and only 89 of the 151 countries that were present signed the resolution: the majority of European countries did not.
- WTSA (World Telecommunication Standardization Assembly) took place in Dubai from 19 to 29 November 2012. It defined the framework for ITU standardisation work over the next four years, the structure of the study groups and working methods.

ARCEP also participated in the work done by the ITU Council and the Standardization advisory group (which it chaired up to the end of 2012) that deals with service definitions and numbering issues.

23 - Benchmark of roaming tariffs from January to June 2012

<sup>21 - &</sup>lt;u>Regulation (EC) No 1211/2009 of the European Parliament and Council of 25 November 2009 establishing the Body of European Regulators for Electronic Communications (BEREC) and the Office</u>

<sup>22 -</sup> Revised common positions, 8 december 2012.

#### Remarks from ARCEP Board member, Jacques Stern, on WCIT 2012



There was lively discussion throughout the conference on a number of hot button topics, and particularly net neutrality. *"It was agreed that we wouldn't talk about it, but it was at the back of everyone's mind,"* reports Jacques Stern, who represented ARCEP in Dubai.

Ultimately, after more than a week of debate, only 89 countries signed the new treaty (the vast majority of which were emerging or developing countries) while the 55 others declined – including the United States, France and the other European Union Member States. Jacques Stern details the issues at stake at the conference, and its conclusion: "for a great many of those who signed, it is clear that the States will eventually have a greater influence over online content."

ARCEP weekly e-newsletter No.93, 11 January 2013

We also participated in the ITU's 12<sup>th</sup> Global Symposium for Regulators which took place in Colombo, Sri Lanka, from 2 to 4 October 2012. It was given to discussions over net neutrality, spectrum management policy, cloud computing, online security and privacy protection, IP interconnection at the regional and national level, public-private partnerships for promoting investments and NGA network rollouts.

ARCEP was also present at **Telecom World 2012** in Dubai in October 2012. Board member, Jacques Stern, was our representative at that annual conference, giving a talk on the topic of, "Addressing the spectrum challenge". In addition, the Authority helped prepare the French government's position on telecommunications in the decision-making bodies of the ITU.

We were also a member of the French delegation at the different preparatory meetings for ITU conferences that were held as part of the CEPT (European Conference of Postal and Telecommunications Administrations).

### b/ Organisation for Economic Cooperation and Development (OECD)

ARCEP continues to contribute to the work being done by the OECD Working Party on Communications and Infrastructure and Service Policies (WP CISP) and the Committee on Information, Computer and Communications Policy (ICCP).

In 2012, the main areas of work included the definition of new indicators for measuring fixed and mobile broadband services, along with draft reports on fixed and mobile network substitution, on open broadband networks and international roaming agreements.

Lastly, ARCEP was involved in collecting data for the biannual OECD survey, "communications outlook 2013".

ARCEP Board member, Jacques Stern, with Hamadoun Touré, Secretary-General of ITU, at "Telecom World 2012"

WCIT in Dubai.

12 December 2012

The OECD also began an ad hoc network of economic regulators in 2012, which ARCEP was invited to join.

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## c/ Cooperation with francophone countries: FRATEL



The FRATEL technical seminar was held on 3 and 4 April 2012 in Ouagadougou,

Burkina-Faso, bringing together 18 NRAs and a number of market stakeholders – including donor agencies, equipment manufacturers, telcos, lawyers, consultants and administrations – to discuss the topic of optical fibre rollouts. ARCEP was represented once again last year by Executive Board member, Jérôme Coutant. Work focused in particular on broadband as an instrument of economic development, on sharing infrastructure and civil engineering, and on the issues surrounding international optical fibre cables.

The 10<sup>th</sup> annual meeting on 22 and 23 October 2012, in Lomé (Togo), was attended by 80 participants, including 15 NRAs, the International Telecommunication Union, operators, consulting and legal firms, as well as academics, to discuss the topic of "high-speed fixed and mobile access". ARCEP was represented by Board member, Jacques Stern.



For more information: see Issue 8 of the "Cahiers de <u>I'ARCEP</u>" Economie numérique et mondialisation, which devotes several pages to FRATEL (in French).

FRATEL provides support for the training given to executive members of French-speaking African regulatory authorities and operators by the *grandes écoles* (i.e. the most prestigious higher education establishments in France), known as BADGE training. Telecom ParisTech, the *Autorité de régulation des communications électroniques et des postes* (ARCEP) of Burkina Faso, the French National Frequency Agency (ANFr) and ARCEP have all signed an agreement to support the programme. Telecom ParisTech is currently exploring a new format for Master's-level BADGE training. Since its creation, the BADGE programme has provided training to more than 130 people from 15 different countries

### d/ Euro-Mediterranean network of regulators: EMERG

ARCEP has been involved in the Euro-Mediterranean network of Regulators (EMERG) – an initiative financed by the European Commission – since its creation.

In July 2012, an ARCEP expert took part in a workshop on international roaming in Berlin. The goal of the workshop was to explore the possibility of establishing agreements between European Union and Euro-Mediterranean partnership (MEDA)<sup>24</sup> countries to regulate roaming tariffs.

A scorecard was produced on existing international roaming price monitoring and its consequences. The European Commission representative stressed that there are no plans at present to establish a roaming agreement between the EU and MEDA countries, whether multilateral or bilateral. The Polish representative reported that a bilateral agreement existed between Russia and Poland. The workshop's conclusion was that further work needed to be done on the matter in 2013.

#### e/ Bilateral relations

Over the course of 2012, ARCEP met with representatives of 40 foreign entities involved in the telecom and postal services sectors (ITU, ministries, foreign NRAs, research institutes, etc.), along with a great many economic stakeholders from the telecommunications and postal services ecosystems.

24 - The EMERG programme supports the economic transition of Mediterranean non-member countries and the creation of a Euro-Mediterranean free trade area.



# Relationship with economic stakeholders

# 1. Operators

## 1.1 Electronic communications operators

Operators of fixed and mobile electronic communications networks that are open to the public, or which provide the public with electronic communications services are the market players that are the most immediately concerned with the work performed by ARCEP. They are subject to a system of prior declaration to the Authority As of 31 December 2012, the Authority had recorded 1,328 declared operators:

- 824 operating an electronic communications network (fibre, cable, Wi-Fi...),
- 718 providing a telephone service,
- 942 providing services other than telephony, including:
- 744 providing internet access,
- 637 providing data transmission services,
- 139 providing (or planning to provide) mobile services,

The number of operators has increased steadily, by around 100 to 200 a year, since the declaration regime was implemented in 2004, as illustrated in the



#### Growth in operator numbers

Source: ARCEP.

following graph. In 2012, 221 new operators declared themselves and 64 put an end to their activities, which translates into a net increase of 157 operators listed in ARCEP's register.

To improve our supervision of operators, in 2012 ARCEP introduced a new online tool for monitoring operators' income statements<sup>1</sup>. This is one of the first projects in ARCEP's system overhaul programme. The database will eventually form the cornerstone of the system that makes it possible to manage the relationship between all stakeholders and ARCEP - securely and as much as possible online - particulary for the allocation of spectrum and numbering resources.

ARCEP maintains close ties with electronic communications operators. Our Chairman presides over the Interconnection and access committee (Comité de l'interconnexion et de l'accès) whose members include telcos, trade associations and the Authority. The Committee meets three or four times a year to discuss concrete changes to regulatory mechanisms.

Several working groups have been created among ARCEP departments to provide a necessary forum for technical and economic discussions between ARCEP experts and operators. These groups focus on a wide variety of topics, such as the number portability process, the technical conditions of fibre rollouts, unbundling, the quality of fixed, mobile and Internet access services, and numbering - for instance when public consultations are held on reorganising certain number arrays.

On the whole, all of the Authority's areas of responsibility result in technical consultations with market stakeholders, on either a regular basis or as the need arises.

These discussions are completed by more formal, systematic public consultations on the actions the Authority plans to take. Operators are the most frequent contributors to these consultations.

ARCEP also continued to work on the issue of emergency call routing, by taking an active role on the Inter-ministerial committee on telecommunications network and services coordination. CICREST (Commission interministérielle de coordination des réseaux et des services de télécommunications). devoted to emergency call location, with a view to deploying an inter-operator system.

### **1.2 Postal operators**

In accordance with the European Postal directive<sup>2</sup>, the Law of 9 February 2010<sup>3</sup> opened France's postal sector up fully to competition, as a result of which the entire postal market has been open to alternative postal service providers since 1 January 2011 (cf. p. 136).

ARCEP has issued 43 authorisations since June 2006. As of 31 March 2013, 32 authorised operators were active in the French postal market, including:

- •21 providers of domestic delivery of items of correspondence;
- 21 providers of outbound cross-border mail delivery:
- . La Poste, which holds an authorisation for both the domestic delivery of items of correspondence and outbound cross-border mail.

# 2. Equipment manufacturers

Telecommunications is a market where technologies evolve quickly and dramatically. A firm knowledge of the market's industrial issues and challenges is thus vital to its regulation.

ARCEP believes strongly in maintaining strong, ongoing relations with equipment manufacturers, and with the trade associations that represent them.

1 - Pursuant to CPCE Article L 33-1

2 - Directive 97/67/EC of 15 December 1997, amended.

<sup>3 -</sup> Law No. 2010-123 of 9 February 2010 on the public company, La Poste, and postal activities

#### **CHAPTER IV**

#### Relationship with economic stakeholders



These relationships take the form of bilateral meetings to discuss a specific question, gathering feedback – in particular through public consultations – on-site visits and at trade shows and conferences.

Every year in February, the GSM Association hosts the Mobile World Congress (MWC) in Barcelona where members of the mobile ecosystem from the world over assemble for five days. ARCEP Board member, Daniel-Georges Courtois, attended in 2012, as did Jacques Stern in 2013, accompanied by several staff members, to meet with equipment makers. The Congress provided an opportunity to measure the maturity of the LTE industrial ecosystem, the progress made in rollouts around the globe, and the prospects being opened up by future generations of mobile technologies.

In January 2012, ARCEP staff members also met with representatives of Ericsson for a talk on the maturity of 3G and LTE equipment and devices in the 800/1800/2600 MHz bands.

In March, ARCEP Chairman, Jean-Ludovic Silicani, met with Alcatel-Lucent representatives to discuss their latest innovations in mobile network equipment, and particularly lightRadio, IP and optical technologies.

Members of ARCEP departments met with representatives of Fujitsu Telecommunications France in July 2012, to talk about the emergence of a new mobile network architecture: C-RAN (or Cloud RAN),



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where radio heads are structured in a collaborative fashion and connect to baseband pools.

Around the same time, ZTE representatives came to demonstrate their latest innovations in Radio Network Access (RAN).

In September, ARCEP staff attended a talk on the R&D work Huawei is doing on superfast broadband base station and femtocell solutions.

That same month, members of ARCEP departments also attended Ericsson Day in Paris to find out about the latest trends and innovations in the "networked society".

In October, Jean-Ludovic Silicani met with Liang Chen, President of ZTE France, to talk about the latest developments from the company, the equipment market and in the area of innovation.

In November, ARCEP was invited to give a talk on 4G and next generation access networks at the "Supélec 5G" conference, co-hosted by Systematic Paris-Region (the Île-de-France business cluster) and Flexible Radio (Supélec Chair, in partnership with Alcatel-Lucent).

And, finally, in December members of our staff met with Qualcomm and Ericsson to discuss an ARCEP-approved trial carried out in Toulouse in June 2012 on a new technologies project: carrier aggregation to increase data throughput on the downlink.

## 3. Relationship with content, applications and service providers

As part of its work on Internet and network neutrality, and to fulfil its respnsibilities that were recently expanded to include companies that provide public online communication services, ARCEP has strengthened its dealings with content, application and service providers (CAP 4, and with the organisations that represent them<sup>5</sup>. This interaction has enabled us to better analyse the reciprocal relationship between internet companies, involving operators and users, of which CAP play a very particular role.

This preoccupation served to steer the work done on data interconnection (cf. p. 122), which resulted in two decisions: on the implementation of a process for gathering information on the technical and pricing terms of interconnection and routing<sup>6</sup> and the launch of an administrative enquiry that primarily concerned the companies Google and Free, and the technical and pricing terms governing online data traffic routing<sup>7</sup>.

Content, application and service providers are also involved in the work ARCEP is doing on introducing a quality of service monitoring mechanism for internet access<sup>8</sup> (cf. p. 106). It is vital for these companies that the quality of the service provided by ISPs (internet service providers) be sufficiently high and not diminish. The social media organisation working to "promote a new Internet", ASIC (association des services Internet communautaires), the online service operators' group, GESTE (groupement des éditeurs de services en ligne) and the Association for the digital economy, ACSEL (association de l'économie numérique) were thus invited to the working meetings that preceded the adoption of Decision No. 2013 0004 on the guality of internet access services on fixed networks. This system of cooperative work will continue in 2013.

## 4. Relationship with consumers

ARCEP has been holding Consumer affairs committee meetings since 2007, which provide a forum for discussions between consumer associations and ARCEP. At these, typically biannual, meetings ARCEP outlines the work we are doing on issues that are of particular interest to consumers. Added to which, they offer a chance for proper discussions with consumer associations. Also on hand are representatives of national bodies responsible for regulation and consumer affairs: the General directorate for fair trade, consumer affairs and fraud control, DGCCRF (Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes), the General directorate for competition, industry and services, DGCIS (Direction générale de la compétitivité, de l'industrie et des services), the electronic communications ombudsman and the National Institute for Consumer Affairs, INC (Institut national de la consommation).

The latest Consumer affairs committee meeting was held on 23 May 2013. The meeting on 11 April 2012 was chaired by ARCEP Board member, Jérôme Coutant. Our departments provided a status update on broadband and superfast broadband markets and rollouts, the work being done on the last drop of FTTH installations, and particular focus was given to slamming (i.e. a line being changed without the user's consent). There was also a presentation of the work that ARCEP is doing on internet access service quality, particularly as a follow-up to the public consultation held in December 2011 on the new system for measuring QoS and publishing indicators.

<sup>4 -</sup> e.g.: Dailymotion, Google, Vidéo futur, France Télévisions, Voyages-SNCF...

<sup>5 -</sup> e.g.: ASIC (association des services Internet communautaires/ social media organisation working to "promote a new Internet"), Association for the digital economy, ACSEL (association de l'économie numérique) and online service operators' group, GESTE (groupement des éditeurs de services en ligne)

<sup>6 -</sup> ARCEP Decision No. 2012-0366 29 March 2012.

<sup>7 -</sup> ARCEP Decision No. 2012-1545 of 22 November 2012

<sup>8 -</sup> Including the quality of certain applications such as Web browsing, P2P downloads and streaming video.

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#### Relationship with economic stakeholders

## « Telecom-infoconso.fr » ARCEP's website for consumers

In 2009, ARCEP launched a website aimed specifically at telecommunications services users: www.telecom-infoconso.fr

Informative, practical and educational, the purpose of the site is to provide consumers with access to all of the information they need to defend their rights, better understand how the sector operates and keep up with the outstanding issues of the day.

As with ARCEP's main URL, this website was also redesigned in 2012 to make it easier to browse. The home page has two sections, "Information on..."



and "What to do when..." along with a selection of the most read articles.

#### Reine-Claude Mader, President of consumer association, CLCV



"Operators have made progress over the past ten years, but we are still getting just as many complaints (12% of all those received by CLCV). More than that, we are being absolutely flooded by requests from consumers for explanations on their contracts: because the contracts aren't clear, people don't understand them, and are totally beholden to their operator. We really need to solve this problem!"

(interview published in <u>ARCEP's weekly e-newsletter No. 94</u>, on 18 January 2013)

#### Jacques Pomonti, President of consumer association, AFUTTT



"There was no real surge in the number of conflicts in the three sectors – landline, internet and mobile – that we monitor (4,200 complaints filed, virtually the same number as in 2011). [...] We have, however, observed a rise in operating quality issues, either sudden outages or access problems on mobile networks, but also on the internet where technical problems are still very common (19.4% increase in interruption of service complaints, operating quality complaints up by 11.1%), which makes us wonder once again about the dangers of a drop in the overall quality of the networks."

interview published in <u>ARCEP's weekly e-newsletter No. 103</u>, on 29 March 2013)

# 5. Relationship with the sector's trade unions

 On 10 February, 2011 ARCEP Chairman, Jean-Ludovic Silicani, met with Sébastien Crozier, President of the France Telecom – Orange CFE-CGC and UNSA trade union confederations, at Mr Crozier's request. During the meeting, Mr Silicani detailed the coverage obligations to which Free Mobile is subject under the terms of the licence it was issued in January 2010, and the terms governing ARCEP's verification of this coverage. Jean-Ludovic Silicani also underscored the distinction that needs to be made between these coverage obligations, which are monitored by ARCEP, and the terms and conditions contained in the roaming agreement between Free Mobile and Orange France.

 On 14 February 2012, the Chairman of ARCEP met with Alcatel-Lucent CFDT (Confédération française démocratique du travail / French democratic confederation of labour) union representatives and with representatives of the CFDT federation of mines and metallurgy – representing telecom equipment manufacturing workers.

Discussions focused on the conditions governing ARCEP's performance of its duties as regulator. It was recalled that the Authority is mandated by law to pursue several objectives at once: ensuring sufficient competition in the marketplace, of course, but also balanced regional digital development, as well as stimulating innovation and investment. This momentum is needed to create new growth outlets and to ensure the future sustainability of the sector's businesses and jobs.

The meeting also provided an opportunity to talk about the core area of endeavour for both equipment manufacturers and a great many sub-contractors, namely the deployment of fourth generation mobile and fibre-to-the-home (FTTH) wireline networks, whose regulatory framework has been established by ARCEP. The massive investments (several billion euros in over some 15 years) made in these systems will be a source of growth and job creation for equipment manufacturers and sub-contractors, and will also require substantial spending on training qualified personnel.

 Lastly, on 23 April 2012, Jean-Ludovic Silicani met with representatives of the *Force Ouvrière* trade union to listen to their concerns about the state of employment in electronic communications sector businesses.

After making clear that he understands these concerns, the Chairman of ARCEP pointed out that investments in fixed and mobile broadband and superfast broadband networks, and the development of innovative services – stimulated by fair and regulated competition – contribute to increasing both production and jobs in a way that offsets, and possibly even outweighs, certain decreases.

Telecommunications are a central part of the digital economy, in addition to being a sector where jobs have doubled in 15 years and expected to continue to enjoy significant growth for several years to come.

Jean-Ludovic Silicani assured his listeners that ARCEP is determined to do its utmost to ensure that its mandate as regulator achieves all of the objectives set by law: namely the creation of competitive market, but also regional development and developing innovation, infrastructure and businesses – hence employment opportunities.

## CHAPTER IV

## Relationship with economic stakeholders

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# The transition from broadband to superfast broadband

## 1. Status of fixed broadband networks

# 1.1 Providing broadband coverage nationwide

Properly introduced in the early 2000s. broadband technologies significantly increased the connection speeds available to users. For fixed access, the "last mile" of users' connection is generally based on an existing wireline local loop solution i.e. the public switched telephony network or cable operators' networks but it can also be supplied over a wireless link by either a terrestrial or satellite system. By "broadband" we mean retail market offers that allow users to access the internet at speeds equal to or above 512 kbps. Most broadband coverage in France today is supplied by DSL technologies over the France Telecom telephone network, which constitutes the copper local loop.

• The copper local loop is made up of around 33 million lines deployed across the whole of France through some 15,000 subscriber connection points<sup>1</sup> called NRA (*nœuds de raccordement d'abonnés*). If all of these connection points house equipment that deliver DSL services – namely the DSLAMs (digital subscriber line access multiplexer) – it does not necessarily mean that all of the lines that it serves will be eligible for these services.

In fact, according to close to France Telecom figures, **fewer** than 1% of lines – or 0.7% to be exact – were still unable to deliver broadband services via DSL as of 31 December 2012.

This ineligibility is due primarily to:

- the length of the lines and the resulting weakening of the DSL signal (0.6% of lines): the customer premises (both residential and business) are too far from the exchange or neighbourhood cabinet where the ADSL signal originates. DSL technology is subject to the technical constraint of signal loss which depends on the length of copper line and the diameter of the wires that make up that line. Beyond a certain threshold, the DSL signal coming from the DSLAM becomes too weak to ensure a sufficiently high quality link;
- the presence of multiplexing equipment (0.1% of lines). Multiplexing is a technical solution which consists of having several subscribers' telephone signals carried over a single copper pair – the result being that the multiplexed lines are unable to supply DSL services. France Telecom has begun a three-year plan for neutralising multiplexers across the whole of France.

The fact that a digital subscriber line (DSL) is able to deliver broadband access does not necessarily mean that it can also supply all of the services delivered over DSL technologies, particularly video and TV services. Whether the lines are able to deliver these services depends on several parameters, including the minimum bandwidth that their operation requires. The variety of services available therefore depends, first, on the length of the copper lines. The next criterion is whether or not there are alternative operators selling these different

1 - For the sake of brevity, we use the term "exchange" interchangeably when referring to these "NRA" subscriber connection points.

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services and have therefore invested in the proper equipment to do so. Here, we can distinguish two situations:

 90% of lines (7,500 exchanges) are connected to an exchange capable of delivering a TV over ADSL<sup>2</sup> service. However, only 2/3 of these lines are actually capable of doing so, as the remaining third are unable to deliver enough throughput to do so.

 Around 8,000 exchanges, representing 10% of all lines, can deliver only double play bundles as they are currently without the equipment needed to supply television over ADSL services.



Source: ARCEP.

### 1.2 State of competition across France

Although France Telecom has installed activated equipment in all of the exchanges that make up the network's mesh across the country, such is not yet systematically the case for all of the market's main operators. When a new operator joins an exchange through the unbundling process, competition between

the products and services available in a given region automatically increases, in terms of prices, devices on offer, available TV and video services, etc. An exchange is deemed "unbundled" when at least one alternative operator installs its DSL equipment in the exchange and accesses France Telecom's local loop with the purpose of serving its own customers directly.



Source: ARCEP.

2 - Asymmetric Digital Suscriber Line

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As of 31 December 2012, 86.3% of existing lines were unbundled, which is 1% more than in 2011. This represents close to 6,500 unbundled exchanges out of the 15,000 in existence – each serving an average of 4,400 lines. Ten years after it was first introduced, the unbundling momentum continues apace, and has now made its way to smaller exchanges. As a result, close to 450 additional exchanges were unbundled in 2012, with an average size of 1,100 lines, and so contributing directly to the spread of competitive services throughout the country.

This development of unbundling, hence of competition, has been sustained primarily by the actions and investments of two types of undertaking: alternative operators which continue to invest and are now targeting smaller exchanges, and local authorities via their public-initiative networks (PIN).

2012 also saw France Telecom revise the price that it charges for access to various infrastructure connected to the copper local loop, referred to as "*petits tarifs*," making it possible to implement incentivizing prices for the smallest exchanges, and so sustaining the

momentum begun in 2011 by the creation of a new type of location for housing alternative operators' equipment in France Telecom's smaller exchanges – referred to as HPS for "*hyper petit site*" or hyper small site.

## 1.3 Why backhaul networks matter

Electronic communications networks have a hierarchical structure which is broken down into three levels: the backbone or core network (the large "motorways"), the backhaul network (intermediate) and the access network (local loop). It is crucial for the entire country to be fully covered by backhaul networks, to be able to deliver robust, high-quality electronic communication services nationwide, in addition to being a key ingredient in the successful deployment of FTTH and 4G networks in rural areas.

France Telecom owns the main backhaul network. It is completed by the 35,000 km of backhaul network that local authorities have deployed since 2004. Today, ARCEP estimates that the linear length of the backhaul network stands at 90,000 km, of which 70,000 km are optical fibre.



#### Technical details

Backhaul networks, which are established at the regional or departmental level, provide the link between the backbone network and the access network by allowing traffic to be relayed up to the access points where operators' activated distribution equipment is installed. In the case of ADSL, the backhaul networks that operators have deployed allow them to connect the exchanges/cabinets in the copper local loop network where their activated equipment is located, to deliver DSL broadband or ultra-fast broadband access over fibre, in the case of FTTH.

But the bandwidth on a backhaul network's links needs to be high enough to relay all of the traffic to the access points in the target area. The bandwidth imposes restrictions, in terms of connection speed and service range, on the types of offer available to customers being served by a given access point, and this regardless of the technology being employed – e.g. DSL, FTTH, WLL etc.

The growing use of the high-speed internet meant that backhaul networks had to gradually adapt to be able to handle an ever-increasing amount of traffic. The development of TV over DSL services in particular, along with video on demand (VoD) products, which were first available in big cities but are now found in a large percentage the country, was made possible by the deployment of optical fibre backhaul networks.

Introduced onto backbone networks in the late 1980s, optical fibre is now the most suitable and most future-proof technology – in terms of capacity and from an operational standpoint – for building backhaul networks. An optical fibre backhaul link makes it possible to achieve bandwidth ranging from 1 Gbps to several hundred Gbps (using the most advanced multiplexing technologies) whereas using copper cables for symmetrical links of n x 2 Mbps (with n parallel copper pairs) limits the backhaul network's bandwidth. These cables are still employed in the France Telecom backhaul network to connect to the smallest exchanges, especially in the most rural parts of the country.

#### An increasingly dense fibre backhaul network

There is currently a lack of fibre backhaul networks in the most isolated areas of France. And it is in these areas in particular that the incumbent carrier's many copper local loops are still not connected to backhaul networks that have been provisioned in such a way as to enable several operators to supply robust and varied services. Today, there are around 3,000 exchanges, representing 2.5% of all lines in France, that do not have a fibre backhaul

system. Upgrading these backhaul networks would make it possible, among other things, to offer substantially faster connections to a greater number of people, along with TV over DSL services, and would allow alternative operators to improve the quality and range of the products they sell, through expanded unbundling.

Market stakeholders continue to deploy an increasingly dense mesh of optical fibre backhaul networks, but these require massive investments. ARCEP has thus worked to ensure the best possible use of and ability to share existing infrastructure, to avoid useless and costly duplication.

We thus began two new work programmes devoted to backhaul in 2012. The first objective was to improve access to existing fibre backhaul networks that are now saturated and, second, to explore targeted courses of actions for those rarer areas that are currently without a fibre backhaul system. This work made it possible to establish a clear roadmap: make the utmost use of existing backhaul infrastructure, in particular thanks to France Telecom's "LFO" wholesale optical fibre link rental solution, and create new solutions that match the needs expressed by the various stakeholders as closely as possible.

The discussions that took place between ARCEP, France Telecom, operators and local authorities made it possible to pinpoint several bottlenecks – the main ones being saturated LFO links, and the solution's inability to meet the needs of public initiative networks. This work resulted, first, in changes to France Telecom's LFO solution and, second, in the creation of an offer for accessing the civil engineering backhaul infrastructure between France Telecom exchanges, along with a specific solution for providing local authorities with prior information about backhaul.

#### a/ France Telecom's LFO solution

In October 2012 France Telecom introduced changes to its "LFO" wholesale optical fibre link rental solution, to meet several of the needs that had been expressed by both operators and local authorities:

• as a result, France Telecom has committed to

satisfying at least 95% of operators' LFO requests, which translates into doubling its availability. To achieve this, the incumbent carrier will do the work needed to free up capacity on its network, whether through reengineering, the use of wavelength multiplexing for its own needs, as a way to free up dark fibre or, in certain instances, by redeploying optical fibre;

- to extend unbundling to the smallest exchanges and, as a corollary, adapting the miscellaneous fees (*petits tarifs*) related to unbundling (colocation, power) to the smallest sites, France Telecom decreased the price of its LFO solution for exchanges of less than 1,150 lines. Having realised that the per-metre pricing scheme planned for the LFO solution could penalise certain regions, and the smallest exchanges – as they often have very long links – a maximum rate for links measuring more than 13 km has also been introduced for exchanges of less than 2,000 lines;
- and, finally, the LFO solution is now open, under certain conditions, to backhauling traffic from optical local loops connecting end users.

## b/ Offer for accessing civil engineering backhaul infrastructure between exchanges

Second, France Telecom created a solution for accessing civil engineering backhaul infrastructure between existing exchanges, which has been available since Q2 2013. This solution is only available in instances where France Telecom does not provide fibre backhaul for the exchange, or when it is unable to satisfy a request for access to its dark fibre – which represents less than 5% of LFO requests. Access will be provided to this infrastructure at an attractive price, to be able to pool the use of existing backhaul infrastructures as much as possible.

#### c/ Providing prior information

Aware of the central role that local authorities play in digital regional development, we identified a specific need for information on the status of backhaul networks. As a follow-through to this work, France Telecom has been providing local authorities with an offer of prior information on backhaul systems since 1 April 2013. This means that a local authority – either departmental or regional in scale – can ask the incumbent carrier to produce a status report on backhaul infrastructure that is available to use: available LFO and a route map of civil engineering that can be used if the LFO is saturated or non-existent in their area.

## 2. Increasing bandwidth

The vast majority of customers today access broadband services *via* ADSL.

But DSL technology suffers from the technical restriction of signal loss which depends on the length of copper line and the diameter of the wires that make up that line. This loss is measured in decibels (dB). For instance, on a copper pair with a diameter of 0.4 millimetres, there is a loss of close to 15 dB per km. Beyond 78 dB, the DSL signal coming from the DSLAM becomes too weak to ensure a high enough quality connection. As a result, the differences in the length of the copper pairs in France Telecom's local loop create a substantial structural difference in the quality of the internet access customers can receive. There are two technologies that can help remedy this:

- increasing throughput via sub-loop unbundling which is a solution that is particularly well suited to long-lined configurations – thanks to the creation of the wholesale PRM (Point de Raccordement Mutualisé) shared access point solution that makes it possible to "shorten" the lines connecting subscribers;
- VDSL2 technology, which was authorised to be used on the copper network in April 2013, will enable further gains in throughput in certain network configurations, compared to existing ADSL technologies.

## 2.1 Increasing throughput through sub-loop unbundling: France Telecom's PRM solution

Pursuant to the analysis decision on market 4 – i.e. wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location – which ARCEP adopted and published on 14 June 2011<sup>3</sup>, France Telecom published a wholesale offer enabling an increase in throughput by unbundling its copper sub-loop: the shared access point solution or PRM (Point de Raccordement Mutualisé).

The solution consists of moving the DSL signals' injection point lower down the network to shorten the length of the copper lines running to the terminal outlet (i.e. the customer premises), and thereby increase customers' connection speeds.

In concrete terms, this involves installing a new cabinet referred to as an "NRA-MED" (noeud de raccordement d'abonnés de montée en débit) or an unbundled sub-loop cabinet - right next to the neighbourhood cabinet, to house operators' equipment that transmits the DSL signals over shorter distances.

After the "PRM" solution was published, ARCEP created a working group to monitor its operational implementation. Members of the working group include France Telecom, the main LLU operators, representatives of certain local authorities and associations that represent local authorities. The purpose is to make constructive adjustments to the solution, based on feedback from the different stakeholders and coming from the field. A new version of the offer that incorporates several changes, in particular to pricing, was thus published in December 2012.

In November 2012, we also published a handbook for local authorities and elected officials on the implementation of sub-loop unbundling. The purpose of this practical guide is to answer elected officials' most frequently asked questions, to reduce the risks of missing or contradictory details in the information available to local authorities planning to engage in sub-loop unbundling and who will thus be required to evaluate the responses they receive to their calls to tender.

## 2.2 VDSL 2

VDSL2<sup>4</sup> is a technology that makes it possible to achieve a downstream throughput of up to 50 Mbps on subscriber lines in the copper local loop, compared to 20 Mbps with the ADSL2+ technology deployed today. This substantial increase is nevertheless available only to shorter lines: beyond one kilometre, speeds will be the same as with ADSL2+. In rural areas, this technology could be interesting if deployed alongside sub-loop unbundling, although the more customers in a given service area are dispersed, the lower the number of lines that can benefit from the use of VDSL2.

Whether and how VDSL2 is deployed will depend on operators' commercial strategies, but is also subject to permission from a special committee. Before a new technique is introduced into the copper local loop, it must be ascertained that it will not interfere with existing connections. In-depth analysis and testing are therefore crucial. To this end, we created a special committee several years back to examine the introduction of all and any new technology onto the copper local loop. Committee members include France telecom, LLU operators and the leading equipment manufactures, who meet once a month. Local authority representatives also attend these meetings which are chaired by an independent expert.

The committee carried out a three-step investigation into VDSL2 performances, and its compatibility with existing technologies in the copper local loop: theoretical simulations, followed by testing on a captive network and later field trials. Once these trials had been completed, the special committee issued a favourable opinion on the introduction of VDSL2 on 26 April 2013. France Telecom then had six months from when the opinion was issued to include this technology in its reference offer: the purpose of this six-month period is to prevent any risk of discrimination against alternative operators when launching retail market services based on VDSL2, and to ensure that France Telecom's active VDSL2 solution is satisfactory.

- 3 Decision No. 2011-0668 of 14 June 2011
- 4 Very high speed Digital Subscriber Line 2.

## 2.3 Can the wireless local loop provide a real alternative to copper?

As of 1 January 2012, twenty four undertakings in France held a wireless local loop (WLL) licence in the 3.4–3.6 GHz frequency band. These licences result primarily from a call for applications that was issued in 2005, and which led to two licences being awarded per region in 2006, and to some of these licences being sold in the secondary market. One licence had also been awarded on its own in 2003 to IFW for the whole of metropolitan France.

WLL licences allow undertakings to introduce wireless high-speed services for either fixed or roaming use. They carry rollout obligations which, for licences resulting from the call for applications, correspond to the commitments the licence-holders made in their application. In accordance with the terms of their licence, a compliance check was performed on 31 December 2010. This process required WLL licence-holders to provide ARCEP with several pieces of information, notably on their transmission site deployments, their geographical coordinates, their products and customer numbers. After having received this information, ARCEP ascertained - as it had already done back in 2008 - that deployments continued by and large to fall short of commitments that licence-holders had made. ARCEP also noted that most existing systems had been deployed by local authorities as part of their public-initiative networks, to supply WiMAX-based access in those areas not covered by wireline broadband solutions.

In November 2011, seven WLL licence-holders were sent a formal notice to comply with their rollout commitments which, for some operators, led to the conclusion that they would be unable to use their frequencies in the foreseeable future – as result of which they relinquished either all or a portion of their spectrum. The first deadline attached to these official notices was on 30 June 2012 and concerned the firms Altitude Wireless, Bolloré Telecom and La Société du Haut Débit  $(SHD)^5$ . (cf. p 16 - 17)

After having heard from each of these three companies during a public hearing on 16 October 2012, ARCEP's Executive Board concluded that they had failed to meet their rollout obligations – to varying degrees depending on the operator and on the regions in question.

One of the reasons for only partial rollouts has been delays in the industrial ecosystem. Competition from other technologies may also have hampered the sale of WiMAX solutions and slowed down deployments.

Under these circumstances, given this band's particular ecosystem and the lack of interest coming from other players, ARCEP concluded that penalising existing licence-holders by revoking their licences would not, in the short term, guarantee optimal use of the State-owned asset that these frequencies represent. We also concluded that a financial penalty would not serve to encourage deployments or investments in these frequencies and technologies.

We therefore decided not to penalise the firms SHD and Altitude (through a decision issued on 22 November 2012), in view of the commitments they have made, namely either to perform rollouts in the near future, or to continue their efforts to make their spectrum available to local authorities for their public-initiative networks, or to hand back their licences for certain departments where there are no concrete plans for rollouts by either public or private players.

ARCEP also decided not to penalise the firm Bolloré Telecom which has committed to meeting all of its rollout obligations by 2017 – including two introductory

<sup>5 -</sup> Other deadlines, set for 31 December 2012 and 30 June 2015, may concern other licence-holders. ARCEP will work carefully to ensure these deadlines are met.

stages in 2015 and 2016 - and to continue its policy of making spectrum available to local authorities who request it, in a clear and lasting fashion. Bolloré Telecom has also committed to automatically relinquishing its frequencies in a way that is proportionate to any future failure to meet these commitments, but at minimum on a department-wide scale. In addition, the Bolloré group has committed to retaining full ownership of Bolloré Telecom until the end of 2017.

## 3. Local authorities' role in digital regional development

## 3.1 Upgrading public initiative networks to superfast broadband

For several years now, and especially since the introduction of Article L. 1425-1 of the Local authorities' general code, or CGCT (Code Général des Collectivités), in 2005, local authorities have become central players in digital regional development efforts.

At the end of February 2013, ARCEP counted 355 public-initiative network (PIN) projects in France. Sixteen of these are regional, 79 are departmental in scale (initiated either by the department, a joint association overseen by the department, an association of electricity producers covering the entire department, etc.), 150 are managed by public establishments for

cooperation between local authorities, or EPCI6, and 110 were projects instigated by a municipality or township on its own. The vast majority of these city-led actions benefitted from a departmental or regional digital regional development policy that provided financial support for local initiatives. 136 projects cover more than 60,000 residents, and 153 cover more than 30.000 residents.

