



## Italy - 2021 Forecast Highlights

### IP Traffic

- In Italy, IP traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 23%.
- In Italy, IP traffic will reach 3.0 Exabytes per month in 2021, up from 1.0 Exabytes per month in 2016.
- Italy's IP networks will carry 98 Petabytes per day in 2021, up from 34 Petabytes per day in 2016.
- In Italy, IP traffic will reach an annual run rate of 35.6 Exabytes in 2021, up from an annual run rate of 12.4 Exabytes in 2016.
- In Italy, IP traffic will reach 50 Gigabytes per capita in 2021, up from 17 Gigabytes per capita in 2016.
- In Italy, average IP traffic will reach 9 Tbps in 2021, and busy hour traffic will reach 53 Tbps.
- In 2021, the gigabyte equivalent of all movies ever made will cross Italy's IP networks every 2 hours.

### Internet Traffic

- In Italy, Internet traffic will grow 3.0-fold from 2016 to 2021, a compound annual growth rate of 25%.
- In Italy, busy hour Internet traffic will grow 4.4-fold from 2016 to 2021, a compound annual growth rate of 35%.
- In Italy, Internet traffic will reach 2.8 Exabytes per month in 2021, up from 926 Petabytes per month in 2016.
- Italy's Internet traffic will be 92 Petabytes per day in 2021, up from 30 Petabytes per day in 2016.
- Italy's Internet traffic in 2021 will be equivalent to 8 billion DVDs per year, 701 million DVDs per month, or 960,040 DVDs per hour.
- In 2021, the gigabyte equivalent of all movies ever made will cross the Internet every 2 hours.

- Italian Internet traffic in 2021 will be equivalent to 106x the volume of the entire Italian Internet in 2005.
- In Italy, Internet traffic will reach 47 Gigabytes per capita in 2021, up from 15 Gigabytes per capita in 2016.
- In Italy, average Internet traffic will increase 3.0-fold by 2021 and will reach 9 Tbps.
- In Italy, busy hour Internet traffic will increase 4.4-fold by 2021 and will reach 51 Tbps.

### Wired Wi-Fi and Mobile Growth

- Italy's Fixed/Wi-Fi was 53% of total IP traffic in 2016, and will be 57% of total IP traffic in 2021.
- Italy's Fixed/Wired was 37% of total IP traffic in 2016, and will be 27% of total IP traffic in 2021.
- Italy's Mobile was 10% of total IP traffic in 2016, and will be 16% of total IP traffic in 2021.
- Italy's Fixed/Wi-Fi was 58.1% of total Internet traffic in 2016, and will be 59.7% of total Internet traffic in 2021.
- Italy's Fixed/Wired was 31% of total Internet traffic in 2016, and will be 24% of total Internet traffic in 2021.
- Italy's Mobile was 11.3% of total Internet traffic in 2016, and will be 16.7% of total Internet traffic in 2021.
- In Italy, mobile data traffic will grow 4-fold from 2016 to 2021, a compound annual growth rate of 35%.
- In Italy, mobile data traffic will reach 468 Petabytes per month in 2021, up from 105 Petabytes per month in 2016.
- Italian mobile data traffic will grow 2 times faster than Italian fixed IP traffic from 2016 to 2021.
- Italy's Mobile was 10% of total IP traffic in 2016, and will be 16% of total IP traffic in 2021.
- In Italy, mobile data traffic in 2021 will be equivalent to 17x the volume of the entire Italian Internet in 2005.

### IP Video

- In Italy, IP video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 28%.
- In Italy, IP video traffic will reach 2.4 Exabytes per month in 2021, up from 692 Petabytes per month in 2016.
- In Italy, IP video will be 79% of all IP traffic in 2021, up from 67% in 2016.
- In Italy, Ultra HD will be 20.1% of IP Video traffic in 2021, up from 0.5% in 2016 (168.3% CAGR).
- In Italy, HD will be 59.0% of IP Video traffic in 2021, up from 29.7% in 2016 (46.5% CAGR).
- In Italy, SD will be 20.9% of IP Video traffic in 2021, compared to 69.8% in 2016 (0.4% CAGR).
- In Italy, consumer IP video traffic will be 81% of consumer IP traffic in 2021, up from 72% in 2016.
- In Italy, business IP video traffic will be 72% of business IP traffic in 2021, up from 47% in 2016.

