



France - 2021 Forecast Highlights

IP Traffic

- In France, IP traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 22%.
- In France, IP traffic will reach 5.6 Exabytes per month in 2021, up from 2.1 Exabytes per month in 2016.
- France's IP networks will carry 184 Petabytes per day in 2021, up from 69 Petabytes per day in 2016.
- In France, IP traffic will reach an annual run rate of 67.3 Exabytes in 2021, up from an annual run rate of 25.3 Exabytes in 2016.
- In France, IP traffic will reach 85 Gigabytes per capita in 2021, up from 33 Gigabytes per capita in 2016.
- In France, average IP traffic will reach 17 Tbps in 2021, and busy hour traffic will reach 105 Tbps.
- In 2021, the gigabyte equivalent of all movies ever made will cross France's IP networks every 1 hours.

Internet Traffic

- In France, Internet traffic will grow 3.1-fold from 2016 to 2021, a compound annual growth rate of 25%.
- In France, busy hour Internet traffic will grow 4.3-fold from 2016 to 2021, a compound annual growth rate of 34%.
- In France, Internet traffic will reach 5.0 Exabytes per month in 2021, up from 1.6 Exabytes per month in 2016.
- France's Internet traffic will be 164 Petabytes per day in 2021, up from 50 Petabytes per day in 2016.
- France's Internet traffic in 2021 will be equivalent to 15 billion DVDs per year, 1 billion DVDs per month, or 2 million DVDs per hour.
- In 2021, the gigabyte equivalent of all movies ever made will cross the Internet every 1 hours.

- French Internet traffic in 2021 will be equivalent to 58x the volume of the entire French Internet in 2005.
- In France, Internet traffic will reach 76 Gigabytes per capita in 2021, up from 25 Gigabytes per capita in 2016.
- In France, average Internet traffic will increase 3.1-fold by 2021 and will reach 15 Tbps.
- In France, busy hour Internet traffic will increase 4.3-fold by 2021 and will reach 93 Tbps.

Wired Wi-Fi and Mobile Growth

- France's Fixed/Wi-Fi was 42% of total IP traffic in 2016, and will be 47% of total IP traffic in 2021.
- France's Fixed/Wired was 53% of total IP traffic in 2016, and will be 38% of total IP traffic in 2021.
- France's Mobile was 5% of total IP traffic in 2016, and will be 14% of total IP traffic in 2021.
- France's Fixed/Wi-Fi was 52.7% of total Internet traffic in 2016, and will be 52.5% of total Internet traffic in 2021.
- France's Fixed/Wired was 40% of total Internet traffic in 2016, and will be 31% of total Internet traffic in 2021.
- France's Mobile was 6.9% of total Internet traffic in 2016, and will be 16.2% of total Internet traffic in 2021.
- In France, mobile data traffic will grow 7-fold from 2016 to 2021, a compound annual growth rate of 48%.
- In France, mobile data traffic will reach 810 Petabytes per month in 2021, up from 113 Petabytes per month in 2016.
- French mobile data traffic will grow 3 times faster than French fixed IP traffic from 2016 to 2021.
- France's Mobile was 5% of total IP traffic in 2016, and will be 14% of total IP traffic in 2021.
- In France, mobile data traffic in 2021 will be equivalent to 8x the volume of the entire French Internet in 2005.

IP Video

- In France, IP video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 23%.
- In France, IP video traffic will reach 4.5 Exabytes per month in 2021, up from 1.6 Exabytes per month in 2016.
- In France, IP video will be 80% of all IP traffic in 2021, up from 75% in 2016.
- In France, Ultra HD will be 17.9% of IP Video traffic in 2021, up from 1.0% in 2016 (121.7% CAGR).
- In France, HD will be 58.2% of IP Video traffic in 2021, up from 45.3% in 2016 (29.7% CAGR).
- In France, SD will be 23.9% of IP Video traffic in 2021, compared to 53.7% in 2016 (4.9% CAGR).
- In France, consumer IP video traffic will be 82% of consumer IP traffic in 2021, up from 80% in 2016.
- In France, business IP video traffic will be 71% of business IP traffic in 2021, up from 50% in 2016.

Internet Video

- In France, Internet video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 28%.
- In France, Internet video traffic will reach 3.9 Exabytes per month in 2021, up from 1.1 Exabytes per month in 2016.
- In France, total Internet video traffic (business and consumer, combined) will be 79% of all Internet traffic in 2021, up from 70% in 2016.
- In France, Ultra HD will be 17.6% of Internet video traffic in 2021, up from 1.2% in 2016 (117.9% CAGR).

- In France, HD will be 56.8% of Internet video traffic in 2021, up from 33.7% in 2016 (42.4% CAGR).
- In France, SD will be 25.6% of Internet video traffic in 2021, compared to 65.1% in 2016 (6.4% CAGR).
- In France, consumer Internet video traffic will be 80% of consumer Internet traffic in 2021, up from 74% in 2016.
- In France, business Internet video traffic will be 72% of business Internet traffic in 2021, up from 52% in 2016.
- In France, Internet-Video-to-TV traffic will be 36% of fixed consumer Internet video traffic in 2021, up from 34% in 2016.
- In France, Internet-Video-to-TV traffic will increase 3-fold between 2016 and 2021 (26.3% CAGR).
- In France, 63 billion minutes (119,589 years) of video content will cross the Internet each month in 2021. That's 23,918 minutes of video streamed or downloaded every second.
- In France, 99% of all Internet video traffic will cross content delivery networks in 2021, up from 82% in 2016.
- In France, 72.1% of all Internet video traffic will be long-form video (including live) in 2021, up from 55.6% in 2016.