Twenty seven new projects got underway in 2012: one, in the Calvados, is departmental in scale, 17 are multi-district (as part of an EPCI) and 9 are municipal. Aside from a few municipal projects that employ Wi-Fi or sub-loop unbundling (via the PRM solution), all of these rollouts have an FTTH component.

We expect to see larger-scale projects get underway in the coming year, notably those that requested financing from the Fonds pour la société numérique (FSN), or Digital society fund, as part of France's national superfast broadband programme. Close to 30 new departmental or regional projects are thus expected to launch in 2013. At the same time, the impact of France Telecom's "PRM" sub-loop unbundling solution, which was introduced back in mid-2012, has not yet been measured in the figures being submitted to ARCEP7, but we anticipate a sizeable number of declarations of projects that employ France Telecom's sub-loop unbundling solution in 2013.

#### Informing ARCEP: a regulatory obligation for local authorities

By virtue of Article L. 1425-1 of the local authority's general code, CGCT (Code Général des Collectivités Territoriales), "Local authorities and their associations can, within a minimum two months of publication of their project in a journal of legal notices, and its transmission to the Electronic communications and postal regulatory authority [ARCEP], establish and operate electronic communications infrastructure and networks in their region [...]"

Local authorities will find ARCEP's new information channel on the dedicated website: http://www.arcep.fr/collectivites

6 - Which stands for: Établissements publics de coopération intercommunale.
 7 - According to Article L. 1425-1 of the Local authorities' general code (CGCT)



## 3.2 Consultation and creation of SDTAN regional blueprints

The deployment of new generation access networks, and especially fibre-to-the-home (FTTH) systems, is one of the central digital challenges of the 21st century. And now with the budgetary constraints imposed on the regions, working together has become more vital than ever. It is in this revived spirit of cooperation and need for consistency in the field that new digital projects were constructed in 2012.

The first instrument of coordination that was widely adopted in 2012 was the digital regional development blueprint, or SDTAN (schéma directeur territorial d'aménagement numérique).

Created by the Law of 17 December 2009 on bridging the digital divide, commonly referred to as the Pintat Act, SDTAN are drafted at minimum at the departmental level. At the end of 2012, virtually all of the departments of France (98 of 100) reported having launched a digital regional development blueprint, of which 77 at the

departmental level and 21 at the regional level (Alsace, Auvergne, Corsica, Limousin, Languedoc-Roussillon, Nord-Pas-de-Calais, Guadeloupe, Guyana, Martinique and Reunion). Only the departments of the Bouchesdu-Rhône, the Hauts-de-Seine and Paris, which have densely populated urban areas and are thus well covered by private-sector initiatives, have not drafted an SDTAN.

2012 was also a year that saw the completion of a great many blueprints: 49 new departments reported having finalised their SDTAN, compared to only 11 at the end of 2011. For regional blueprints, these include Alsace, Corsica, Guyana and Limousin, along with all the departments in the regions of Brittany, Centre, Haute-Normandie, Ile-de-France and Picardie.

The purpose of these SDTAN digital regional development blueprints is to create a framework for achieving consistent rollouts among public and private sector players. This consistency needs to be verified between the projects being planned by local authorities. This means that any municipality or township, EPCI or department wanting to undertake a network rollout project in an area covered by an SDTAN, must ensure that it is consistent with the general objective set by the blueprint. This is especially true of sub-loop unbundling schemes which, although they are effective in certain parts of the country, must absolutely be coordinated, both geographically and in terms of timeline, with longer-term projects – such as FTTH rollouts. It is thus vital that a local authority initiating any such project inform the blueprint's initiator, to avoid any unnecessary and wasteful duplication of networks in the same region.



Consultation between local players from both the public and private sector is essential to the success of local authorities' superfast network rollout projects.

A Prime Minister's circular of 16 August 2011 created the regional advisory committees for digital regional development, or CCRANT (commissions consultatives régionales pour l'aménagement numérique du territoire), which operate under the aegis of the Prefect of the region. These are additional instruments for ensuring that stakeholders work together and that everyone's role is clearly identified. Close to 20 CCRANT meetings were held across France in 2012.

With this dialogue underway, some local authorities have moved onto the next stage which involves establishing agreements with private sector operators. The Auvergne region was the first to accomplish this by signing an agreement in February 2012, in the town of Clermont-Ferrand, which makes public and private sector players' FTTH rollout commitments official. This commitment creates a reciprocal climate of trust in the planned rollouts, and provides local authorities with greater clarity moving forward.

In March, May and October 2012, respectively, the regions of La Manche, Côte d'Or and Alsace signed an agreement with France Telecom, while the department of the Loiret signed with SFR in July 2012. On a smaller scale, in December 2012 the communities of municipalities of Auxerre (in the Yonne) and of Niort (Deux-Sèvres) signed an agreement with France Telecom for monitoring FTTH rollouts and sharing information, with the incumbent carrier committing to deploying fibre to the premises, using its own resources, in all of the municipalities in both of the communities within five years.

# 4. Superfast broadband

## 4.1 A snapshot in figures

The surge in internet traffic, the development of media content and the emergence of new services that are consumed either individually or collectively will drive demand – from consumers, government services and businesses – for ultra-fast broadband solutions over optical fibre networks in the coming years. Deploying new generation superfast access systems across the whole of France thus represents a major development challenge that is at once social and economic. The European Commission's Digital Agenda has set the target for all EU citizens to have an internet connection of a minimum 30 Mbps, and at least half of all households will have a connection with a throughput equal to or above 100 Mbps by 2020. ARCEP aligned itself with these defined thresholds in the third quarter of 2012.

For several years now, operators have been engaged in large-scale rollouts of fibre to the home (FTTH) networks in the country's biggest cities. Other technologies will also supply superfast access, notably cable networks that are currently being upgraded. These upgrades involve deploying fibre in the horizontal portion of the networks while keeping coaxial cable<sup>8</sup>, in the last metres. Upgrades are also being made to the legacy copper network that will enable the introduction of technologies such as VDSL2 (cf. p. 64).

In 2012, the number of premises passed<sup>9</sup> for FTTH increased by 46%: up to 2,165,000 by year-end. The percentage of these premises that are passed by at least two operators, thanks to the use of a passive access solution at the concentration point, rose from 39% in 2011 to 51% by the end of the year.

At the end of 2012, 81% of these eligible households were in municipalities located in very high-density areas<sup>10</sup>; compared to 88.2% in 2011. The vast majority of deployments outside of very high-density areas are the result of public-initiative network projects although, since summer 2011, private sector operators have also begun large-scale rollouts using their own resources. This progress in FTTH rollouts has gone hand in hand with the heavy use of existing civil engineering, and particularly France Telecom's: the linear length of civil engineering leased from the incumbent carrier increased tremendously



Source: ARCEP.

<sup>8 -</sup> FTTH (fibre-to-the-home) consists of deploying optical fibre from end to end, up to the customer's premises, whereas FTTLA (fibre-to-the-last-amplifier') and FTTB ("fibre-to-the-building) systems deployed by cable companies involve replacing a portion of the coaxial cable located on public land with optical fibre, and running up to the last metres or last mile of the connection (foot of the building, street or neighbourhood, depending on the area) which remain in coaxial cable.

<sup>9 -</sup> LARCEP considers as eligible or passed for FTTH, those homes that require only connection of the last metres from the optical branching unit to be supplied by an operator for the home's occupant to have access to an FTTH service. At least one operator must have connected the concentration point to the optical branching unit where it activates its connections.

<sup>10 -</sup> ARCEP lists the 148 municipalities defined as very high-density areas in its Decision No. 2009-1106 of 22 December 2009.

over the course of the year, going from 6,050 km to 8,990 km, which translates into a 49% increase compared to 2011. Aside from Paris<sup>11</sup>, the linear length of optical fibre that France Telecom has deployed in its civil engineering infrastructures is comparable to what it has leased to other operators. The alternative operator that has leased the most civil engineering infrastructure from the incumbent carrier has used it to deploy between 4,500 and 5,000 km of optical fibre.

Meanwhile cable networks, and particularly the Numericable system, now covers around 4,789,000 homes with ultra-fast broadband, using an optical fibre network with coaxial cable in the last metres, providing throughput of over 100 Mbps. Some 3,671,000 homes are also covered by a cable network capable of achieving a throughput of between 30 Mbps and 100 Mbps. Sixty three percent of these homes are located in a very high-density area. Several operators employ the Numericable network via activated solution<sup>12</sup>. At the end of **2012**, then, **8.85** million homes were eligible to receive superfast broadband access – with some having access to a choice of two solutions, one supplied over an upgraded cable system and the other via FTTH.

In parallel to private operators' rollout projects, in accordance with the terms set by Article L. 1425 of Local authorities' general code (CGCT)<sup>13</sup>, local authorities are permitted to establish and operate FTTH electronic communications infrastructure and networks in their area. Their projects can be regional, departmental or inter-departmental in scale.

As of 31 December 2012, there were 360,000 premises eligible to receive FTTH that were installed as part of a public-initiative network, or 16.6% of all the premises passed in France.



- Excluding the Paris area makes sense given that alternative operators use primarily sewage infrastructure and not France Telecom's civil engineering to deploy their networks there.
   Between 200,000 and 300,000 superfast access accounts at 30 Mbps are delivered via optical fibre networks with coaxial cable in the last
- 12- Between 200,000 and 300,000 superfast access accounts at 30 Mbps are delivered via optical fibre networks with coaxial cable in the last metres based on an active solution, either in the form of the bitstream solution sold to Bouygues Telecom, or the resale of a white label solution sold to Darty (whose accounts have now been folded into the Bouygues Telecom base) or Auchan Télécom (which shut down its operations on 21 March 2013 and handed over its entire customer base to Numericable).
- 13 Cf. p. 66 (point 3 of this Chapter).
- 14 A series of additional local authority projects are currently in the planning stage, but only those that have actually been launched are depicted on the map

## 4.2 Regulatory developments

#### a/ Terms governing FTTH network sharing

• The principle of sharing as defined by Law The Law on modernising the economy of 4 August 2008 sets the legal framework for regulating the last metres of fibre networks. It instils the principle of having operators share the last metres of the networks, and gives ARCEP the responsibility of implementing the network sharing scheme.

ARCEP has adopted a <u>set of regulations (decisions and</u> <u>recommendations)</u> since then on FTTH network rollouts: - on 22 December 2009, a decision on the terms governing access to superfast optical fibre lines, and instances where the concentration point can be located on private property (very high-density areas);

- on 14 December 2010, a decision on fibre-tothe-home rollouts nationwide, outside of very high-density areas;
- on 14 June 2011, a recommendation on the terms of access to superfast optical fibre lines for certain buildings in very high-density areas, notably those with fewer than 12 units or office buildings.

## A regulatory framework that plans for a high degree of FTTH rollout sharing to minimise unnecessary duplications

Outside of very high-density areas, a great deal of network sharing occurs. This concerns close to 80% of households (or around 24 million lines). Regulation today in fact requires all operators to deploy concentration points of at least 1,000 lines (300 lines if they offer a remote connection solution). The level of sharing on FTTH networks will thus be at least equivalent to what currently exists on the copper network, and 95% of FTTH rollout costs are shared. In these configurations, only a single fibre is deployed downstream from the concentration point. Moreover, a high degree of sharing is recommended even in the "low-density pockets" (1.4 million lines) found in very high-density areas, employing a similar configuration to the one used in more sparsely populated areas (i.e. concentration point of at least 300 lines).

In very high-density areas, outside of those "low-density pockets" – i.e. for around 4.7 million lines – different operators' networks can be deployed in parallel, to form a rather dense mesh. But existing regulation in no way prohibits operators from sharing all or a portion of their networks upstream from the concentration point. Bouygues Telecom has in fact signed agreements with SFR and France Telecom to buy excess deployed fibres, and for shared fibre installations in certain upcoming deployments. Depending on the requests received from other operators, more than one fibre can be installed upstream from the concentration point in these areas.

# • Co-financing as an instrument of network sharing

FTTH network rollouts provided an opportunity to introduce co-financing mechanisms into regulation which, on the one hand, allow operators to share their rollout costs in exchange for indefeasible rights of use and, on the other, to amortise corresponding investments<sup>15</sup>. Co-financing confers a right of scrutiny over the engineering and the network's rate of deployment and, over the long term, aims to prevent the structural problems that arise under the classic scenario of a single operator owning the network. Co-financing also means sharing the financial risks – which are considerable – and the cost of deploying new networks. The goal is for all operators to share in the deployment of these new generation access networks, which increases the chances of rapid success.

In very high-density areas, co-financing generally takes the form of operators sharing costs equally, in exchange

<sup>15 -</sup> The indefeasible rights of use described in these offers are generally awarded for a period of 20 to 30 years, and carry terms of renewal that depend on the amount invested and on the operational terms being intact at the end of that period, notably in cases of major maintenance or upgrades.

for the right to use the infrastructure (with no limit on customer numbers). In more sparsely populated areas - which account for 80% of homes in France, or around 24 million lines - shared investment schemes are implemented by 5% increments, which allows the smallest operators to acquire small shares - and so to contribute in equal measure to rollout costs - in exchange for limited rights of use: i.e. drawing rights on a number of premises corresponding to the purchased increment. Any operator can participate in a co-investment scheme, including a building operator working on behalf of a public authority.

#### b/ Completing deployments in rural areas

The legislator gave ARCEP the responsibility of setting the terms of access to fibre-to-the-home networks, notably, "to achieve consistency in deployments and homogeneous coverage of the areas served" 16. During the public consultation that preceded ARCEP's introduction of the regulatory framework, a great many local authorities had clearly expressed a desire for a strict and closely monitored completion regulation, governed by short delays.

ARCEP also requires operators deploying an FTTH network outside of very high-density areas to ensure the completion of all rollouts begun in that area. This means that for each concentration point installed, the building operator that operates the concentration point (CP) must deploy a network within a reasonable timeframe - i.e. two to five years depending on local characteristics - which runs from the concentration point to the immediate vicinity of the residences in the service area, and capable of connecting all residential and office buildings.

At the local level in more rural areas, this regulation requires a critical mass to be achieved for all FTTH rollout "pockets" within a short timeframe, which often involves planning to provide services to areas far from town centres, given the low housing density in certain

parts of France. This regulation makes it possible to achieve both a digital regional development objective and a competition objective, by guaranteeing the size of the network access point for service providers.

For some local authorities who are working within tight budgets, this obligation can make for a difficult equation - particularly when they are having to serve the needs of several municipalities or townships, as is the case with joint associations.

Several local authorities also wanted to see the completion regulation relaxed, particularly for isolated dwellings. We therefore held a public consultation in April and May 2012 on implementation of the obligation to complete shared FTTH rollouts in rural areas. Stakeholders who responded agreed that the debate was a necessary one, but disagreed on the solutions.

At the outcome to these analyses, which are summarised in a document that was published in February 2013, ARCEP concluded that, in certain rural areas, there is not yet a satisfactory solution for FTTH network rollouts, and none of the courses of action proposed during the public consultation was fully satisfactory:

- either they did not make it possible to guarantee that all of the objectives set by Law could be achieved, notably: regional digital development (the homes and businesses that are today the most poorly served by broadband run the risk of having to wait longer for superfast access), promoting efficient investment (if engineering choices are made based on short-term criteria it would penalise the economic balance of a lengthier but complete deployment), and protecting and developing competition that benefits end users (if consistency and network access point size requirements are ignored);
- or they make it impossible to find a viable business model for a private or public-sector led project: the various proposals for relaxed measures would create

<sup>16 -</sup> According to Law No. 2009-1572 of 17 December 2009 on bridging the digital divide, amending Article L. 34-8-3 of the Postal and electronic communications code.
incentives to focus on rollouts in the most urbanised areas, where copper lines are shortest and where there is the greatest likelihood of alternative technologies that compete with FTTH – which could make investments in FTTH in these areas riskier.

At this stage, then, ARCEP concluded that it was neither relevant nor possible to alter the rollout completion obligation in the concentration points' service area<sup>17</sup>. We have thus maintained the regulation as it stands, with an obligation to complete the deployment in each service area within a reasonable timeframe of two to five years. ARCEP did nonetheless point out that the completion objective, resulting from the Law of 17 December 2009, had the digital regional development fund as a corollary – with the State ensuring balanced funding for the regions nationwide. This fund was not put into place, however.

#### c/ Clarifying the terms of final connection

From a technical standpoint, providing the last metres of connection in a fibre-to-the-home (FTTH) network can be defined as all of the operations needed to physically establish a continuous optical link between the optical network terminal (ONT) located inside the customer's premises (home or office), and an optical network unit (ONU) which is located close to the customer premises – typically either on each floor of the building, at street level, on the façade or a hydro pole – and which houses the lines for six to 12 housing units.

The final connection's concrete installation is a key ingredient in FTTH network rollouts, given the economic issues it entails, particularly in rural areas: it typically costs several hundred euros per connected premises (home or place of business). In addition, the legal framework governing final connection needs to cover a wide array of configurations, as the pioneer FTTH rollouts revealed: multi and single-tenant buildings, old and new, subdivisions, housing estates, etc.



Source: ARCEP.

In late 2011 and early 2012 ARCEP investigated the technical, legal and financial methods and terms for deploying the last metres of FTTH networks to detached houses and small buildings – the main findings of which were presented at the GRACO technical meeting in March 2012. The resulting report proposed a set of different connection configurations (underground,

overhead, façade) along with an analysis of the associated costs, suggested technical solutions and ways to optimise the rollout process.

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To identify any potential problems in interpreting the framework's legal and regulatory aspects, which might arise under the various circumstances in the field, ARCEP held a <u>public consultation</u> in April and May 2012 on:

- the regime that applies to the different types of housing, with a particular distinction between multi-tenant and single-tenant buildings;
- role sharing between operator and property owner, particularly in terms of the installation, maintenance and financing of any parts of a property that are not yet built, and of line hosting infrastructure.

As most of the stakeholders who responded to the public consultation pointed out, **it appears that bringing certain changes or additional details to the legal framework would help clarify and complete applicable regulations, and facilitate deployments**. This is why we published a summary document and guidelines in February 2013 that contained <u>recommendations for changes</u> to the laws, addressed to Parliament and the Government.

### 4.3 Industrialising deployments

Following through on the work we did to establish the regulatory framework (2009-2011), the market's players have been working since 2012 on implementing and industrialising rollout and operational processes. Feedback from the first rollouts are making it possible to pinpoint difficulties arising from characteristics that are specific to rural areas, and to adapt the technical, operational, costing and legal systems in kind – while continuing to comply with the regulatory framework. In 2012, we initiated a number of work programmes to provide a set of references and practical tools for local authorities wanting to undertake rollout projects in their area.

This work related in particular to:

- changes to information system standards and processes for incorporating the specific features of rural areas;
- establishing common engineering rules for FTTH, notably for optical signal loss, and their variants for rural areas.

### a/ Standardising information system processes

Very early on in the process, ARCEP identified the vital role that information systems would play in FTTH network rollouts, and made standardising the file sharing processes and formats for operators' network-sharing schemes a priority.

In 2009, the major national operators created a working group dedicated to standardising processes and interfaces between their respective information systems, to guarantee the efficiency of FTTH network sharing schemes (prior information sharing, order process, after-sales service, etc.).

The group initially focused their work on exchange processes and formats that were specific to the country's most densely populated areas. The first documents to emerge from these efforts were published in 2011, and enabled stakeholders to employ compatible processes and formats.

Then, at our suggestion, two new members joined this group<sup>18</sup> in spring 2011, which is when work began on more sparsely populated areas. This allowed stakeholders to benefit from early feedback on rollouts in these areas, and to take into consideration the particular features of public initiative networks. To given an example: the description of buildings in operators' information systems, which initially focused on "vertical" housing, had to be expanded to take into account a wide variety of situations, and more dispersed "horizontal" housing configurations.

To ensure that the maximum number of the standards defined by the group are used effectively, **work was done** 

18- Governors of the Pays Chartrain and the association of electricity and e-communication providers of the Ain

on ensuring their concrete implementation, first through the production of publicly available documentation that describes the invariants, recommendations and best practices and, second, through training seminars organised under the aegis of ARCEP<sup>19</sup>, and aimed in particular at public initiative network (PIN) operators.

Since autumn 2012, this standardisation mechanism has structured itself more around the "Interop'Fibre" group whose members now include all the operators involved in FTTH network rollouts, including wholesale operators involved in PIN. The group is run by a steering committee of which ARCEP is a member – our aim being to ensure a synchronicity in the work performed by this group and the efforts of the other working groups we chair (multilateral meetings, fibre expert committee), and that the information produced is made publicly available.

# b/ Sharing engineering constraints on FTTH networks in rural areas

France's main vertically integrated national carriers are deploying FTTH networks in a portion of the country and, as customers of other operators' networks, they may want to see certain engineering constraints respected. Meanwhile, operators doing business only in wholesale markets, along with public-initiative network players, are seeking requirements for the networks they are building, not only to ensure that they comply with the regulatory framework but also satisfy their future customers' technical constraints. But these players also want to be able to maintain some leeway on certain aspects of the engineering, and this for various reasons such as network scalability, market competition, taking the needs of the enterprise market and government agencies into account, etc.

ARCEP thus chaired a working group on these topics as part of GRACO<sup>20</sup>. One of the aims of this working group is to establish engineering criteria to guarantee that wholesale operators are able to host all commercial operators on their network. Because these networks are deployed chiefly in rural areas, it is responses to issues in these areas – which are the group's chief focus – that are being sought.

Efforts were devoted in particular to restrictions tied to signal loss on optical networks. As an outcome to these meetings, in September 2012 we published <u>a summary</u> of the work that had been done, which emphasised the need for technological neutrality, especially between point-to-point and point-to-multipoint solutions such as GPON.

# 5. Broadband and superfast broadband access for businesses

### 5.1 Capacity services market analysis

In July 2012, ARCEP began a review of our analysis of the capacity services market<sup>21</sup> by sending the sector's players a quantitative and qualitative questionnaire on this market, and on the resulting retail markets. The information gathered from this questionnaire will allow us to produce a scorecard of the regulation that has been in place for three years, and to deepen our understanding of the market and its dynamics, with a view to making any necessary changes to the regulatory framework.

Based on this first stage of work, in early 2013 ARCEP planned to extend application of Decision No. 2010-0402 up to mid-2014, to be able to synchronise our analysis of markets 4, 5 and 6 (cf. p 172). A draft decision to this effect was submitted to <u>public</u> <u>consultation</u> and notified to the French Competition Authority in February 2013, and to the European Commission in late April.

## 5.2 The new regulatory cost model for unbundled access and backhaul

Following a <u>public consultation</u> on the matter, ARCEP published an <u>updated regulatory cost model</u> for access and backhaul on 7 September 2012. This

<sup>19 -</sup> The first three sessions took place at the ARCEP offices on 28 March, 1 June and 6 December 2012.

<sup>20 -</sup> The forum for discussions between ARCEP, local authorities and operators

<sup>21-</sup> Decision No. 2010-0402 of 8 April 2010, on the market analysis adopted for a period of three years.

technical-economic model allows us in particular to obtain an even more accurate measure of competition on fixed networks, thanks to more detailed knowledge of underlying costs.

Decision No. 2011-0669 of 14 June 2011 – on analysis of the market for wholesale non-physical or virtual network access including bitstream access at a fixed location – designates France Telecom as the SMP operator, and consequently imposes on it an obligation to charge cost-oriented prices for its enterprise customer services, provided it does not engage in predatory pricing. The decision stipulates that the definition of predatory pricing will be assessed, "*in relation to the average costs borne by an efficient mixed market operator – i.e. which provides services to both residential and enterprise markets – when supplying, via unbundling, alternative solutions to those provided by France Telecom in a relevant geographical area*".

The new regulatory model that ARCEP developed, based on the costs borne by an efficient mixed-market alternative operator, makes it possible to obtain a detailed assessment of what constitutes predatory pricing. This in turn led France Telecom to revise certain prices in late 2012.

This model was also used in ARCEP's report to Parliament and the Government on net neutrality, to assess the incremental cost of backhaul, resulting from increasing fixed internet traffic.

### 5.3 PIN FTTO projects

Digital is a vital ingredient in improving businesses' ability to compete and sustain economic growth. How to increase competitiveness, how to boost a region's appeal thanks to its digital "assets," and so to attract businesses to the region in a lasting fashion, are some of the key challenges that local policymakers are facing today.

Consequently, businesses are often at the heart of local authorities' digital regional development projects: between 2004 and the end of 2012, the number of

public-initiative networks (PIN) that included a business park or business district component, and which covered a population of more than 30,000, grew from 21 to 75. Local authorities are thus having to take into consideration the specific features of the enterprise market – in terms of products, markets and regulation – when planning their initiatives and putting them into effect.

In terms of products, the business market differs from the residential market chiefly by a common set of demands, notably in relation to quality of service. But these demands apply to a wide range of realities, as usage will vary depending on the companies' features and their specific needs (size, sector of activity, number of sites, etc.).

The wholesale solutions that operators use to build their retail market services for enterprises, whether over the copper or optical fibre network, are subject to specific regulations. During the work performed in GRACO in 2012, ARCEP provided local authorities with an analysis of observed changes in wholesale and retail market offers. We also used the opportunity to reiterate the regulatory framework that applies to France Telecom wholesale solutions (DSL-E, CE20, C2E, CE LAN...), and to talk about the work that ARCEP is doing in this area (cf. p. 75).

The wholesale and retail offers aimed at enterprise customers have changed a great deal over the past few years. ARCEP has especially observed a sharp decrease in the price of copper and fibre products, along with an increase in the availability of optical fibre solutions. This observation strengthens the need for local authorities to take better account of existing networks and services when planning their digital regional development efforts that target businesses. The collaborative work performed prior to a possible government-backed initiative, as in digital regional development blueprints (SDTAN), is thus essential.

In addition, because solutions based on residential FTTH systems already make it possible to meet the needs of certain businesses, ARCEP underscored the FTTH

rollout completion obligation with a reminder that, in more sparsely populated areas, this obligation also applies to places of business located in the concentration point's service area.

# 6. French Government and European Commission initiatives

# 6.1 New Government policy on electronic communications infrastructure

In a speech given on 20 February 2013, the President of France announced the guidelines for the national regional digital development strategy. The goal is to achieve complete superfast broadband coverage nationwide within 10 years. The ways the Government plans on achieving this are, first,  $\in$ 3 billion in State funding for local authorities over 10 years and, second, giving these local authorities access to loans from a  $\in$ 20 billion savings fund, created by raising regulated savings plan maximums.

National governance is provided by a government body responsible for coordinating and ensuring financial assistance, and for monitoring network deployments.

In the meantime, while waiting for this permanent supervisory structure to be in place, in November 2012 the French government created a "superfast broadband task force" that is responsible for establishing the Government's roadmap, and then for ensuring its implementation. Chaired by Antoine Darodes, formerly the Director of ARCEP's Broadband and ultra-fast broadband department, this task force is operating under the aegis of the Minister responsible for digital affairs. It is currently working on revising the tender specifications for PIN (public-initiative network) projects, on standardising the technical and operational aspects of FTTH rollouts, and on achieving a synchronicity between public and private-sector initiatives.

### 6.2 European Commission initiatives

The development of broadband and superfast broadband access in Europe is an integral part of the European Union's Digital Agenda. The Agenda's objectives include 100% of homes in the EU having basic broadband coverage by 2013 and, by 2020, all EU citizens having an internet connection of a minimum 30 Mbps, and at least half of all households a connection with a throughput equal to or above 100 Mbps. The European Commission introduced a range of initiatives, both present and future, to achieve this.

- As concerns wireline infrastructure, in late 2012 the Commission proposed a draft recommendation based on the Telecom Package's Framework Directive which aims, first, to harmonise the modalities for implementing non-discrimination obligations and the cost methodologies that NRAs use for copper network unbundling and, second, to introduce a possible choice between non-discrimination remedies and cost-oriented pricing. This text, which raises a number of questions, was submitted to BEREC which issued its opinion of it in March 2013, ARCEP was an active contributor to this work. Member States must then be consulted via the Communications Committee (COCOM), during which ARCEP will lend its expertise to French authorities. In early May, COCOM began its examination of a revised document that takes the BEREC remarks into account. The Commission is hoping to publish its final recommendations by mid-2013.
- In late March 2013, the Commission also submitted a proposal for regulation to the European Council of Ministers and Parliament, on measures to reduce the cost of deploying high-speed electronic communications networks. These include creating synergies between the different network industries – notably to share civil engineering – along with a single contact point that would act as a one-stop shop for centralising information and requests. ARCEP will assist French authorities in future negotiations over this text.

 In October 2011, the European Commission proposed a new fund for financing energy, transportation and telecommunications infrastructure projects called the Connecting Europe Facility (CEF). The Facility initially earmarked €7 billion for telecommunications infrastructure and €2.2 billion for service-related aspects (interoperable, digital public service infrastructure, the Europeana digital culture project, etc.). During discussions in early February 2013 over the EU's draft budget for 2014-2020, the European Council cut the CEF budget drastically, and particularly for the telecommunications component. Given the amount now being proposed, i.e. €1 billion, the Commission may decide simply to eliminate the "telecom infrastructure" item from the CEF. But the European Parliament, which is a joint decision-maker in budgetary matters, may oppose such a drastic reduction in the funding earmarked for the development of digital infrastructures.

 After several months of work and consultation, in late 2012 the Commission adopted new guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks<sup>22</sup>. Introduced as part of a more wide-reaching reform of State aid mechanisms, the Commission allows for the possibility of exempting certain funding of broadband infrastructure from notification, under certain conditions. In the coming months, a series of regulations will specify this exemption and these conditions.

22 - EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks (2013/C 25/01)

# CHAPTER I

## The transition from broadband to superfast broadband

## Autorité de régulation des communications électroniques et des postes **79**



# Free Mobile enters the marketplace

# 1. A look back at the award of the fourth 3G licence

Both the French government and ARCEP had supported the arrival of a fourth 3G operator in 2008, which led to a call for applications from new entrants, and to a 3G mobile licence being issued in August 2009.

There were two main motivations behind this action. First, the gradual convergence of wireline and wireless markets justified giving the four national operators the ability to be present in both markets. Second, the diminished competitive intensity in both the mobile and fixed market, and the fact that retail market prices were among the highest in OECD countries, led authorities to reserve the 3G licence that had remained unassigned since 2000 for a new entrant.

This call for applications thus followed through on those that had been issued in 2000, 2001 and 2007. At the outcome to the first two calls for applications, three of the four 3G licences were issued – to SFR and Orange France in 2001 then to Bouygues Telecom in 2002 – while the procedure carried out in 2007 had been fruitless.

Based on all of the selection criteria that ARCEP had defined in March 2009, and following the launch of the application process by the Minister responsible for

industry in August of that year, ARCEP awarded Free Mobile – the sole applicant for the fourth 3G authorisation – a licence to use frequencies to operate a mobile network on 12 January 2010.

The terms of the licence include the commitments that Free Mobile made in its application. In particular, the new mobile network operator committed to begin marketing 3G services within two years, i.e. by 12 January 2012, and to have achieved coverage of 27% of the population by that time. Subsequent targets include 75% coverage by 12 January 2015 and 90% coverage by 12 January 2018.

As a result, France's mobile market is now structured around four mobile network operators (MNO), as is the case in most other European countries.

# 2. Measuring Free Mobile's coverage

In November 2011, Free Mobile informed ARCEP that its 3G network was covering more than 27% of the population, and that it had thus met the first coverage deadline contained in the terms of its licence. ARCEP then proceeded to verify the information received from Free Mobile:

- the 3G coverage map the operator supplied was checked against measurements carried out in the field in November and December 2011;
- the actual percentage of the population covered was calculated using a database of the French population geolocated at the building level.

Once these verifications were complete, ARCEP concluded that Free Mobile had indeed reached the level of 3G deployment that it was required to achieve by 12 January 2012 – as a result of which the operator was able to launch its mobile service commercially on 10 January 2012.

The Free Mobile service is available throughout Metropolitan France – in part through the 3G network that operator has itself deployed thus far, and in part thanks to a roaming solution. In accordance with the initial terms of the call for applications, the fourth mobile licence-holder was to enjoy 2G roaming rights for six months after having been issued its licence by ARCEP. Free Mobile thus signed a 2G roaming agreement with Orange, which was then extended to 3G under a private commercial contract<sup>1</sup>. This means that Free Mobile customers' communications are transmitted either over the operator's own network or over the network belonging to the operator providing roaming services.

Soon after Free began marketing its services commercially, certain media outlets and certain operators stated that Free Mobile may have switched off some of its towers, while the CFE-CFG and UNSA telecom operator trade union federations requested that ARCEP conduct an investigation into Free Mobile's compliance with its 3G network rollout obligations, in accordance with the terms of its licence.

For the sake of transparency and peace of mind, ARCEP decided it would be useful to ask Free Mobile to provide an updated status report on its network, including the list of installed towers and those that have been activated, and the reasons for shutting off some of the towers in its network, should this indeed be the case. ARCEP examined this information with the utmost care, in addition to performing verifications in the field using the same method as the one employed for previous checks.

Following this new round of verifications carried out in February 2012, ARCEP was able to confirm that Free Mobile was meeting its regulatory obligation, i.e. covering at least 27% of the population within two years of having been awarded its licence.

At the same time, at the request of the Minister responsible for electronic communications, France's national frequency agency, ANFr (*Agence nationale des fréquences*), performed checks on Free Mobile's network installations and the service being provided by these towers. Even if the ANFr survey could not be compared with the coverage verifications performed by ARCEP, it nevertheless served to back up ARCEP's conclusions, namely that Free Mobile was indeed complying with the coverage obligations listed in the terms of its licence.

Finally, in July 2012, we conducted a further series of field measurements to verify all four mobile operators' 3G coverage maps. The results of this survey were that Free Mobile was covering 37% of the population of mainland France at that time.

## 3. A more competitive market in metropolitan France

The Chatel Act<sup>2</sup> required ARCEP to submit a report to Parliament on the impact of Article 17 of this Act, which we did in July 2010. Among the conclusions of this report were that competition was still weak in the mobile telephone market, that even though the market was more liquid, this had not increased competition, and that customers' ability to switch operators was only really true in theory.

Competition intensified slightly in 2011 when, in anticipation of Free Mobile's entry into the marketplace, the country's incumbent carriers (Bouygues Telecom, Orange France and SFR) introduced low-cost, subsidiary

<sup>1 -</sup> In its Opinion No. 13-A-08 of 11 March 2013, on the terms governing sharing and roaming on mobile networks, the Competition Authority noted that, "Free Mobile signed a 2G and 3G national roaming agreement with Orange up to 2018, a date which thus goes beyond the legal obligation applying to 2G (2016)."

<sup>2 -</sup> Law No. 2008-3 of 3 January 2008 on developing competition for the benefit of consumers

brand offers<sup>3</sup>. It then increased substantially when Free Mobile actually opened for business in January 2012

#### a/ How plans have changed

After Free Mobile introduced low-price plans, the market's incumbent operators reacted quickly by bringing their subsidiary brands' prices and services in line with the more complete plan being marketed by Free, and by cutting the price of their regular mid-range and high-end plans. A series of commercial and pricing innovations then followed in the low-cost segment, which compete directly with classic prepaid offerings. The market's mobile virtual network operators (MVNOs) were slower to react to the change, but most have now aligned their plans with those being sold by the four MNOs.

So it was a year of upheaval in the retail market, with a strong increase in the availability of SIM-only (contract-free, no-handset) plans, and of "unlimited" off-net 24/7 voice and SMS plans, which may include a more or less large data allowance. These new offers accounted for 35% of the unlimited plans in use in Q4

2012, compared to 13% in Q4 2011. Another general trend in the retail market in 2012 was more streamlined line strategies from most operators.

One consequence of the heightened competition in mainland France's mobile market was increased market liquidity, which was visible in terms of customers' contracts, gross sales of pay-as-you-go (PAYG) plans, the cancellation rate and the number of portability requests.

#### b/ Impact on net sales

Aside from the usual seasonal effects, the retail market was dominated up to the end of 2011 by gross sales of flat-rate plans carrying a two-year contract – due to the attractive price of these plans, and the subsidised price of often expensive handsets. In the first quarter of 2012, after Free Mobile entered the market, the percentage of gross sales for contract-free plans shot up, from 6% to 73 % in Q1 alone, rising to twice the volume of gross sales of previous quarters. This increase continued on into the following quarters.



Source: ARCEP.

c/ Impact on the contract cancellation rate<sup>4</sup>

The rate of cancellation for mobile plans was relatively unchanged from 2008 to 2011, despite certain seasonal fluctuations. But it rose by close to three points in the first guarter of 2012, primarily due to the arrival of Free Mobile. We can nonetheless observe that the rate dropped back down in the three following quarters, while still remaining higher than in previous years.



Source: ARCEP.