### Internet Video

- In Italy, Internet video traffic will grow 4-fold from 2016 to 2021, a compound annual growth rate of 30%.
- In Italy, Internet video traffic will reach 2.2 Exabytes per month in 2021, up from 604 Petabytes per month in 2016.
- In Italy, total Internet video traffic (business and consumer, combined) will be 79% of all Internet traffic in 2021, up from 65% in 2016.
- In Italy, Ultra HD will be 20.5% of Internet video traffic in 2021, up from 0.6% in 2016 (167.2% CAGR).
- In Italy, HD will be 58.3% of Internet video traffic in 2021, up from 24.1% in 2016 (54.6% CAGR).

- In Italy, SD will be 21.2% of Internet video traffic in 2021, compared to 75.3% in 2016 (0.5% CAGR).
- In Italy, consumer Internet video traffic will be 80% of consumer Internet traffic in 2021, up from 69% in 2016.
- In Italy, business Internet video traffic will be 74% of business Internet traffic in 2021, up from 50% in 2016.
- In Italy, Internet-Video-to-TV traffic will be 33% of fixed consumer Internet video traffic in 2021, up from 32% in 2016.
- In Italy, Internet-Video-to-TV traffic will increase 3-fold between 2016 and 2021 (27.4% CAGR).
- In Italy, 45 billion minutes (86,062 years) of video content will cross the Internet each month in 2021. That's 17,212 minutes of video streamed or downloaded every second.
- In Italy, 77% of all Internet video traffic will cross content delivery networks in 2021, up from 63% in 2016.
- In Italy, 70.0% of all Internet video traffic will be long-form video (including live) in 2021, up from 47.0% in 2016.

### IP VOD

- In Italy, Ultra HD will be 16.0% of IP VOD traffic in 2021, up from 0.1% in 2016 (205.0% CAGR).
- In Italy, HD will be 80.8% of IP VOD traffic in 2021, up from 79.4% in 2016 (10.6% CAGR).
- In Italy, SD will be 3.2% of IP VOD traffic in 2021, compared to 20.5% in 2016 (-23.8% CAGR).

### Gaming

- In Italy, gaming traffic will grow 11-fold from 2016 to 2021, a compound annual growth rate of 62%.
- In Italy, gaming traffic will reach 146 Petabytes per month in 2021, up from 13 Petabytes per month in 2016.
- In Italy, gaming traffic will be 6% of consumer Internet traffic in 2021, up from 2% in 2016.

### Devices

- In Italy, there will be 500.3 million networked devices in 2021, up from 294.1 million in 2016.
- In Italy, there will be 8.4 networked devices per capita in 2021, up from 4.9 per capita in 2016.
- In Italy, 32% of all networked devices will be mobile-connected in 2021.
- In Italy, M2M modules will account for 71% (353.4 million) of all networked devices in 2021, compared to 56% (163.3 million) in 2016, (16.7% CAGR).
- In Italy, PCs will account for 4% (19.8 million) of all networked devices in 2021, compared to 7% (20.6 million) in 2016, (-0.8% CAGR).
- In Italy, Tablets will account for 3% (14.4 million) of all networked devices in 2021, compared to 5% (13.7 million) in 2016, (1.1% CAGR).
- In Italy, Smartphones will account for 13% (63.1 million) of all networked devices in 2021, compared to 15% (44.8 million) in 2016, (7.1% CAGR).
- In Italy, Connected TVs will account for 7% (36.5 million) of all networked devices in 2021, compared to 8% (24.2 million) in 2016, (8.5% CAGR).
- In Italy, Non-Smartphones will account for 0.6% (3.1 million) of all networked devices in 2021, compared to 7% (21.4 million) in 2016, (-32% CAGR).

