French Telecoms Economics 2020

01. A steady growth of the global digital ecosystem driven by American and Asian players

02. Telecom players, driving force in the Digital ecosystem in France and supporting the fourth industrial and technological revolution

03. Investments in telecom infrastructures essentials during COVID outbreak

04. Telecom strongly contributing to environmental challenges: France must choose its model for a sustainable digital ecosystem
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    France must choose its model for a sustainable digital ecosystem
Telecoms in the global digital ecosystem

A digital ecosystem becoming more mature and still fast growing

Revenues from the digital ecosystem
World, based on top 180 digital companies\(^1\) 2010-2019, billion euros\(^2\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Internet</th>
<th>Content</th>
<th>IT / Software</th>
<th>Device(^3)</th>
<th>Network Equipment</th>
<th>Telecom Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2.663</td>
<td>176</td>
<td>380</td>
<td>916</td>
<td>150</td>
<td>948</td>
</tr>
<tr>
<td>2011</td>
<td>2.912</td>
<td>177</td>
<td>414</td>
<td>1.011</td>
<td>1.017</td>
<td>1.017</td>
</tr>
<tr>
<td>2012</td>
<td>3.121</td>
<td>170</td>
<td>431</td>
<td>1.174</td>
<td>1.039</td>
<td>1.076</td>
</tr>
<tr>
<td>2013</td>
<td>3.236</td>
<td>168</td>
<td>441</td>
<td>1.209</td>
<td>1.124</td>
<td>1.124</td>
</tr>
<tr>
<td>2014</td>
<td>3.374</td>
<td>167</td>
<td>468</td>
<td>1.215</td>
<td>1.124</td>
<td>1.201</td>
</tr>
<tr>
<td>2015</td>
<td>3.622</td>
<td>183</td>
<td>476</td>
<td>1.304</td>
<td>1.201</td>
<td>1.297</td>
</tr>
<tr>
<td>2016</td>
<td>3.826</td>
<td>206</td>
<td>491</td>
<td>1.269</td>
<td>1.322</td>
<td>1.358</td>
</tr>
<tr>
<td>2017</td>
<td>4.135</td>
<td>228</td>
<td>508</td>
<td>1.387</td>
<td>1.358</td>
<td>1.373</td>
</tr>
<tr>
<td>2018</td>
<td>4.566</td>
<td>257</td>
<td>565</td>
<td>1.545</td>
<td>282</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>4.795</td>
<td>282</td>
<td>608</td>
<td>1.539</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Annual growth
2010-19 (Average) 2018-19
\(+6.8\%\) per year \(+5.0\%\)

Example of Players

Source: Thomson Reuters Eikon, Arthur D. Little Analysis
Notes: 1) Panel of 180 companies: By sector, selection of the top 30 companies in 2019 by their turnover, 2) Constant 2019 Euros.
3) As Huawei is not listed, revenues were added to the panel of 180 companies in the sample; Huawei is classified as a “Device” player, this category representing 55% of its revenues in 2019.
A European digital ecosystem now growing faster than GDP

Digital ecosystem revenue growth\(^1\) vs. the economy
World, 2010-2019, base 100 in 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Global Digital Ecosystem(^2)</th>
<th>Global GDP(^2)</th>
<th>European GDP(^2)</th>
<th>European Digital Ecosystem(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2011</td>
<td>110</td>
<td>103</td>
<td>101</td>
<td>110</td>
</tr>
<tr>
<td>2012</td>
<td>120</td>
<td>106</td>
<td>102</td>
<td>120</td>
</tr>
<tr>
<td>2013</td>
<td>130</td>
<td>109</td>
<td>103</td>
<td>130</td>
</tr>
<tr>
<td>2014</td>
<td>140</td>
<td>112</td>
<td>104</td>
<td>140</td>
</tr>
<tr>
<td>2015</td>
<td>150</td>
<td>115</td>
<td>105</td>
<td>150</td>
</tr>
<tr>
<td>2016</td>
<td>160</td>
<td>117</td>
<td>106</td>
<td>160</td>
</tr>
<tr>
<td>2017</td>
<td>170</td>
<td>119</td>
<td>107</td>
<td>170</td>
</tr>
<tr>
<td>2018</td>
<td>180</td>
<td>122</td>
<td>108</td>
<td>180</td>
</tr>
<tr>
<td>2019</td>
<td>190</td>
<td>125</td>
<td>109</td>
<td>190</td>
</tr>
</tbody>
</table>