#### d//Impact on number portability

Free Mobile's entry into the marketplace triggered a surge in mobile number portability (MNP) requests from customers wanting to switch operators. There was an especially large spike in MNP requests in the first quarter of 2012: climbing to 2.6 million . These requests remained high throughout the year, with the number of mobile numbers retained by customers in Q4 coming to 1.9 million , which is double the number processed the year before.



Source: ARCEP.

4 - N.B. A customer switching to another plan with the same operator is counted as a cancellation. So the number of account cancellations indicates the number of customers switching to another plan rather than to another operator. Switching plans or operators can be due either to a consumer choosing a plan better suited to their consumption habits, or in response to special offer from the operator (e.g. for a new handset, to renew their contract, etc.). The indicator does not, then, make it possible to know whether the consumer made their choice after comparing the plans available with their existing operator, or those being marketed by other operators.

- Figure for the entire mobile market: prepaid, pay-as-you-go, consumer and enterprise.
- 6 Figure for the entire mobile market: prepaid, pay-as-you-go, consumer and enterprise.

#### Free Mobile enters the marketplace

#### e/ Impact on the contract-free user base

The percentage of mobile customers without a contract held steady at around 20% in 2010 and 2011. This was due in part to a relative dearth of contract-free plans being sold by operators up until the end of 2011, and to the tremendous increase in smartphone sales (41% of the French population owned a smartphone in 2012<sup>7</sup>). Because these handsets are so expensive, consumers have tended to subscribe to contracts and enjoy a discount on the price of the phone. The increased market competition put an end to this plateau, and the percentage of contract-free customers began to rise sharply in early 2012, to reach 36% by the end of the year.



Source: ARCEP.

If the contract-free offers sold before 2012 were not very competitive from the consumer's standpoint, they became much more so with the rise of the SIM-only model, in addition to becoming more widely available. Generally speaking, the growing ubiquity of these SIM-only plans allows consumers to take better advantage of market competition, not only over the service plans operators are selling, but also over handset prices – whether sold by operators themselves or through other outlets.

Increased competition over both the services and the handsets sold by operators thus helped foster innovations in how plans are designed. Since the start of 2012, for instance, we have been seeing more and more data tiering in pay-as-you-go (PAYG) plans, which is driving up mobile internet usage and giving consumers better access to network upgrades and new technologies.

Based on these various indicators, ARCEP has thus been able to ascertain that competition in metropolitan France's mobile market has increased sharply since the arrival of Free Mobile.

# 4. ARCEP's verification of rollouts and expenditures

### 4.1 Tracking investments

On 16 October 2012, Fleur Pellerin, the Minister responsible for the digital economy, expressed her desire to see the creation of an "observatory of mobile network investments and rollouts".

We concluded that, to satisfy the Government's request, we needed to deepen our knowledge of operators'

Evolution des investissements des opérateurs entre 2004 et 2012 milliards d'€ 12 10.0 10 8.2 8 6,3 6.5 6 1 5.9 5.5 6 4 2 0 2004 2005 2006 2008 2009 2010 2011 2012p 2007 Investissements totaux ----- Investissements hors achats de fréquences

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

investments, particularly those made in deploying 3G and 4G networks, and fixed superfast broadband systems.

For several years now, we have been collecting data on telecom carriers' annual expenditures, which are made public in the annual report.

On 29 January 2013, ARCEP thus made public a decision<sup>8</sup> on strengthening this information-gathering mechanism, by obtaining more detailed and more regular information on operator spending and network rollouts.

### 4.2 Monitoring rollouts

Free Mobile is subject to several coverage obligations which the operator committed to when applying for the fourth mobile licence, and which are listed in the terms of its 3G spectrum licence. So, in addition to the deadline for covering 27% of the population, which it has already reached (cf. p 100), Free Mobile must cover 75% of the population by 12 January 2015 and 90% by January 2018.

ARCEP will verify that Free Mobile has achieved its network coverage obligations on each of these deadlines. The operator's roaming rights will thus not be factored in when calculating its coverage rate.

In addition, to be able to keep track of all mobile operators' rollouts on an ongoing basis, our above-mentioned decision on gathering information on operators' investments includes provisions relating to mobile coverage. All operators are thus required to provide ARCEP with the following information, on 1 January and 1 July of every year:

- the number of sites in service, and the number being used in commercial operations;
- the rate of coverage (percentage of the population and the national territory) for 2G, 3G and 4G networks;
- for 4G networks, operators must also indicate the number of transmission sites in service and being used in commercial operations in priority rollout areas, and the number of these sites that employ 800 MHz band frequencies, along with the corresponding rate of coverage, in surface area and percentage of the population;
- and, when applicable, rollout forecasts for site creation up to the deadlines set in their licences.

# CHAPTER II

Free Mobile enters the marketplace

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# Rolling out 4G

# 1. Meeting growing demand for speed and bandwidth

Mobile communication services are currently on the same development path as fixed services, in other words an accelerated shift to high-speed and ultra high-speed services. More and more, mobile access is becoming an extension of fixed broadband and superfast broadband services providing users, both consumers and businesses, with continuous and ubiquitous individual access to internet services over a broad range of devices, when outside the home or office. These services should soon be available anywhere, anytime, offering the same ease of use and wealth of applications as fixed services at home.

The success of the mobile internet is altering mobile consumption habits as a new generation of services, such as internet access and multimedia content, is gradually being added to existing voice and messaging services. It is also opening up new vistas in the area of entertainment, in how we consume digital content and how we access culture. The new devices that are available in the marketplace, and particularly smartphones and tablets, enable access to richer multimedia content and alter users' behaviour as they consume more and more data services.

The development of mobile access is also having a significant impact on the economy. It is helping to

stimulate economic growth, especially for carriers and manufacturers. It is contributing to sustainable regional development by directly or indirectly helping to create jobs and improve businesses' competitiveness and productivity.

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New mobile technologies that will make it possible to deliver performances that match market demand already exist, and particularly LTE, or Long Term Evolution. These technologies supply connection speeds of several dozen Mbps, and even in excess of 100 Mbps thanks to the use of broad channels of up to 20 MHz which are non existent with 3G, and which offer latency that is low enough to enable the development of high-speed interactive applications.

# 2. Frequency allocations

## 2.1 2.6 GHz and 800 MHz frequency bands

To help usher in these new-generation technologies and handle the surge in data traffic, two new frequency bands were identified in Europe and, in France, were allocated by ARCEP:

- the 790 862 MHz range (referred to as the "800 MHz" band) from the digital dividend resulting from the switchover from analogue to terrestrial broadcasting, assigned to mobile services as of 1 December 2011;
- the 2500–2690 MHz range (referred to as the "2.6 GHz" band) which is being freed up by the Ministry of Defence, region by region, between 2010 and 2014.

These two frequency bands complement one another:

 the 800 MHz band is situated in the range of low frequencies, below 1 GHz, and thus has superior propagation properties which make it particularly well suited to providing broad coverage, notably in more sparsely populated areas;

 the 2.6 GHz band is situated in the range of high frequencies, above 1 GHz, and includes a larger quantity of frequencies than the 800 MHz band but inferior propagation properties. It is especially well suited to handling heavy traffic on the network, especially in urban areas.

Between June 2011 and January 2012, ARCEP took the steps needed to allocate these frequencies.

Once the auction process that began on 10 October 2011 was complete, ARCEP issued the new licences to use 4G frequencies in the 2.6 GHz band. They were awarded to four operators: Bouygues Telecom, Free Mobile, Orange France and SFR. Free Mobile and Orange France were awarded a duplex frequency block of 20 MHz and Bouygues Telecom and SFR a duplex frequency block of 15 MHz.

These allocations were completed by the award of licences to use 800 MHz band spectrum on 17 January 2012. Bouygues Telecom, Orange France and SFR were each issued a duplex frequency block of 10 MHz. In accordance with the provisions of the call for applications, Free Mobile, which was a candidate but not awarded any spectrum, was given roaming rights in the 800 MHz band on the SFR network (SFR having been awarded two blocks of spectrum), to be able to cover the priority rollout area made up of the most sparsely populated parts of France<sup>1</sup>.

1 - The priority rollout area corresponds to 63% of the surface area of metropolitan France and 18% of the population.

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Operators' 4G rollout obligations							
Percentage of the population	11 October 2015	17 January 2017	11 October 2019	17 January 2022	11 October 2023	17 January 2024	17 January 2027
In the priority rollout area (18% of the population and 63% of the surface area)		40% (800 MHz)		90% (800 MHz)			
In each department						90% (800 MHz)	95% (800 MHz)
In the whole of metropolitan France	25% (2,6 GHz)		60% (2,6 GHz)		75% (2,6 GHz)	98% (800 MHz)	99,6% (800 MHz)

Source: ARCEP.

The 800 MHz band was allocated to Bouygues Telecom, Orange France and SFR.

The 2.6 GHz band was allocated to Bouygues Telecom, Free Mobile, Orange France and SFR

Three core objectives were set for the award of this frequency band spectrum:

- digital regional development,
- effective and lasting competition in the mobile market,
- and monetising the State's intangible assets.

The results the calls for applications made it possible to achieve these objectives, in particular thanks

to ambitious coverage obligations at both the national and departmental levels, along with an obligation to perform priority rollouts in sparsely populated areas, the major commitments to MVNOs taken by all of the successful candidates, and close to  $\in$ 3.6 billion in proceeds from frequency auctions for the two bands (compared to a reserve price of around  $\notin$ 2.5 billion).

Comparison of the price paid for 4G spectrum in the 800 MHz and 2.6 GHz frequency bands						
			800 MHz band		2,6 GHz band	
Country	Proceeds	Population	Quantity of spectrum in MHz	Price in eurocents/ MHz per capita	Quantity of spectrum (in equivalent MHz duplex)	<b>Price</b> in eurocents/ MHz per capita
Germany	€3,824,777,000	82,210,000	2x30	72	2x70	2,2
Sweden [1]	€406,000,000	9,142,817	2x30	36	2x70	16,3
Spain	€1,478014,127	45,957,671	2x30	47	2x70	2,7
Italy	€3,397 260,000	61,016,804		81	2x60	5,9
France	€3,575216,518	63,049,000	2x30	70	2x70	11
The UK	€2,716,323,181	62,641,000	2x30		2x70 + 45 (TDD)	
Portugal	€306,000,000	10,637,000	2x30	42	2x60	2,8
Source: ARCEP.						

[1] The proceeds for the auction in Sweden do not include the €34 million investment commitment made by one of the winners to cover dead zones

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### 2.2 Refarming 1800 MHz band spectrum

In response to a request from Bouygues Telecom in July 2012, ARCEP examined the possibility of permitting operators who so request to reuse for 4G the frequencies they were allocated in the 1800 MHz band to provide 2G services.

The licences to use the 1800 MHz band, which were issued in the 1990s and renewed in the 2000s, are currently restricted to the provision of GSM services, and do not allow for the introduction of another technology such as LTE for fourth-generation systems. The operators that are currently authorised to use this band are the three incumbent MNOs: Bouygues Telecom, Orange France and SFR. The country's fourth mobile network operator, Free Mobile, does not have a licence to use the 1800 MHz band.

As permitted by Law<sup>2</sup>, Bouygues Telecom sought ARCEP's authorisation to operate a fourth-generation (4G) ultra high-speed mobile network based on LTE technology, using its spectrum in the 1800 MHz band - on which only GSM (2G) systems are permitted today.

Bouygues Telecom argued that this refarming would provide it with additional resources for deploying ultra high-speed mobile networks, in addition to the 800 MHz and 2.6 GHz band spectrum that was already allocated following calls for applications in 2011 and 2012, and so enable it to deploy a superfast (4G) cellular network more quickly.

ARCEP had eight months to respond to Bouygues Telecom's request<sup>3</sup>. The ensuing investigation process involves examining:

 whether there was a reason – among those listed in Article L.42 of the French Postal and electronic communications code (CPCE) - which made it "necessary" to continue to restrict this band to GSM technology:

• and whether ARCEP needed to "take appropriate measures to ensure equality between operators and the conditions for effective competition". in accordance with Article 59 of Order No. 2011-1012.

After a series of discussions and meetings between the ARCEP Board and mobile operators in July 2012, we held a public consultation from 30 July to 28 September 2012, to obtain feedback from stakeholders on the terms and modalities for lifting this restriction to GSM technology that is listed in operators' 1800 MHz-band licences. Once the consultation was complete. ARCEP concluded that a more in-depth examination was needed into what economic and social impact this refarming of the 1800 MHz band would have in relation to net neutrality. Operators were thus asked to provide additional quantitative information between November 2012 and February 2013. Lastly, Executive Board members met once again with operators in February 2013, to obtain all of the elements needed to deliver a response to Bouygues Telecom's request.

So we examined this request using a transparent and collaborative process, which included hearings, a public consultation and a series of talks with all of the interested parties. Once this work was done, on 12 March 2013 we published a guidance paper that details the method to be used to introduce technological neutrality in the 1800 MHz band.

On 14 March 2013, ARCEP decided that Bouygues Telecom could, if it still wished to do so<sup>4</sup>, reuse the 1800 MHz band for technologies other than GSM starting on 1 October 2013, provided it relinguish some of its spectrum, as specified in the terms of the decision. The licensing fees attached to the ability to use these frequencies freely were stipulated in a separate decree.

 <sup>2 -</sup> Article 59 of Order No. 2011-1012 of 24 August 2011 on electronic communications, transposing the European Union directives of 2009
 3 - Article 29 of Decree No. 2012-436 of 30 March 2012 on transposition of the new European Union regulatory framework for electronic communications

<sup>-</sup> In a letter received on 2 April 2013, Bouygues Telecom confirmed its request to have the restriction lifted on how it can use its 1800 MHz band spectrum, and accepted the terms set by ARCEP.

# 4. Obtaining a second digital dividend: the 700 MHz band

Now that all of the conditions are in place for the launch of 4G services - thanks to the maturity of LTE technology, ARCEP's spectrum allocations, the start of operators' network rollouts and consumers' appetite for data services - steps are already being taken at the international level to prepare for future generations of mobile networks over the next decade.

Indeed, since the mobile internet's inception we have see global data traffic double every year, and all of the reports on the subject are predicting that it will continue to grow exponentially.

In a report published in February 2013, equipment manufacturer Cisco forecasts that the planet's mobile data traffic will increase by a factor of 13 between 2012 and 2017, which translates into a compound annual growth rate of 66%.

request that their 1800 MHz band licences be extended to include 4G. Finally, operator Free Mobile, which does not have any 1800 MHz band spectrum may, upon request, be allocated available frequencies in this band. as part of efforts being made to allow more balanced 3. Pioneer service launches

Operators began deploying 4G systems on the frequencies they were allocated, notably by creating pilot networks. These rollouts subsequently led to services becoming commercially available in certain areas.

Operators SFR and Orange may also, at any time,

access to the spectrum.

Bouygues Telecom ran trials in Lyon in March 2012, which were followed by Orange trials in Marseille in June 2012 and an SFR pilot service in Lyon in August 2012. Bouygues Telecom, SFR and Orange then officially introduced 4G plans for their customers in September 2012, November 2012 and February 2013, respectively.

# Cisco forecasts 11.2 exabytes\* of mobile data traffic a month in 2017



Source: ARCEP.

New generations of mobile technologies are already being developed, to take over from 4G mobile systems that are only just now being deployed.

Additional spectrum will be needed to satisfy future demand for capacity and throughput, and to enable the deployment of new generation access (NGA) networks. To ensure that these future services will be available in the whole of France, we need to identify low frequencies – i.e. below 1 GHz – whose physical propagation properties are essential to guaranteeing broad coverage.

International efforts begun at the World Radiocommunication Conference in 2012 (WRC-12), and through the multi-annual Radio Spectrum Policy Programme (RSPP) adopted by the European Parliament and Council, have already identified the 700 MHz band as the most suitable candidate to meet these objectives<sup>5</sup>. This range of frequencies is currently occupied by digital terrestrial television (DTT) services. The possible assignment of this second "digital dividend" to mobile services therefore represents a public policy with major implications, as did the first "digital dividend". But it also means that serious efforts need to begin as soon as possible, both nationally and internationally.

At the European level, the Commission announced in early 2013 that it would provide the framework needed to make the policy decision on the second digital dividend. Among other things, the Commission has called on the European Conference of Postal and Telecommunications Administrations (CEPT) to carry out the technical studies needed to inform policymaking on the assignment of the 700 MHz band to mobile services.

5 - VSee also Chapter IV 1. of part III of this report on the WRC and the RSPP (cf. p. 97).

## CHAPTER III

## Rolling out 4G

Autorité de régulation des communications électroniques et des postes **95** 



# Coverage and quality of mobile services

# 1. Report on mobile network coverage and service quality

Not only consumers and businesses, but also elected officials, market analysts and the media all pay very close attention to the multifarious issues surrounding mobile services.

In France, the arrival of a fourth mobile operator in early 2012, along with allocation of frequencies to ultra high-speed (4G) mobile services – whose first rollouts are already underway – have rekindled a variety of questions and discussions, particularly those relating to coverage and the quality of mobile services.

As a result, ARCEP felt it would be useful to produce, for the first time, a complete report on matters that had been treated separately up until now. This report was submitted to the Government and to Parliament, then made publicly available on 30 November 2012.

## 1.1 The methodology

All users at some point come to dread the way their mobile operator's network will perform, depending on the time of day or where they. They may notice variations in network availability (or lack thereof), in connection speed and even a possible inability to access certain services. Achieving an exhaustive measure of every single user experience, in every corner of the country would require far too long a list of parameters to be able to ascertain the varying degrees of quality obtained from mobile services, both geographically and in terms of performance.

To obtain information for the whole of metropolitan France, we therefore need to take an approach that strikes a balance between how detailed the information is, from a geographical standpoint, and how accurate the representative situations are, in terms of performance. The purpose of this approach is not to provide sure predictions on the service provided to users, but rather to obtain a reliable estimation of the expected experience of using mobile networks under a given set of circumstances. These issues are thus identical in every country.

So it was on this basis that the **distinct but complementary** notions of coverage and quality of service were defined for mobile networks.

#### a/ What do we mean by "coverage"?

The idea of coverage aims to **translate the geographical footprint within which a consumer can access a baseline mobile service** provided by a network operator, in a sufficiently detailed way as to take account of the range of geographical and demographic variables. In needs to be able to measured at a local level, and requires a baseline configuration that corresponds to a typical scenario for consumers. As a result, the notion of mobile coverage must employ objective indicators (successful call rate and network connection), along with well identified circumstances (outdoors, when walking). This definition we employ is detailed in the frequency licences awarded to operators, and in a decision<sup>1</sup> that stipulates the modalities for publishing information on coverage and sets the protocol for mobile network coverage surveys.

Under ARCEP's regulatory definition, an area is considered to be "covered by a mobile network" when a user is able to make and maintain a phone call for one minute, outdoors and while walking.

We should also stress that an area is defined as covered if the likelihood of being able to access a network under the terms provided for in the definition of mobile coverage is sufficiently high. The rate of probability above which an area is defined as covered by a 3G network is 95%<sup>2</sup>. This level of tolerance is used to take into consideration the inevitable hazards, such a fluctuations in radio waves or temporary network overloads that can occur locally, and so admits a slight probability of call failure inside the covered area. There is also the reciprocal probability of being able to complete a call successfully in those areas that are defined as not covered.

This is the basis for the definition of coverage in the rollout obligations listed in mobile operators' licences, and for the coverage maps they produce and which we verify.

b/ What do we mean by "guality of service"? Whereas the notion of coverage refers to a measure of the geographical availability (or lack thereof) of a baseline level of service, and is expressed in a binary equation (covered/not covered), the notion of quality of service aims to reflect the user experience in a more detailed fashion, based on known parameters such as connection speed. It is thus information that is meant to provide a benchmark of overall expected performance levels between the different mobile operators, inside their service areas. So quality of service describes how users experience the performance of the

services provided by their operator within the coverage area. Every year. ARCEP performs a quality of service survey of the operators' networks. The main findings of the survey conducted in 2012 can be found in the next chapter.

#### 1.2 2G coverage

#### a/ 2G coverage as of 1 July 2012

2G coverage as of 1 July 2012				
Operators	Population covered	Surface of France covered		
Orange France	99.9%	97.3%		
SFR	99.6%	93.3%		
Bouygues Telecom	99.1%	89.6%		

Source: ARCEP

Each of the three incumbent carriers covers more than 98% of the population of metropolitan France in 2G, and so satisfies the population coverage obligations stipulated in their licence.

Free Mobile does not have a 2G network. It does, however, have a contract with Orange France that allows it to enjoy roaming rights on the latter's network for a period of six years. This means that Free Mobile customers enjoy the same coverage as Orange France customers, except in those areas where Orange customers are provided access via roaming on the SFR or Bouygues Telecom network. These are areas covered by towers that have been deployed as part of a national RAN-sharing scheme, where SFR and Bouygues Telecom are the leading operators, and Orange France has roaming rights to their networks. Talks are underway between Free Mobile, Bouygues Telecom and SFR to determine the modalities for allowing the latest entrant to the market to also enjoy 2G roaming in these locations.

98.75% of the population live in a location covered by all three 2G operators: these are referred to as black

<sup>1 -</sup> Decision No. 2007-0178 of 20 February 2007.

<sup>2 -</sup> In actuality, we have observed that the ability to make a 2G call in an area defined as being covered is higher still: in the arena of 97%.

#### Coverage and quality of mobile services

areas. On the flipside, dead zones, which are areas where not a single operator is present, account for 0.02% of the population and 1.6% of the surface area of France.

The remaining areas are referred to as "grey areas" which are covered by only one or two of the country's three MNOs. They represent 1.23% of the population and 11.7% of the country's surface area. Most of these grey areas are covered by two operators (1.03% of the population and 8.29% of the surface area of metropolitan France).

# b/ Ongoing programmes for expanding 2G coverage

In 2012, operators continued to invest in covering the entire country with GSM, notably as part of the programme for bringing mobile coverage to the country's remaining dead zones, which is overseen by DATAR<sup>3</sup>, Dead zones are those areas where not a single mobile operator currently provides coverage. At the end of September 2012, 3,135 town centres had been provided with 2G as part of this programme, with 175 town centres remaining.

Operators have stated that they plan to be covering around 100 additional town centres by the end of 2013. This means that there are still around 75 for which operators have given no indication of when they will be covered. The difficulties they cite include certain local authorities' lack of investment or involvement in the dead zone programme, as well as research and construction-related problems.

Progress is also being made in providing 2G coverage on major transportation arteries<sup>4</sup>. Of the total 58,000 kilometres that must be covered, each operator now has between several dozen and several hundred kilometres left to cover. And more than half of these sections measure less than 300 metres.



Source: ARCEP.

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<sup>3 -</sup> Inter-ministerial land planning and regional action delegation, DATAR (Délégation interministérielle à l'aménagement du territoire et à l'attractivité régionale).

<sup>4 -</sup> Mobile operators are required to cover roads and motorways where traffic exceeds an average 5,000 vehicles a day, and the roadways in each department that connect the prefecture (i.e. the department's administrative capital) to the sub-prefectures (secondary administrative centres). This represents 57,127 km of roadway.

## 1.3 3G coverage

#### a/ 3G coverage as of 1 July 2012

3G coverage as of 1 July 2012				
Operators	Population covered	Surface area covered		
SFR	98.6%	86.4%		
Orange France	98.5%	87.3%		
Bouygues Telecom	94.8%	71.8%		
Free Mobile	37.3%	13.0%		

Source: ARCEP.

As of 1 July 2012, Free Mobile was covering 37.3% of the population of metropolitan France and 13% its surface area. The operator also has a roaming agreement with Orange France which means that Free Mobile customers can access the Orange 3G network, and enjoy equivalent coverage - except, for now, on sites deployed as part of RAN-sharing agreements (see below).

Orange France and Bouygues Telecom have now fulfilled the 3G rollout obligations listed in their licences. SFR still has the obligation to cover 99.3% of the population by 31 December 2013, in accordance with the formal notice to comply that ARCEP issued on 30 November 2009. Meanwhile, Free Mobile must cover 75% of the population by 12 January 2015 and 90% of the population by 12 January 2018. These obligations do not include the roaming provided on another operator's network. ARCEP will be diligent in ensuring that these deadlines are met.

#### b/ 3G network sharing

As all of the market's operators continue to deploy their third generation network, we can expect consumers to soon enjoy 3G coverage that is equivalent to what they currently have in 2G.

Having the option of implementing 3G network sharing schemes<sup>5</sup> is helping operators to reach these coverage levels. On 11 February 2010, Orange France, SFR and Bouygues Telecom signed an agreement to share their mobile network infrastructure in a bid to extend 3G coverage in mainland France. On 23 July 2010, this scheme was expanded to include Free Mobile.

The agreement, which concerns the carriers' deployment of a shared 3G radio access network (RAN sharing<sup>6</sup>), plans on upgrading the 2G sites that are listed in the national "dead zone" programme to 3G, and on deploying an additional 232 shared transmission sites (under the RAN-sharing scheme) outside the programme's coverage areas. Free Mobile will join the shared network on a different timetable than the other three carriers.

# 2. Should measuring methods change?

The report on coverage and quality of service that ARCEP published in late November 2012 includes possible future developments in measuring mobile coverage and quality of service, in the form of 11 proposals that stakeholders (local authorities, mobile operators, consumer associations, etc.) were invited to comment on in a public consultation<sup>7</sup>.

These proposals are not intended to call into question operators' existing obligations, which were set in the terms attached to their licences, but rather to complete and improve the information provided to consumers and public authorities. Some of these proposals could nonetheless be taken into consideration when issuing future licences.

<sup>5 -</sup> ARCEP Decision No. 2009-0328 of 9 April 200, introducing the measure and setting the terms governing the implementation of shared 3G mobile network installations in Metropolitan France.

<sup>-</sup> RAN-Sharing, or radio access network-sharing, is a solution that consists of having all the operators that have signed the agreement share their active equipment and the frequencies they have been allocated. In practice, this means that an operator will deploy its hardware and transmit over its frequencies, and "host" the other operators' communications.

<sup>7 -</sup> Consultation that ran from 30 November 2012 to 1 February 2013.

#### Proposals for improving the methodology used to measure coverage and quality of service

#### Reliability of 2G and 3G coverage maps

- No. 1 Extend the baseline coverage measurement used for mobile 2G calling services to 3G
- No. 2 Strengthen the measures used to ensure ongoing improvements in the reliability of 2G and 3G mobile coverage maps
- No. 3 Extend the annual system used to verify the reliability of 2G coverage maps to 3G
- No. 4 Promote and enable coverage surveys conducted by third parties, notably by local authorities, via formal agreements

#### Definition of a common measurement for mobile internet access coverage

• No. 5 Develop and validate a common set of measurements for mobile internet access services

#### Indoor and in-car service availability

- No. 6 Deepen the simulation methods that help improve knowledge of the availability of mobile services indoors and in vehicles
- No. 7 Enhance ARCEP's existing measurement surveys by incorporating supplementary indicators indoors and in vehicles

#### Quality of service surveys

- No. 8 Follow-through on the modifications brought to quality of service surveys in 2012 to take account of changes in mobile consumption habits, and particularly by paying closer attention to rural areas
- No. 9 Change the scope of future QoS surveys by including 4G services, and any MVNOs that want to take
  part
- No. 10 Facilitate outside parties' ability to conduct QoS surveys, particularly in those areas where network performance indicators are not traced by ARCEP indicators

#### Access to information on coverage and quality of service

 No. 11 Facilitate everybody's access to information on mobile networks, by publishing scorecards on mobile coverage and quality of service, and by having third parties wanting to conduct their own surveys employ ARCEP protocols and recommendations to verify coverage and quality of service





# Actions on behalf of consumers

French consumer protection laws require that ARCEP. "ensure the existence of fair and effective competition between network operators and the providers of electronic communication services. which benefits the users of electronic communication services" . ARCEP must also ensure "a high level of consumer protection, notably thanks to the supply of clear information, and particularly through transparency in the pricing and terms and conditions of use for publicly available electronic communication services".1

# 1.Re-establishing consumers' trust in value-added services

## 1.1 Updating rate-setting regulations

After two years of work with all of the stakeholders and their representative bodies, in a bid to simplify pricing schemes and make them more accessible and more transparent to consumers, ARCEP brought changes<sup>2</sup> to how arrays of numbers starting with 08 and short numbers are organised. The adoption of this decision occurred less than a year after the amendment of Article 44 of the French Postal and electronic communications code (CPCE) which extends ARCEP's responsibilities to include the pricing of surcharged numbers, allowing us to "determine price-setting rules and the maximum prices that can be applied to these numbers".

The main actions being taken to improve the system concern:

- standardising the pricing methods used by fixed and mobile operators; the introduction of a pricing model referred to as "C+S" which explicitly dissociates the price of the service delivered by the provider ("S") and the price of the call ("C") which is aligned with the price of calls to fixed lines;
- pricing the phone call component ("C") at the same rate as calls to fixed numbers, which makes it possible to qualify the rate as the price of a "regular" call;
- simplifying the system used for billing the service component("S").

To give the sector enough time to introduce these changes gradually, the main provisions will come into effect on 1 January 2015.

<sup>1 -</sup> Article L. 32-1 of the French Postal and electronic communications code (CPCE).

<sup>2 -</sup> Decision No. 2012-0856 of 17 July 2012.

Pricing for categories of special voice call numbers				
Type of number	Starting with	Rate as of 01/01/2015*	Surcharge	
Special freephone numbers	0800 à 0805	C = 0; S = 0	No	
Special number at standardised rate	0806 à 0809	C standardised ; $S = 0$	No	
Special surcharged numbers	081 082 089	$\begin{array}{l} C \mbox{ standardised }; S \leq \ 0,06 \ensuremath{\in}\mbox{/min ou } S \leq \ 0,15 \ensuremath{\in}\mbox{/appel} \\ C \mbox{ standardised }; S \leq \ 0,20 \ensuremath{\in}\mbox{/min ou } S \leq \ 0,50 \ensuremath{\in}\mbox{/appel} \\ C \mbox{ standardised }; S \leq \ 0,80 \ensuremath{\in}\mbox{/min ou } S \leq \ 3,00 \ensuremath{\in}\mbox{/appel} \\ \end{array}$	Yes	

\*« C » refers to the price of the call; "S" refers to the price of the service Source: ARCEP

## 1.2 Helping battle against fraud and improper use

As an adjunct to the pricing measures listed above, two additional measures were taken in 2012 to protect users from improper, and potentially fraudulent, practices by unscrupulous service providers<sup>3</sup>.

The first measure aims to protect against ping calls whereby a caller uses surcharged numbers as their caller ID<sup>4</sup>. This measure forbids the use of numbers starting with 089 as the caller ID. The different undertakings along the value chain - i.e. local loop operators, transit and backhaul operators - are each contributing to eliminating this practice at their own level:

- · by developing filtering systems for calls made on their networks, to protect customers on the receiving end ;
- adding contractual terms regulating the conditions under which telephone service providers allow their customers to alter their caller ID (i.e. the number displayed to the recipients of their outgoing calls).

The second measure aims to supress a practice that a great many users (private businesses and public administrations alike) have fallen prey to: the enterprises that publish online directories list a surcharged number as their main, or possibly only, telephone number. Concerned by the development of this type of practice, and its impact on the proper management and credibility of the numbering plan, we decided to require operators to ensure that surcharged special numbers are not assigned to a natural or legal person, even temporarily, without their prior consent.

This measure will not come into effect until 1 July 2013, to give online directory publishers the time they need to obtain the permission of the parties listed in their directories.

# 2. Measuring the quality of fixed, mobile and internet services

## 2.1 Quality of fixed line telephone services

On 29 January 2013, ARCEP introduced changes to the system for measuring the quality of the public fixed telephone service<sup>5</sup>. While the indicators that are measured remain the same, the new system aims to improve how representative the indicators are by switching to continuous measurement, rather than one lasting only two weeks. The measurement system's period of maintenance or malfunction nonetheless remains at 30 days. The purpose is to take into account

<sup>3 -</sup> Decision No. 2012-0856, of 17 July 2012

<sup>4 -</sup> i.e. when the caller's number is displayed

<sup>5 -</sup> Decision No. 2013-0004 of 29 January 2013

#### Actions on behalf of consumers

all of the failures that can occur on the network, while ensuring that the measuring system remains proportionate. The system has also been simplified, with the number of measurement locations decreasing from 10 to six.

To guarantee the continuity between the old and the new system, the first series of measurements will be taken from 1 July to 31 December 2013 and published by 9 April 2014 at the latest.

# 2.2 Quality of service on mobile networks

On 30 November 2012, ARCEP released the findings of the QoS survey of 2G and 3G mobile networks that was carried out in mainland France in 2012.

The goal of the survey is to assess the quality of voice calls, SMS, MMS, web browsing and, for the first time, video streaming services provided to consumers, and the speeds that can be reached on mobile networks using technical measurements taken in the field. Its purpose is not to obtain subscribers' views of the end-to-end quality of these services, which would depend on the use they make of the network and the devices and applications they employ.

Another first last year were specific tests conducted on all of the available voice and data services using smartphones that are sold by all of the market's operators.

#### · Quality of phone calls

The results of the tests revealed that the quality of voice calls remains high. The success rate for setting up and holding a call for two minutes and five minutes stands at 95.6% and 93.6%, respectively. Virtually all of the calls had perfect audio quality.

There was nevertheless a decrease in the quality of voice calls this past year – which is part of a trend that has been observed in urban areas since 2007-2008. There may be several reasons behind it: a tremendous increase in calling traffic due to the ubiquity of unlimited calling offers, more and more people using their mobile rather than their landline phone to call fixed line numbers, along with the rise in data traffic as mobile internet usage explodes. In addition, some of the choices made in 2012 (notably how mobile operators' representative best-selling device performs) could explain the change in results.

Operators must therefore continue to invest to ensure that the quality of voice calls remains high.

There was an especially sharp drop in quality in certain circumstances in 2012, notably on TGV (high-speed train) and commuter train lines. The success rate for setting up and holding a call for two minutes stood at 57.3% on the TGV (which is down by 16.9% compared to 2011), and 71.6% on commuter trains and tramways (or 13.8% lower than in 2011). We will pay especially close attention to the findings for these situations in our future surveys.

## Strong increase in connection speeds on mobile networks

Throughput is measured by testing download and file transfer speeds.

In 2012, measurements were conducted using the two best-selling smartphones that are available from all four mobile operators, and using different operating systems (OS): the Samsung Galaxy SII and Apple's iPhone 4S<sup>6</sup>.

<sup>6-</sup> In previous years, the specifications for the QoS survey of data services used a computer and 3G dongles – which at the time were the most representative high-performance devices – to measure file transfer speeds. These PCs and dongles could vary widely from one operator to the next.

Measurements were also taken using a tablet, Apple's iPad 3, which provided a maximum theoretical downstream throughput of 42 Mbps, and thus made full use of the 3G carrier aggregation technology implemented by certain operators.

The speeds observed on mobile networks in 2012 have increased sharply. Tests conducted outdoors revealed file downloads speeds as fast as 10.5 Mbps on smartphones (compared to 9.2 Mbps in 2011) and up to 25 Mbps on a tablet. The highest throughput for sending files reached 3.7 Mbps on smartphones (versus 3 Mbps in 2011) and 3.8 Mbps on a tablet.

It nevertheless remains that, as in previous years, there are still real disparities between the operators:

Median download speeds						
Device Bouygues Telecom Free Mobile <sup>7</sup> Orange France SFR						
Smartphone	2,4 Mbps	2,9 Mbps	3,9 Mbps	2,5 Mbps		
Tablet	3,3 Mbps	3,8 Mbps	7 Mbps	3,5 Mbps		

Source: ARCEP.

In 2011, using the device supplying the best performances, these median bitrates stood at 1.2 Mbps for Bouygues Telecom, 4.8 Mbps for Orange France and 2.6 Mbps for SFR

This very positive development is primarily the result of operators' investments in their new networks. These investments must continue, both in existing systems and in new 4G networks, so that connection speeds continue to rise, despite the ongoing increase in traffic.

## · Quality of SMS, MMS and web browsing still very satisfactory

Les résultats des tests effectués pour les SMS confirment un bon niveau de qualité globale de ce service (observé depuis plusieurs années) : 98,8% de taux de réussite à l'extérieur des bâtiments dans les agglomérations de plus de 10 000 habitants. S'agissant du service d'envoi de photo par messagerie multimédia (MMS), le taux de messages reçus en moins de 3 minutes est de 96,3%, en légère baisse par rapport à l'année précédente. Enfin, le taux de réussite d'accès au web dans un délai inférieur à 30 secondes atteint 94,9 %, et le taux de navigation réussie et maintenue pendant une durée de 5 minutes est de 77,8%.

## Measuring video streaming guality for the first time

This test involves using smartphones<sup>8</sup>, to access a video site (YouTube) and assessing the overall viewing experience for a two-minute video. There was an 89.1% success rate for video streaming, and an 86.7% success rate with "perfect" viewing quality, outdoors in towns with a population of more than 10,000.