- In Italy, Other Portables will account for 2% (9.9 million) of all networked devices in 2021, compared to 2% (6.1 million) in 2016, (10.2% CAGR).
- In Italy, 4K TVs will account for 56% (11.3 million) of all flat panel TVs in 2021, compared to 11.5% (1.2 million) in 2016, (55.4% CAGR).
- Italy's IP traffic from non-PC devices was 53% of total IP traffic in 2016, and will be 75% of total IP traffic in 2021.
- In Italy, PCs accounted for 47% of IP traffic in 2016, and will be 25% of IP traffic in 2021.
- In Italy, TVs accounted for 20% of IP traffic in 2016, and will be 22% of IP traffic in 2021.
- In Italy, Smartphones accounted for 16% of IP traffic in 2016, and will be 26% of IP traffic in 2021.
- In Italy, Tablets accounted for 10% of IP traffic in 2016, and will be 12% of IP traffic in 2021.
- In Italy, M2M modules accounted for 5.9% of IP traffic in 2016, and will be 15.1% of IP traffic in 2021.
- In Italy, PCs accounted for 46% of consumer Internet traffic in 2016, and will be 25% of consumer Internet traffic in 2021.
- In Italy, TVs accounted for 18% of consumer Internet traffic in 2016, and will be 23% of consumer Internet traffic in 2021.
- In Italy, TVs accounted for 14% of total Internet traffic in 2016, and will be 19% of total Internet traffic in 2021.

### Speed Evolution

- In Italy, the average fixed broadband speed will grow 2.3-fold from 2016 to 2021, from 10.8 Mbps to 24.3 Mbps.
- In Italy, 84% of fixed broadband connections will be faster than 5 Mbps in 2021, up from 66% today.
- In Italy, 61% of fixed broadband connections will be faster than 10 Mbps in 2021, up from 33% today.
- In Italy, 27.0% of fixed broadband connections will be faster than 25 Mbps in 2021, up from 7.0% today.
- In Italy, 12.0% of fixed broadband connections will be faster than 50 Mbps in 2021, up from 2.5% today.
- In Italy, the average Wi-Fi speeds from mobile devices will grow 2.9-fold from 2016 to 2021, from 7.6 Mbps to 22 Mbps.
- In Italy, the average mobile connection speed will grow 3-fold from 2016 to 2021, reaching 19 Mbps in 2021.

### Traffic per User and Household

- In Italy, the average Internet user will generate 50.0 Gigabytes of Internet traffic per month in 2021, up 127% from 22.0 Gigabytes per month in 2016, a CAGR of 18%.
- In Italy, the average Internet household will generate 114.2 Gigabytes of Internet traffic per month in 2021, up 127% from 50.4 Gigabytes per month in 2016, a CAGR of 18%.
- In Italy, the average FTTx Internet household will generate 269.2 Gigabytes of Internet traffic per month in 2021, 124.3% more than other broadband households.
- In Italy, the average FTTx Internet household generated 117.7 Gigabytes of Internet traffic per month in 2016, 148.0% more than other broadband households.
- In Italy, there will be 3 million Internet households (18.7% of all Internet households) generating more than 250 Gigabytes per month in 2021.
- In Italy, there will be 834,872 households (5.1% of all Internet households) generating more than 500 Gigabytes per month in 2021.

- In Italy, there will be 139,145 households (0.9% of all Internet households) generating more than a terabyte per month in 2021.
- In Italy, the average mobile connection will generate 4,990 Megabytes of mobile data traffic per month in 2021, up from 1,310 Megabytes in 2016.

### **Traffic Topology and Traffic Patterns**

- In Italy, 66% of all Internet traffic will cross content delivery networks in 2021, up from 47% in 2016.
- In Italy, peak Internet traffic will grow at a compound annual growth rate of 35% from 2016 to 2021, compared to 25% for average Internet traffic.