IP VOD

- In France, Ultra HD will be 21.6% of IP VOD traffic in 2021, up from 0.2% in 2016 (160.9% CAGR).
- In France, HD will be 74.9% of IP VOD traffic in 2021, up from 80.2% in 2016 (3.5% CAGR).
- In France, SD will be 3.6% of IP VOD traffic in 2021, compared to 19.6% in 2016 (-25.4% CAGR).

Gaming

- In France, gaming traffic will grow 12-fold from 2016 to 2021, a compound annual growth rate of 64%.
- In France, gaming traffic will reach 347 Petabytes per month in 2021, up from 30 Petabytes per month in 2016.
- In France, gaming traffic will be 8% of consumer Internet traffic in 2021, up from 2% in 2016.

Devices

- In France, there will be 575.5 million networked devices in 2021, up from 330.3 million in 2016.
- In France, there will be 8.7 networked devices per capita in 2021, up from 5.1 per capita in 2016.
- In France, 29% of all networked devices will be mobile-connected in 2021.
- In France, M2M modules will account for 63% (362.6 million) of all networked devices in 2021, compared to 43% (141.2 million) in 2016, (20.8% CAGR).
- In France, PCs will account for 6% (34.5 million) of all networked devices in 2021, compared to 12% (39.8 million) in 2016, (-2.8% CAGR).
- In France, Tablets will account for 3% (18.5 million) of all networked devices in 2021, compared to 5% (17.5 million) in 2016, (1.1% CAGR).
- In France, Smartphones will account for 11% (60.8 million) of all networked devices in 2021, compared to 15% (50.1 million) in 2016, (4% CAGR).
- In France, Connected TVs will account for 14% (81.3 million) of all networked devices in 2021, compared to 19% (62.1 million) in 2016, (5.5% CAGR).

- In France, Non-Smartphones will account for 0.3% (1.5 million) of all networked devices in 2021, compared to 3% (10.1 million) in 2016, (-31.9% CAGR).
- In France, Other Portables will account for 3% (16.2 million) of all networked devices in 2021, compared to 3% (9.5 million) in 2016, (11.2% CAGR).
- In France, 4K TVs will account for 54% (14.4 million) of all flat panel TVs in 2021, compared to 13.5% (2.0 million) in 2016, (47.7% CAGR).
- France's IP traffic from non-PC devices was 50% of total IP traffic in 2016, and will be 72% of total IP traffic in 2021.
- In France, PCs accounted for 50% of IP traffic in 2016, and will be 28% of IP traffic in 2021.
- In France, TVs accounted for 34% of IP traffic in 2016, and will be 30% of IP traffic in 2021.
- In France, Smartphones accounted for 9% of IP traffic in 2016, and will be 26% of IP traffic in 2021.
- In France, Tablets accounted for 3% of IP traffic in 2016, and will be 7% of IP traffic in 2021.
- In France, M2M modules accounted for 3.5% of IP traffic in 2016, and will be 8.7% of IP traffic in 2021.
- In France, PCs accounted for 58% of consumer Internet traffic in 2016, and will be 27% of consumer Internet traffic in 2021.
- In France, TVs accounted for 22% of consumer Internet traffic in 2016, and will be 29% of consumer Internet traffic in 2021.
- In France, TVs accounted for 18% of total Internet traffic in 2016, and will be 24% of total Internet traffic in 2021.

Speed Evolution

- In France, the average fixed broadband speed will grow 2.5-fold from 2016 to 2021, from 25.6 Mbps to 64.5 Mbps.
- In France, 81% of fixed broadband connections will be faster than 5 Mbps in 2021, up from 70% today.
- In France, 58% of fixed broadband connections will be faster than 10 Mbps in 2021, up from 49% today.
- In France, 35.5% of fixed broadband connections will be faster than 25 Mbps in 2021, up from 24.8% today.
- In France, 29.5% of fixed broadband connections will be faster than 50 Mbps in 2021, up from 16.0% today.
- In France, the average Wi-Fi speeds from mobile devices will grow 1.8-fold from 2016 to 2021, from 16.8 Mbps to 31 Mbps.
- In France, the average mobile connection speed will grow 2-fold from 2016 to 2021, reaching 27 Mbps in 2021.

Traffic per User and Household

- In France, the average Internet user will generate 61.2 Gigabytes of Internet traffic per month in 2021, up 174% from 22.3 Gigabytes per month in 2016, a CAGR of 22%.
- In France, the average Internet household will generate 129.2 Gigabytes of Internet traffic per month in 2021, up 172% from 47.4 Gigabytes per month in 2016, a CAGR of 22%.
- In France, the average FTTx Internet household will generate 226.1 Gigabytes of Internet traffic per month in 2021, 124.0% more than other broadband households.
- In France, the average FTTx Internet household generated 112.6 Gigabytes of Internet traffic per month in 2016, 150.4% more than other broadband households.

- In France, there will be 6 million Internet households (21.9% of all Internet households) generating more than 250 Gigabytes per month in 2021.
- In France, there will be 1 million households (5.0% of all Internet households) generating more than 500 Gigabytes per month in 2021.
- In France, there will be 261,443 households (1.0% of all Internet households) generating more than a terabyte per month in 2021.
- In France, the average mobile connection will generate 9,883 Megabytes of mobile data traffic per month in 2021, up from 1,559 Megabytes in 2016.

Traffic Topology and Traffic Patterns

- In France, 87% of all Internet traffic will cross content delivery networks in 2021, up from 66% in 2016.
- In France, peak Internet traffic will grow at a compound annual growth rate of 34% from 2016 to 2021, compared to 25% for average Internet traffic.