# 2.3 Quality of fixed internet access services

In early 2013 we introduced a two-part global system for measuring the quality of fixed internet access services9. The first part consists of the main measurements taken on dedicated lines in a controlled environment, and supplementary measurements performed by users themselves.

The main measurements which are to be performed by operators, are carried out on dedicated test lines. inside a technically-controlled environment whose conditions make it possible to achieve a high degree of comparison between operators, and a sufficiently broad representation of the various network access conditions that users encounter.

<sup>7 -</sup> With roaming on the Orange France network
8 - Representative of operators' best-selling devices

<sup>9 -</sup> Decision No. 2013-0004 of 29 January 2013

These metrics concern seven performance indicators: four generic technical indicators and three indicators relating to specific types of usage: web browsing, streaming video and peer-to-peer file sharing. These measurements will be carried out separately on fibre-to-the-home (FTTH) and fibre-to-the-last-amplifier (FTTLA) connections, as well as the copper local loop. The last two categories are subdivided to reflect typical variations in performance resulting from the properties of the lines (technology employed on networks with coaxial cable in the last mile, length of copper lines).

As a parallel measure, ARCEP created a technical committee made up of operators, consumer and user associations (UFC, AFUTT, La quadrature du Net) and independent experts, INRIA (National institute for research in computer science and control) and AFNIC (French Association for internet domain naming in cooperation), to coordinate and share the work of establishing precise definitions of the technical conditions for conducting the tests and publishing the indicators.

The work performed by the technical committee, which met eight times in 2012, made it possible to prepare a first version of common metrics: a document that details the precise characteristics of the dedicated lines, the testing protocols and the modalities for publishing the findings.

Based on this common set of metrics, operators issued a call for proposals, which received several responses<sup>10</sup>, to select the vendor that would conduct the tests on each network, with a view to publishing the first findings in December 2013. The decision stipulates that ARCEP, user associations and outside experts will be closely involved in the process, to monitor the system's set-up and the performance of the measurements.

Every quarter, the operators concerned will publish the results of the tests carried out during the previous quarter, and ARCEP will publish a general summary of the findings.

• The supplementary measurements, for which ARCEP will be responsible, will consist of tests that volunteer users will perform using their own equipment. Thanks to a web-based interface, these users will be able to measure their line's performance, and transmit the results to ARCEP.

We will thus be able to refer to these supplementary metrics to check that the main measurements are consistent and representative of the user experience. These secondary measurements will not initially be made public.

# 3. Universal service components

In accordance with the European regulator framework, to ensure that all users have access to a set of basic, affordable and good quality services that do not distort market competition, the code governing France's electronic communications market (CPCE) establishes a universal electronic communications service.

# 3.1 Components of the universal service

Through its two dimensions – i.e. geographical (a single balanced tariff) and social (a preferential tariff for the most deprived) – the universal service makes it possible to ensure that the components are available nationwide and can be accessed by even the most underprivileged members of society. The service is financed by a sectoral fund to which all electronic communications operators contribute.

#### a/ Components of the universal service

The three components of the universal service are available throughout the French territory – i.e. in mainland France, the overseas departments and the territorial collectivity of Saint-Pierre and Miquelon. They are:

the telephone service: this covers the installation and connection to the fixed public network and the provision of a quality telephone service over this connection, which enables connection to a sufficiently high quality access to the internet (i.e. at a reasonable speed). The designated operator is required to supply telephone services (currently subscription and calls) at the same price nationwide, which commonly referred to as "geographically balanced". In the call for proposals for the telephone service for 2013, and following the review of the European framework, the two sub-components - "connection" and "service" - can be provided by two different operators.

The telephone service also covers special pricing and technical provisions for low-income users and those with disabilities. The beneficiaries of this social tariff are people who receive the earned income supplement, or RSA (revenu de solidarité active) 11 - a specific solidarity allowance, or ASS (allocation de solidarité spécifique), the disabled adult allowance, or AAH (allocation aux adultes handicapés) or the allowance given to disabled ex-servicemen.

A printed universal directory, is made available for free to all those who subscribe to a public telephone service, fixed or mobile. In 2011, the Minister responsible for electronic communications concluded that there was no need to designate an universal service provider for an electronic directory or for directory services as competition was such that it guaranteed the availability of these services at an affordable price.

**The public payphone service** which covers the installation and maintenance of public payphones (at least one public payphone in each municipality, and two in those with a population of more than 1,000) in the public thoroughfare, and the provision of a quality and reasonably-priced telephone service over these payphones.

#### b/ The service providers

The Minister responsible for electronic communications designates the operator(s) in charge of universal service, following calls for proposals.

The service provider designated in 2009 to supply the telephone service for the next three years was France Telecom. The next designation, which will apply from 2013 to 2015, is due to occur late this year.

Following the call for proposals issued with a view to designating the providers for the public payphone and directory and directory services component<sup>12</sup> for 2011 to 2013, the Minister responsible for electronic communications renewed France Telecom's mandate as the provider of the public payphone component for a period of two years<sup>13</sup>.

Following an unsuccessful call for proposals, the Minister responsible for electronic communications re-appointed Pages Jaunes (which was already the universal service provider from 2009 to 2011) to be the provider of print directories for 2012-2014<sup>14</sup>.

# 3.2 ARCEP's role in monitoring the quality and price of the universal service

## a/ Determining the cost of providing the universal service

After auditing universal service providers' costs, ARCEP calculates the revenue, the cost and the intangible benefits of being the universal service provider, for each of the components. Every year, we publish the resulting net cost of the universal service which financed by a sectoral fund - to which all telecom carriers contribute in an amount proportionate to their retail market revenue - when this net cost constitutes an excessive burden on the designated service provider.

14 - Pursuant to the Order of 6 December 2012.

<sup>11 -</sup> The transitional measures in place during the implementation of the RSA scheme, which include the social tariff reduction for telephone services, were made official by Decree No. 2010-760 of 6 July 2010, extending the scheme to the overseas territories. 12 - Published in the JO of 29 October 2011.

<sup>13 -</sup> Pursuant to the Order of 14 February 2012, published in the JO of 23 February 2012.
The Caisse des Dépôts et Consignations (Deposit and consignment office) is responsible for managing the universal service fund, FSU (fonds de service universel).

### b/ Monitoring quality of service

The operators responsible for providing the universal service must comply with several quality of service obligations and publish QoS indicators for the universal service component(s) they have been designated to provide.

For the telephone service, these indicators relate in particular to turnaround time for supplying the initial connection, fault repairs and unsuccessful call ratios<sup>15</sup>.

New quality of service obligations have been added to universal service providers' terms and conditions since

2009. In addition to annual national and regional data, operators now provide ARCEP with a detailed quarterly status report on the most extreme situations concerning connection and fault repair turnaround times, at both the regional and national level<sup>16</sup>.

Obligations with respect to publication have also been strengthened. An obligation to publish quarterly indicators has been added to the annual one - with quarterly data to be released by the end of the first month of the following guarter. The aim is to allows public authorities to react quickly to any potential decline in QoS indicators. The publication of these quarterly and annual regional indicators allows ARCEP to have access to more detailed information on any local problems that arise.

Quality of the telephone se	Quality of the telephone service during the set period, 2009-2012									
Indicator	Target	2010	2011	2012						
Average time to supply an initial connection	8 days	6.10	6.10	6.36						
Connection turnaround time for the fastest 95%	8 days	14	14	NA						
Connection fail rate (% of base)	7.50%	6.84%	5.72%	5.90%						
Rate of failure to detect a telephone service fault within 48 hours	15%	21.50%	16.50%	18%						
Repair time for the 85% most quickly detected faults	48 hours	70	50	53						
Call failure rate (national calls)	0.70%	0.28%*	0.32%	0.30%						
Call establishment time (national calls)	2.90 seconds	2.29 **	2,2	2,2						
Complaint rate, per user	7.0%	5.76%	5.60%	5.10%						

NA: Not available

\* 0.29% in Q1 then 0.28% in the following guarters

\*\* 1.35 in Q1 then 2.29 in the following guarters

Source: ARCEP.

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<sup>15 -</sup> Indicators listed in Annex 3 of the Universal Service Directive of 7 March 2002 (Directive 2002/22/EC), and restated in the Orders of 12 December 2009 and 24 November 2009 which designate France Telecom as the universal service provider.

<sup>16 -</sup> Indicating the number of connections installed or pending more than 30 days after the request was made, and the number of faults that had yet to be repaired two weeks after having been reported.

QoS indicators for the public payphone service, 2010-2012								
Percentage of public payphones that are out of order	Target	2010	2011	2012				
More than 24 hours	0.60%	0.53%	0.48%	0.51%				
More than 12 hours	3.00%	0.83%	0.74%	0.77%				

Source: ARCEP.

#### c/ Monitoring universal service tariffs

ARCEP has the power of supervision over all universal service tariffs.

For most of the tariffs applying to calls made from a fixed telephone line, which corresponds to the universal service offering, we opted for a system of multi-annual price cap supervision up until the end of 2012, rather than individual a priori supervision of universal service tariffs.

Tariff supervision allows universal service customers to benefit from a regular decrease in France Telecom calling prices. This decrease reflects both decreases in call termination charges, notably for fixed-to-mobile calls, imposed by ARCEP, and France Telecom productivity gains.

Over the course of the period in question (2009-2012), the price cap enabled an 18% decrease in the price of calls, which naturally benefitted consumers.

For the other services - such as subscriptions, calls to special numbers and fixed line calls to international destinations, the price of calls made from public payphones and the price of calls to the directory information service - the Authority has an a priori power to veto the universal service tariff.

# 4. Guaranteeing accessibility for the disabled

# 4.1 Changes to the regulatory framework

The transposition of the provisions contained in the European directives of December 2009, and particularly the Universal Service Directive, was completed in 2012. These directives substantially strengthened guarantees for people with disabilities, adding to existing universal service provisions by stipulating, "disabled users' access to electronic communications services at an affordable price and to emergency services equivalent to those available to the majority of end users" 17.

The regulatory portion of the code governing France's postal and electronic communications markets, CPCE, was amended to take specific provisions of the new directives18 into account. It stipulates that the accessibility obligation concerns both electronic communications services and services relating to customer support, contracts, billing and published documentation (or, failing that, the information it contains), as well as the devices on offer. This article also stipulates that operators must "before 30 June of every year, publish a progress report on the actions they are taking to adapt and improve the accessibility of their electronic communications offers for the disabled [...] and this for the different categories of disability. [...] This report must also be transmitted to ARCEP."

17 - CPCE Article L. 33-1 amended by transposition order No. 2011-1012 of 24 August 2011 18 - Article D. 98-13 amended by Decree No. 2012-488 of 13 April 2012

ARCEP therefore has an important role to play in providing an overall picture of the progress that operators are making in terms of accessibility.

# 4.2 ARCEP's actions

Following through on our 30 proposals and recommendations for improving relations between operators and consumers, which were published on 18 February 2011, and as a follow-up to the report as provided for in the Chatel Act of 2008, ARCEP devoted itself to several actions concerning accessibility for the disabled in 2012.

In late 2011, we performed an accessibility audit of the electronic communications services that five French operators provide to the disabled. Accessibility was examined for the main types of disability: visual, auditory, motor skills and cognitive, and for the main components of electronic communication services. We sent the findings to each of the operators in 2012. These results served to pinpoint those areas where operators need to step up their actions, and to establish possible recommendations to be explored with operators.

As part of <u>the voluntary charter</u> that operators who are members of the French Telecoms Federation, (FFT) signed on 9 June 2011, ARCEP has been involved in the resulting actions carried out by the signatories (ARCEP, the inter-ministerial disability committee, the Ministry for Solidarity and social cohesion and the FFT), associations, the French broadcasting authority, CSA, manufacturers and software producers. This work has consisted chiefly of **updating accessibility criteria for devices to include fixed devices**, adapt existing criteria to recent technological developments, to ensure that these criteria match those in the GARI<sup>19</sup> database and guarantee their relevance over time. ARCEP also worked on improving the clarity and usefulness of the annual scorecards published by the FFT (the first of which was released in December 2012), and continued to work with stakeholders on enhancing relevant criteria and indicators.

Lastly, ARCEP contributed to the work done by the Directorate-General of Social Cohesion (DGCS), which is part of the Ministry for Social Affairs, in preparing the specifications for a trial in one or several relay centres to transcribe calls between a deaf person and a hearing person. This experiment, whose launch was decided at the national disability conference on 8 June 2011, should provide vital information on the habits, needs and types of call made by people who are deaf or hard of hearing, and shed light on the steps needed to make this accessibility measure widely available.

# 5. Fixed and mobile number portability

# 5.1 Mobile number portability

A new mobile number portability system<sup>20</sup> came into effect on 7 November 2011 in metropolitan France (the system for the overseas markets is detailed in Part III, chapter VII of this report cf. p 125). As a result, the overall waiting period for mobile number portability was shortened from 10 calendar days to a maximum three working days – unless expressly requested otherwise by the customer, provided access is possible (actual availability of the SIM card) and depending on the legal retraction period in instances where customers do not subscribe in person (i.e. over the phone or the Web).

In 2012, our staff received 650 complaints from consumers that related specifically to mobile number portability, of which 50% were in the first half of the year – due largely to Free Mobile opening up for business.

La conservation des numéros de 2008 à 2012										
Million	2008	2009	2010	2011	2012f	Growth 2012-2011				
Numbers ported during the year	4.2	4.7	4.8	5.8	9.7	66.4%				
For fixed network subscribers	2.8	2.9	2.5	2.5	2.5	0.4%				
For mobile network subscribers	1.4	1.8	2.3	3.3	7.2	116.1%				

Source: ARCEP, Electronic communications observatory. Annual surveys up to 2011, quarterly survey for 2012, interim estimate.

## 5.2 Fixed number portability

In 2012, we initiated discussions on revising the regulatory framework on fixed number portability, in tandem with the work being done by landline carriers within the **fixed number portability association**, APNF (*Association de la portabilité des numéros fixes*). Operators have already approved several changes, as part of the APNF's new **common inter-operator exchange protocol** for processing fixed number portability requests. These include the introduction of the "rule of 40" which enables a number to be ported up to 40 days after the account is cancelled, along with the implementation of an operator identity statement or RIO (for *relevé d'identité opérateur*) for authenticating a portability request, like the RIO that already exists for mobile number portability. Operators are also working

to resolve problems in identifying the type of fixed line network the number is attached to. The challenge here is to reduce the likelihood of slamming, and to enable portability for all numbers, notably when switching from one type of network to another (e.g. from copper to fibre).

This work is expected to be completed by the end of 2013 with the adoption of a new ARCEP decision that details the modalities of fixed number portability for consumers and businesses.

In 2012, ARCEP departments processed 450 complaints from consumers that related specifically to fixed number portability – most of which involved failures to port numbers assigned to alternative operators and non-geographical numbers (starting with 09), as well as problems switching from ADSL to fibre.

	Carrier-to-carrier <sup>21</sup> number porting operations in 2012
Mobile market	<b>7,565,021</b> (+126% compared to 2011) The tremendous rise in number porting requests in 2012 was due chiefly to the arrival of a fourth mobile network operator
Fixed market	<b>2,558,284</b> (+2.2% compared to 2011)

Source: ARCEP.

<sup>21 -</sup> Figures provided, respectively, by the Unit in charge of mobile number retention within the Economic interest group, GIE EGP (Groupement d'intérêt économique Entité de gestion de la portabilité) and the Fixed number portability association, APNF (Association de la portabilité des numéros fixes).

# CHAPTER V

## Actions on behalf of consumers

# Autorité de régulation des communications électroniques et des postes 113

# Ouverture Qualité de service Ouverture Services Sérés Accès Transparence non discriminatoire Mettratégique Utrailé Bien collectif Investissement Bien collectif

# Regulating the internet: a technical and economic challenge

# 1. Background and core issues

The net neutrality debate underscores the growing role that the internet plays in society, and how important the "network of networks" is to the development of a modern and competitive economy. In this era of rapidly increasing usage, the role of the regulator is to encourage investment in the networks while working to maintain a digital environment that protects freedom and innovation.

ARCEP began to devote itself to the net

neutrality issue back in 2009 - beginning a

cycle of investigation and broad consultation with

the sector's players and the public. This resulted,

first, in the publication of ten "proposals and

recommendations" in September 2010 that lay out the

rules for internet access providers, and detail the

Authority's actions to put them into effect and, second, the publication of a report to Parliament and the

Government in September 2012, that lays out the

economic terms of the debate by providing concrete details

on the work that we are doing to preserve net neutrality.

This work is part of the regulatory framework amended in

2011 by the transposition of Europe's third Telecoms

Package.

# 1.1 What is at issue?

In 2012, more than three quarters of the people of France had an internet connection at home<sup>1</sup>, while 50% of mobile customers use their handset to access data services<sup>2</sup> which continue to grow at a steady pace. The internet has thus become a shared asset whose development is of strategic importance for today's economies.

The principle of neutrality implies that the networks that make up the internet ("lower layer") must relay information ("upper layer") without discriminating based on the nature of this information, its sender or recipient. This principle has largely underpinned the internet's trajectory up until now, and has allowed a host of services and applications to develop. Innovation "without permission" has thus been able to flourish,

2 - ARCEP Observatory of electronic communications markets in mainland France, Q4 2012. Included are multimedia services such as the internet, WAP, MMS, e-mail, and this regardless of the supporting tech. Sending an SMS does not fall within the scope of this definition.

s of th home<sup>1</sup> ARCEP's main areas of focus in 2012



<sup>1 -</sup> CREDOC survey of the availability and adoption of information and communication technologies in French society, June 2012.

enabled by the low entry costs and the guarantee of immediate and unconditional access to the rest of the connected world, without having to enter into negotiations with the various intermediaries involved in relaving traffic to end users. For internet users, the principle of neutrality guarantees access to all services and the ability to interact with anyone who is online.

Today, however, operators need to continue to invest heavily in increasing their networks' capacity, to handle the steady increase in online data traffic<sup>3</sup>. As a result, some operators believe that traffic management techniques need to be employed to contain their costs, and/or to generate revenue from services offering priority routing for online traffic, and/or to improve the quality of their services. If it does seem legitimate for these operators to actively manage internet traffic, for instance to protect against DOS attacks, worms, hackers, etc. other practices are more questionable, such as those that involve throttling or blocking data streams coming from the competition. In 2010, ARCEP had concluded that there was no significant or pressing issue in the marketplace, while also stressing that there were nevertheless risks potentially with sizeable consequences.

Some operators are also working to change the terms governing interconnection between internet companies and their network, particularly with a view to increasing their earnings. Although ARCEP believes that currently observed trends do not require a stricter regulatory framework, our decision<sup>4</sup> on collecting information on the technical and pricing terms of interconnection and data traffic routing will allow us to monitor the situation over time, and to provide an effective response should we be called upon to do so: as part of a dispute settlement, for instance.

Recognising the importance of these issues, ARCEP proposed a framework that seeks to define the conditions for sustaining the internet's development over time, and which respect its primary nature as a space of freedom of expression and global interaction.

## **1.2 The underlying principles**

In September 2010, we published 10 proposals<sup>5</sup> whose aim was to define a lasting state of equilibrium, neutrality and quality in the way the internet operates, combined with instruments to ensure this equilibrium is maintained. The document reiterates the central role that competition plays - catalysed by the market's liquidity and transparency – in ensuring users have the broadest possible choice, and giving vendors the incentive to provide high quality offerings.

An ISP (internet service provider) must supply its users with an internet access service that is of sufficiently high quality and adheres to the principle of freedom of use in terms of the content sent and received, as well as the applications and connected devices used, provided they do not harm the network. Information travelling over the networks must, by and large, be treated equally, making no distinction between senders, recipients, services, applications or devices.

Exceptions are possible, but any traffic management practice must without fail be transparent and satisfy four criteria: relevance, proportionality, efficiency and non-discrimination between the players. The Authority considers that, if managed services<sup>6</sup> like TV over IP must be able to develop to protect the players' ability to innovate, they must not degrade of the quality of internet access below a set minimum threshold.

Although the rate of growth is slowing, it was still at +53% worldwide in 2011 (Cisco, Visual Networking Index).
 <u>Decision No. 2012-0366 of 29 March 2012.</u>

<sup>5 -</sup> Internet and network neutrality – Proposals and recommendations" report.

<sup>6 -</sup> Unlike internet access services, managed services provide users with access to applications and content with a controlled level of quality. An operator may provide access to certain content or a select number of applications for which it ensures the technical properties from end-to-end, either over its own network or through agreements with other operators who are responsible for relaying traffic.

The sector reacted positively on the whole to the proposals and recommendations that apply to both fixed and mobile networks. To put them into practice, ARCEP began four courses of action relating to the information

provided to end users and the regulator's monitoring of the ecosystem's ongoing development (cf. section 4. ARCEP actions p. 120)



Source: ARCEP.

# 1.3 regulatory framework

ARCEP's actions to protect net neutrality are part of the legal framework that came into effect in August 2011<sup>7</sup> with the transposition of European directives (third Telecoms Package) that assign a new objective and new responsibilities to the regulator. ARCEP is thus now tasked with ensuring, "the ability of end users to access and distribute information, and to run the applications and services of their choice"<sup>8</sup>. The law requires operators to be transparent about the traffic management practices they employ, and listed in customers' contracts, "in a clear, detailed and easily accessible format".

In addition, ARCEP's powers to settle disputes have been expanded to include all undertakings involved in interconnection, as it is now responsible for supervising the "reciprocal technical and pricing terms and conditions governing traffic routing between an operator and an undertaking providing online communication services to the public<sup>10</sup>". It has also gained the ability to gather "information and documents concerning the technical and pricing terms of traffic routing applied to their services"<sup>11</sup> from these undertakings.

The regulator has a newfound responsibility to maintain a sufficiently high level of service and prevent congestion, and "*can set minimum quality of service requirements*"<sup>12</sup>. This power is accompanied by the ability to determine the nature, rules and conditions governing the publication of the quality of service (QoS) measurements performed by the operators <sup>13</sup>.

<sup>7 -</sup> Order No. 2011-1012 of 24 August 2011, Conseil d'Etat Decree No. 2012-436 of 30 March 2012, and No. 2012-488 of 13 April 2012

<sup>8 -</sup> Article L.32-1, Point II, Para. 15 of the French Postal and electronic communications code (CPCE)

<sup>9 -</sup> Article L. 121-83 of the consumer code, particularly points g. and i.

<sup>10 -</sup> CPCE Article L. 36-8, point 2.

<sup>11 -</sup> CPCE Article L. 32-4, point 2.

<sup>12 -</sup> CPCE Article L. 36-6, point 5.

<sup>13 -</sup> CPCE Article D. 98-4.

<sup>13 - &</sup>lt;u>CPCE Article D. 98-4.</u>

# 2. A European debate

# 2.1 Work done by BEREC: a common position from regulators

BEREC (the Body of European Regulators for Electronic Communications) has played a vital role in net neutrality debates in Europe since 2010. Following the adoption of the new Telecoms Package, the European Commission tasked BEREC with several projects in the areas of transparency, quality of service, traffic management and IP interconnection. Assigned largely to a working group co-chaired by ARCEP and our Norwegian counterpart, NPT, this work allowed BEREC members to develop a shared understanding of the regulatory issues at hand, and to establish a common methodology for addressing them.

A series of actions in which ARCEP was heavily involved were finalised in 2012. The survey that BEREC conducted at the behest of the European Commission on traffic management practices in Europe was published in mid-2012. It reveals that among the most frequently reported restrictions are the blocking and/or throttling of peer-to-peer (P2P) traffic, on both fixed and mobile networks, and the blocking of Voice over IP (VoIP) traffic on mobile networks. In December 2012, to complete the two reports published in 2011, BEREC published three reports analysing the technical and economic aspects of neutrality<sup>14</sup>: an economic approach to traffic differentiation practices, an analysis of IP interconnection issues and quality of service guidelines.

took the opportunity to publish a summary of its positions on net neutrality: the agreed-upon approach is a careful and progressive one: on the one hand, relying on the effects of competition, stimulated by increased transparency with users and the regulator and, on the other, through the publication of quality benchmarks. BEREC also stressed that regulators need to be ready to use more restrictive measures should they become

necessary – underscoring the central role that setting minimum quality of service requirements would play.

The actions being taken by BEREC in 2013 have a more practical dimension. In the arena of quality of service, a benchmark will be produced of the measurement initiatives and platforms that already exist in Member States, and the possibility of making the resulting indicators more easily comparable will be examined - if necessary by launching common initiatives. In addition, after the economic work done in 2012 on the traffic differentiation practices that some operators are using. BEREC will work to assess users' awareness of these practices and how they react to them, as well as the changing relationship between operators and the content providers who play in an increasingly prominent role in the ecosystem.

## 2.2 European Commission initiatives

In 2012, the European Commission continued to track net neutrality questions by relying on the expertise of BEREC. Neelie Kroes. Vice-president of the Commission and leading the Digital Agenda, stated that there was no need to introduce any stringent laws beyond the existing framework, but that consumers do need, above all, to be able to make informed choices<sup>15</sup>.

A public consultation was launched as a result in July 2012, with a view to drafting very concrete recommendations in 2013 on transparency, switching providers and certain aspects of traffic management. At the same time, in December 2012 the Commission adopted a recommendation on the notification procedure for national regulatory authorities setting minimum guality of service requirements, in accordance with the third Telecoms Package.

In early 2013, Neelie Kroes outlined the Commission's initiatives for the coming year: net neutrality will be a major area of focus, with a draft recommendation for

<sup>14 -</sup> BEREC press release of 10 December 2010

<sup>15 -</sup> Blog post by Neelie Kroes, commenting on the publication in late May 2012 of the joint survey with BEREC on traffic management practices in Europe.

an "open, dynamic and innovative" internet that will draw on the results of the public consultation held in 2012 and the publication of a Europe-wide study of actual internet speeds.

# 3. ARCEP's analyses and actions

# 3.1 Report to Parliament and the Government on net neutrality

In September 2012, in response to a request from Parliament<sup>16</sup>, ARCEP submitted a detailed report on net neutrality to Parliament and the Government, before making it public.

This first part of the report lays out the terms of the debate, outlines the core aspects of the internet's operation and its economy – stakeholders, services, traffic, cost and revenue growth trends for the different types of player, the central issues and new business

models – and provides a summary of the positions on net neutrality adopted thus far in Europe and in France. The second part of the report details the actions being taken by ARCEP and, as requested by Parliament, provides an in-depth look at the questions of quality of service, traffic management and interconnection.

The report also details the work being done by several members of Parliament who, either individually or as part of working groups, have explored the issue, introduced bills or submitted information reports on net neutrality. The report stresses that, if Parliament should consider it useful to transcribe the guiding principles of net neutrality into Law, it would nevertheless be wise not to constrict their application through overly-detailed provisions that could prove difficult, if not impossible, to implement in a sector that is in a constant state of technological and economic flux, and which therefore demands that a certain flexibility of action be maintained.

#### ARCEP's analysis and recommendations on net neutrality

It should be emphasised that the net neutrality debate, and ARCEP's ensuing analyses and recommendations on the issue, relate solely to the technical and economic modalities of relaying internet traffic, in accordance with the objectives and powers the law confers on the regulator. The work that we have done on net neutrality does therefore not address the question of government control over certain content sent, relayed or received via the internet, which is an essential question in all democracies and sometimes confused with the net neutrality issue, but in no way falls under the purview of an electronic communications regulator.

# 3.2 A pragmatic and progressive approach to regulation

ARCEP has elected to respond in a progressive and pragmatic way to the sector's ongoing technological and economic developments, and not to implement prescriptive ex ante regulation at this stage. Our approach is twofold. Immediate and preventive actions aimed at improving transparency on the services that ISPs market to end users, at strengthening competition in the retail market, followed by guidelines for best practices in traffic management and interconnection and, lastly, measuring and publishing quality of service indicators for each operator.

<sup>16 -</sup> Article 21 of Law No. 2011-302 of 22 March 2011, bringing various provisions for adapting to European Union laws in the area of health, labour and electronic communications, stipulates that ARCEP will provide the Government and Parliament with a report on the, "instruments and procedures for monitoring the quality of internet access services; the state of interconnection markets and their development outlook; the traffic management techniques being employed by electronic communications operators."

■ Dispute settlements on a case-by-case basis, in response to requests from the parties involved, which can be based on ARCEP's various net neutrality recommendations. Prescriptive actions will only be taken when there is a proven market failure. The settlement could take the form of a decision setting minimum quality of service requirements<sup>17</sup>, but also rely on other pre-existing instruments, such as those resulting from the provisions contained in CPCE Articles L. 34-8

(symmetrical decision specifying the terms of access and interconnection) or L. 37 (market analysis).

# 4. ARCEP actions

In our ten proposals and recommendations of 2010, we identified four key areas of work associated with net neutrality: transparency, quality of service, traffic management and interconnection.



Source: ARCEP.

## 4.1 Transparency over traffic management practices

Internet access products must be transparent, to allow electronic communication service users to make an informed choice between available offers, and so take full advantage of competition in the marketplace. Market competition is thus rendered effective, and instils discipline in ISPs' business practices.

Transparency enables users to identify those offers that provide access to all of the services and applications available on the internet, as well as any possible limitations applied to the connection – which will inform their choice. The transposition of the 3rd Telecoms Package strengthened operators' transparency obligations, particularly in the area of quality of service and traffic management techniques.

To improve transparency on the technical or pricing differentiation techniques that operators employ when managing traffic, in October 2011 ARCEP created a working group with the General directorate for competition, industry and services (DGCIS) and the General directorate for fair trade, consumer affairs and fraud control (DGCCRF), whose members include fixed and mobile network operators, and MVNOs, as well as consumer associations

#### 17 - CPCE Article L. 36-6

After a series of regular meetings between autumn 2011 and summer 2012, the working group drafted a set of recommendations for improving the information available to consumers on the scope of internet access plans and their speed, a line's ability to supply a TV service, the services and applications subject to tiered pricing, priority treatment given to certain users or services, the blocking or throttling of certain services or applications and hotspots (i.e. wireless public internet access spots).

The working group thus managed to reach a satisfactory consensus on the specific topics and recommendations. In keeping with requests from operators and the associations, it also concluded that any regulatory measures should apply to all operators equally, and not distort competition in any way. So the administrations are focusing at this stage on preparing:

- an opinion for the National consumer affairs committee, CNC (conseil national de la consommation) which aims to provide a framework for information of an educational nature: making changes to standardised information sheets (FIS: fiches d'information standardisés) and producing educational material;
- an order based on the consumer affairs code (code de la consummation) – and taking account of the opinions received from CNC and ARCEP – relating to advertising, extra-contractual and contractual information.

Subsequent work will consist of preparing this opinion and this order by consulting market stakeholders, with a view to their adoption in 2013.

## 4.2 Quality of internet access services

In its report on net neutrality of September 2012, ARCEP reiterated that internet access services must be of sufficiently high quality for the internet to continue to be a powerful vehicle for innovation, and enable the development of new applications. The ongoing increase in traffic, the development of managed services and the use of traffic management techniques nevertheless have the potential to degrade this quality of service.

In early 2013, we adopted a decision<sup>18</sup> that specifies the QoS indicators for fixed line networks, and the system to be used for measuring them. These indicators will be measured before the end of this year, and published. This system will allow ARCEP to take a preventative approach to ensuring that quality of service remains sufficiently high and, if necessary, to set minimum quality of service requirements.

a/ Quality of fixed internet access services

The system used to measure the quality of fixed internet access services is described in paragraph 2.3 (cf. p.106).

**b**/ **Quality of mobile internet access services** The swift development of the mobile internet, whose traffic doubled in 2012, naturally gives rise to concerns about the quality of internet access services on cellular networks. To be able to handle this gigantic surge in traffic, operators may be tempted to reduce the quality of their service, or to introduce new forms of traffic shaping on these networks whose capacities are structurally limited.

ARCEP therefore performs a QoS survey every year of the four mobile network operators' 2G and 3G systems (cf. p. 97-98). In 2012, to obtain an even closer understanding of the user experience, we expanded the measurements to include how data services perform on a popular smartphone, in addition to running tests using the most high-end devices and measuring how well video streaming services run on these devices. The findings allow users to compare how the different operators' networks perform for a given service, and give operators an incentive to maintain a sufficiently high quality of service. ARCEP also performed dedicated analyses on technical aspects of network management, to better identify any mobile traffic shaping occurring on the different operators' networks which could affect the quality of the services available in mobile access.

## 4.3 Traffic management practices

ARCEP's recommendations on net neutrality lay out the general principles governing the use of traffic management techniques, in other words all of the practices that differentiate traffic - e.g. blocking certain applications or giving priority to certain services - being employed by operators today.

To deepen our knowledge of practices in the marketplace, which are evolving constantly, in 2011 we asked operators to provide a status report of the traffic management techniques being used on their networks. Then, from December 2011 to January 2012, ARCEP took part in a similar exercise at the European level which was carried out by BEREC, at the request of the European Commission. The findings underscored the variety of techniques being used: while some are pursuing entirely legitimate goals in an efficient and proportionate fashion, other undertakings' compliance with the principle of net neutrality needs to be verified.

ARCEP presented a summary of this work in the net neutrality report published in September 2012, along with an analysis of how compatible these practices are with the traffic management recommendations<sup>19</sup>. we made in 2010. Particularly worth mentioning is that ARCEP is calling for the steady elimination of any remaining blocking of VoIP and P2P services on mobile networks.

Lastly, in early 2013, after Free installed a default ad-blocking mechanism, ARCEP queried the operator on the ultimate aim of the software and requested a

detailed description of its operation. We are currently in the process of analysing the mechanism's operation and repercussions.

# 4.4 Interconnection and relaving data traffic

Interconnection refers to the technical-economic relationship between operators, or between operators and content and application providers (CAP), for connecting to one another and exchanging traffic. Guaranteeing the global mesh of networks and the ability for all users to communicate with one another, interconnection is the very foundation of the internet.

As a result of rising traffic, decreasing unit costs and the strategies being employed by stakeholders, the interconnection market is undergoing rapid changes and has become a source of tension between the players. There are clear risks of certain players engaging in discriminatory or anti-trust behaviour.

A good illustration comes from the complaint that transit provider Cogent filed against France Telecom with the Competition Authority. The decision<sup>20</sup> the Authority issued on 20 September 2012 was based in part on an opinion that ARCEP had issued in late 2011<sup>21</sup>. If both authorities confirm that France Telecom can issue a billing request when opening additional interconnection capacity, they also stress that the relationship between (ISP) Orange and (transit operator) Open Transit needs to be clarified to eliminate any risk of discriminatory or anti-trust behaviour.

ARCEP also launched an administrative enquiry into the technical and financial terms of traffic routing, in particular between Free Mobile and Google. Consumer protection association. UFC-Que Choisir, had alerted us to a large number of complaints from Free Mobile customers over malfunctions and slowed connection

- 19 Proposals numbers 2,3 and 4. 20 Decision No. 12-D-18 of 20 September 2012 21 Opinion No. 2011-1241 of 20 October 2011.

#### Regulating the internet: a technical and economic challenge

speeds when attempting to access certain online services and applications, and particularly YouTube. This enquiry is still ongoing.

We nevertheless believe that the trends observed in the marketplace – including the vertical integration of certain undertakings, and ISPs' attempts to monetise interconnection – do not require the ex ante regulatory framework to be strengthened at this stage. Having

introduced a system for periodically collecting information from stakeholders<sup>23</sup>, ARCEP will be able to track these trends over time, analyse them and take them into account when exercising our responsibilities. Implementing a system for monitoring the quality of internet access services will also enable us to observe how these trends affect the service actually provided to users. Finally, we may be called upon to settle a dispute between an ISP and a CAP, at the request of either party.



ARCEP's main areas of focus in 2012

# ARCEP actions in the overseas markets

# 1. Dedicated oversight of French overseas markets

# 1.1 The regulatory framework

The French Postal and electronic communications code, CPCE (*Code des postes et des communications électroniques*) does not apply in certain French overseas territories: namely Polynesia, New Caledonia, Wallis and Futuna and the TAAF districts (French southern and Antarctic territories) as ARCEP has no regulatory powers there.

It does, however, apply fully to the French overseas departments of Guadeloupe, Guyana, Martinique, Reunion and Mayotte, as well as the overseas collectivities of Saint Barthélemy, Saint Martin and Saint Pierre and Miquelon. The legal framework, both national and European, is identical to the one that applies in mainland France, and contains no special provisions for the overseas territories.

# 1.2 Challenges proper to overseas markets

Electronic communications play a vital role in France's overseas markets as they make it possible, to a certain

degree, to alleviate the obstacles to economic development resulting from the regions' insularity and geographical remoteness. In 2009, ARCEP members travelled to Reunion, Mayotte, Guadeloupe, Guyana and Martinique, to obtain a status report on the conditions affecting access to electronic communications tools. In January 2010, we delivered <u>a report</u> to Parliament and the Government describing the local markets, and making a number of proposals and recommendations. Since the report's publication, and thanks to the work of the committee for monitoring overseas markets, we have seen several positive developments in the areas of competition and coverage in these departments and territories.