Source: Thomson Reuters Eikon, World Bank, Arthur D. Little Analysis
Notes: 1) Panel of 180 companies: By sector, selection of the top 30 companies in 2019 by their sales in 2019, 2) In constant 2019 euros, within the perimeter of the countries considered in the digital ecosystem (representing 75% of world GDP, or 70% of European GDP for European data.)
European digital players still lagging behind American and Asian champions

Digital ecosystem revenues¹
World, 2010-2019, billion euros²

Source: Thomson Reuters Eikon, Arthur D. Little Analysis
Notes: 1) Panel of 180 companies: By sector, selection of the top 30 companies in 2019 by turnover, 2) Constant 2019 Euros, 3) Includes the top 30 companies outside Asia, North America and Europe (only Oceania, Middle East, Africa and South America).

Annual growth
2010-19 (Average) 2018-19
+7% +3% -1%
+9% +8%
+1% +3%
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Contribution of main players to the French Digital Ecosystem
France, 2019 (vs. 2018) – based on a selection of largest players by category

Revenues:
- Telecom Operators: 88 Bn€ (+10 Bn€ vs 2018)
- Content Providers: 56 Bn€ (+10 Bn€ vs 2018)
- Top 35 Internet Players: 4 Bn€ (+2 Bn€ vs 2018)

Investments:
- Telecom Operators: 14 Bn€ (+0.5 Bn€ vs 2018)
- Content Providers: 10 Bn€ (+2 Bn€ vs 2018)
- Top 35 Internet Players: 7 Bn€ (+2 Bn€ vs 2018)

Direct Employment:
- Telecom Operators: 162,000 (+2,000 vs 2018)
- Content Providers: 12,000 (+1,000 vs 2018)
- Top 35 Internet Players: 3,500 (+500 vs 2018)

Taxes:
- Telecom Operators: 2.3 Bn€ (-0.46 Bn€ vs 2018)
- Content Providers: 1.8 Bn€ (-0.26 Bn€ vs 2018)
- Top 35 Internet Players: 0.2 Bn€ (-0.02 Bn€ vs 2018)

Source: Thomson Reuters Eikon, Diane, Annual Reports, Arthur D. Little Analysis
Notes: 1) Reported or estimated revenues in France or documentary research, 2) Data adjusted to take into account the estimated effective revenues of international players in France, 3) Corporate income tax and similar taxes and payments - excluding fines/agreements/adjustments paid by Internet players; 4) Based on gross investments (excluding asset disposals) 5) Netflix revenues calculated on the basis of the number of subscribers reported.
A leading role of Telecom operators in improving purchasing power of French end-users

Evolution of end-prices of a selection of essential products and services
France, 2010-2019, Base 100 in 2010

Source: INSEE, Arthur D. Little analysis
A leading role of Telecom players in Digital despite increasing tax pressure

Tax rate\(^1\) as a proportion of revenues\(^2,3\)
For the main players in the French digital ecosystem, 2014 vs 2019

<table>
<thead>
<tr>
<th>Year</th>
<th>Orange</th>
<th>SFR</th>
<th>Google</th>
<th>Amazon</th>
<th>Netflix</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>3.3%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>0.3%</td>
<td>-0.6pts</td>
</tr>
<tr>
<td>2019</td>
<td>6.5%</td>
<td>0.3%</td>
<td>3.4%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

\(^1\) Tax rate as a proportion of revenues
\(^2\) For the main players in the French digital ecosystem, 2014 vs 2019
\(^3\) Data adjusted to take into account the estimated effective revenue of international players in France.

