



## India - 2020 Forecast Highlights

### IP Traffic

- In India, IP traffic will grow 4-fold from 2015 to 2020, a compound annual growth rate of 33%.
- In India, IP traffic will reach 5.6 Exabytes per month in 2020, up from 1.4 Exabytes per month in 2015.
- India's IP networks will carry 184 Petabytes per day in 2020, up from 44 Petabytes per day in 2015.
- In India, IP traffic will reach an annual run rate of 67.0 Exabytes in 2020, up from an annual run rate of 16.2 Exabytes in 2015.
- In India, IP traffic will reach 4 Gigabytes per capita in 2020, up from 1 Gigabytes per capita in 2015.
- In India, average IP traffic will reach 17 Tbps in 2020, and busy hour traffic will reach 79 Tbps.
- In 2020, the gigabyte equivalent of all movies ever made will cross India's IP networks every 1 hours.

### Internet Traffic

- In India, Internet traffic will grow 4.4-fold from 2015 to 2020, a compound annual growth rate of 34%.
- In India, busy hour Internet traffic will grow 7.2-fold from 2015 to 2020, a compound annual growth rate of 48%.
- In India, Internet traffic will reach 4.1 Exabytes per month in 2020, up from 946 Petabytes per month in 2015.
- India's Internet traffic will be 135 Petabytes per day in 2020, up from 30 Petabytes per day in 2015.
- India's Internet traffic in 2020 will be equivalent to 12 billion DVDs per year, 1 billion DVDs per month, or 1 million DVDs per hour.
- In 2020, the gigabyte equivalent of all movies ever made will cross the Internet every 1 hours.

- Indian Internet traffic in 2020 will be equivalent to 249x the volume of the entire Indian Internet in 2005.
- In India, Internet traffic will reach 3 Gigabytes per capita in 2020, up from 1 Gigabyte per capita in 2015.
- In India, average Internet traffic will increase 4.4-fold by 2020 and will reach 13 Tbps.
- In India, busy hour Internet traffic will increase 7.2-fold by 2020 and will reach 58 Tbps.

### Wired Wi-Fi and Mobile Growth

- India's Fixed/Wi-Fi was 38% of total IP traffic in 2015, and will be 34% of total IP traffic in 2020.
- India's Fixed/Wired was 51% of total IP traffic in 2015, and will be 36% of total IP traffic in 2020.
- India's Mobile was 11% of total IP traffic in 2015, and will be 31% of total IP traffic in 2020.
- India's Fixed/Wi-Fi was 52.6% of total Internet traffic in 2015, and will be 44.6% of total Internet traffic in 2020.
- India's Fixed/Wired was 32% of total Internet traffic in 2015, and will be 14% of total Internet traffic in 2020.
- India's Mobile was 15.7% of total Internet traffic in 2015, and will be 41.7% of total Internet traffic in 2020.

### IP Video

- In India, IP video traffic will grow 5-fold from 2015 to 2020, a compound annual growth rate of 40%.
- In India, IP video traffic will reach 4.5 Exabytes per month in 2020, up from 850 Petabytes per month in 2015.
- In India, IP video will be 81% of all IP traffic in 2020, up from 63% in 2015.
- In India, Ultra HD will be 6.0% of IP Video traffic in 2020, up from 0.5% in 2015 (128.6% CAGR).
- In India, HD will be 49.8% of IP Video traffic in 2020, up from 19.3% in 2015 (68.8% CAGR).
- In India, SD will be 44.2% of IP Video traffic in 2020, compared to 80.2% in 2015 (24.0% CAGR).
- In India, consumer IP video traffic will be 83% of consumer IP traffic in 2020, up from 68% in 2015.
- In India, business IP video traffic will be 66% of business IP traffic in 2020, up from 37% in 2015.

### Internet Video

- In India, Internet video traffic will grow 6-fold from 2015 to 2020, a compound annual growth rate of 45%.
- In India, Internet video traffic will reach 3.1 Exabytes per month in 2020, up from 479 Petabytes per month in 2015.
- In India, total Internet video traffic (business and consumer, combined) will be 75% of all Internet traffic in 2020, up from 51% in 2015.
- In India, Ultra HD will be 7.7% of Internet video traffic in 2020, up from 0.9% in 2015 (124.4% CAGR).
- In India, HD will be 62.0% of Internet video traffic in 2020, up from 26.8% in 2015 (71.5% CAGR).
- In India, SD will be 30.3% of Internet video traffic in 2020, compared to 72.3% in 2015 (21.9% CAGR).
- In India, consumer Internet video traffic will be 76% of consumer Internet traffic in 2020, up from 53% in 2015.
- In India, business Internet video traffic will be 66% of business Internet traffic in 2020, up from 39% in 2015.
- In India, Internet-Video-to-TV traffic will be 16% of fixed consumer Internet video traffic in 2020, up from 10% in 2015.