# 1.3 Committee for monitoring overseas markets

This committee devoted to supervising access and interconnection services in French overseas markets was created in 2009. It is composed of overseas operators and ARCEP representatives, and meets twice a year to address issues that are specific to the French overseas markets, i.e.:

- ensure monitoring of overseas markets;
- inform operators in overseas markets of ARCEP decisions and the work we are doing;
- provide a forum for discussion and conciliation between undertakings operating in the overseas markets, local authorities and ARCEP;
- identify those issues that are specific to French overseas markets and monitor current actions.



In 2012, the committee focused in particular on the quality of fixed access services, the work being done on mobile call termination, overseas roaming tariffs, access to undersea cables, and fixed and mobile number portability processes.

The committee met, exceptionally, in Reunion on 7 November 2012, as part of an ARCEP fact-finding mission.

# 2. Fixed line services: current status and future outlook

### a / Broadband

On the whole, significant progress has been made in broadband penetration rates, thanks to unbundling, and in improving available services – thanks to the launch of "unlimited" data plans enabled by the decrease in wholesale tariffs for undersea cables. These improvements have not, however, gone hand in hand with a decrease in retail market prices. Public authorities in the overseas markets are surprised by how little impact earlier government funding initiatives (public subsidies, tax exemptions, etc.) have had on reducing retail market prices.

Moreover, despite widespread LLU coverage, alternative operators' share of the fixed services market in certain overseas departments remains very small compared to France Telecom's.

Region	Orange market share in in 2009	Orange market share in in Q4 2012
Guadeloupe	71%	65%
Martinique	67%	61%
Guyane	84%	73%
La Réunion	67%	49%
Mayotte	N.A.	80%

## Source: ARCEP.

If the exchanges and cabinets are "ready" to be unbundled, few operators have managed to make the investments needed to cover all those that are currently LLU-ready. Among the potential obstacles for alternative operators are the (lack of) availability of fibre backhaul networks and their sometimes high wholesale tariffs.

#### b/ Reunion

At meetings held during our fact-finding mission, public authorities in Reunion expressed a desire to see the island's digital development included in the regional blueprint. Reunion has a number of assets that allow it to be among the Indian Ocean's leaders in electronic communications. In a bid to maintain this central role, Reunion regional authorities drafted a digital regional development blueprint in tandem with the Prefecture, called the "*plan régional très haut débit*" (regional superfast broadband plan) which is structured around three main course of action:

- making capacity on existing optical fibre undersea cables as accessible as possible;
- improving operators' ability to manage data traffic by creating local data centres on Reunion Island;
- equipping the region with a superfast broadband network.

The public portion of the Reunion digital regional development blueprint, or SDTAN (*schéma directeur territorial d'aménagement numérique*), includes an FTTH coverage target for the entire region for 2025. Phase one of the blueprint, which runs up to 2016, plans for 88,000 residential and business premises in priority coverage areas (i.e. the most poorly served by broadband and with the lowest average per-premises costs) to be made eligible for FTTH. This first phase will also include sub-loop unbundling on copper networks for 31,000 lines in areas where spending on FTTH rollouts is the most sustainable over time. The region believes this step-by-step approach has the advantage of being both fair and achieving efficient results.

Regional authorities also raised several points of concern about areas covered by private investment (only Saint Denis to date) where they are especially mindful of ensuring that France Telecom meet its coverage obligations – the carrier having stated its intention to make the investment needed to deploy an FTTH network covering the entire city of Saint Denis. Reunion authorities are planning on establishing a three-way agreement between the State, the region and operators in the private investment zone.

## ARCEP actions in the overseas markets

#### c/ Mayotte

ARCEP travelled to Mayotte in November 2012. Up, For all of its data traffic, up until April 2012 Mayotte's only interconnection with the internet was via satellite link. This meant that the available internet access retail solutions were either narrowband connections (56 kbps or ISDN at 64 kbps), or very slow Wi-Fi connections. The eagerly awaited arrival of the LION 2 undersea cable enabled the introduction of ADSL services for consumers, and substantially higher speeds (extension of the LION cable connecting Reunion, Mauritius and Madagascar to Kenya). The deployed cable contains four strands of optical fibre that can handle a very large volume of data traffic. Stakeholders believe its capacity will be high enough to meet the Mayotte region's data transfer needs, even over the long term.

Since becoming commercially available in April 2012, broadband access via ADSL has been widely adopted by Mahoran residents and businesses that have a telephone line.



Source: ARCEP.

The department thus began to draft a regional blueprint. To date, beyond existing infrastructure, no private-sector operator has yet announced plans to deploy a broadband or superfast broadband network there.

The arrival of the LION 2 undersea cable, and the solutions being marketed by the consortium's different operators, have made it possible to eliminate the bottleneck in terms of throughput for all of the operators doing business in Mayotte. Not only can they market ADSL access, but can also improve their existing broadband services which are now available on wireless local loops (WLL) and mobile systems, by offering "unlimited" plans for the very first time.

### d/ The Antilles

In the Antilles, the digital blueprints launched by the regions of Guadeloupe and Martinique will soon be complete. In 2012, the town of Sainte Anne, Guadeloupe,

made its first FTTH network commercially available, after having published a network sharing scheme for private sector operators. The project aims to cover all of the municipality's homes and business, or some 12,000 premises.

#### e/ Guyana

In July 2012, Guyana became the first overseas region to complete is digital blueprint. An immense territory of which 95% is covered by the Amazon rainforest, Guyana's population is concentrated along the coast. People living in the interior do not have access to an ADSL network, due to the lack of a wireline system, and many have poor or no GSM coverage. The challenge for Guyana today is to ensure consistent digital regional development that takes account of population growth issues – especially in the area along the Maroni river close to Suriname, whose annual growth rate is close to 8% – and regional cooperation imperatives, resulting from the accessibility project initiated by the state of

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Amapá in Brazil. As to FTTH, only the city of Cayenne which accounts for 30% of homes in the region - is the target of any private-sector investment plans between now and 2020. The regional blueprint includes plans for FTTH pilot projects in two other towns. Saint Laurent and Macouria, and construction of a fibre backhaul network covering the whole of Guyana. Another target is to improve the Guyanese network's international interconnection.

# 3. Mobile services: working to achieve parity between mainland and overseas France

## 3.1 Decreasing call termination rates

Call termination regulation in the overseas departments and territories has been subject to market analysis since 2005, for voice calls, and since 2010 for SMS.

#### a/ Decrease in call termination rates

The ARCEP Decision of 2 November 2010<sup>1</sup> set new maximum call termination rates for 2011 and 2012 in the French overseas departments and territories, and postponed the decision on regulated prices for 2013. In accordance with the European Commission recommendation of 7 May 2009, the decision of 2010 also stipulates that maximum termination rates must decrease to the long-run incremental costs of an efficient generic operator in each of the overseas regions (Antilles – Guyana and Reunion – Mayotte) by 1 January 2013 at the latest.

In light of the results of our technical-economic cost models, through a decision<sup>2</sup> issued in December 2012 on the third round of regulation, ARCEP set a maximum mobile wholesale call termination rate of €0.01 per minute, to be applied as of 1 January 2013 by the leading carriers in both of these regions.

#### b/ / Decrease in SMS termination rates

In July 2010, ARCEP set a maximum SMS call termination rate for the overseas market that was identical to the one set for mainland France, i.e. €0.01 per SMS – applicable as of 1 July 2012 in the Reunion – Mayotte region, and as of 1 January 2013 in the Antilles – Guyana<sup>3</sup> region.

#### c/ What this means for the retail market

We believe that these relatively low and cost-oriented rates create economic conditions that will help the development of "unlimited" plans in the overseas markets both for mobile calls and SMS, and for fixed-to-mobile calls - as has been the case in mainland France.

Bringing all of the regulated call termination rates in the overseas markets in line with those charged in metropolitan France<sup>4</sup> should help pave the way for calls and text messages to mobile numbers in French overseas markets to be included in all mainland operators' flat rate plans. This is a development we fully encourage.

## 3.2 Two-day mobile number portability introduced

The new mobile number portability scheme for overseas markets came into effect, following the adoption of the ARCEP decision 10 May 2012<sup>5</sup> (cf. p. 111-112):

- on 31 July 2012 in Reunion and Mayotte;
- on 12 November 2012 in Guadeloupe, Martinique and Guyana, and in Saint Martin and Saint Barthélemy.

The time it takes to process a mobile number portability request has thus been reduced from 10 calendar days to a maximum two working days - unless expressly requested otherwise by the customer, provided access is possible (actual availability of the SIM card) and

1 - Decision No. 2010-1149 of 2 November 2010 on determining the relevant mobile call termination markets in Metropolitan France and the French overseas markets, designating the operators with significant power in these markets and the obligations imposed on them as a result, for 2011-2013

<sup>2 -</sup> Decision No. 2012-1502 of 4 December 2012.

<sup>3 -</sup> Decision No. 2010-0802 of 28 July 2010

<sup>4 -</sup> As of 1 January 2013, there is only a €0.02 gap in the per-minute price of voice calls. .

<sup>5 -</sup> Décision No. 2012-0576, of 10 May 2012.

Gradually erasing the gap between mobile call termination rates in metropolitan France and the overseas markets
<u>Press release</u> from Victorin Lurel, Minister for Overseas France, 6 December 2012

"The Minister for Overseas France, Victorin LUREL, welcomes the decision by the Postal and electronic communications regulatory authority which opens the way for a decrease in the price of calls from mainland France to the overseas departments (Guadeloupe, Martinique, Guyana, Reunion and Mayotte) starting in January

As announced back in September when the public enquiry began, ARCEP has decided to decrease call termination rates significantly: from O.028 to O.01. This wholesale tariff forms the basis of operators' retail prices. With this new termination rate, which is now virtually equal to the one applied to calls in mainland France, the conditions are at last in place for calls from mainland France to the overseas departments to be incorporated into all of the flat-rate plans being sold by mobile operators.

This decision is welcomed by the Government which, in keeping with its policy to reduce the cost of living, wants to see mobile calling prices in the overseas markets gradually come into line with those in mainland France.

The Minister for Overseas France, who had lobbied for this alignment since taking office, strongly encourages operators to be very swift in introducing plans that take these new market conditions into account."

depending on the legal retraction period in instances where customers do not subscribe in person (i.e. over the phone or the Web).

The new system also introduces ubiquitous use of the mobile operator identity statement or RIO (*Relevé d'Identité Opérateur*) – which is associated with each mobile number and used to authenticate portability requests securely – in the Antilles-Guyana region, as it already has been in mainland France and in Reunion and Mayotte for several years now.

## 3.3 Overseas roaming

On 13 June 2012, the European Union adopted new regulation on international roaming, replacing the previous one of 27 June 2007 (cf. p.17). This new regulation applied only partially to roaming calls in mainland and overseas France.

This means that a European consumer (from any country other than France) travelling to the French overseas territories would be charged the regulated tariffs, **contrary** to a French consumer who has an account with a mobile operator in mainland France and who is travelling in the French overseas territories, or a consumer from one of the French overseas territories visiting mainland France.

It therefore seemed logical that the French Parliament extend the European regulation to include national roaming between the different territories covered by these rules. Law No. 2007-1774 of 17 December 2007 thus put an end to this anomaly by extending the maximum rates set by European regulation<sup>6</sup> to intra-national calls. The relevant article was amended to take the new regulation into account<sup>7</sup>.

The new roaming tariffs therefore apply to all French mobile operators, in both metropolitan and overseas France, including full MVNOs, when hosting another French operator's customers, either in metropolitan France or any of the overseas departments or territories.

<sup>6 -</sup> Via CPCE Article L. 34-10

<sup>7 -</sup> Article 14 of Law No. 2012-1270 of 20 November 2012 on the economic regulation of overseas markets

## 3.4 Upcoming issues

#### · Verifying 3G coverage obligations

In 2008, ARCEP began gradually allocating spectrum in the 2.1 GHz band to enable 3G rollouts in all the overseas departments and territories. The first licences were thus issued in 2008, and the first 3G services became commercially available in late 2008 and early 2009, or roughly three years later than in mainland France. Today, operators continue to deploy their 3G networks, particularly thanks to refarming of the 900 MHz band which was initially authorised for 2G, and which delivers superior propagation qualities than the 2.1 GHz band that was initially identified for 3G.

These systems will continue to be deployed, first in terms of coverage of the population and the territory and, second, in terms of technologies. In 2013, ARCEP will perform a series of checks to ensure that operators who were issued a licence in 2008 are meeting their coverage obligations: namely 70% of the population of the overseas department or collectivity for which they hold a 3G licence.

#### · Development of mobile services in overseas markets

The prospect of introducing superfast (4G) mobile network technologies in the overseas markets, combined with the structural trend of fixed and mobile network convergence that we are seeing worldwide, is reviving operators' interest in acquiring mobile frequencies.

ARCEP has begun to work on the question of allocating new 4G frequencies, as planned in the guidelines we made public on 27 January 2011.

Given the increased demand for spectrum allocations, a situation of scarcity in the overseas markets cannot be ruled out. In accordance with the current legal framework, ARCEP will therefore hold a public consultation before the end of 2013 to remedy this situation, and so be able to continue to allocate mobile frequencies to overseas operators, and provide them with a high degree of legal certainty.

7 - Article 14 de la loi n° 2012-1270 du 20 novembre 2012 relative à la régulation économique outre-mer.

ARCEP actions in the overseas markets

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# PART THREE Ensuring regulated markets runs smoothly

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# The postal market

# 1. Overview of postal markets in France in 2012

### 1.1 The market as a whole

## a) Items of correspondence delivered in France

In 2012, the correspondence market – i.e. letters weighing less than 2 kilograms – accounted for 7.2 billion euros, down 3.5% on 2011. The corresponding volumes (13.7 billion items) fell 4.1 % compared with 2011. The decrease in volumes for 2012 is greater than that noted for recent years. On average, volumes declined 3.8% over the past five years.

The direct mail market (approximately 20% of the market in terms of value and 30% in terms of volumes) contracted more sharply (-6.3% in value and -7.8% in volumes) than the correspondence-item market (-2.8% in value and -2.5% in volumes).



Source: ARCEP.

Revenue (in millions of euros, excl. tax) for items of correspondence delivered in France									
	2007	2008	2009	2010	2011	2012	Growth 2011-2012		
Direct mail	1,657	1,646	1,491	1,482	1,475	1,381	- 6.4%		
Items of correspondence, not including direct mail	6,924	6,666	6,346	6,123	6,007	5,834	- 2.9%		
Total items of correspondence	8,581	8,312	7,837	7,605	7,482	7,215	- 3.6%		
Amount in the reserved area	6,269	6,170	5,859	5,721	-	-	-		

Source: ARCEP, Observatoire postal - Enquêtes annuelles jusqu'en 2011, enquête avancée pour 2012, estimation provisoire.

Volumes (millions of items of correspondence) delivered in France										
	2007	2008	2009	2010	2011	2012	Growth 2011-2012			
Direct mail	4,795	4,733	4,419	4,347	4,271	3,938	- 7.8%			
Items of correspondence, not including direct mail	11,821	11,419	10,928	10,454	10,047	9,784	- 2.6%			
Total items of correspondence	16,616	16,152	15,347	14,801	14,319	13,721	- 4.2%			
Amount in the reserved area	13,789	13,470	12,780	12,243	-	-	-			

Source: ARCEP, Observatoire postal - Enquêtes annuelles jusqu'en 2011, enquête avancée pour 2012, estimation provisoire.

## b) Outward international mail

At 364 million letters, 2012 correspondence flows shrank by approximately 6 million letters (-1.5%) and 383 million euros in revenue compared with 2011.

Nearly 8 out of 10 outward international items were sent within the European Union.

Revenue (in millions of euros, excl. tax) and volumes (in millions of items) for outward international mail								
	2007	2008	2009	2010	2011	2012	Growth 2011-2012	
Revenue	398	392	376	391	380	383	+ 0,8%	
Volumes	462	468	436	413	370	364	- 1,5%	

Source: ARCEP, Observatoire postal - Enquêtes annuelles jusqu'en 2011, enquête avancée pour 2012, estimation provisoire.

# 1.2 Operators in a fully liberalised market

#### a) ARCEP-authorised postal operators

In compliance with the 1997 European Postal Directive<sup>1</sup> the Law of 9 February 2010<sup>2</sup> fully liberalised the postal market in France. Since 1 January 2011, the entire postal market has been opened up to alternative postal-service providers.

To enter the market, companies wishing to exercise postal activities must hold an ARCEP authorisation. Processing of authorisation applications may inter alia give rise to on-site inspections.

In addition to granting authorisations, ARCEP maintains regular contacts with all postal providers. Operator developments are monitored in particular through the Statistical Observatory on Postal Activities published annually by ARCEP.

1 - Directive 97/67/EC of 15 December 1997 as amended.

<sup>2 -</sup> Law No. 2010-123 of 9 February 2010 on the state-owned company La Poste and postal activities.

#### The postal market

Since June 2006, ARCEP has issued 43 authorisations. At 31 December 2012, 32 authorised service providers were operating on the postal market:

- 21 providers of domestic letter services, including delivery;
- 10 providers of outward cross-border correspondence services;
- La Poste, which is authorised to deliver domestic items of correspondence and to handle outward cross-border mail.

### b) The authorisations issued in 2012

In 2012, five new authorisations for mail delivery activities in France were issued (Optimum mail, Neopress, Modulo, Mediapost and Colis Privé), and one postal operator ceased trading. Two of these new authorisations applied to the whole of Metropolitan France, namely Colis Privé, which grew out of Adrexo-colis, and Mediapost, a La Poste Group subsidiary.

Alongside La Poste, the main domestic operator in 2012 was Adrexo, which covers virtually all of mainland France, for direct mail and free newspapers. The other operators are generally SMEs with a local business base offering various postal services, including the delivery of correspondence.

No authorisation application for the outward cross-border market was submitted in 2012.

The main providers operating in parallel with La Poste are subsidiaries of established national incumbent operators (Germany, Netherlands, Switzerland, United Kingdom, Belgium) or the operator itself, like Austria Post.

In addition, there are two other private French operators– IMX-France and Optimail-Solutions.

## How to become an authorised postal provider ARCEP published <u>a guide</u> to help candidates compile their application

Following a public consultation, ARCEP published a guide in July 2012 on applying for an authorisation to provide postal services so as to facilitate the submission of applications to ARCEP.

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Authorisations issued since 2006 had revealed the difficulties applicants experienced in compiling their applications:

- not a single authorisation application had been complete when first submitted;
- discussions with candidates were necessary to help them assemble their application;
- clarification was often requested about the scope of operations requiring an authorisation.

The main difficulties seemed to be linked to the plethora of texts that applied. From the authorisations granted in the second half of 2012, publishing this guide containing all these texts in a single document appears to have improved matters.

## 1.3 The mail preparation market

Following the publication, in 2011 of the study on the mail preparation market carried out by the consultancy firm BASIC, ARCEP held talks with the "Syndicat des entreprises de logistique de communication écrite directe" (SELCED) to extend its analysis to sector operations. On this occasion, ARCEP services inspected the production facilities of several providers.

These talks focused, inter alia, on:

 mail preparation activities which are characterised by asymmetrical relationships in which La Poste is in a strong negotiating position with regard to mailing houses so it can impose its requirements on providers, for instance with respect to technical or financial-guarantee specifications:. It has also tried to reinforce the contractual link with the principal, by identifying the individual mailers involved in each campaign:

• the VAT exemption enjoyed by universal service providers which prompts mailing houses to resort to the outlay system<sup>3</sup>, to avoid charging their customers VAT on these services; however, this system puts constraints on mailing houses which have to act as the mailer's agents.

Mail-preparation market players note that La Poste does not offer access to its delivery network, i.e. the possibility of posting items as close as possible to delivery, thus allowing tariff discounts.

Because of this major imbalance between La Poste and mailing houses and the risk of anti-competitive practices resulting from the presence of La Poste subsidiaries in this activity, ARCEP will continue to closely monitor developments in this market segment.

# 2. The universal postal service

# 2.1 Changes in the universal postal service

- a) Development of the "green letter" and availability of the priority service
- Development of the "green letter"

In 2012, the "green letter" (forwarding in D+2) marketed by La Poste since 1 October 2011 accounted for just over 800 million items. The priority letter (forwarding in D+1) continues to dominate with a volume almost five times this volume.

## Monitoring the availability of the priority service in post offices

After the launch of the "green letter", ARCEP identified the risk of reduced access to the priority service (red stamp) and instigated a public inquirv<sup>4</sup> in 2011 into the marketing conditions of single-piece mail. The inquiry was completed<sup>5</sup> in 2012, and ARCEP began talks with La Poste about remedying the anomalies it revealed.

Among other things, La Poste undertook to ensure the availability of stamp booklets with red stamps from stamp dispensers when a post office has several dispensers, to update the dispenser "menu" to ensure equal exposure of the priority letter and the "green letter" and to install clear displays for postage payment products.

All these undertakings were put into effect from 1 December 2012. During talks about the proper fulfilment of its commitments, La Poste recalled that it did everything possible to make all products in the range of universal postal services available at postal contact points, both at counters and from dispensers. Special attention was given to the availability of red stamps (priority letter).

Moreover, in compliance with its undertaking to ARCEP, as of 1 December 2012, all post offices with at least two stamp dispensers now have one dispenser for priority-stamp booklets. A special sign identifying the type of booklets sold by each dispenser was currently being rolled out.

To further raise customer awareness of the various postal prepayment options available, La Poste would very shortly conduct an information campaign about the various measures taken to make the whole range available6.

4 - Decision No. 2011-1246 of 20 October 2011. 5 - Decision No. 2012-0156 of 2 February2012.

<sup>3 -</sup> Under the fiscal outlay system, intermediaries do not have to charge VAT on the sums paid them as commission on certain conditions (Article 267 II-2 of the General Tax Code).

<sup>6 -</sup> Letter from Jean-Paul Bailly, CEO of La Poste, to Jean-Ludovic Silicani, dated 28 January 2013.

Regarding distribution via dispensers, La Poste added that it was having talks with dispenser manufacturers to ensure that the new models ordered following calls for tender could sell the two different kinds of stamp booklet.

### b) Sending of low-value items

In December 2011, ARCEP fined<sup>7</sup> La Poste one million euros for failing to provide an affordably priced universal-service product, i.e. one with a tariff close to that for the priority letter, for sending items other than letters weighing less than 2 kilograms and no thicker than 2 centimetres.

Early in 2013, La Poste sent ARCEP a dossier with its plans to alter the characteristics of the " Mini-Max" product so as to bring its tariffs into line with those of the priority letter and to extend it to items weighing between 1 and 2 kilograms (with a tariff of 5.75 euros) and up to 2.5 s thick (compared with the current 2 centimetres).

ARCEP considered<sup>8</sup> this an improvement but deemed that it still failed to address the shortcomings it had noted concerning the absence of an affordable product for low-value items. In any event, as this was a change to the universal service product range, it would have to be submitted to the Minister for Posts.

## c) Changes to the registered letter

La Poste approached ARCEP and the Minister for Posts about changing the catalogue of universal postal services so as to amend, with effect from 1 July 2013, the guideline transit time for the registered letter to make it a non-priority product, i.e. not to be delivered the next working day after the day of posting. At the same time, La Poste undertook to improve the registered letter's quality and reliability benchmark to a delivery rate of 95% in D+2 by 2015.

ARCEP issued a favourable opinion<sup>9</sup> on this amendment to the universal postal service catalogue for single-piece items, provided that:

- the registered letter's D+1 delivery quality be maintained at a level comparable to its present one:
- this change should be timed to coincide with changes to the documentation for registered letters at post offices to eliminate the words "priority letter" and replace them with a delivery undertaking of D+2;
- the catalogue of universal postal services at 1 July 2013 explicitly features the guideline transit time for advices of receipt.

La Poste has undertaken to make several improvements to advices of receipt:

- to modernise registration documentation for registered letters for the mechanical processing of advices of receipt, thus improving transit times:
- to publish the guideline transit time for advices of receipt in the catalogue of universal postal services from 1 July 2013;
- to introduce an indicator for advice-of-receipt transit times; the results of this measure will be published in the universal service indicator table from 2014.

# 2.2 Quality of service

## a) Universal postal service indicator table

The Post and Electronic Communications Code (CPCE) assigns ARCEP the general mission of monitoring the universal postal service, specifying that ARCEP ensure compliance by the universal service operator with the obligations arising from the legislative and regulatory measures relating to provision of the universal service.

Thus, every year since 2006, La Poste has, at ARCEP's request, published a universal postal service indicator table whose content is regularly updated in cooperation

<sup>7 -</sup> Decision No. 2011-1453 of 20 December 2011.

<sup>8 -</sup> Opinion No. 2013-0217 of 12 February 2013.
9 - Opinion No. 2012-1352, of 11 December 2012.

with consumer associations. The list of indicators featured in this table has expanded year after year and now covers a large part of users' essential information requirements.

In 2012, ARCEP conducted a public consultation on the pertinence and coherence of the information requested about user requirements. It received replies from consumer organisations (Association de défense. d'éducation et d'information du consommateur (ADEIC), Association Léo Lagrange pour la défense des consommateurs (ALLDC). Confédération syndicale des familles (CSF)), from private individuals (Mr. Hofer) and the La Poste Group.

Based on these replies, ARCEP's summary advocated that La Poste expand the information published in the universal service indicator table in respect of complaints, by stratifying complaints by level (Level 1, Appeal level, Mediation), as this would be an interesting indication of the guality of La Poste's Level 1 replies.

ARCEP also considered it expedient for La Poste to provide the public with basic information about post boxes in line with the "open data" principle. Ideally, this information could be provided at post-box level and comprise geographical location and in particular mail collection times.

#### b) Quality of service measurement

## General framework for measuring universal postal service quality

For satisfactory evaluation of postal service quality, the quality of the main universal services provided is measured in accordance with standards designed by the European Committee for Standardisation (CEN), at the European Commission's behest.

In particular, Standard EN 13850 organises the measurement of transit times for single-piece priority items which are in principle delivered in D+1. The measurement system set out in this Standard is based on test letters sent by panellists who are independent of the postal operator. The measurement must be conducted by a body which is likewise independent of the postal operator - in France, this is currently the IFOP market research institute.

Standard EN 13850 also provides for a periodic audit to check the measurement system. This audit must be carried out by an auditor, independent of both the postal operator and the measuring body, which is charged with verifying whether the measurement system complies with the Standard's requirements. If selected by the postal operator, the auditor must nevertheless be approved by the national regulatory body – ARCEP, in the case of France.

In 2012, ARCEP published a recommendation on implementation procedures for the audit of quality of service measurement of the priority letter and of the "green letter"10.

## Application of this guality measurement system in France

La Poste, the operator responsible for the universal service in France, measures quality of service for the priority letter in accordance with Standard EN 13850. La Poste even goes beyond the regulatory requirements and applies this same Standard to measuring quality of service for the "green letter".

Should force majeure (severe weather conditions, for instance) prevent the operator from exercising its activity, Standard EN 13850 allows the corresponding days to be cancelled out in the measurement. Following preliminary work with ARCEP, La Poste, however, eschewed this option, thus increasing confidence in and the credibility of its measurement results.

10 - Implementation procedures for auditing the measurement of quality of service for the priority letter and the "green letter".

A general audit of quality of service measurement will be conducted in 2013 for priority letters and for the "green letter", a new universal service product whose measurement has not yet been checked.

In keeping with Standard EN 13850 and the recommendation published by ARCEP, the latter will ensure that the auditor chosen by La Poste provides satisfactory guarantees of independence and has the level of expertise required for conducting this audit. As necessary, it will adopt a decision on approval of the auditor.

## c) Quality of service in 2012

### Mail transit times

2012 saw shorter priority-letter transit times with a D+1 delivery rate of nearly 88%, beating the quality of service target of 85% set by the Minister for Posts

Quality of service statistics for the "green letter", launched in 2011 were published for the first time. With a D+2 delivery rate of nearly 93%., 2012 results are in line with start-up-phase expectations for this product.

Mail transit times								
	2006	2007	2008	2009	2010	2011	2012	Growth 2011-2012
Priority letters								
% delivered in D+1	81.2%	82.5%	83.9%	84.7%	83.4%	87.3%	87.9%	+ 0.6 pt
% delivered in D+2	96.2%	96.3%	96.8%	96.8%	96.0%	97.5%	97.8%	+ 0.3 pt
% delivered in D+3	-	-	-	-	-	99.2%	99.4%	+ 0.2 pt
Green letters								
% delivered in D+2	-	-	-	-	-	-	92.8%	
Cross-border mail (inward)								
% delivered in D+3	95.9%	95.5%	97.0%	95.7%	92,7%	96,0%	95,8%	- 0,2 pt
% delivered in D+5	99.3%	99.1%	99.5%	99.3%	98,7%	99,3%	99,2%	- 0,1 pt
Cross-border mail (outward)								
% delivered in D+3	94.0%	94.8%	95.4%	94.4%	90.4%	93.6%	94.2%	+ 0,6 pt
% delivered in D+5	98.7%	98.8%	99.0%	98.7%	99.6%	98.4%	98.8%	+ 0,4 pt

Source: La Poste.

#### Transit times for registered letters

Similarly, 2012 transit times for registered letters improved considerably, with a delivery rate in D+2 of nearly 95% (compared with 92.5% in 2011).

This improvement in the quality of service for registered letters documents the continuation of vigorous efforts, begun in 2011 at ARCEP's request, to improve the quality of this product and ensure its reliable measurement.

Registered-letter transit times and reliability								
	2008	2009	2010	2011	2012	Growth 2011-2012		
Transit times								
% delivered in D+2	90.9%	88.7%	85.8%	92.5%	94.7%	+ 2,2 pts		
Reliability								
% delivered in D+7	99.6%	99.7%	99,6%	99.8%	99.9%	+ 0,1 pt		

Source: La Poste.

#### Transit times "Colissimo guichet"

Parcel measurements are for the "Colissimo guichet" product, i.e. single parcels posted at La Poste counters and contact points by private customers and small businesses. The contractual transit time is D+2. If this

target is not met, La Poste undertakes to give senders a voucher for posting their next parcel free of charge. The percentage of Colissimo parcels delivered in D+4 or less complies with the maximum transit-time rate.

"Colissimo" transit times and reliability										
	2006	2007	2008	2009	2010	2011	2012	Growth 2011-2012		
Transit times										
% delivered in D+2	84.1%	85.8%	85.0%	87.7%	84.8%	88.7%	89.8%	+ 1.1 pt		
Excessive delivery times (more than D+4)										
% of excessive delivery times	-	1.4%	1.3%	1.1%	1.7%	1.0%	0.8%	- 0.2 pt		

Source: La Poste.

#### Number of post boxes and latest posting times

For the past two years, the statistics published by La Poste reveal a decrease in the number of post boxes in France. La Poste ascribes this trend first to improved post-box counts (possibility of previous overestimates) and second to a rationalisation policy of replacing small-capacity post boxes with fewer large-capacity boxes.

The number of post boxes emptied before 1 pm fell by 7,000. In contrast, the number of boxes emptied after 1 pm rose, with the number emptied after 4 pm up by around 900.

Number of post boxes and their distribution by collection time										
	2008	2009	2010	2011	2012	Growth 2011-2012				
Number of post boxes	149 793	149 208	148 366	144 610	141 646	- 2 964				
- including those emptied	119 788	119913	119 950	117 669	110 625	- 7 044				
at or before 1 pm	80.0%	80.4%	80.8%	81.4%	78.1%	- 3.3 pts				
- including those emptied	142 267	141 795	141 152	137 757	133 855	- 3 902				
at or before 4 pm	95.0%	95.0%	95.1%	95.3%	94.5%	- 0.8 pt				

Source: La Poste.

#### Complaints

La Poste maintains a 99% plus response rate within 21 days for complaints received.

Complaints upheld at Level 2 (appeal to La Poste services) represent less than 1%.

The postal market

Complaint processing statistics									
	2006	2007	2008	2009	2010	2011	2012	Growth 2011-2012	
Number of complaint letters									
Number	591 252	417 237	446 751	627 812	862 538	926 872	886 811	- 40 061	
Number per 10,000 items	3	2	3	4	6	7	8	-	
Nombre de réclamations au 2 <sup>nd</sup> niveau	-	-	-	-	-	-	8046	-	
Response within 21 days	90.0%	97.0%	97.7%	95.3%	99.0%	99.2%	98.9%	- 0.3 pt	
Response within 30 days	94.0%	98.7%	99.0%	98.0%	99.4%	99,6%	-	-	
Indemnification									
Complaints giving rise to indemnification	7.7%	9.0%	10.4%	14.6%	13.7%	12.9%	13.8%	+ 0.9 pt	

Source: La Poste.

# 2.3 2012 tariffs and the price cap

## a) Tariff movements

### Changes in 2012

In 2012, tariffs for universal postal service products rose by an average  $1.2\%^{11}$ , an increase which was lower than inflation (2.0%).

In contrast to previous years, there was no increase for mailing product tariffs, in particular single-piece items<sup>12</sup>. Only parcel and press products were up in 2012.

At 1 March 2012, La Poste raised "Colissimo" tariffs by 2% and over-the-counter items for Mainland France and those exchanged between Overseas Départements (DOM) by 2.6%. Consequently, the tariff for the first weight step (0-500 grams) rose from 5.60 to 5.70 euros.

The sizeable margins observed for overseas and international products prompted ARCEP to issue an opinions<sup>13</sup> rejecting La Poste's plans for higher tariffs, and the latter subsequently put increases for 2012 on hold.

Average annual change in universal service tariffs									
	2009	2010	2011	2012	Average 2009-2012	Tariff increases in 2012			
Single-piece stamped mail	1.7%	2.0%	3.3%	1.6%	2.1%				
Single-piece business mail	1.7 %	1.6%	2.0%	0.7%	1,5%				
Transactional mail	1.0%	0.3%	1.7%	1.6%	1,1%				
Advertising	0.8%	0.1%	1.7%	1.6%	1.1%				
Parcels	3.4%	1.4%	2.3%	2.1%	2.3%	March	2.0%		
Other (press, services, international)	2.5%	1.9%	2.1%	0.4%	1.7%	June	4.3%*		
Overall basket	1.5%	1.1%	2.1%	1.2%	1.5%	-	-		

Source: ARCEP.

\* concerns press only

13 - Opinion No. 2012-0206 of 14 February 2012.

<sup>11 -</sup> Increase in year N calculated on the basis of tariffs for year N-1. The result can thus postpone the tariff increases calculated for assessing compliance with the price cap based on traffic flows for year N-2.

<sup>12 -</sup> Single-piece products, with postage paid by stamps, label or franking machine used mainly by private customers and small businesses.

## Price increases in 2013

ARCEP approved<sup>14</sup> tariff increases for domestic and international mail with effect from 1 January 2013. These increases (+2.9%) for domestic items and +1.8%for international items) come on the back of stable tariffs in 2012. For domestic items, single-piece items saw a 3.5% increase and bulk items a 1.9% increase.

At the same time, the gap between the tariff for the first weight step for priority letters and the corresponding "green letter" tariff was increased to 5 cents (0.63 euro for priority letters compared with 0.58 euro for green letters). This clearer distinction between priority letters with their next-day delivery and green letters, delivered two days after posting, complies with the expectations expressed by ARCEP in its price-cap provision. In tandem with appropriate information for consumers, (on which ARCEP keeps a watchful eye), this measure enables users to choose the product best suited to their needs.

ARCEP also issued an opinion about changes to the tariffs and operating conditions for universal service products which La Poste was planning for 1 March 2013:

- a favourable opinion on the "Colissimo guichet" product (items for Metropolitan France and between Overseas Départements),
- a favourable opinion on the "Colissimo outre-mer" product provided the average increases are comparable with those of the "Colissimo guichet" product.

In response, La Poste stated it would comply with ARCEP's opinion by altering its "Colissimo outre-mer" project to make the product's average price movements comparable with those of the "Colissimo guichet" product.

All these increases abide by the prescribed price-cap course. This results in an average increase in universal service prices of 2.8% in 2013.

#### b) The price cap

#### The price cap situation in 2012

ARCEP determines the characteristics of the multi-year price-cap system for universal postal service products. The 2009-2011 price cap was extended by one year for 2012, the last year to which the current cap applies.

This system was supplemented with a specific cap for the "green letter", set at inflation plus 0.3%, so as to integrate this new product into the price cap.

- For all universal service products (overall basket), for which the price cap is set at inflation plus 0.3% for the period 2009-2012, the authorised increase is 2.7%, taking account of the balance from previous years. The actual tariff increase of 1.3% complies with the price cap.
- · For the restricted basket of single-piece items used by businesses (sub-basket), for which the price cap is set at inflation, the authorised increase is 1.4%. likewise bearing in mind the balance from previous years. The actual tariff increase of 0.7%, complies with the price cap
- Given the specific green-letter price cap of 2.0%, La Poste did not raise its tariffs for this product in 2012.