Source: Diane, Annual Reports, Arthur D. Little Analysis
Notes: 1) Corporate income tax and similar taxes and payments - excluding fines/agreement/adjustments paid by Internet players between 2018 and 2020, 2) Revenue declared in France or documentary research, 3) Data adjusted to take into account the estimated effective revenue of international players in France.
A record of +€ 10bn invested in networks in 2019: Telecom sector, the largest private investor in infrastructures in France

Investment\(^1\) from Telecom versus other Infrastructure sectors
France, 2015-2019, 5 years annual average, billion euros

**10,4 Bn en 2019**
For the first time, in 2019, investments in telecom infrastructure crossed the €10 billion threshold.

Equivalent to the following investments each year...

- **113 Hospitals**
- **684 High Schools**
- **2334 Wind Turbines** (x2 vs. current fleet)
- **89 Airbus A320 Néo**
- **6 Charles de Gaulle Express lines** (i.e. ¼ of Grand Paris Express)

Source: Companies, Documentary Research, Arthur D. Little Analysis
Note: 1) Telecoms: ARCEP figures (excluding purchase of frequencies); Electricity: ERDF; Railway: RFF; Motorways: ASFA (Sanef, SAPN, ASF, ...)

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Telecom players, driving force in the Digital ecosystem in France
+€10bn, a historical threshold of investment in Telecom infrastructure

Investment in telecom networks
France, 2010-2019, billion euros

82 billions in 10 years
(89.2 billions including spectrum frequency acquisition)

Before Very-High Speed

Investment phase including Very-High Speed fixed broadband

Mobile networks

Fixed networks

Source: ARCEP, Arthur D. Little Analysis
Note: 1) Investment of the entire telecom sector in networks (telecom service operators and other private players), excluding purchases of mobile frequencies

+ 7.2 billion in spectrum purchase over the period.
0.9 in 2010
0.9 in 2011
2.6 in 2012
2.8 in 2015
Rise of mobile data

A threshold of 10Gb monthly usage per user crossed in early 2020

**Average 4G data consumption**

Monthly average

- **Q2 2017**: 4.6 Go
- **Q2 2020**: 10.2 Go

Equivalent to 375h of music streaming or 10h of video streaming

+30%/year

Premises eligible to very high-speed internet offers

- **Q2 2017**: 16.8
- **Q2 2020**: 26.1

+4.8 million more FttH premises connected in 2019 (+400k premises/month)

+16%/year

Internet territorial inclusion

**Record FttH Homes Passed in low density areas in 2019**

- **Q2 2017**: 3.4 (40%)
- **Q2 2020**: 10.5 (51%)

- **Q2 2017**: 0.7 (8%)
- **Q2 2020**: 4.5 (53%)

- **Q2 2017**: 4.3 (21%)
- **Q2 2020**: 20.8

XX Number of premises eligible for FttH in millions (xx%) As a percentage of eligible premises

Number of 4G SIM cards (millions)

- **2017**: 37
- **2020**: 57

Source: ARCEP, operators, Arthur D. Little Analysis

Notes: 1) Consumption by active 4G card
Telecom players, driving force in the Digital ecosystem in France

Prices of telecom services in France among the lowest within major Western markets

Pricing of Fixed Broadband and Mobile offers from leading operators
Country Selection, September 2020, € / month (inc. taxes)

Fixed (Triple Play)

- 15€
- 25€
- 30€
- 31€
- 44€
- 45€
- 94€

Mobile

- 14€
- 14€
- 17€
- 22€
- 36€
- 45€
- 68€

- Price per Gb

Excluding promotions and connection fees
By country, selection of the most competitive package in terms of price among operators with more than 10% of PDM

Source: Operator sites, Arthur D. Little Analysis
Notes: 1) Triple play offers only; unlimited telephony at least to landlines; unlimited broadband Internet via xDSL or fiber; television included, excluding additional packs; operators with market share > 10% excluding promotions. 2) Unlimited calls when available otherwise >500 minutes), unlimited SMS/MMS, Internet at least 50 GB, offers without terminal, offers without commitment when available; operators with market share > 10%.
Telecom players, driving force in the Digital ecosystem in France

Investment effort of French telecom operators unique in Europe

Largest investment effort in Europe

Investment effort rate per country (CAPEX¹/Revenues¹)
United Kingdom, France, Spain, Germany, Italy 2019