Thus, La Poste did not exhaust the room for tariff manœuvre offered by the price-cap mechanism.

#### Review of the 2009-2012 price cap

Over the period covered by the 2009-2012 price cap the average universal service tariff increased at a slightly slower rate than provided for (annual increase of 1.5% compared with 1.7% under the price-cap formula). In contrast, the basket of single-piece items for businesses grew in line with inflation, as provided for in the price cap. The sub-basket compelled La Poste to curb price increases for this type of item, a move that contributed, as ARCEP wished, to letting these users share in the savings they help La Poste to make by preparing and franking their items.
The postal market

Average 2009-2012								
Expected Actual Divergence								
Overall basket	IPC + 0.3%	IPC + 0.1%	- 0.2%					
Sub-basket of single-piece items for businesses	IPC*	IPC	-					

Source: ARCEP. CPI: Consumer Price Index.

The price-cap system is based on two parameters: inflation and changes in volumes.

Ultimately, inflation was lower than expected, which tends to give La Poste room for tariff manœuvre. In

contrast, when it comes to changes in volumes, the average annual fall in traffic of 4.6 % was much sharper than expected, forcing La Poste to trim its costs more drastically.

Average 2009-2012									
Expected Actual Divergence									
Inflation	2.0%	1.4%	- 0.6%						
Change in volumes	- 1.3%	- 4.6%	- 3.3%						

Source: ARCEP.

#### Definition of the new price cap

As the 2009-2012 price cap had expired, ARCEP adopted<sup>15</sup> the price cap for 2013-2015 in November 2012.

The ceiling set is designed to enable La Poste to secure funding of the universal service by ensuring a stable margin for providing universal service products throughout the period covered by the price cap on condition that La Poste pursues the efforts of recent years to adapt its costs to the economic environment.

For the period 2013-2015, La Poste expects a more substantial decline in traffic (-4.1% per year) than that allowed for in previous price caps (-1.3% per year). This expectation is consistent with the latest measurements in France (-5.8%) and in Europe (up to -10% in some countries).

Assuming a 4.1% decline in traffic and 1.8% inflation, ARCEP decided to set the ceiling for tariff movements at inflation plus 1%. In addition, this price-cap system has the following three objectives:

- to improve quality of service by means of a guideline bonus, which could be implemented halfway through 2014, subject to achievement of quality of service targets, to take effect in 2015;
- to further uncouple single-piece items for private customers and those for businesses by means of a more restrictive price cap for the latter (this constraint will be confirmed in the light of the mid-term review of the universal service's financial equilibrium);
- to make a clearer distinction between the priority-letter and green-letter product ranges by introducing a 0.05 euro tariff gap for the first weight step (the option of increasing the tariff gap above this level, reached on 1 January 2013 will be the subject of a mid-term price-cap review on achievement of the objective of the universal service's financial soundness).

15 - Decision No. 2012-1353 of 6 November 2012.

# 2.4 Instruments for monitoring provision of the universal service

# a) Updating of the universal-service monitoring system

In addition to the universal service indicator table used by La Poste to publish indicators on this service, two decisions adopted in 2008 and 2009 instituted annual reports by La Poste to ARCEP on provision of the universal service.

Following a public consultation conducted in 2012, ARCEP merged its two decisions into a single, updated one<sup>16</sup> concerning the information which La Poste submits to it annually.

#### b) La Poste's regulatory accounting

As the universal service provider. La Poste is bound by law to implement regulatory accounting that allows separation of the costs of providing the universal service from those of other products.

To supervise the proper execution of these principles, ARCEP is charged by law to stipulate the cost accounting rules, to draw up specifications for the accounting systems and to have an annual audit carried out on compliance of the provider's accounts with the rules it has established.

Within this context, ARCEP therefore:

- amended<sup>17</sup> the statutory annual reports La Poste must make to it. In particular, these amendments were prompted by the abolition of the reserved area for items weighing less than 50 grams at 1 January 2011 and changes in universal postal service products;
- · commissioned the firm Mazars to audit La Poste's regulatory accounting for financial years 2011 and 201218;

 amended<sup>19</sup> certain cost allocation rules, particularly those concerning tax in connection with La Poste's exemption from VAT on certain services; this exemption – which mainly applies to the universal service – means that the operator has to bear tax costs (non-recoverable VAT and tax on salaries) in the region of one billion euros; ARCEP's decision results in better identification and improved allocation of these costs in La Poste's regulatory accounting. Statutory reporting was altered to identify these costs; these changes will apply from the production of the 2012 accounts.

# 3. Improvements to legislation suggested by ARCEP

In application of Article L.135 of the CPCE, ARCEP may suggest, in the report on its activities any legislative or regulatory amendments which, in its view, will address changes in the electronic communications and postal sectors and the development of competition.

In the light of ARCEP's work over several years on regulating the postal sector, two legislative amendments struck it as essential for guaranteeing legal certainty for users regardless of the postal provider conveying their items. These legislative proposals concern the evidential value and definition of the postmark and the equal legal weight of registered letters handled by authorised postal operators.

# 3.1 The postmark

Given the many legal texts which designate the postmark as confirmation of authenticity, the information stamped by postal operators on postal items constitutes a method of proof. Consequently, numerous commercial, administrative and legal procedures are dependent on

<sup>16 -</sup> Decision No. 2012-1545 of 22 November 2012.

<sup>17 -</sup> Decision No. 2012-0207 of 14 February 2012.

<sup>18 -</sup> Decision No. 2012-039 of 27 March 2012.

<sup>19 -</sup> Decision No. 2013-0128 of 29 January 2013 which was submitted for prior consultation.

the evidential value of the postmark, and this means it must contain certain information necessary for settling any disputes.

While the Universal Postal Convention requires operators to place a datestamp on international postal items, in France there is no legal obligation for postal providers to affix a postmark on the items they convey. Similarly, no legal text defines the concept of the "postmark" or specifies the data it must feature so as to provide adequate legal certainty.

In this context, it seems vital to improve the legal security of the concept of the postmark by making it mandatory for postal providers to affix it and specifying its content in order to:

- permanently establish the practice of affixing the postmark on postal items, thereby guaranteeing the effectiveness of provisions referring to it and legal certainty for users;
- recognize the equal legal weight, in a totally liberalised postal market, of the postmark used by all postal operators.

In 2012, ARCEP therefore conducted a public consultation on the role of the postmark to inform the public of the related issues and to establish the positions of the various stakeholders on:

- the introduction of the obligation for postal service providers to affix a postmark;
- the scope of this obligation's application;
- the information the postmark must contain to be a confirmation of authenticity within the meaning of legal texts.

The summary of this consultation, in which postal operators, consumer associations and users participated, was published by ARCEP in December 2012.

Following the work done in connection with this publication, ARCEP proposed introducing a legislative provision in the Post and Electronic Communications Code, clarifying the legal status of the postmark affixed by postal service providers.

# Legislative proposal concerning the postmark

ARCEP proposes that article L. 3-2 of the Post and Electronic Communications Code (CPCE) be supplemented by the following provisions:

A postmark shall be affixed to single-piece items of correspondence for which there is no formal record of posting and delivery. Besides the identity of the forwarding postal-service provider, it shall feature the date on which the sender dispatched the item, which shall be the date of posting. When the item is posted by the sender after the latest posting time stipulated and published by the provider or on a non-working day, the date on the postmark must be that of the working day following the day of posting.

For bulk items, postal service providers shall be contractually obliged to comply with the wish of senders requesting that a postmark stating the forwarding postal-service provider's identity and the date of posting be affixed to their bulk items.

# 3.2 The registered letter

Numerous legislative and regulatory provisions call for mandatory use of a registered letter service, in particular in the context of legal proceedings or disputes and in relations between private individuals. The use in these provisions of the expression "registered letter with advice of receipt", which is the name under which La Poste markets this product, may lead to the assumption that similar services provided by alternative operators do not have the same legal weight as the service provided by the incumbent operator.

However, in application of Postal Directive 97/67/EC as amended and of the CPCE, the registered service is one that may be provided by any postal operator. In compliance with this Directive, the French postal market was totally liberalised on 1 January 2011. Thus, the registered letter service, like all other postal services, may be operated by any postal-service provider authorised by ARCEP.

Given the importance of registered letters in business and in administrative and judicial procedures, it is necessary to provide legal security about recourse to the registered-letter services offered by alternative operators.

ARCEP therefore suggests introducing a legislative provision in the Civil Code to set out the registered letter's characteristics and to explicitly state that recourse to the registered services offered by alternative postal operators provides the same legal certainty as those offered by La Poste.

#### Legislative proposal concerning the registered letter

ARCEP proposes the insertion in the Civil Code of an article 1316-5 worded as follows:

The term "registered letter" or equivalent terms shall be understood as postal items for which there is a formal record of posting and delivery with a flat-rate guarantee covering the risk of loss or damage and including an optional advice-of-receipt service. This service may be provided by any authorised postal-service operator.

The procedures characterising postal items for which there is a formal record of posting and delivery shall be laid down by regulation.

# 4. Consumers

## 4.1 Handling of complaints

In accordance with the Law of 9 February 2010, postal-service users have, since 1 January 2011, been able to submit to ARCEP complaints that have not been satisfactorily resolved using the procedures put in place by postal-service providers. ARCEP's Executive Board delivers an opinion on admissible submissions.

In April 2012, ARCEP published <u>a review</u> at the end of its first year of exercising this new power. Study of the

dossiers submitted to ARCEP in 2011 led to the identification of a certain number of positive, practical improvements to the postal service which ARCEP asked La Poste to implement.

These included giving recipients of parcels the option of expressing reservations at the time of their receipt to facilitate proof of the existence of damage before receipt. This improvement was introduced by La Poste and the specific terms of sale for "Colissimo emballage" and "Colissimo recommandé" were altered accordingly as from 31 March 2012. Complaints received in 2012 gave rise to nine Executive Board opinions, all of them concerning La Poste. They brought out several new topics where La Poste could make improvements, such as informing users of delivery-service suspension in certain "sensitive" areas as a result of attacks on postmen, the delivery without signature of parcels exceeding letter-box size or the location of post boxes.

In the light of its first two years of experience with this function, ARCEP also undertook to cooperate with users on obtaining changes to the complaint-processing system, particularly regarding complaint-processing times or information to users who had submitted dossiers that were dismissed.

# 4.2 The Postal Consumers Committee

In particular, the consumer associations recalled the importance they attach to efficient complaint handling by La Poste, stressing that, quite apart from the specific

dispute presented, these complaints should make it possible to improve the structure and functioning of services for consumers. In addition to faster processing of La Poste responses to user complaints, the consumer associations also expressed concern about the quality of these responses. Lastly, they emphasised the importance, in their view, of La Poste follow-up on ARCEP opinions concerning the complaints submitted to it.

In addition, the consumer associations stressed the need for ARCEP to keep an extremely watchful eye on preserving access to the priority letter, a service by which consumers set particular store.

The consumer associations also attach considerable importance to postal-service accessibility and especially to street post boxes. Finally, the CSF in particular underlined the need for thought about organising contact-point opening times so as to avoid overcrowding on Saturday mornings.



The Postal Consumers Committee meeting on 12 December 2012

20 - The following consumer associations participated in the discussions: ADEIC (Associations de Défense et d'Information des Consommateurs), AFOC (Associations Force Ouvrière Consommateurs), ALLDC (Associations Léo Lagrange pour la Défense des Consommateurs), ASEco CFDT (Association Etude et Consommation de la Confédération française démocratique du travail), CGT Indecosa (Confédération générale du travail-Association pour l'information et la défense des consommateurs salariés), CNAFAL (Conseil national des associations familiales laïques), CNAFC (Confédération nationale des associations familiales catholiques), CSF (Confédération syndicale des familles), Familles Rurales and UFC-Que Choisir (Union Fédérale des Consommateurs—Que choisir).

DGCCRF (Direction générale de la concurrence, de la consommation et de la répression des fraudes/ General Directorate for Fair Trading, Consumer Affairs and Fraud Control), DGCIS (Direction générale de la compétitivité, de l'industrie et des services/ General Directorate for Competitiveness, Industry and Services) and INC (Institut national de la consommation/National Consumers Institute) also took part.

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# 5. Evaluating the cost of the national planning and development mission

Through its network of contact points, La Poste contributes to the planning and development of the national territory, in addition to its universal service obligations. The Law of 9 February 2010 charges ARCEP with evaluating the net cost of this mission, and ARCEP carried out a second evaluation in 2012<sup>21</sup>, after that conducted in 201122, arriving at a cost of 247 million euros for 2011

# 5.1 ARCEP's calculation of net cost

The cost of this national planning and development mission is calculated in accordance with the method specified in the Decree of 18 July 2011. Without its national planning and development mission, La Poste would operate a smaller network of post offices. This hypothetical reduction in network size would result in avoided costs (the overheads for closed contact points) but also potentially in loss of revenue (due to customer demand not transferred to the contact points that were retained). In all, the net cost borne by La Poste corresponds to the avoided cost minus revenue loss without the additional network.

Under Law No. 90-568 of 2 July 1990, the network operated by La Poste in fulfilment of its national planning and development mission comprises 17,000 contact points. Without this mission, it is assumed La Poste would have operated a network with 7,600 points. The net-cost method calls for the determination and comparison of the changes in demand and costs for these two networks:

• regarding demand, as for the previous financial year, it was assumed that demand remained the same following the transition to the hypothetical network, i.e. that all demand was transferred to the 7,600 points that were retained because of the continuing

high density of the corresponding network. According to this hypothesis, there is therefore no loss of revenue. ARCEP did not take account of the existence of intangible benefits for this financial year either.

 regarding costs, the modelling developed by ARCEP arrived at an estimated 247 million euros for the cost avoided by operating a network of 7,600 points instead of the current network of 17,000 contact points.

Taken overall, the net cost of the national planning and development mission is the same as the avoided cost. namely 247 million euros, for financial year 2011. This cost is 22 million euros lower than the net cost in 2010. largely due to improvements made by ARCEP to the evaluation; with the same modelling rules (2010) and network, this cost remains relatively stable.

The law also provides that ARCEP report on the net cost to the Government and Parliament after consulting the Commission supérieure du service public des postes et des communications électroniques (CSSPPCE). In particular, this report transmitted one 14 December 2012 addresses the comparative economics of the various types of contact points and the impact on network costs of changing post offices into agencies operated on a partnership basis.

La Poste's network currently comprises just over 6,600 contact points operated on this basis, either with municipal authorities (local-council-run postal agencies), or with retailers (sub post offices in shops). These solutions enable La Poste to perform its territorial presence mission by mutualising use of the necessary resources.

It thus transpires that this change-over process accounts for the bulk of mission-cost savings between 2006 and 2011 (cf. section 5.2), while other operative changes to the network over the period explain the residual difference.

**<sup>21</sup>** - <u>Decision No. 2012-1311 of 23 October 2012</u>. **22** - <u>Decision No. 2011-1081 of 22 September 2011</u>.

In addition, in 2012, ARCEP began work on demand in post offices and on intangible benefits:

- on the one hand, from 12 June to 13 July, it held a public consultation on the intangible benefits likely to accrue to La Poste under its obligation to maintain territorial presence. This enabled it to collect stakeholder comments on the planned method for calculating these intangible benefits;
- on the other hand, it commissioned two consultancy firms, Progressus and Inbox, to conduct a study on the effects of the size of La Poste's network of contact points on demand and La Poste's brand image ,with the aim of quantifying the effects considered in the public consultation.

The study findings and the data collected in the public consultation will be used in subsequent evaluations.

# 5.2 Compensation received by La Poste

Since 1990, La Poste has been partially compensated for this mission by means of local tax reductions (property tax on developed and undeveloped property, territorial economic contribution), the amount of which is reviewed annually on the basis of ARCEP's evaluation. This compensation totalled 170 million euros in 2012.

		2007	2008	2009	2010	2011	2012
Net cost	Evaluation La Poste	382	351	314			
(In millions of euros)	Evaluation ARCEP			28823	269	247	NA
Fiscal compensation		137	136	133	156	168	170

NA : Not available - Source: ARCEP et La Poste.

# 6. The European Regulators Group for Postal Services (ERGP)

Created in 2010, the ERGP groups all the postal-sector regulatory bodies of the 27 Member States of the European Union. The regulatory bodies of the EEA Member States and of the countries in the process of joining the EU have observer status. In all but three of the countries, the postal sector is regulated by the regulator who is also in charge of electronic communications. The ERGP's main mission is to study regulators' good practices and to advise and assist the European Commission with a view to consolidating the internal market in postal services.

In 2012, the ERGP's second year of activity, it was chaired by Göran Marby, Director General of PTS, the Swedish regulator, who took over from Joëlle Toledano, a member of ARCEP's Executive Board, who had chaired the first year of the ERGP's work in 2011.

# 6.1 Cost of the universal postal service

In 2012, the ERGP held a public consultation on <u>a</u> report concerning the effects of VAT exemption on the cost of the universal service (VAT: a benefit or a burden?) which, inter alia, evaluates the inherent threat of distortion of competition and the consequences for the internal market.

The ERGP also adopted a methodological <u>report</u> on evaluating the reference scenario for calculating the net cost of the universal service, i.e. evaluation of this cost for an operator that provides the universal service compared with one not subject to universal-service constraints.

# 6.2 Regulatory accounting

ARCEP managed work on regulatory accounting: a draft joint position paper on proper cost-allocation practices was submitted for public consultation from 28 November 2012 to 23 January 2013 (for final adoption during the second quarter of 2013). This paper's ambitious aim is to provide regulators with a tool kit for measuring costs in accordance with consistent principles, avoiding comparison with pricing and exclusion practices (cross-subsidisation, discounts resulting in predatory pricing and price scissor effects). This joint position was set out in a <u>report describing</u> cost allocation adopted in August 2012.

Following completion of this work, it can be said that though differences in cost-allocation practices exist, they correspond to common general principles.

#### 6.3 Consumer protection

The ERGP drew up <u>a report</u> listing the main quality of service indicators to be followed by NRAs and measuring:

- priority-letter transit times,
- mail losses,
- handling of failure to comply with minimum quality of service requirements,
- · customer satisfaction,
- the existence of surveys of consumer requirements,
- the frequency of post-box collection (letters and parcels),
- access points (number of post boxes, presence of postal establishments).

A report on the evaluation of complaint-handling procedures and consumer protection examines the regulatory framework for handling complaints, in particular implementation of Standard EN 14012. Customer compensation systems are described.

# 6.4 Market indicators

In 2012, the ERGP also updated <u>a report</u> on indicators, published in 2011, which takes stock of NRA collection powers and practices and of the scope of these indicators.

Initial statistical data for the postal market should be available during the second quarter of 2013, and should provide information, in particular about letter prices, the number of postal-service providers, the degree of market concentration, traffic volumes, revenue from postal services, investment, employment, and measurement of customer satisfaction.

#### 6.5 L'accès au réseau postal

<u>A report</u> on access to the postal network and to information about postal infrastructure takes stock of the European regulatory framework in this connection. National case studies are presented, including a description of judgements by various courts concerning several countries (CJEU for Germany, European Commission and Paris Court of Appeal for France, dispute settlement in Belgium by the BIPT, etc.).

This report also examines the conditions of access to special tariffs (Article 12 of the Directive) for which the catalogue of incumbent postal operators must make provision in respect of consolidator/mailing-house customers.

The various discount models are also described along with NRA powers (dispute settlement powers, merely market monitoring, drawing up of a regulatory framework for access, transparency measures).

# CHAPTER I

The postal market



## **CHAPTER II**

# Electronic communications market figures

# 1. Principal market data

# 1.1. A lively, disparate but, on the whole, solid market

Electronic communications operators' total earnings in France - i.e. retail and wholesale markets combined reached €50.9 billion in 2012, which is 3.3% less than the year before. Wholesale interconnection generated  $\in$ 8.9 billion in revenue (+1.2% in a year), while operators' retail market revenue stood at €42 billion (-4.1% compared to 2011). Income from services<sup>1</sup> alone came to €39 billion, which is 4.4% less than in 2011.

Revenue earned on fixed broadband and superfast broadband services reached €10.2 billion, which marks a healthy 4.1% increase over 2011. This rise is due to an increase in customer numbers, but also to income generated by content services (TV, VoD, etc.) which rose by €200 million – as it did in 2010 and 2011.

Earnings on narrowband services continue their inexorable decline. The 6.9% drop last year was tied to the ongoing decrease in telcos' prices which began in 2010, and accelerated in 2012 following Free Mobile's entry into the marketplace (cf. p. 161).

Operators' retail r	Operators' retail market revenue (billion €, excl. VAT)								
	2008	2009	2010	2011	2012f	Growth 2012-2011			
Fixed network services	21.1	21.2	21.0	20.5	20.1	-2.0%			
Broadband and superfast broadband services	7.0	8.4	9.3	9.8	10.2	4.1%			
Narrowband services	10.5	9.0	8.1	7.0	6.2	- 12.4%			
Capacity services	3.5	3.7	3.7	3.7	3.7	0.9%			
Mobile network services	20.1	20.3	20.7	20.3	18.9	- 6.9%			
Total electronic communications market	41.1	41.4	41.8	40.8	39.0	- 4.4%			
Other revenue	3.6	2.7	2.9	3.0	3.0%	- 0.3%			
Operators' total retail market revenue	44.8	44.2	44.7	43.8	42.0	- 4.1%			

Source: ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

1 - i.e. excluding income from terminals, equipment, directories, etc.



Source: ARCEP.

# 1.2. Huge increase in traffic

#### . Fixed and mobile customer numbers

The number of fixed lines has held steady at around 35.3 million for four years now. Just over two-thirds (68%) of these lines supply a broadband or superfast broadband connection to the internet, which translates into 24 million subscriptions, or four points higher than in 2012.

In the mobile market, meanwhile, we saw the highest increase in customer numbers (measured by the number

of active SIM cards) of the past ten years: 4.6 million new cards were put into service during the year, for a grand total of 73.1 million active cards at the end of December 2012. This increase can be attributed entirely to the tremendous rise in the number of flat rate plans and subscriptions (+5.9 million additional customers during the year), whereas the prepaid card market experienced a massive decline – losing 1.3 million cards last year. The penetration rate – i.e. the percentage of the French population with an active SIM card – stood at 108% in December 2012.

Equipment (million)						
	2008	2009	2010	2011	2012f	Growth 2012-2011
Number of fixed lines	35.0	35.3	35.4	35.4	35.3	-0.3%
Number of mobile customers	58.0	61.5	65.0	68.6	73.1	6.6%
Number of broadband and superfast broadband fixed network subscriptions	17.8	19.8	21.4	22.7	24.0	5.4%

Source : ARCEP, Observatoire des communications électroniques

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

#### Network traffic

## 2012 was marked by an outstanding rate of increase for all types of customer traffic:

- overall calling traffic, i.e. fixed and mobile combined, exceeded 230 billion minutes, versus 218 billion minutes in 2011;
- · as it did during the two previous years, the number of

SMS shot up by 40 billion, to reach 185 billion text messages sent in 2012;

 mobile data traffic grew by 67% compared to 2011: up to 95,500 terabytes.

The mobile market has been especially dynamic, thanks to a steady rise in customer numbers but also to the

growing ubiquity of unlimited (or virtually unlilmited) plans for voice, SMS and data services. Fixed calling traffic dropped slightly (-0.9%) for the second year in a row, even if calls to mobiles and calls originating on an IP box got a boost in early 2011 when they were folded into most of telcos' flat-rate bundles.

Traffic (billion minutes)							
	2008	2009	2010	2011	2012f	Growth 2012-2011	
Originating on fixed networks	109.7	111.0	113.4	112.3	111.3	- 0.9%	
Originating on mobile networks	101.8	100.8	103.0	105.5	119.9	13.6%	
Number of person-to-person SMS/MMS (billion)	35.1	63.5	103.4	147.4	184.7	25.3%	
Total data traffic (in terabytes)	2 930	13 578	31 059	57 1 4 4	95 498	67.1%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

# 1.3. Record spending and stable direct employment levels

Operator **spending** increased substantially for the third year in a row – exceeding  $\in 10$  billion for the whole of 2012, or  $\in 2$  billion more than in 2011. A portion of this increase is due to the sums operators paid for 4G mobile licences:  $\in 2.6$  billion in 2012 for 800 MHz band frequencies, compared to  $\in 936$  million in 2011 for licences in the 2.6 MHz band. Around  $\in 7.3$  billion were spent on "physical" operations, versus  $\in 7.2$  million in 2011, which is the highest level since France's telecommunications market was liberalised (see graph p. 158). The number of **people employed** directly by electronic communications operators remained relatively unchanged in 2012 (+0.1% compared to 2011). Job levels as a whole have improved over the past three years, increasing by 1.2% in 2011 and by 1.6% in 2010, and this on the heels of a steady decrease during the previous ten plus years. Operators employed 129,000 people directly in December 2012. The creation of a digital industries observatory has made it possible, among other things, to estimate indirect job numbers as well – in other words those provided by other companies that have a relationship with carriers, such as equipment or service providers.

Employment and investment						
2008 2009 2010 2011 2012f Growt 2012-20						
Number of direct jobs (000s)	126.3	124.2	126.6	128.6	128.8	0.1%
Investments (billion €, excl. VAT)	6.5	5.9	7.3	8.2	10.0	22.1%

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

N.B.: these figures include only operators declared with ARCEP, and not the entire electronic communications economic sector. Excluded are distributors/retailers, service providers (consultants, market research firms, call centres...) and equipment manufacturers. Enterprises declared with ARCEP and which are involved only marginally in the electronic communication sector are not included in sector employment figures.

- As in previous years, investment figures refer to the gross investments made by operators declared with ARCEP in their electronic communications business during the fiscal year in question.



Source : ARCEP, Observatoire des communications électroniques. Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

# 1.4. Fixed services

#### The retail market

A segment that continues to enjoy a healthy rate of increase (+4.1% in 2012), the broadband retail market generated  $\in 10.2$  billion in 2012, of which  $\in 8.5$  billion from internet access, or  $\in 500$  million more than the year before. Revenue from flat rate overages has been shrinking for the past two years – dropping by a further 27.4% this past year – as calls to mobiles have been folded into most flat rate plans. Income from other services, and particularly content service (TV, VoD, etc.), rose by  $\notin$ 200 million for the third year in a row. On the flipside, income from services delivered over narrowband networks (PSTN calling, public payphones and cards, VAS) has been dropping steadily for the past five years, by around 10% annually. In 2012, this income stood at  $\notin$ 6.2 billion.

At the end of 2012, there were 24 million broadband and superfast broadband accounts in France, which is up by 1.2 million compared to December 2011. Broadband connections (22.4 million) and particularly ADSL (22 million) account for the vast majority, and for one million new accounts each year. But superfast subscription numbers are increasing substantially: fibre-to-the-home (FTTH) accounts increased by close to 60% during the year, and subscriptions to other access solutions running at more than 100 Mbps by 33%. All in all, the number of superfast broadband accounts increased by around 250,000 to reach 1.6 million at the end of 2012.

Virtually all (92.6%) internet access plans are now bundled with a broadband or superfast broadband VoIP calling plan. As a result, there were 22.2 million voice over broadband (VoBB) accounts in use at the end of 2012, or 1.4 million more than one year earlier. Plus these accounts now outnumber "classic" POTS subscriptions, which totalled 17.1 million in December 2012, or 2.2 million fewer than the year before.

Calling traffic originating on these broadband access lines is growing year by year. In 2012, it reached 77.7 billion minutes, or 70% of all traffic originating on fixed lines (+4 points in a year). The rate of increase remains steady, but has been diminishing for the past two years: traffic increased by 7.7 billion minutes in 2011, compared to almost double that in 2007 and 2008. In 2012, traffic grew by 4.7 billion minutes and the rate of increase dwindled steadily throughout the year. High volume plans for calls to mobiles, for both calls originating on IP boxes and on mobiles, have in fact come to compete with calls to fixed lines to some degree. These latter having actually decreased by 3.4% in 2012. On the other hand, national fixed-to-mobile calling traffic has shot up, increasing by 56.4% this past year after having tripled in 2011. Three out of four fixed-to-mobile calling minutes originate on an IP box, compared to only three out of ten in 2010.

Narrowband calling traffic continues to decrease: by a further 14.4% in 2012, which translates into 5.7 billion fewer minutes. Every type of destination is affected: -13% for calls to fixed lines, -17% for international calls and -18% for calls to mobiles.

#### Fixed broadband services

#### Retail market revenue (billion €, excl. VAT)

	2008	2009	2010	2011	2012f	Growth 2012-2011
Broadband access	5.8	7.0	7.6	8.0	8.5	5.1%
VoIP calls (flat rate overage)	0.6	0.7	0.8	0.7	0.5	-27.4%
Other revenue	0.6	0.7	0.9	1.1	1.3	18.6%
All broadband services combined (bn €, excl. VAT)	7.0	8.4	9.3	9.8	10.2	4.1%

Subscriptions (million)							
2008 2009 2010 2011 2012f Growth 2012-2011							
Internet access	17.8	19.8	21.4	22.7	24.0	5.4%	
Voice over broadband	14.4	17.0	19.0	20.8	22.2	6.9%	
TV over ADSL	6.2	8.8	10.7	12.2	13.7	12.4%	

Calling traffic (billion minutes)								
2008 2009 2010 2011 2012f Growth 2012-2011								
Voice over broadband calls      47.5      56.4      65.3      73.0      77.7      6.4%								

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

# **Fixed narrowband services**

#### Retail market revenue (billion €, excl. VAT) Growth 2011 2012f 2008 2009 2010 2012-2011 9.0 7.8 7.0 6.1 5.3 -12.9% **PSTN** subscriptions Public payphones, cards and narrowband Internet 0.4 0.3 0.2 0.2 0.1 -33.4% 1.2 Value-added and directory services 0.9 0.9 0.8 0.8 -4.6% 6.2 Total narrowband services (billion €, excl. VAT) 10.5 9.0 8.1 7.0 -12.4%

Subscriptions (million)						
	2008	2009	2010	2011	2012f	Growth 2012-2011
"Classic" telephone subscriptions	26.3	23.9	21.6	19.3	17.1	-11.3%
Carrier selection	3.3	2.8	2.2	1.9	1.5	-19.9%

Autorité de régulation des communications électroniques et des postes

Calling volume (billion minutes)							
2008 2009 2010 2011 2012f Growth 2012-2011							
Calls on the PSTN (including public payphones and cards)62.254.648.139.333.6- 14.4%							

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.



Source : ARCEP, Observatoire des communications électroniques. Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

#### · Broadband wholesale market

The popularity of internet access via ADSL has meant a steady rise in the number of lines (LLU, bitstream) that alternative operators lease from the incumbent carrier. This number rose by just over 800,000 lines once again in 2012. Close to 82% of wholesale access lines sold to alternative operators – or 10 billion in total – are fully unbundled, and this figure is growing every year. The

other solutions, on the other hand, have been declining steadily for the past four years: the number of shared access lines has now dropped below one million – having shrunk by 150,000 lines compared to December 2011. The number of classic bitstream connections dropped even more sharply this past year: by 23% versus -14% in 2011 and -9.9% in 2010 – whereas "naked" bitstream posted only a slight loss.

Unbundling (Million)						
	2008	2009	2010	2011	2012f	Growth 2012-2011
Number of shared access lines	1.393	1.309	1.194	1.055	0.906	-14.1%
Number of fully unbundled lines	4.939	6.414	7.690	8.886	10.004	12.6%
Total LLU lines	6.332	7.723	8.884	9.942	10.910	9.7%

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

#### **Electronic communications market figures**

Bitstream (ATM and regional IP) and national IP (Million)							
2008 2009 2010 2011 2012f Growth							
Total number of "naked" bitstream lines	1.186	1.245	1.219	1.115	1.076	- 3.5%	
Number of "classic bitstream" and national IP lines	1.010	0.647	0.487	0.352	0.271	- 23.0%	
Total number of lines	2.196	1.892	1.706	1.467	1.347	- 8.2%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

#### • Capacity services

The revenue generated by the capacity services market has remained relatively unchanged for the past four

years, and stood at  $\in$ 3.7 billion in 2012. Just over a quarter of this income comes from other operators acquiring capacity for their own needs.

Retail market revenue (billion €, excl. VAT)								
2008 2009 2010 2011 2012e Growth 2012-201								
Leased lines	1.5	1.5	1.5	1.5	1.6	1.4%		
Data transport	2.1	2.2	2.1	2.1	2.1	1.6%		
Capacity services revenue	3.5	3.7	3.7	3.7	3.7	1.5%		

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

# 1.5. Mobile services

The number of mobile service customers (number of cards SIM in service) in France stood at 73.1 million at the end of December 2012. This marks the highest increase in 10 years, with 4.6 million new customers signing on in 2012 (+6.6% in a year), versus roughly 3.5 million in previous years. This growth can be attributed entirely to a tremendous increase in flat rate plan subscriptions, which totalled 54.9 million at the end of 2012, or 5.9 million more than in 2011. **This increase was also a record high for flat rate plans.** 

On the flipside, the prepaid card market suffered a considerable decline – shrinking by 1.3 million cards in 2012 – after having increased by just under a million the previous year. As contract-free flat rate plans have developed, a great many customers have opted to sign up for a contract instead of continuing on with prepaid cards whose calling and texting prices are higher than with flat rates.

In addition, a sizeable portion of the increase in subscriptions has come from the enterprise market, with the development of **machine-to-machine** (M2M) cards whose numbers grew by 1.3 million last year, on the heels of a comparable increase in 2011. The popularity of internet-only cards, such as 3G dongles and tablets continues to grow as well, adding another 250,000 subscriptions during the year. All "non-voice" cards combined now account for 11% of the total base, or 8.1 million cards.

If the mobile services market in 2011 was marked by a drop in operators' revenue following the decrease in the VAT rate applied to broadcasting services, the 6.9% decrease reported in 2012 was the result of the price decreases operators introduced when Free Mobile entered the marketplace. Voice calling revenue, which accounts for two thirds of telcos' income, decreased by 10.8% during the year, even though traffic has skyrocketed: rising by 13.6%, or by just over 14 billion additional minutes, compared to 2011. Customers were not only more numerous, but their consumption increased sharply, thanks to the widespread availability of unlimited calling plans.

Looking at the market as a whole, all traffic indicators shot up during the year. Data traffic reached close to 100,000 terabytes, compared to around 60,000 in 2011, while the number of SMS and MMS sent rose by 25.3%: which translates into close to 185 billion messages sent in 2012. Revenue generated by the use of these services came to  $\notin$ 5.4 billion, which marks a 1.7% increase over 2011. These changes, i.e. growing traffic and a decrease in the resulting revenue, are the consequence of lower mobile service prices. In the residential market in metropolitan France, the price of these services decreased by 11.4% compared to 2011. And all consumers benefitted from the decrease, whether they had a flat rate plan (-12.6%) or opted for prepaid cards (-8%). Meanwhile, subscriptions to plans that do not include a handset decreased by 28.4% in 2012.

Mobile retail market revenue (billion €, excl. VAT)							
	2008	2009	2010	2011	2012f	Growth 2012-2011	
Voice services	15.6	15.1	14.9	13.7	12.2	- 10.8%	
Data services (SMS and data)	3.1	3.8	4.5	5.3	5.4	1.7%	
Value-added and directory services	1.4	1.4	1.3	1.3	1.3	-0.5%	
Total mobile services	20.1	20.3	20.7	20.3	18.9	- 6.8%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

Subscriptions (million)						
	2008	2009	2010	2011	2012f	Growth 2012-2011
Mobile network customers	58.0	61.5	65.0	68.6	73.1	6.6%
Of which active 3G subscribers	11.4	17.7	22.9	27.7	33.1	19.3%
Of which data-only cards (3G dongles)	1.0	2.1	2.7	3.2	3.4	7.8%

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

Calling traffic							
	2008	2009	2010	2011	2012f	Growth 2012-2011	
Voice calls (billion minutes)	101.8	100.8	103.0	105.5	119.9	13.6%	
Number of person-to-person SMS/MMS (billion)	35.1	63.5	103.4	147.4	184.7	25.3%	
Total data traffic (Tb)	2 930	13 578	31 059	57 144	95 498	67.1%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

#### **Electronic communications market figures**



Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

# 2. Usage

# 2.1. The CREDOC survey on the use of information and communication technologies (ICT) in French society

#### · Multiple devices the norm

The results of this survey from June 2012, which was carried out in face-to-face interviews with people in France, ages 12 and up, once again revealed an increase in equipment levels, whether landline phones (90%, +1 point), mobile phones (88%, +3 points), computers (81%, +3 points) or internet access (78%, +3 points). Owning several devices is now the norm: 78% of people own both a fixed telephone at home and their own mobile phone (+4 points on the year).

#### Multiple connection modes

Users also have more and more portable devices, with 64% of people owning a laptop computer, a mobile phone or a tablet, which is 11% more than in 2011. As a result, the way they connect to the internet at home is changing: if a computer connected to a fixed line is still the most common way of accessing the web at home

(used by 55% of people), use of a Wi-Fi connection is a close second (49% of people, or 7% more than in 2011). We are also seeing a swift increase in the use of mobile phones and tablets to access the internet at home, whether via Wi-Fi (23%, +10 points) or a cellular network (20%, +6 points). This also means that users tend to employ more than one network to access the web, with 45% reporting that they use at least two forms of connection at home. Also, 77% of internet subscribers go online every day.

• More and more mobile internet connections The percentage of the population that surfs the web on a smartphone rose by 8 points between June 2011 and June 2012, up to 29%. Mobile internet usage has exploded over the past two years: 7% more people use their mobile to check their e-mail or download applications than the year before (23% and 21% of users, respectively) and this on the heels of an 8% gain in 2011. Usage among smartphone owners is two to three times higher: 79% use their device to surf the web, versus 29% for mobile phone owners as a whole; 65% use their smartphone to send e-mail, 63% to download apps and 24% watch TV on their smartphone.



Source : CREDOC.

#### · Changing consumption habits

The survey also allows us to track changes in consumption habits and to look at the time spent online, and screen time in general. On average, those queried report spending 36 hours a week in front of a screen (not including their mobile), of which 20 hours watching TV, 13 hours online and three hours on a computer or tablet not connected to the web. Age and education level are the two factors that induce the greatest variations: teenagers and people with the highest education levels spend around half of their screen time online, whereas 60 to 69-year olds and people with no post-secondary education prefer TV, which accounts for between 74% and 82% of their weekly screen time.

The way people use the internet has changed very little since last year: the use of e-government and online tax services is holding steady at 48%; filing tax returns online (33%) and requesting government forms (36%) are up by two points, while 49% of French people ages 12 and up say they shop online, or 1% more than in 2011.

Forty two percent of French people ages 12 and up (or 23 million people) have joined social networking sites: 92% say these sites allow them to keep in touch with friends and family; 77% see them as a form of entertainment; 74% use them to share photos or videos. Fifty four percent use them to get their news, while 24% see social networking sites as a way to meet new people and only 15% use them for business purposes.

#### 2.2. Average consumption indicators

• The average monthly invoice for a fixed line (including monthly spending on landline calling – PSTN, VoBB or both – plus narrowband or broadband internet access) decreased for the second year in a row: down to €35.40, excl. VAT in 2012, or by €2.10 in two years. It had in fact increased steadily up to 2008, as more and more households acquired an internet connection, and upgraded from narrowband to broadband. The average invoice then remained relatively unchanged from 2008 to 2010, at around €37.50 a month, with the rise in broadband customer numbers coming to offset decreasing revenue from narrowband subscriptions.

• The number of calling minutes originating on fixed lines has been holding steady for several years now: standing at 4 hours and 21 minutes a month in 2012, losing a minute each month compared to 2011. Customers who use narrowband services for their calls spent five minutes less on calls each month in 2012 than they did in 2011. This is a less dramatic decrease than in 2011 (-14 minutes), which can be attributed in part to a decrease in subscriptions based on shared access lines and classic bitstream solutions. Calling traffic for customers with an IP box was down slightly last year (-4 minutes) but is still double that of subscribers to a classic PSTN service (5 hours 3 minutes a month versus 2 hours 31 minutes).

Average monthly consumption per fixed line							
€, excl. VAT, or minutes a month	2008	2009	2010	2011	2012f	Growth 2012-2011	
Average monthly invoice: access and calls over the phone service and the internet	37.5	37.5	37.4	36.3	35.4	- 2.6%	
Average monthly volume of outbound voice calls	259	259	265	262	261	- 0.6%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

Average monthly inv	oice per subscription
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€, excl. VAT, a month	2008	2009	2010	2011	2012f	Growth 2012-2011
PSTN subscription (access and calls)	27.2	25.9	25.8	24.7	24.2	-2.1%
Narrowband internet access	7.9	7.3	6.8	6.5	6.3	- 2.0%
Broadband or superfast broadband (internet access and VoIP calling)	32.5	35.2	35.7	35.9	35.5	- 1.1%

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

Average monthly outbound traffic per customer							
In minutes a month	2008	2009	2010	2011	2012f	Growth 2012-2011	
With a PSTN subscription	183	176	170	156	151	- 3.4%	
For VoBB calls	312	299	302	306	301	- 1.5%	
Per narrowband customer	659	604	567	496	401	- 19.0%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2011, enquête trimestrielle pour 2012, estimation provisoire.

• Mobile customers' average monthly invoice – not including MtoM cards and corresponding revenue – has been decreasing steadily, having shrunk by  $\in$ 5.90 in four years, of which close to half was in 2012 alone. After holding steady for three years, users' monthly calling traffic has increased significantly (+13 minutes), and we expect to see this trend continue. In Q4 2012, customers spent an average 2 hours and 49 minutes a month on calls, compared to an average 2 hours and 37 minutes for the year as a whole. The average number of SMS being sent also continues to rise (+40 SMS a month), with customers each sending an average 240 messages a month. Meanwhile, the average data traffic for all mobile cards (excluding M2M) came to 100 Mb a month, per user, in 2012.

Mobile customers' average monthly consumption							
2008 2009 2010 2011 2012f Growth 2012-2011							
Average monthly invoice per customer (€, excl. VAT)	27.7	26.9	26.4	24.7	21.8	- 11.6%	
Average monthly volume of calls per customer (minutes)	154	147	146	144	157	8.8%	
Average monthly number of SMS sent per customer	52	92	146	200	240	19.8%	

Source : ARCEP, Observatoire des communications électroniques.

Enquêtes annuelles jusqu'en 2010, enquête trimestrielle pour 2011, estimation provisoire.

N.B.: Calculations for average voice and SMS traffic do not include M2M cards (number of cards and corresponding revenue) or data only cards.

Household equipment levels at year end (%)								
2008 2009 2010 2011 2012f Growth 2012-201								
Fixed telephony	85.4	86.2	88.1	87.8	88.7	1.0%		
Microcomputer	64.7	68.3	71.5	73.9	76.7	3.8%		
Internet access	57.8	62.6	69.2	72.9	74.5	2.2%		

# 2.3. Household and individual equipment rates

Source : Médiamétrie - Gfk - Référence des équipements multimédia

Residential users' equipment levels at year end (%)								
	2008	2009	2010	2011	2012f	Growth 2012-2011		
Active mobile penetration rate (en % of the population)	88.7	92.9	97.8	102.2	108	5.7%		

Source : ARCEP, Observatoire trimestriel - services mobiles

N.B.: The rate of equipment cited by Médiamétrie refers to households and may differ slightly from the equipment rates published in the Credoc survey of individual equipment rates.

After dropping slightly in 2011, the rate of fixed telephone equipment in households swung back up and rose by close to one percent last year. Three quarters of

French households now have a computer in the home<sup>2</sup> and virtually all of them are connected to the internet.

2 - 76.5% in December 2012, according to the quarterly index of household equipment published by Gfk-Médiamétrie

# Electronic communications market figures



# Market analyses performed in 2012

# 1. Mobile telephony

All operators that market a telephone service must allow their customers to reach any number in the numbering plan, including any mobile number in France. To do so, operators must purchase a call termination (CT) service from each of the other mobile operators - the latter thus having a de facto monopoly over the market for call termination on its own network. It is this significant market power (SMP) that forms the basis of the regulation governing mobile voice and SMS call termination markets.

# a/ Analysis of wholesale mobile call termination markets on the Free Mobile. Lycamobile and Oméa Telecom networks in metropolitan France

These new operators are not covered by the market analysis decisions on mobile<sup>1</sup> call termination<sup>2</sup> and on tariff supervision . This is why ARCEP began a round of analysis in 2011 on the wholesale market for voice call termination on the networks operated by Free Mobile and by France's two full MVNOs, Lycamobile and Oméa Telecom.

After having held two public consultations and obtained the opinion of the Competition Authority, ARCEP notified its draft decision to the European Commission in March 2012. We proposed setting a maximum call termination rate (CTR) for these three operators, but which is higher than the one that applies to the three incumbent carriers:

Up to 30 june	1 July to a31 december	1 January to 31 december		
<b>2012</b> (€c/min)	<b>2013</b> (€c/min)	<b>2013</b> (€c/min)		
2.4	1.6	1.1		

In April 2012, the European Commission expressed doubts about the draft market analysis ARCEP had notified. The Commission considered that the two components ARCEP used as the basis of these asymmetrical rates were not justified, namely:

- higher incremental unit costs of the new mobile entrant when compared to the modelled efficient operator because of the forced use of roaming;
- experienced traffic imbalances leading to undue financial imbalances that would need to be offset in 2012.

According to the new regulation resulting from the 3rd Telecom Package, when the Commission express serious doubts:

• there is a four-month freeze on any possibility of the notifying NRA's draft decision being adopted;

- Decision No. 2010-1149 of 2 November 2010.
  Decision No. 2011-0483 of 5 May 2011

 and a three-month investigation (included in the above-mentioned four months) is launched, during which the Body of European Regulators for Electronic Communications (BEREC) has six weeks to issue an opinion on the notified draft decision, followed by a three-way discussion between the NRA, the Commission and BEREC.

In its opinion of 29 May 2012, BEREC:

- rejected the Commission's reservations over taking traffic imbalances into consideration;
- agreed with the Commission's reservations over taking roaming costs into account to conclude that new entrants shoulder higher incremental costs, while recognizing that the Commission's circularity

argument does not apply to the specific case put forth in the amended decision.

After this opinion was issued, there was a period of three-way talks whose purpose was to define the most appropriate and effective course of action. Once these talks were complete, ARCEP notified the Commission in early July 2012 on a new draft decision, amending the initial regulatory pricing proposal.

Based on this newly notified draft decision, on 20 July 2012 the European Commission decided to lift its earlier doubts, as a result of which ARCEP adopted its decision on 24 July 2012 (see table below).

(c€/min)	1 August to 31 December 2012	1 January to 31 December 2013	1 July to 31 31 December 2013
New entrant operators(Free Mobile,			
(Free Mobile, Lycamobile et Oméa Telecom)	1.6	1.1	0.8
Incumbent operators (Bouygues Telecom,			
Orange France and SFR)	1	0.8	0.8

Source: ARCEP.

 b/ Updating the technical-economic network cost model for a mobile operator in Metropolitan France, and tariff supervision for operators in mainland France up to the end of the third rounde

In its market analysis Decision No. 2010-1149 of 2 November 2010, ARCEP set the maximum call termination rate that operators in the overseas markets could charge from 1 January 2011 to 31 December 2012, and postponed the decision on future regulated call termination rates in the overseas markets for 2013, to focus instead on updating its technical-economic cost models for a mobile operator, and adapting it to the specific features of overseas markets.

Based on the model for metropolitan France, which was updated in 2010 and 2011, ARCEP established two cost models for mobile operators in the overseas markets in 2011 and 2012. The definitive models were published in July 2012 and served as a reference when setting the applicable price ranges for mobile call termination in the French overseas markets in 2013. The details of this decision can be found in Part III, Chapter 7 of this report, "Actions taken in overseas markets" (cf. p. 125-130).

# 2. Wholesale market for DTT broadcasting services

#### a/ Review process in 2012

As the second round of regulation of the market for wholesale digital terrestrial television (DTT) broadcasting was to end in mid-2012, ARCEP performed a new market analysis in late 2011.

We began by submitting our analysis of the current state and future outlook for regulation governing the market for terrestrial broadcasting services to <u>public</u> <u>consultation</u>, from 7 February to 7 March 2012.

After having examined the contributions received from stakeholders, ARCEP held a public consultation that ran from 27 April to 25 May 2012 on our draft decision on the third round of market regulation for 2112-2015. This draft decision listed the obligations that ARCEP considered necessary to impose on the market's SMP operator, TDF. At the same time, on 27 April 2012, ARCEP solicited the French Competition Authority's and broadcasting authority's (CSA) opinion on the draft decision<sup>3</sup>.

To specify the pricing obligations that could be imposed on TDF once the analysis was complete, ARCEP also <u>consulted with the sector's economic</u> <u>stakeholders</u> from 7 May to 8 June 2012 on the technical-economic model we developed of a terrestrial TV broadcasting network .

In June 2012, broadcasting authority, CSA, concluded that "*TDF* should continue to be subject to a set of obligations to ensure that competition develops"<sup>4</sup>. Meanwhile, the Competition Authority concluded that it was, "legitimate for ARCEP to maintain ex ante regulation of the wholesale market for terrestrial television broadcasting services."<sup>5</sup>

On 12 July 2012, ARCEP notified its draft decision to the European Commission and to the NRAs of the other European Union Member States. The Commission issued its remarks on 13 August 2012. After having taken the comments into consideration, ARCEP adopted the official decision on 11 September 2012.

## b/ The new regulatory provisions

The Authority defined the ex ante regulatory framework to apply from 2012 to 2015 in the wholesale market for digital terrestrial television (DTT) broadcasting.<sup>6</sup>. ARCEP designated TDF as the SMP operator in the market for access to DTT broadcasting infrastructure, as a result of which the company has the obligation to grant reasonable requests for access, to provide access under non-discriminatory conditions and to be transparent. TDF is also subject to cost accounting, accounting separation and pricing obligations.

Because the models that will ensure the lasting development of market competition depend a great deal on the type of sites needed for DTT broadcasting, ARCEP distinguished two kinds of pricing obligation for the wholesale access solutions that TDF sells to its competitors:

- for those sites where it will be impossible to deploy alternative infrastructure during the period covered by the analysis, referred to as non-replicable and listed in the annex to the decision<sup>7</sup>, TDF is obligated to charge cost-based prices;
- for all of the other sites, referred to as replicable, TDF is obligated not to engage in predatory pricing, and so enable alternative infrastructure to develop. In addition, TDF must not charge excessive prices for replicable sites that have not been replicated.

Stronger transparency provisions have also been introduced, in particular to provide the market's operators with greater clarity on the possibilities available for installing alternative infrastructure (and especially towers) on existing terrestrial broadcasting sites.

On 18 October 2012, TDF published its first reference offer of the third round of regulation. Mindful of ensuring the company's compliance with the obligations contained in the new framework, and especially the reference offer's technical and pricing aspects, ARCEP has consulted regularly with market's stakeholders since then.

# 3. Broadband and superfast broadband

In its Decisions Nos. 2011-0668 and 2011-0669 of 14 June 2011, commonly know as analyses of "markets 4 and 5," ARCEP stated its intention to introduce a rendez-vous clause to assess the impact of these

<sup>3 -</sup> In accordance with CPCE Article D. 301

<sup>4 -</sup> CSA Opinion No. 2012-12 of 5 June 2012.

<sup>5 -</sup> Competition Authority Opinion No. 12-A-13 of 8 June 2012.

<sup>6 -</sup> Decision No. 2012-1137 of 11 September 2012.

<sup>7 - 79</sup> sites in metropolitan France and three in the overseas departments were listed.

decisions 18 months after their introduction and, if necessary, to impose additional asymmetrical remedies in the optical fibre market earlier than planned.

# a/ Ensuring that the regulatory framework matches the needs of the emerging superfast broadband market

As concerns the market for wholesale access to passive superfast fibre-to-the-home (FTTH) infrastructure (segment of market 4) on the one hand and, on the other, the market for wholesale access to activate superfast broadband access delivered at the regional level (segment of market 5), in the terms listed in the decisions of 14 June 2011, ARCEP decided not to impose asymmetrical obligations on the only SMP operator identified, i.e. France Telecom, aside from the one that requires the operator, primarily, to provide access to its civil engineering infrastructure.

In our analysis, we indicated that the legally ordered regulatory framework already imposed obligations on all operators deploying or operating FTTH local loops. ARCEP concluded that these symmetrical obligations, at least during the period of analysis, were enough to ensure effective competition in markets 4 and 5 and, more specifically in the segment of the superfast broadband market based on FTTH (fibre-to-the-home) local loops. Indeed, the symmetrical framework, set by law and detailed by ARCEP, combined with the sector's ongoing development were likely to produce the same effects as the asymmetrical regulatory remedies that the European Commission listed in its NGA recommendation.

Nevertheless, as we are aware of the uncertainties weighing on the market's future development, and taking utmost consideration of the Competition Authority's and the European Commission's remarks, ARCEP intends to continue to work on ensuring that an effective wholesale market for superfast broadband emerges which, in turn, will enable a state of healthy competition in the retail market. This is why we included a rendez-vous clause for midway through this round of market analysis.

# b/ Providing the players with market scorecards and analysing the need to impose additional remedies earlier than planned

In keeping with our commitment, we implemented the rendez-vous clause in December 2012. This included launching a <u>public consultation</u> on 3 December 2012, on a document that analyses the need to impose additional asymmetrical remedies in wholesale markets (4 and 5) earlier than originally planned, based on a scorecard of the state of competition in the ultra-fast broadband market and the the status of operators' FTTH rollouts.

The conclusions of this interim assessment of the current round of regulation, which began in 2011, included the following;

- 18 months after the decisions of 14 June 2011 came into effect, operators had maintained substantial optical fibre local loop rollouts, and committed to making sizeable expenditures. ARCEP thus concluded that it was necessary to provide the market's players with a guarantee of regulatory stability and clarity now that a virtuous circle appeared to be underway. As a result, the roadmap for the fourth round of analysis of the markets in question – which includes the expiry of the current decisions in mid-2014, and so the beginning of preparatory work in autumn 2013 – appears to be a good timeframe for achieving this need for a stable framework;
- the interim assessment did not reveal the predominance of the operator identified as enjoying significant market power (SMP), under the terms of the decisions du 14 June 2011, in the specific segment of wholesale superfast broadband access. This conclusion, verified in the wholesale market for passive access solutions, was even more true in the wholesale market for active access and especially in the retail market for the supply of superfast broadband access to customers;
- it thus appeared that the hypotheses in the above-mentioned decisions – and which, in mid-2011, formed the basis of the arguments for limiting the asymmetrical obligations imposed on the

SMP operator in the market segments tied to fibre – had been verified: access to civil engineering infrastructure, on the one hand, application of symmetrical regulation on the other, had produced enough of an impact to ensure a healthy state of competition. As a result, additional asymmetrical obligations in the market segments tied to fibre appear unnecessary at this stage;

 however, although the effectiveness of the symmetrical measures appears proven in those parts of the country where rollouts are well underway – i.e. chiefly in France's very high-density areas – we were unable to perform a conclusive analysis outside of these areas. In other words where rollouts were not far enough along to be able to judge the effectiveness of the symmetrical framework in this regard.

ARCEP thus proposed an analysis to the players whereby the state of competition in the markets linked to fibre did not require any changes to the remedies set out in 2011, whether in the form of changes to the obligations imposed for this round of market analysis, or in anticipation of the next round.

# c/ Lack of urgency to reform the existing framework in the short term, and the need to begin preparing immediately for the 4th round of analysis for markets 4 and 5

Stakeholders' (i.e. the main telcos and associations representing public authorities) responses to the public consultation made it possible, by and large, to confirm ARCEP's conclusions, but also to identify a set of fundamental questions that need to be taken into consideration when undertaking the next round of analysis for the markets in question:

- the relationship between the relevant markets, in light of current practices,
- the regulatory aspects of the transition from copper

to fibre (including the future of LLU-related solutions);

- links between connecting 4G mobile base stations and markets 4 and 5;
- taking triple play bundles that include television services into consideration for wholesale market regulation.

By way of conclusion to this rendez-vous clause, midway through the current round of analysis of markets 4 and 5, ARCEP stated the following in a report published on 8 February 2013:

- plans to address the question of adjustments to symmetrical regulations – and particularly the borders between high-density and more sparsely populated areas – and/or the introduction of additional remedies that are specific to the ultra-fast broadband market, will be addressed and explored as part of the work being done in preparation for the upcoming 4th round of market analysis. ARCEP thus concluded that any changes to symmetrical and asymmetrical regulations relating to ultra-fast broadband markets need to be examined together, given the spillover effects of these two forms of regulation.
- As to "enterprise" markets ("market 6"), the Authority took into account the remarks received from several operators, analysing the link between symmetrical regulation and businesses' needs and/or suggesting supplementary asymmetrical remedies in fibre-related markets for enterprise customers. ARCEP thus concluded, more generally, that "enterprise" markets needed to be examined simultaneously in their entirety. We therefore plan to synchronise the timetable for analysing markets 4, 5 and 6.

ARCEP thus stated in <u>the report</u> that it will begin to prepare immediately for the 4th round of analysis of markets 4 and 5, while also revising our analysis of market 6 and, within the same timeline, possible adjustments to existing symmetrical regulations.

# 4. Market analyses in Europe

# 4.1 List of relevant markets to be analysed by NRAs around Europe

A European Commission recommendation lists the electronic communications markets that are relevant for analysis by national regulatory authorities (NRAs) in view of potential *ex-ante* regulation.

An explanatory memorandum attached to the directive describes the principles that an NRA must apply when performing its analysis of the relevant markets. It specifies that a market can be regulated ex-ante if it meets all three of the following criteria:

- the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature;
- a market structure which does not tend towards effective competition within the relevant time horizon.
   The application of this criterion involves examining the state of competition behind the barriers to entry;
- the insufficiency of competition law alone to adequately address the market failure(s) concerned.

The aim of the recommendation is to harmonise the scope of regulation in Member States, while not being prejudicial to the possible relevance of a market at the national level. As a result, while it is mandatory for an NRA to analyse all of the markets listed, imposing regulation is not if a market does not meet all three criteria, or if there is no SMP operator in the market.

On the flipside, an NRA can also decide to regulate a market that is not listed in the European Commission recommendation, provided it satisfies all three criteria.

The first Commission recommendation in 2003 listed 18 relevant markets, while the one adopted in 2007 contains only seven markets for which national regulatory authorities must perform an analysis with a view to potential *ex-ante* regulation:

#### Markets linked to fixed telephony

- 1- access to the public telephone network
- 2- call origination
- 3- call termination

Markets linked to residential and enterprise fixed broadband and superfast broadband access

- 4- Wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location
- 5- Wholesale broadband access (bitstream)
- 6- Wholesale terminating segments of leased lines
- Markets linked to mobile telephony
- 7- Mobile call termination

# 4.2 Status of European NRAs' market analyses in 2012

In 2012, European NRAs notified 130 draft decisions associated with a market analyses procedure, or roughly the same number as in 2011 (137). Of these decisions, 15 were ultimately withdrawn by NRAs. The most commonly analysed markets in 2012 were:

- mobile (31) and fixed (14) call termination markets,
- wholesale broadband access (*bitstream*) (14) and network infrastructure access (unbundling) (12),
- the leased line market (11) and the market for access to the public telephone network at a fixed location (8),
- call termination on individual public telephone networks provided at a fixed location (7).

Some of the markets not listed in the recommendation were also notified, including SMS CT (4), along with markets listed in the old recommendation of 2003, such as access and call origination on public mobile telephone networks (3) and broadcasting transmission services(3).

A significant number of notifications (8) concerned additional remedies, such as accounting separation, and specific points of cost models and methodologies. The Commission issued a "serious doubts" letter on **17 notifications**<sup>8</sup> **in 2012**. Most concerned fixed, mobile and SMS call termination (9) and the wholesale broadband access market (5). In four of the cases the notified draft decision was withdrawn immediately, which put an end to the procedure. BEREC issued an opinion on all the rest, most often agreeing with the Commission's doubts – although it did in some instances disagree with certain conclusions. In the majority of cases (8), the procedure ended in the notified draft decision being withdrawn or amended.

- In the case of the Dutch regulator's analysis of fixed and mobile call termination, a first draft decision had been approved by the Commission but later nullified by a federal court (the Netherlands' Trade and Industry Appeals Tribunal). The second draft decision, which includes the court's recommendations, indicated a higher call termination rate. The Commission expressed serious doubts on this point. If BEREC shared these doubts on the regulated tariffs, it did not comment on the legal aspects, namely the question of a Commission recommendation having primacy over a national court order. The Dutch regulator decided to maintain its draft decision.
- The only veto issued by the Commission in 2012 was of a draft decision from the Czech regulator on the wholesale broadband access market. The Commission disputed the NRA's analysis that put cable and Wi-Fi networks in the wholesale market category, thereby automatically reducing the leading operator's market power and making it impossible to designate it the SMP operator in the country's most densely populated areas. In its opinion, BEREC did not share the Commission's doubts over the market definition, although it did agree on the remedies.

The two analyses differ in that the Commission and BEREC take the indirect restrictions – i.e. those that

retail market products exercise in the marketplace – into consideration at different stages in their analysis: the Commission in its assessment of operators' market power, and BEREC in the market's very definition. Despite this disparity, the Commission maintained its objections and vetoed the Czech regulator's market analysis.

- The Commission also expressed serious doubts about the ARCEP draft decision on new entrants' mobile call termination. (cf. p. 169).
- In the case of the Finnish NRA's draft decision on network infrastructure access and wholesale broadband access (markets 4 and 5), the Commission expressed doubts about the lack of cost-oriented pricing and non-discrimination obligations for the fibre market's SMP operator. BEREC shared the Commission's doubts, but was unable to comment on the difficulties that Finnish regulator, FICORA, encountered in imposing tariff supervision in the wholesale fibre market, due to the transposition of the Telecom Package into national law. Following the Commission recommendation requesting that FICORA amend its decision, the NRA ultimately introduced a maximum wholesale price for fibre network access. along with transparency obligations in the broadband access market.

The heavy use of "article 7 b" of the Phase II procedure, which has been in effect since May 2011 and which allows the Commission to issue recommendations on the remedies proposed by national regulatory authorities, has proven a real challenge for all of the parties concerned: the Commission, BEREC and the NRAs. This is a new and complicated procedure that involves multiple parties within a very tight timeframe, so the first year of its application was a breaking-in period.

<sup>8 -</sup> These were notifications on fixed CT (NL/2012/1284, LV/2012/1355 and CZ/2012/1392), mobile CT (NL/2012/1285, ES/2012/1291, LV/2012/1296, FR/2012/1304 and EE/2012/1305), SMS CT (DK/2012/1283), wholesale infrastructure access (NL/2012/1298 and FI-2012-1328), wholesale broadband access (NL/2012/1299, PL/2012/1311, CZ-2012-1322, FI-2012-1329 and PL/2012/1394) and leased lines (NL/2012/1299 and DE/2012/1321).



# Managing scarce resources

# 1. Spectrum

# 1.1. ARCEP's responsibilities

The national frequency allocation table assigns ARCEP the task of managing the spectrum used for electronic communications, with the exception of broadcasting services and government agencies (defence, homeland security, civil aviation, etc.). We carry out this task as part of the responsibilities assigned to us by Law as the sector's regulator, which include monetising and making proper use of the radio spectrum.

ARCEP is responsible for assigning frequencies to a growing number and increasingly wide variety of applications: spectrum users include operators, with a view to supplying services to the public, as well as local authorities, businesses and individuals for their own needs. Installations can include publicly available mobile networks (GSM, UMTS, LTE...), wireless local loop (WLL) networks, private mobile radio networks (PMR), live video feeds, radio links (for broadcasting services, mobile carriers' infrastructure networks, etc.), satellite communication systems, amateur radio and low-power and short-range devices (Wi-Fi, wireless microphones, wireless LAN, RFID, medical implants, remote controls, short-range radar for cars, meter reading systems, etc.).

The French Postal and electronic communications code (CPCE) thus endows ARCEP with a series of powers in the area of spectrum management:

#### a) Frequency regulation and planning

In the frequency bands for which it is responsible, ARCEP can determine the type of equipment, network or service permitted to use those bands, along with the technical conditions of their use (transmission power, base station deployment rules, etc.). These decisions are approved by the Minister responsible for electronic communications before being published in the Official journal (Journal officiel).

Along with the National Frequency Agency, ANFr (Agence nationale des fréquences), ARCEP is involved in drafting international regulation in this area and in managing the ongoing changes to frequency assignments defined by the national frequency allocation table (NFAT), and implemented by an order from the Prime Minister.

#### b) Issuing frequency licences to users

ARCEP is tasked with issuing licences to the users of the frequency bands for which it is responsible. For frequencies whose use is governed by individual licences, ARCEP can elect either to issue licences over time as the need arises or, when judicious use of the frequency band is required –because of its scarcity or because of the state of competition – to issue licences following a call for applications.

In such cases, the selection criteria for the applicants will be defined by the Minister responsible for electronic communications, based on a proposal from ARCEP.

#### c) Monitoring licences

ARCEP is responsible for monitoring the use of the licences, and particularly for ensuring that operators are complying with the terms attached to these licences. These terms may include network rollout timetables, quality of service, licensing fees, terms governing the use of the frequencies and any commitments the licence-holder made when being issued the licence in response to a call for applications. ARCEP is also responsible for examining and supervising spectrum licence trades.

# 1.2. Concerning frequency regulation and planning

## a) Concerning frequency regulation and planning

ARCEP adopted several decisions in 2012 on the terms of use for the frequencies we are responsible for allocating. These concern in particular non specific short-range devices, road transport and traffic telematics, inductive applications, short-range radar for cars and the use of audio equipment for services ancillary to programme-making and broadcasting (wireless microphones).

We also held two public consultations in 2012, which kick-started important work on radio and professional mobile radio (PMR) systems:

 a public consultation was held on the frequencies to be used for wireless systems and their future requirements, particularly with a view to broadband and ultra-fast broadband network rollouts. Guidelines were introduced in 2012 for making new spectrum resources available for the deployment of ultra-fast broadband systems;

 a public consultation on professional mobile radio (PMR) networks and their future spectrum needs, which allowed ARCEP to query the sector on how these systems are evolving and the spectrum issues they are likely to face in the coming years.

In 2012, ARCEP also worked in tandem with national frequency agency, ANFr, on a spectrum inventory whose purpose was to identify any additional spectrum available to satisfy the expected rise in superfast mobile networks' frequency requirements. This work, which enabled us to draw up a preliminary list of frequency bands whose assignment was likely to change between now and 2020, will continue and allow these candidate bands to be designated at the international level at the World Radiocommunication Conference in 2015.

ARCEP also contributed to work being done at the European level, including :

- drafting a decision on harmonising the technical conditions for the 2.1 GHz frequency band (currently used by 3G systems) with a view to introducing the possibility of having new mobile technologies – and particularly LTE – use this frequency band;
- studies on the future use of certain unused frequency blocks in the 2 GHz band (TDD blocks), which will continue on through 2013;
- exploring the concept of sharing radio spectrum, which stakeholders have expressed an interest in doing. The aim is to use new spectrum resources more efficiently, under certain conditions;
- examining spectrum requirements for wireless microphones for professional use and mobile video links, which are employed heavily by broadcasters and media companies;
- examining the terms and conditions for accessing new bands for short-range devices.

ARCEP also contributed to the working being done by the European Conference of Postal and Telecommunications Administrations (CEPT), and notably on:

- preparing a draft decision on harmonised conditions for use of the 3400-3800 MHz band;
- harmonised introduction of broadband mobile systems in the 1452 -1492 MHz and 2300-2400 MHz bands;
- examining spectrum requirements for security and emergency systems, and their impact on the future development of other private mobile radio (PMR) systems;
- examining spectrum requirements for the introduction of the *Broadband Direct-Air-to-Ground Communications* (BDA2GC) system for the Aeronautical Mobile Service that will supply a broadband link between aeroplanes and the ground, for the provision of in-flight internet access;
- the development of cognitive systems and the concept of shared spectrum access agreements: certain industry players have expressed an interest in the development of spectrum sharing to be able to gain access to new frequency resources under certain conditions.

#### b) On frequency allocations

In January 2012, licences were issued to use 800 MHz band frequencies to provide 4G services (cf. p. 90-91).

ARCEP also issued several licences in response to requests from undertakings. We thus awarded spectrum:

- for fixed service frequency allocations (wireless): 12,322 new assignments, 7,389 amendments, 8,629 cancellations and 1,142 renewals, which represented 846 decisions – or a roughly 25% increase compared to the year before;
- for fixed and mobile satellite service frequency allocations: 92 assignments, 14 amendments and 89 cancellations, which represented 52 decisions;

- for professional mobile service frequency allocations: 1,400 network assignments, 600 amendments, 1,900 renewals and 1,300 cancellations, which represented 266 decisions;
- for industrial trials (radar, drones, etc.), which represented 41 decisions;
- short-term events: 807 dossiers for 1,532 temporary allocations.

#### c) On monitoring licences and collecting fees

Monitoring licences was a particularly significant field of endeavour for us in 2012. ARCEP performs checks to ensure that operators are fulfilling the coverage and quality of service commitments they made during the call for applications. In 2012, the process of ensuring that operators are complying with their coverage and quality of service obligations – which is examined in some detail on pages 97-100 and 104-107 of this report (Chapter IV Mobile coverage and quality of service) – resulted in:

- a report on mobile network coverage and quality of service;
- measuring Free Mobile's coverage;
- checking WLL operators' compliance with their obligations.

In 2012, ARCEP collected, a total of around €2.87 billion – of which €2.6 billion from the allocation of frequencies in the 800 MHz band – in spectrum licensing fees, both fixed and variable (revenue-based) on behalf of the State.

## 1.3. International work on spectrum

The first multi-annual Radio Spectrum Policy Programme (RSPP), provided for in the European regulatory framework for electronic communications, commonly known as the Telecom Package, amended in 2009, was adopted by the European Parliament and Council on 14 March 2012.

# a) European radio spectrum policy programme

The RSPP was a policy decision taken at the highest level in Europe, setting a roadmap for achieving the objectives set out in the Digital Agenda for Europe, including superfast broadband access for all by 2020, in particular thanks to wireless communications: all EU citizens are to have an internet connection of a minimum 30 Mbps, and at least half of all households will have a connection with a throughput equal to or above 100 Mbps.

The RSPP lays out a roadmap for the availability of new frequency resources to satisfy future spectrum needs: a total of at least 1200 MHz need to be available for mobile broadband systems by 2015.

To this end, the European Commission has been called upon to perform a spectrum inventory in the European Union by 2015. This will involve recording current spectrum usage, particularly in the 400 MHz to 6 GHz range, to identify those bands that can be reallocated to another use or used more efficiently, and to determine future demand for spectrum in relation to the EU's relevant policies, according to the technological trends that have been ascertained.

# b) World radiocommunication Conference of 2012

The latest World Radiocommunication Conference, WRC-12, which took place from 23 January to 17 February 2012 in Geneva, set the programme for international work on frequencies for 2012 to 2015.

ARCEP took an active part in the efforts carried out in France by the National Frequency Agency, ANFR (Agence nationale des fréquences). The World Radiocommunication Conferences, whose resolutions have the value of a treaty, are important events for ARCEP as they introduce essential technical and regulatory prescriptions that apply to all types of radiocommunications.



La CMR 2012, à Genève

Among the main outcomes of this conference were the allocation of the **694-790 MHz band to mobile services on a co-primary basis with the broadcasting service, and the identification of this band for international mobile telecommunications (IMT) in region 1** (Europe, Africa and a portion of Asia).

This allocation will come into effect after the next conference, which is scheduled for 2015. It is subject to a resolution inviting the ITU to conduct a study on the possibility of adjusting the lowest channel allocated to the mobile service, and introducing terms to ensure harmonised use of the band for the mobile service and IMT in region 1. It will then be up to each member country to determine which service will use this band, i.e. broadcasting or mobile services.

From a more general perspective, WRC-12 set strong guidelines for future international work devoted to identifying additional bands for mobile services, in preparation for next WRC in 2015. All of the spectrum below 6 GHz will thus be examined to identify those frequency bands where an additional service allocation is feasible. This means that several services will be competing for access to this resource.

A special study group was created to conduct technical compatibility studies on these services. Its members include all of the sectors concerned with the identification of new frequencies for mobile services, and constitutes the forum for forthcoming technical discussions in the run-up to WRC-15.
## 2. Numbering

## 2.1 ARCEP's responsibilities

In accordance with CPCE Article L. 44, ARCEP is responsible for establishing the national numbering plan, for its operational management and management rules, and for allocating operators the numbering resources needed for their business – in addition to working to ensure these resources are used judiciously, given their scarcity.

The national numbering plan corresponds not only to telephone numbers used by telephone services, but also to addressing resources for data networks, semaphore signalling points and MCC + MNC codes.

We are also responsible for invoicing and collecting the taxes and fees due from operators<sup>1</sup>. The amount invoiced for the numbering tax in 2012 came to roughly  $\leq$ 23.8 million.

### 2.2 Situation in 2012 and changes to the national numbering plan

Status of numbering resources at the end of 2012		
Type of number	Total numbers assigned	
Fixed and mobile communications		
Geographic numbers (starting with 01, 02, 03, 04, 05)	206,580,000	
Non-geographic numbers (09)	30,960,000	
Mobile numbers (06 and 07, incl. roaming)	118,060,000	
Value-added services		
Special numbers (10XY)	34	
Short numbers (3BPQ)	281	
Six-digit numbers (118XYZ)	14	
Non-geographic VAS numbers (08AB except 087B and 085B)	11,830,000	
Codes		
E format prefixes	4	
16XY format prefixes	32	
Number retention prefixes (0Z0, 0600, 0509, 0840, 0842 et 0900)	1,786	

Source: ARCEP.