<table>
<thead>
<tr>
<th>Country</th>
<th>CAPEX/Revenues (%)</th>
<th>CAPEX/Habitant (€/hab)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>22%</td>
<td>133€/hab</td>
</tr>
<tr>
<td>France</td>
<td>12%</td>
<td>121€/hab</td>
</tr>
<tr>
<td>Spain</td>
<td>19%</td>
<td>107€/hab</td>
</tr>
<tr>
<td>Germany</td>
<td>20%</td>
<td>90€/hab</td>
</tr>
<tr>
<td>Italy</td>
<td>15%</td>
<td>75€/hab</td>
</tr>
</tbody>
</table>

Largest Fiber deployment in Europe

Number of premises connected in FttH/B over 12 months
Selected European countries, Sept 2018 - Sept 2019, millions of premises

<table>
<thead>
<tr>
<th>Country</th>
<th>In % of Households</th>
<th>Premises Connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>12%</td>
<td>3,5</td>
</tr>
<tr>
<td>France</td>
<td>7%</td>
<td>1,9</td>
</tr>
<tr>
<td>Spain</td>
<td>8%</td>
<td>1,5</td>
</tr>
<tr>
<td>Germany</td>
<td>5%</td>
<td>1,4</td>
</tr>
<tr>
<td>Italy</td>
<td>2%</td>
<td>1,0</td>
</tr>
</tbody>
</table>

Source: Annual Report, Arthur D. Little Analysis
Notes: 1) Turnover and CAPEX of telecom operators with a fixed or mobile market share >10%

France has accelerated fiber deployment with 5.3m of premises connected between mid-20219 and mid-2020.
Telecom players, driving force in the Digital ecosystem in France

Investments essentials for the 4th industrial revolution of Digitalization

Industrial revolutions enabled by increasing investment in infrastructures

<table>
<thead>
<tr>
<th>1st revolution</th>
<th>2nd revolution</th>
<th>3rd revolution</th>
<th>4th revolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrialization</td>
<td>Mass production</td>
<td>Automation</td>
<td>Mass automation and digitalization</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telecommunications</th>
<th>Transport</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telegram</td>
<td>Train</td>
<td>Steam</td>
</tr>
<tr>
<td>Fixed telephone</td>
<td>Car</td>
<td>Electricity</td>
</tr>
<tr>
<td>RNIS / Mobile</td>
<td>High Speed trains/Planes</td>
<td>Oil &amp; Nuclear</td>
</tr>
<tr>
<td>5G / Fiber</td>
<td>Electrical &amp; autonomous vehicle</td>
<td>Green energy</td>
</tr>
</tbody>
</table>

Source: Arthur D. Little Analysis
Note: 1) Between 2010 and 2019, telecom operators have invested €81.24bn in telecom networks in France.
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04 Telecom strongly contributing to environmental challenges
   France must choose its model for a sustainable digital ecosystem
COVID: robust Telecom networks that coped with surge of traffic

**Evolution of mobile voice consumption**
France, Q1 2019 – Q1 2020, millions of minutes

- Q2 2018: 43,049
- Q2 2019: 43,956
- Q2 2020: 57,210

**Average time spent on the Internet per day**
Fixed and mobile, April 2019 – April 2020, in minutes/day

- April 2018: 108
- April 2019: 123
- April 2020: 180

**Impact of COVID crisis**

**Source:** Arcep Q2 2020, Médiamétrie data, Arthur D. Little Analysis
COVID : essential services maintained with Telecom networks in France

**Investments in telecom infrastructures essentials during COVID outbreak**

**Economy**

**Teleworking employees**
- France, 2019 - 2020, %
- **Apr 19:** 3%
- **Apr 20:** 59%

**Education**

**Remote learning**
- Students of top 10 French universities in 2020, in thousands
- **Before lockdown:** 529
- **Lockdown period:** 43%
- **100% online:** 57%

**Health**

**e-Consultation reimbursed**
- France, Jan – June 2020, in millions
- **Before lockdown:** 0.01
- **Lockdown period:** 2.80
- **After lockdown:** 1.80

Source: Dares (Ministry of Labour), Arthur D. Little analysis
Note: 1) At least one day per week
Source: University websites in France, Arthur D. Little Analysis
Source: Ameli (Assurance Maladie), Arthur D. Little Analysis
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Sustainability: stable level of Greenhouse Gas emissions from telecoms

Greenhouse Gas emissions in France
2015-2018, Mt EqCO₂, National French emissions– excluding imported emissions

Source: INSEE, 2020 Report of the French High Council for Climate Change (telecom data 2015-18), Arthur D. Little Analysis
Notes: GHG: Greenhouse gases; (1) corresponds to the national inventory of emissions by sector measured by SECTEN; not included are international river, sea and air emissions as well as all emissions imported into France; (2) excluding telecom network emissions.
Telecoms strongly contributing to environmental challenges:

Expected growth of digital carbon footprint by 2040, directly linked to Internet and Connected Equipment players

Digital carbon footprint in France
Based on the estimates of the central scenario of the Senate report - June 2020

In Mt CO2eq national inventory and imported emissions

The Increase of 60% of digital sector emissions in 2040 vs. 2019 is mostly due data centers and connected equipment

(86% of emissions from connected equipment are due to their production¹)

Notes: 1) Production of connected equipment mainly in Southeast Asia, with high carbon intensity of electricity (213.8gCO2eq/kWh on average vs. 57.1gCO2eq/kWh in France); 2) smartphones, computers, printers, computer screens, tablets, TVs, boxes, game consoles, virtual reality headsets, connected speakers, advertising screens and IoT connection modules
Telecoms strongly contributing to environmental challenges:

Investments from telecoms essential for a sustainable digital ecosystem

<table>
<thead>
<tr>
<th>Fixed network: Fiber</th>
<th>Mobile network: 5G</th>
<th>Home Internet routers</th>
<th>Mobile devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTTH vs ADSL kWh/line/year divided by 3</td>
<td>5G vs 4G kWh/GB divided by 10</td>
<td>20%² decrease of annual energy consumption of Internet routers</td>
<td>Growing recycling effort of mobile devices</td>
</tr>
<tr>
<td>Average annual consumption per line in kWh</td>
<td>Power consumption in kWh/GB from mobile networks</td>
<td>Power consumption in Watt/h¹ per box France - 2016 - 2019</td>
<td>Mobiles recycled by FFT³ operators France - Cumulative over 2016-2019, in millions</td>
</tr>
</tbody>
</table>

### FTTH vs ADSL kWh/line/year divided by 3

<table>
<thead>
<tr>
<th>Technology</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADSL</td>
<td>16.0</td>
<td>16.0</td>
<td>16.0</td>
<td>16.0</td>
</tr>
<tr>
<td>Fiber</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

### 5G vs 4G kWh/GB divided by 10

<table>
<thead>
<tr>
<th>Generation</th>
<th>ADSL</th>
<th>Fiber</th>
<th>2G</th>
<th>3G</th>
<th>4G</th>
<th>5G</th>
</tr>
</thead>
<tbody>
<tr>
<td>2G</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3G</td>
<td>2.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4G</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5G</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 20%² decrease of annual energy consumption of Internet routers

- **Home router selection 2016**
  - 7.3 – 11.6 kWh/GB
- **New home routers launched in 2019**
  - 6.6 – 8.0 kWh/GB

### Growing recycling effort of mobile devices

<table>
<thead>
<tr>
<th>Year</th>
<th>Mobiles recycled by FFT³ operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1.35</td>
</tr>
<tr>
<td>2017</td>
<td>2.87</td>
</tr>
<tr>
<td>2018</td>
<td>4.35</td>
</tr>
<tr>
<td>2019</td>
<td>5.45³</td>
</tr>
</tbody>
</table>

Source: Arcep Note n°5 “The digital carbon footprint”, Technical notes from the box operators, Orange press release, FFT aggregated data, Arthur D analysis. Little Notes: (1) In standby mode, with Internet connection maintained; (2) 3.9TWh in 2019 versus 4.9TWh in 2015, while the number of Internet boxes increased by 11% over the period. (3) The number of mobiles taken back/recycled represents 18.2% of new mobiles marketed since 2016.
### Investments in networks improving the energy efficiency of Data