The rate of assignment of fixed geographical, non-geographic person-to-person and non-geographic numbers for value-added services (VAS) remains below 50%. The rate for mobile numbers, however, is around 70%. All numbers starting with 06 (excluding the overseas departments) have been assigned. New assignments for mobile accounts in metropolitan France now begin with 07.

<sup>1 -</sup> In accordance with the provisions of CPCE Articles L. 44 and R. 20-44-28, completed by an order from the Minister responsible for electronic communications

#### 2.3 Les mesures prises en 2012

In 2012, the Authority made 280 decisions on numbering:

- · 276 decisions on the day-to-day management of numbering resources:
  - 216 allocation decisions.
  - 15 operator-to-operator transfer decisions,
  - 4 decisions amending previous decisions,
  - 41 repeal decisions.
- · Four decisions that were general in scope
  - · Opening new mobile number ranges

In light of the growth forecasts for the machineto-machine (M2M) market in the coming years, we may very well see a swift consumption and even a dearth of mobile numbers. To manage this risk, and after having consulted with the different stakeholders, ARCEP defined a forward-looking numbering policy for these services.

As a result, we opened a mobile number range starting with 0700 - and extended to 14 digits long in metropolitan France and to 13 digits in the overseas markets - for M2M applications in particular<sup>2</sup>. This opens up a stock of 5 billion mobile numbers available for these applications.

This means that, starting on 1 January 2016, 10-digit mobile numbers can no longer be assigned to M2M applications. As an exception, however, end users who have signed an M2M services contract with a mobile services provider before 30 June 2013, will be able to be assigned 10-digit mobile numbers for extensions to existing projects, up to 30 June 2018.

Moreover, given the number of mobile numbers still

available in metropolitan France (24 million at the end of March 2012) and the rate of assignment over the past two years (over 9 million a year), ARCEP believes it would be reasonable to open two ranges of 10-digit numbers, starting with 073 and 074 – or a total 20 million numbers - as a preventative measure, to be able to meet demand over the next three years.

 Changes to the organisation of number ranges starting with 08 and short numbers<sup>3</sup>

This decision, which is one of the actions we have performed on behalf of consumers, is described in detail in Chapter V, section 1: "Regaining consumers' trust in value-added services" (cf p. 103).

· Changes in the terms governing the use and assignment of numbers starting with 08 98

Although the 08 93 and 08 98 number ranges were the subject of assignment decisions, they have not yet been used commercially by their appointees - due to the lack of a proposed price range from operators. During a **public consultation** on changes to the numbering plan that concern short numbers and long numbers starting with 08, the sector's stakeholders asked that new price ranges be created, some for per-call rates and others for per-minute rates.

To make it possible to create a range of per-call rates, and to ensure that each operator obtains the numbering resources they need for their business, the granularity of the assignment of 08 98 PQ numbers has been reduced to 1,000 numbers.

Also, for technical reasons and for the sake of achieving clear pricing, all of the blocks that share the same 0898P root will be associated with the same retail calling rate.

 <sup>&</sup>lt;u>2 - Decision No. 2012-0855 of 17 July 2012.</u>
<u>3 - Provided for in Decision No. 2005-1085 of 15 December 2005.</u>

#### Managing scarce resources

 Reserving the 09 99 range for in-house technical purposes

In response to the <u>public consultation</u> on changes to the numbering plan that concern short numbers and long numbers starting with 08, certain stakeholders asked that a range of numbers be set aside for internal technical purposes. In a bid to make the best possible use of these scarce numbering resources, ARCEP elected to set aside a block of a million numbers for operators' in-house technical needs, which could not be assigned individually, rather than assign specific resources to each company. The 09 99 number range was thus reserved for this purpose. This means that numbers in this range can neither be assigned to retail market customers, nor called by them. Activity report 2012

# Glossary

**2G**, **2,5G**: mobile systems predating 3G. For 2G, they include GSM, and for 2.5G, GPRS and EDGE.

**3G:** third-generation mobile system. The gradual introduction of packet switching technology into mobile networks allows 3G networks to provide access to a wide range of new services, particularly high-speed Internet access.

**3GPP** (*3rd Generation Partnership Project*): cooperation between regional telecommunications standardisation bodies such as ETSI (Europe), ARIB/TTC (Japan), CCSA (China), ATIS (North America) and TTA (South Korea), whose aim is to produce technical specifications for 3rd generation (3G) mobile networks. 3GPP also ensures the maintenance and development of technical specifications for GSM mobile standards, notably for GPRS and EDGE.

**4G**: informal term for referring to fourth generation mobile telephony. Speeds will increase to roughly 40 Mbps in 2009-2010 and to 80 Mbps and perhaps more further down the road. Several technologies that are currently being deployed can also be put in this group, including WiMAX (IEEE 802.16 standard technology), iBurst (IEEE 802.20 standard technology)... (See also: LTE)..

Access network: network to which users directly connect their terminal equipment in order to access services. (See "Core network".)

Accounting rates: system establishing the pricing principles to be used in interconnection agreements between international operators so that an operator in the country of origin and an operator in the country of destination may share international call revenue when cooperating to route international traffic. For calls to a given international destination, the operator in the country of origin sets the price charged to users (the retail price), which is called the collection rate. At the same time, this operator and the operator in the country of destination negotiate a per-minute accounting rate. Revenue is shared based on this rate according to a sharing formula that determines the portion (settlement rate) accruing to the operator in the country of destination. This portion usually is equal to half of the accounting rate.

**ADSL (Asymmetrical Digital Subscriber Line)**: ADSL is part of the xDSL technology family which allow end users to access a range of electronic communication services over its copper wire line – and especially telephony and internet access. The line's throughput it supports diminishes as the user's distance from the DSLAM increases.

**AFA** (Association des Fournisseurs d'Access à Internet): French association of Internet service providers.

**AFORST:** French association of telecommunications network operators and service providers.

AFUT: French association of telecommunications users.

**ANFr** (*Agence Nationale des Fréquences*): agency responsible for managing the radio frequency spectrum,

allocating frequencies to the various government departments and independent authorities that assign them (ARCEP, CSA, the Ministry of Defence, etc.), handling interference, and conducting international spectrum negotiations.

ARPU: Average Revenue Per User.

Asymmetrical regulation: a form of regulation that imposes certain obligations only on SMP operator(s) in a given market (e.g. France Telecom in the fixed telephony market), to enable the development of lasting competition.

ATM (Asynchronous Transfer Mode): technique for the asynchronous transfer of digital broadband communications using short, fixed-length packets. It remains a widely-used technique but is tending to be replaced by IP technology.

**Backhaul**: Backhaul is the section of an electronic communications network, built out at the departmental or regional level, that makes it possible to relay traffic to the local loop's concentration points (exchanges, neighbourhood cabinets, FDH, etc.). Most backhaul networks are fibre-based, but may contain wireless links and digital links over the copper pair.

**Bandwidth:** this denotes the transmission capacity of a transmission link. It determines the amount of information (in bps) that can be transmitted simultaneously. In computing, it is often confused with the transfer rate of a communication link, expressed in bits per second.

**BAS** (Broadband Access Server): equipment whose function is to manage ATM data transport for ADSL-based Internet access offerings. Each BAS in the France Telecom network aggregates ATM traffic from about ten DSLAMs. Thus, a BAS manages traffic for all ADSL lines in the coverage area of the DSLAMs to which it is connected. France Telecom calls the area covered by a BAS a plaque (coverage area). Two ATM circuits, one "upstream" and the other "downstream", are established between each connected customer and the BAS serving that customer. **Base station**: active radio network equipment serving a given area. Sometimes called a cell site or tower when referring to cellular telephone networks.

Beauty contest (comparative selection): method of operator selection to award scarce resources. It is different from an auction in that it allows candidate selection to be based on multiple criteria and not just on price offered.

**Bi-injection**: Consists of sending DSL signals equally to both the local loop (as is currently the case) and the subloop. This supposes that the DSL signals sent from the neighbourhood cabinet will be technically alternated and attenuated so as not to disturb the remaining DSL signals being sent from the subscriber connection point. Thanks to "bi-injection", carriers can therefore continue to activate their connections at the original LLU exchange for the customers in question, but without the benefit of increased bandwidth.

**Bitrate**: amount of data transiting a network within a given timeframe.

**Bits per second (Bps)**: unit of measurement for throughput on electronic communications systems. A bit (contraction of binary unit) is the basic unit of digital information, and can have a value of 0 or 1. More common is the use of the multiples kilobits per second (kbps) and megabits per second (Mbps). A throughput of 2 Mbps means that 2 million zeros or ones are transmitted per second.

**Bitstream**: refers to wholesale offers which may be used by alternative operators to market retail residential and business offers in zones where they have no broadband equipment of their own installed (sites which are too small or too far from their collection network). From a technical standpoint, France Telecom activates the copper pair to the end user with its own broadband access equipment, then routes the Internet stream up to the nearest connection point between its collection network and the alternative operator's collection network. **BSC (Base Station Controller)**: GSM base station controller. Equipment that controls one or several BTS and manages radio resources.

**BTS (Base Transceiver Station):** GSM equipment comprising transmitters and receivers and constituting the interface between the BSC and mobile terminals. Building operator: the undertaking responsible for establishing and/or managing one or several lines in an existing building, typically governed by an installation, maintenance, line replacement or management agreement signed with the building's owner(s) or co-op members. A building operator is not necessarily an operator as defined by CPCE Article L. 33-1.

**Bulk mail**: mail items produced in mass quantities by computer – at least 400 items per mailing – such as invoices, bank statements, addressed advertising and periodicals.

**CAA (Commutateur à Autonomie d'Acheminement):** local exchange (exchange to which subscribers are connected) on the France Telecom telephone network. The structure of the France Telecom network is hierarchical and the CAA is the lowest-ranking exchange in the network. Thus, there are two types of exchange: subscriber exchanges (the CAAs) at the bottom of the hierarchy to which subscribers are linked via a subscriber line unit (called a unité de raccordement d'subscriber or URA), and transit exchanges (CTs) at the top of the hierarchy.

**Cable networks**: audiovisual distribution networks that offer electronic communication services.

**Call-back**: a calling process that operates as follows: the user dials a number in the country operating the call-back; since the call is not actually set up, there is no charge; an automatic device calls back the user, setting up the call on an international line; the user then dials the number of the called party; the call is billed at the tariff charged by whatever foreign operator is selected. This system thus enables users to take advantage of tariffs in the called country.

**Carrier selection**: option given to customers to choose among multiple carrier operators. Carrier selection applies to all calls (local, national long distance and international long distance). It can be exercised per call or by subscription.

**CCCE (Commission consultative des communications électroniques)**: the advisory committee on electronic communications to the Minister responsible for electronic communications and the Authority. Composed of 24 members, the committee is consulted on any draft measures whose purpose is to set or amend the terms relating to the declaration, establishment or operation of electronic communications networks or services, particularly in the areas of interconnection, network access and the use of radio frequencies.

**CCRANT**: regional advisory committees for digital regional development (commissions consultatives régionales pour l'aménagement numérique du territoire)

**CDN (Content Delivery Network)**: a system of servers, deployed on different nodes of a network in the vicinity of end users. By storing temporary copies of Web content (i.e. principle of a cache server), the CDN allows for easier access to the data thanks to the reduction in the time and bandwidth needed for their distribution.

**Circuit**: bi-directional link between two terminal units over which a connection-mode service can be provided.

**Cloud computing**: a concept that consists of moving computer processes or data which have traditionally been run/stored on local servers or users' workstations to remote servers.

**Collocation**: under France Telecom's standard interconnection offer, physical interconnection is possible using three different techniques:

- collocation: The operator installs its equipment at France Telecom's premises.
- interconnection link: France Telecom installs its equipment at the operator's premises.
- in-span interconnection: a solution halfway between these methods of connection, where the connection point is located, for example, in the public domain.

For purposes of local loop unbundling, collocation consists of supplying the space and technical resources necessary to host and connect the technical equipment of alternative operators.

**Commercial operator or vendor**: the operator that the retail market customer chooses for the supply of her telecommunications service, or that an ISP chooses to supply its own customers with a telecommunications service.

**Concentration point**: the end point for one or several lines where the undertaking (typically the building operator) which is installing/has installed and operating optical fibre ultra-fast broadband electronic communications lines in an existing building provides other operators with access to these lines, with a view to serving retail market customers.

**Concentration point operator**: the building operator who operates a concentration point.

**Convergence:** convergence of the broadcast and telecommunications sectors, made possible by technological advances that allow different media (cable networks, terrestrial or satellite wireless networks, computer terminals and television sets) to be used to transport and process all types of information and services involving sound, images and data; since it derives from technological disruption (the digitisation of information), convergence has both economic and regulatory implications. (See also Fixed-mobile convergence).

**Core network**: the core or backbone network, consisting of all transmission and switching infrastructure beginning with the local exchange.

**CPCE (Code des Postes et des Communications Electroniques):** French postal and electronic communications code.

CSA (Conseil Supérieur de l'Audiovisuel): French national broadcasting authority.

**CUG (Closed User Group)**: a CUG is an independent network for shared or private use. When the network is reserved for the use of the individuals or corporate entities that established it, it is called private, and when it is reserved for the use of multiple individuals or corporate entities organised as one or more closed user groups for purposes of exchanging communications internal to the group, it is called shared. The Authority has clarified this definition by indicating that a CUG is understood to be a group based on a community of interest that is stable enough to be identifiable and which predates provision of the telecommunication service. The notion of a "closed user group" is not limited to independent networks but is used also to define, for example, a virtual private network on a public network.

**Direct interconnection**: also known as call termination service. For an operator, this consists of terminating a call to a France Telecom subscriber. The call is routed by the operator to the interconnection point; from that point, it is carried by France Telecom over the France Telecom network to the subscriber's customer premises equipment.

DSLAM (Digital Subscriber Line Access Multiplexer): one of the devices used to convert conventional telephone lines into ADSL lines for broadband data transmission, particularly for Internet access. The DSLAM is installed on the main distribution frame of the local operator's network. It combines several ADSL lines onto a single medium, which routes data to and from these lines.

**DTT**: Digital Terrestrial Television.

**DVB-H** (Digital video broadcasting handheld): a digital terrestrial broadcasting standard geared to enabling audiovisual content reception on a mobile handset (mobile TV).

**EDGE (Enhanced Data rate for Global Evolution)**: EDGE is a third-generation mobile standard allowing data to be transferred at 384kbps. It evolved from the GSM and American TDMA standards.

**E-SDSL (Extended symmetrical digital subscriber line)**: technology enabling symmetrical bitrates, but with a shorter range than classic ADSL.

**Exchange:** switching equipment permitting calls to be directed to their destinations by establishing a temporary connection between two circuits on a telecommunications network or by routing information organised as packets. France Telecom's network comprises a hierarchical system of switches. The higher the exchange is in the system, the greater the number of subscribers it serves.

**FFT**: Fédération française des télécommunications (French telecommunications federation).

Fixed-mobile convergence: also known as FMC, and which involves the convergence of the fixed and mobile telephony technologies used and services offered. FMC opens up the possibility for operators to offer all users the same services, regardless of the technology or network being used.

**Flat-rate interconnection**: denotes an offer for interconnecting third-party operators with the France Telecom network. Under it, the fees that third-party operators pay for the collection of local loop traffic are fixed on a percircuit basis rather than billed per minute.

FTTB: Fibre to the building.

FTTH: Fibre to the home.

**Full MVNO:** a virtual mobile network operator that has its own SIM cards, its own customer database, or home location register (HLR), along with core network elements.

**Full unbundling**: or fully unbundled access to the local loop, which consists of making all of the frequency bands of the copper pair available. As a result, the end user is no longer connected to the France Telecom network, but rather to that of the new entrant operator.

**GRACO**: Discussion forum between ARCEP, local authorities and operators. An advisory committee chaired by ARCEP whose members include Authority staff members, local elected officials and carriers, and whose purpose is to define the terms for the successful realisation of local authorities' regional digital development initiatives (fixed and mobile networks and services). Three technical meetings and one plenary meeting are held each year, drawing on the output of the working groups.

**HDSL (High-speed DSL)**: bi-directional symmetrical transmission technique conceived primarily for business applications. This technology achieves bit rates of 2Mbps over distances of up to 2500m.

HLR (Home Location Register): central database of permanent subscriber information for a mobile network. HSCSD (High-speed Circuit Switched Data): circuitswitched data system (see "Switching") allowing improved bit rates on GSM networks.

**HSDPA (High speed downlink packet access)**: a 3G technology that can deliver downstream speeds of up to 1.8 and even 3.6 Mbps (N.B.: also referred to by some as 3.5G).

**HSUPA** (High speed uplink packet access): 3G technology derived from HSDPA that makes it possible to increase upstream bitrates (and not only downstream rates, as is the case with HSDPA).

**IMT-2000 (International Mobile Telecommunications 2000)**: third-generation mobile systems supporting enhanced mobility services thanks to the introduction of new functionality. The ITU selected five terrestrial radio interfaces for third-generation mobile systems under the designation IMT-2000. UMTS was one of the five.

**Indirect interconnection:** also known as call-collection service, in which an alternative operator collects a call from a France Telecom subscriber. The subscriber dials a prefix to select the operator and the call is then carried by France Telecom from the subscriber's customer premises equipment to the point of interconnection, where the call is then carried by the alternative operator. Insured item: a service that consists of insuring a postal item for the value declared by the sender against loss, theft or damage.

**Interconnection**: the linking of various telecommunication networks so that any subscriber of one operator may communicate with any subscriber of any other operator.

Interconnection agreement: private contract negotiated and signed by two operators to determine, on a case-bycase basis, the terms and conditions of interconnection between them. Generally, agreements signed with an operator that has significant market power are based on that operator's standard interconnection offer. Otherwise, the conditions are determined without reference to a standard interconnection offer.

Interconnection interface: the set of technical specifications necessary for the operational implementation of interconnection based on establishing dialogue between networks. It defines physical interconnection arrangements, services and advanced functions accessible by the networks concerned, the ordering mechanism for these services, and associated billing and operating arrangements.

**Internet:** a group of variable-sized networks interconnected by the Internet protocol (IP) over which a wide range of services can be provided.

**Interoperability**: also called interworking. Service interoperability refers to the seamless functioning of various services on different networks. With respect to interconnection, the technical functionality available at the interconnection interface determines partly whether a service will interoperate between different operators.

**IP (Internet Protocol)**: telecommunications protocol that is used by the networks that support the Internet. It allows information to be packetised for transmission and the various packets to be addressed, transferred independently of one another, and reassembled into the original message on arrival. The switching technique therefore is referred to as packet switching. For Internet use, it is associated with a data transmission control protocol called TCP (Transmission Control Protocol); it is therefore known as the TCP/IP protocol.

**IRIS** (*llots regroupés pour des indicateurs statistiques*): aggregated units for statistical information. A breakdown of neighbouring municipalities with a population of less than 5,000 established by the INSEE for performing censuses with a view to mapping out the perimeter for the distribution of inter-city data.

ISP: Internet Service Provider.

Items of correspondence: postal items addressed to households and businesses. Includes both domestic items and items sent from abroad.

IVS: Interactive voice response system

**LLO (Local loop operator):** telecommunications company that operates subscriber lines.

Local loop unbundling: local loop unbundling, also known as unbundled access to the local network, consists of allowing new operators to use the incumbent operator's local copper-pair network to serve their subscribers directly. The new entrant of course pays the incumbent for use of the local network.

**Local loop**: the wired or wireless facilities between the subscriber terminal and the local exchange to which the subscriber is connected. The local loop therefore is the part of an operator's network that provides direct access to the subscriber.

**Long distance carrier**: telecommunications company which transports national and/or international long distance communications.

Machine to machine (M2M): a form of communication that involves having intelligent (or smart) machines or objects "talk" to one another, or to a person, over an information system that employs mobile communication networks, generally without any human involvement. Main distribution frame (MDF): apparatus that connects subscriber copper pairs to the cables that connect to the local exchange. It allows several subscriber lines to be concentrated onto a single cable.

**Managed services:** solutions for accessing content/ services/applications by electronic means, for which the network operator guarantees specific properties end-toend and/or during a given period of time, thanks to the processes it implements either directly on the network it controls or through agreements with the operators in charge of routing traffic.

**Mono-injection**: consists of sending DSL signals to the sub-loop for all of the lines in the neighbourhood cabinet in question, with no particular technical restrictions. Here, activating the DSL connection for all of the subscribers downstream from the cabinet is no longer performed at the original exchange, but entirely at the neighbourhood cabinet level.

MSC (Mobile Services Switching Centre) and VLR (Visitor Location Register): on GSM and/or UMTS networks, the MSC is the exchange that manages incoming and outgoing circuit-switched calls. The switch is linked to a database (VLR) containing a copy of the user profile and terminal or handset location information.

**Multi-fibre**: under this model, the building operator pulls several fibres from the building to the concentration point. Connection to the commercial network operator is through either splicing or an optical jumper. This means that each operator owns a fibre and a dedicated port in each building. The appeal of this model is that, once the connection is installed in a building, a technician does not have to be sent out to the site and the risk of jumper error becomes nil. On the down side, this model requires a great deal of fibre, as much in the vertical as in the horizontal portion (for operators that opt for splicing) since a building can, in theory, be equipped with 400% capacity.

**Multi-fibre**: in the last metres of an optical fibre network, a multi-fibre configuration has several fibres (e.g. four) that connect the concentration point to the optical network unit (ONU) inside the customer premises. Access can therefore be supplied either over a dedicated or a shared fibre.

**MVNO (Mobile virtual network operator)**: unlike mobile network operators (Orange France, SFR and Bouygues Telecom in Metropolitan France), MVNOs have no frequency resources of their own. To provide end customers with mobile services, they therefore use a mobile network operator's radio network.

**Narrowband Internet**: also referred to as dial-up. Internet access from the France Telecom public switched telephone network, which is used for routing conventional telephone calls.

**NAS (Network Access Server):** equipment used by operators to provide Internet access services over the switched telephone network. An NAS converts telephone calls into IP data streams and thus provides the interface between the switched telephone network and the IP data transport network.

**Neighbourhood cabinet**: a small exchange immediately downstream from the central office that makes it possible to split the copper lines that make up a portion of subscribers' lines. Unlike the central office, the cabinet contains no equipment capable of supplying a switched telephone service – this equipment is located higher up the network in the central office to which the cabinet is connected. It is at the neighbourhood cabinet level where access to the France Telecom sub-loop is made possible, once it has been reengineered. Broadband access can thus be supplied from this new network gateway, making it a broadband exchange. The switched telephone service continues to be supplied from the central office.

NGA (Next Generation Access): the term employed by the European Commission to refer to the access supplied by new generation systems. One of the objectives the Commission set in the Digital Agenda for Europe (DAE) is to have 100% of European households capable of receiving a service running at 30 Mbps downstream by 2020. This throughput is often taken as the definition of NGA. Depending on the active equipment that has been deployed, and the portion of the network that is not fibrebased – but made up rather of copper or coaxial cable – FTTH, FTTB and certain FTTLA and FTTC networks are considered the networks capable of supplying NGA.

**Network:** totality of telecommunication resources employed including all switches and transmission links, whether wireline (metallic pair or cable or fibre optic cable) or wireless (terrestrial or satellite using electromagnetic waves).

**Network sharing:** Principle introduced by the Law on modernising the economy (LME) of 4 August 2008 to guarantee competition in the supply of ultra-fast broadband without increasing the number of undertakings required to do work on private property. The operator who installs the fibre in the building must therefore grant all reasonable requests from other operators to access the last metres of the network.

NRA: national regulatory authority.

**NRA (nœud de raccordement d'subscribers)**: subscriber connection point. A term used by France Telecom to designate the main distribution frame (see "MDF").

**Number portability**: also referred to as number retention. A system that allows a customer to keep their telephone number (either fixed or mobile) when switching operators.

**OLT (also known as ONT)**: point of convergence for the lines of FTTH network subscribers located in the same neighbourhood or the same town. It can be compared to the "NRA" (see above) in the copper local loop.

**On-net and off-net calling:** respectively, calls between two customers of the same mobile network and between two customers of different mobile networks.

**Passive equipment**: network components dedicated to signal routing (notably cables and breakout boxes).

**Peer to peer**: Often contracted to P2P. Refers to file sharing between internet users over servers that manage

their addresses and the content they make available for others.

**PIN**: Public-initiative network. An electronic communications built under a public service contract.

**PMR (Professional Mobile Radio)**: Also known as Private Mobile Radio. Mobile radio networks for business users. In France the following distinctions are made:

- 3RP (Réseaux Radioélectriques à Resources Partagés): trunked private mobile radio network.
- 3RPC (Réseaux Radioélectriques à Resources Partagés Commerciaux): trunked public access commercial mobile radio networks using 3RP technology;
- RPN (Radiocommunications mobiles Professionnelles Numériques): digital trunked Professional Mobile Radio networks using Tetra or Tetrapol technology.
- 2RC (Réseaux à usage partagé à relais commun): trunked private mobile radio networks for commercial purposes.
- 3R2P: 3RP networks operated for the user's private purposes.
- RPX: local trunked networks (new category of network).
- RPS (Radio Professionnelles Simplifiées): Short-range business radio.

**Point-to-point**: a type of fibre optic network architecture whereby all of the customer premises are connected to the OLT by a dedicated fibre, from end to end.

**PON (Passive Optical Network)**: a type of fibre optic network architecture. It is a tree architecture whose active equipment is all managed by the same operator. Unlike point-to-point technology, it cannot be "unbundled".

**PSTN (Public Switched Telephony Network)**: the legacy circuit-switched phone network operating at 64Kbps – contrary to IP telephony which operates in packet mode and goes through ISPs' IP service boxes.

**PSTN subscription**: subscription to France Telecom's fixed telephone service.

**Reengineering operator**: refers to either a local authority acting as an electronic communications operator, an operator working in tandem with a local authority under a public service contract, or an operator working on its own behalf, which is responsible for performing the required reengineering of one or several neighbourhood cabinets to enable access to the sub-loop as a means of increasing access speeds.

**Radio interface:** system enabling a mobile terminal to communicate with the network. Standardisation of the UMTS interface was the subject of numerous discussions within ETSI during 1997. On 29 January 1998, the SMG (Special Mobile Group) committee adopted the UTRA (UMTS Terrestrial Radio Access) standard for the terrestrial interface (as opposed to the interface for satellite).

The UTRA standard is a compromise between two originally competing standards: WCDMA and TD/CDMA. UTRA was adopted by the ITU in March 1999 as a radio interface standard for IMT-2000.

**READSL2 (Reach Extended Digital Subscriber Line)**: a technique that makes it possible to increase the range of the ADSL signal by injecting more power into certain frequency bands. Its chief purpose is to provide minimum service to subscribers located just outside the farthest reach of the normal ADSL coverage zone.

**Registered item**: a service that guarantees flat rate compensation for the loss, theft or damage of the postal item and which, when so requested by the sender, provides proof of deposit of the postal item and/or its delivery to the recipient.

**Remote concentration point**: the supply point for a remote connection solution when a concentration point serves fewer than 1,000 lines, as provided for in ARCEP Decision No. 2010-1312. In practice, this point may be combined with the operator's fibre distribution hub (FDH).

**Resale:** wholesale solution that allows an operator to resell an electronic communications service under its own brand, whose technical aspects are fully ensured by

another operator. Also referred to as white label products. RFID: Radio Frequency Identification technology which takes the form of chips or electronic tags that contain information on the product in which they are inserted, and which are equipped with readers that make it possible to query the tags remotely (within a range of several meters).

**RIO** (*relevé d'identité operator*): operator identity statement. A unique identifier which is attributed to a mobile phone line and the customer contract associated with it, enabling better identification during the number portability process.

SCoRAN (Stratégie de cohérence regionale d'aménagement numérique): Strategy for consistent digital regional development. Describes the core, overarching objectives for a public initiative aimed at enabling fixed and mobile broadband and ultra-fast broadband rollouts. The strategy is designed by a regional cooperation body.

SCS (Société de commercialisation de services): a term specific to the mobile sector, designating a mobile communications service provider, a company that sells and manages mobile subscriptions on behalf of an operator.

**SDTAN (Schéma directeur territorial aménagement numérique)**: Digital regional development blueprint drafted in application of Article L. 1425-2 of the Local and regional authority code.

Shared access: or partially unbundled access to the local loop, which consists of making the "high" frequency bands of the copper pair available to third-party operators, on which they will be able to build an ADSL service, for instance. The low frequency band (the one used traditionally for telephony) continues to be managed by France Telecom, which thus continues to supply subscribers with its telephone services, without unbundling having any effect on the service.

Short messages or SMS (Short Message Service): text messages which are transmitted over the GSM mobile network signalling channels and have a maximum length of 160 characters. Transmission of these messages on the GSM network is standardised. A short-message server integrated into the mobile network provides the interface between the mobile and fixed-network environments.

**Signalling:** on a telecommunication network, the signalling function performs the exchange of information internal to the network for purposes of call routing. Just as road signs on a roadway network direct the movement of vehicles, signalling information directs the movement of communications on the telecommunications network. This could involve, for example, the information necessary to recognise the caller for purposes of setting up call billing or displaying the calling number. This function can be provided directly by the network transporting the subscriber call. Thus, it is generally integrated into the switches. It can also be performed by a separate network, called the signalling network.

**SIM** (Subscriber Identity Module): smartcard inserted into a mobile terminal and containing the subscriber data required to authenticate a user on the network (GSM standard).

**Single fibre**: a configuration whereby the building operator pulls a single fibre from the concentration point to the optical network unit inside the customer premises. Access is thus necessarily supplied over a shared optical fibre.

**Single piece mail**: mail items sent by individuals, businesses and high volume issuers, which are not subject to any special preparation. They are deposited in the collection boxes on the public thoroughfare or adjacent to sorting centres, or in La Poste points of contact.

**SMP** (significant market power) operator: an operator has significant market power (SMP) if, individually or jointly with others, it commands a position equivalent to a dominant position, i.e., it has considerable ability to behave without regard to its competitors, its customers and ultimately, consumers.

**SMS (Short Message Service)**: see "Short Messages". SNG: satellite newsgathering, refers to ground stations for temporary satellite video links.

Standard interconnection offer: also known as the interconnection catalogue. Technical and commercial interconnection offer that operators designated by the Authority as having significant market power, pursuant to Article  $L.3\neg8$  of the CPCE (the French postal and electronic communications code), are required to publish annually so that other operators may establish their own commercial offers and prices. The standard interconnection offer also sets forth the conditions governing physical interconnection between the SMP operator and other operators.

Switching: in a telecommunications network, switching allows temporary traffic connections to be established between two or more network points. This is carried out by equipment, called switches or exchanges, located at different points in the network. The basic structure of a telecommunications network therefore comprises transmission links interconnected by switches. Packet switching and circuit switching are two switching techniques used in telecommunication networks. The first is used by Internet (IP) networks for example and the second by traditional switched telephony networks.

Symmetrical regulation: a form of regulation that imposes the same obligations on all the operators in a given market in order to guarantee consumers network interoperability, a minimum quality of service, adequate information and streamlined operator switching procedures which, in turn, allow users to take the utmost advantage of market competition.

**Terminal equipment**: equipment allowing a user to send, process or receive information (e.g., telephone, fax, modem etc.).

Third-party billing: service by which new operators may entrust the incumbent operator with billing for the services they offer their customers via interconnection. In the case of special services, third-party billing can be used for charged services only (not for services that are free to the caller). As this market develops, third party billing becomes essential for effective competition.

Third-party collection: in the context of interconnection, a service enabling a network operator to collect traffic from the incumbent's network on behalf of an operator that has no infrastructure in the geographic area concerned. This service is used particularly by telephone operators who wish to provide their service over an extended area without deploying a network.

**Traffic management**: any form of technical intervention on a data stream which takes into account the nature of the traffic or the identity or quality of the stream's originator or recipient.

**Transmission**: in an electronic communication network, the transmission function transports information from one point in the network to another. The infrastructure supporting transmission may consist of copper or fibre optic cables or may be wireless. (See "Switching".)

**Triple Play**: a bundle of three services (broadband Internet access, unmetered calling and TV) delivered over an electronic communications network.

Ultra-fast broadband (or ultra high-speed access): a term that refers to Internet access capacities that exceed those of ADSL, when referring to fixed network access, and to those of UMTS, when speaking of mobile access. For fixed access, ultra-fast broadband is delivered via optical fibre while, on mobile, the technologies are referred to collectively as 3.5G (HSDPA) or 4G (LTE).

URA (Unité de Raccordement d'Abonné): on the France Telecom network, this is the subscriber line unit, the part of the telephone switch where subscriber lines connect and information is digitised.

USSD (Unstructured Supplementary Service Data): a protocol used by GSM systems for allowing a mobile phone to communicate with a server in real time, without the communication being logged as an SMS. It can be used for instant messaging, payment or tracking consumption, for instance.

**UWB** (Ultra wide-band): a wireless modulation technology for transmitting large amounts of digital data over a wide spectrum of frequency bands, but with very low power to prevent interference with other signals.

Very high-density areas: municipalities with a highly concentrated population where, in a significant portion of that area, it is economically viable for several operators to deploy their own infrastructure, namely optical fibre networks, close to customer premises.

**VDSL (Very high speed digital subscriber line)**: xDSL technologies enabling better performance on local copper loop access networks, the goal being to supply higher speeds than classic ADSL. This significant increase is only possible on the shortest lines, however: beyond 1 kilometre, throughput will be equal to what ADSL technologies supply.

VGAST (vente en gros de l'abonnement téléphonique):

a wholesale line rental offer marketed by France Telecom which includes not only the subscription as such and services which are traditionally associated with the telephone subscription (caller display, incoming call signal, etc.) but also all person-to-person calls, calls to special numbers and narrowband Internet access. It is compatible with the simultaneous use of the high frequency band, notably in the case of wholesale broadband offers delivered at the regional or national level and shared access, regardless of the operator employing this high frequency band.

VPN (Virtual Private Network): a virtual private network, usually belonging to a business, that connects all of the company's offices and facilities using the internet's infrastructure and equipment, to guarantee that the transported data are "airtight".

VSAT (Very Small Aperture Terminal): satellite telecommunication service supporting two-way information exchange at low or medium speed via a small transmitter-receiver terminal that uses a narrow part of the total satellite bandwidth. WAP (Wireless Application Protocol): standard that adapts the Internet to mobile telephone constraints, in particular by employing a suitable content format. This communication protocol is a component of the process for gradually migrating GSM mobile networks to the Internet.

WAPECS (Wireless access policy for electronic communications services): an initiative launched by European Union countries aimed at facilitating swift access to spectrum for new technologies, in a bid to promote competitiveness and innovation (by eliminating all of the obstacles impeding market momentum), and to ensure consistent licensing mechanisms, while upholding the principles of technological neutrality for services.

WDM (wavelength-division multiplexing): a technology that multiplexes several optical carrier signals onto a single fibre using different wavelengths, or colours, which makes it possible to increase datarates.

Wi-Fi (Wireless Fidelity): generic commercial name for IEEE 802.11b wireless local Ethernet network (WLAN) technology operating at 2.4GHz.

WiMAX (Worldwide Interoperability for Microwave Access): label certifying the interoperability of IEEE 802.16-standard equipment from different suppliers. Wireline network: network based on metallic or fibre optic cable infrastructure.

WLAN (Wireless Local Area Network): wireless network operating over a limited area.

WLL (wireless local loop): local loop employing radio technology rather than the copper wire used in today's networks, thereby allowing for greater flexibility in infrastructure deployment. WRC (World Radiocommunication Conference): its purpose is to ensure international coordination in matters relating to radiocommunication. This coordination is essential because frequencies cross borders and it is simpler to have the same types of services in the same bands. Organised by the ITU, this conference is held every three or four years. The results, once incorporated into radiocommunications regulations, constitute international treaty. Each WRC conference is preceded by a meeting of the Radiocommunications Assembly and is followed by a conference preparatory meeting (CPM), where the groundwork is laid to prepare for the next conference.

**ZAA (Zone à autonomie d'acheminement)**: local exchange area. In the France Telecom network, every category of switch is associated with a technical service area which indicates the number of subscribers served by one or more switches at a given level of the network. The

**ZAA (Zone à autonomie d'acheminement):** corresponds to the CAA or local exchange, and the ZT (Zone de transit) corresponds to the CT or transit exchange (Commutateur de transit).

**ZLT (Zone locale de tri)**: local sorting area. The local loop operator sends calls to the carrier designated by the calling party only when the calls are destined for called parties outside of the ZLT; it keeps and routes calls internal to the ZLT regardless of the way in which the calling party dials the call. In France, the ZLT generally corresponds geographically to a département.

ZT (Zone de transit): transit area. (See "ZAA").

GLOSSARY