#### MOBILE

*France, Networks and Smartphones - excluding Datacenters*

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data traffic</td>
<td>0.56</td>
<td>5.5</td>
</tr>
<tr>
<td>Energy Consumption from mobile networks(^1) &amp; smartphones (\text{In TWh})</td>
<td>1.7</td>
<td>2.2</td>
</tr>
<tr>
<td>kWh/GB Mobile</td>
<td>3.0</td>
<td>0.41</td>
</tr>
</tbody>
</table>

\(\text{1/7 in 5 years}\)

#### FIXED

*France, Networks and Internet device - excluding Datacenters*

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data traffic(^2)</td>
<td>14</td>
<td>262</td>
</tr>
<tr>
<td>Energy Consumption from fixed networks(^1) and routers (\text{In TWh})</td>
<td>6.8</td>
<td>5.6</td>
</tr>
<tr>
<td>kWh/GB Fixed</td>
<td>0.52</td>
<td>0.21</td>
</tr>
</tbody>
</table>

\(\text{1/2 in 5 years}\)

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**Telecom networks and terminals accounted for 1.6% of electricity consumption in France in 2019**


Notes: (1) Data from the study of the General Council of the Economy and the Report of the fact-finding mission on the environmental footprint of digital technology in the Senate; (2) Fixed traffic estimate based on CISCO VNI data and extrapolation of the 2015-2017 trend to 2018 and 2019; (3) 2018 data, CGE High Estimates, Dec 2019.
Telecoms strongly contributing to environmental challenges

Digital is part of the solution, facilitating reductions of Greenhouse Gas emissions in economy

Telecoms, a catalyst for Greenhouse Gas emissions reduction in economy
In MteqCO2 – Mobile Networks, globally

Remote working telecom enabling x100 eqCO2 savings
Daily emissions in grams of eqCo2

Source: ADEME 2020. Study on the characterization of rebound effects induced by telework, Arthur D. Little Analysis; Notes: (1) Average emissions per person in employment per year, related to commuting; (2) Savings estimate based on ADEME estimate

Source: GSMA, "The Enablement Effect", GSMA Telefónica Energy and Climate change strategy, Arthur D. Litt analysis
(1) Savings in MteqCO2: Agriculture (55), Real estate (210), Energy (159), Manufacturing (240), Mobility/Transport (644) and Work/Life/Health (828)

Savings x10

<table>
<thead>
<tr>
<th>Direct emissions of Mobile networks</th>
<th>Emission savings in other sectors</th>
<th>Savings x10</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>2.136</td>
<td>GSMA</td>
</tr>
</tbody>
</table>

Savings x100

<table>
<thead>
<tr>
<th>Telecom emissions of 1 day of Remote Working</th>
<th>Daily emissions if working from office</th>
<th>Savings x100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.189</td>
<td>11</td>
<td>ADEME</td>
</tr>
</tbody>
</table>
Telecoms strongly contributing to environmental challenges

French Telecom Operators call to the Government for a sustainable digital environment

Enable a favorable environment for digital players to successfully address their challenges

- Encourage a common methodology to measure GHG emissions between all digital players and to define reduction objectives
- Support our demand for International OEMs & Vendors for greater use of sustainable materials and solutions lowering environmental impact
- Ensure a fair competitive framework and a balanced set of environmental obligations among all digital players
- Introduce a financial contribution from content providers to the cost of deployment of Telecom infrastructure, based on volume of data carried on networks

Support the efforts of French Telecom Operators

- Support the development of second-hand market for end-user devices
- Support the sector's investments in new low energy-intensive technologies
- Highlight the positive contribution of ICT technologies to reduce emissions in other sectors
- Ensure that the obligation framework imposed to the telecoms sector is consistent with the environmental challenges

Raise public awareness

- Leverage and amplify the Telecom sector's environmental efforts
- Avoid multiplying obligations based on purely national environmental indicators; anticipate that a proliferation of environmental indicators could lead to confusion among end users

Recommendations from the French Federation of Telecom Operators

Source: French Telecommunications Federation
Notes (1) do not reproduce the current fiscal inequities between digital players; (2) accessibility, coverage, sovereignty, ... (3) with the objective to encourage more virtuous models for data consumption
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