- In India, Internet-Video-to-TV traffic will increase 7-fold between 2015 and 2020 (46.4% CAGR).
- In India, 79 billion minutes (150,472 years) of video content will cross the Internet each month in 2020. That's 30,094 minutes of video streamed or downloaded every second.
- In India, 40% of all Internet video traffic will cross content delivery networks in 2020, up from 17% in 2015.
- In India, 34% of all Internet traffic will cross content delivery networks in 2020, up from 10% in 2015.

## IP VOD

- In India, Ultra HD will be 2.4% of IP VOD traffic in 2020, up from 0.0% in 2015 (189.5% CAGR).
- In India, HD will be 24.7% of IP VOD traffic in 2020, up from 10.1% in 2015 (57.0% CAGR).
- In India, SD will be 72.9% of IP VOD traffic in 2020, compared to 89.8% in 2015 (25.9% CAGR).

## Gaming

- In India, Internet gaming traffic will grow 7-fold from 2015 to 2020, a compound annual growth rate of 49%.
- In India, Internet gaming traffic will reach 3.1 Exabytes per month in 2020, up from 479 Petabytes per month in 2015.
- In India, Internet gaming traffic will be 3% of consumer Internet traffic in 2020, up from 2% in 2015.

## Mobile

- In India, mobile data traffic will grow 12-fold from 2015 to 2020, a compound annual growth rate of 63%.
- In India, mobile data traffic will reach 1.7 Exabytes per month in 2020, up from 149 Petabytes per month in 2015.
- Indian mobile data traffic will grow 2 times faster than Indian fixed IP traffic from 2015 to 2020.
- India's Mobile was 11% of total IP traffic in 2015, and will be 31% of total IP traffic in 2020.
- In India, mobile data traffic in 2020 will be equivalent to 77x the volume of the entire Indian Internet in 2005.

## Devices

- In India, there will be 1.9 billion networked devices in 2020, up from 1.3 billion in 2015.
- In India, there will be 1.4 networked devices per capita in 2020, up from 1.0 per capita in 2015.
- In India, 69% of all networked devices will be mobile-connected in 2020.
- In India, M2M modules will account for 19% (362.9 million) of all networked devices in 2020, compared to 11% (139.2 million) in 2015, (21.1% CAGR).
- In India, PCs will account for 2% (43.8 million) of all networked devices in 2020, compared to 3% (44.5 million) in 2015, (-0.3% CAGR).
- In India, Tablets will account for 2% (44.0 million) of all networked devices in 2020, compared to 1% (12.1 million) in 2015, (29.4% CAGR).
- In India, Smartphones will account for 37% (702.1 million) of all networked devices in 2020, compared to 18% (239.4 million) in 2015, (24% CAGR).
- In India, Connected TVs will account for 10% (200.7 million) of all networked devices in 2020, compared to 7% (90.3 million) in 2015, (17.3% CAGR).

- In India, Non-Smartphones will account for 27.0% (516.9 million) of all networked devices in 2020, compared to 58% (747.7 million) in 2015, (-7.1% CAGR).
- In India, Other Portables will account for 2% (42.2 million) of all networked devices in 2020, compared to 2% (21.0 million) in 2015, (15% CAGR).
- In India, 4K TVs will account for 18% (9.5 million) of all flat panel TVs in 2020, compared to 2.1% (246,025) in 2015, (107.6% CAGR).
- India's IP traffic from non-PC devices was 46% of total IP traffic in 2015, and will be 78% of total IP traffic in 2020.
- In India, PCs accounted for 54% of IP traffic in 2015, and will be 22% of IP traffic in 2020.
- In India, TVs accounted for 28% of IP traffic in 2015, and will be 28% of IP traffic in 2020.
- In India, Smartphones accounted for 11% of IP traffic in 2015, and will be 40% of IP traffic in 2020.
- In India, Tablets accounted for 2% of IP traffic in 2015, and will be 6% of IP traffic in 2020.
- In India, M2M modules accounted for 1.0% of IP traffic in 2015, and will be 1.9% of IP traffic in 2020.
- In India, PCs accounted for 69% of consumer Internet traffic in 2015, and will be 25% of consumer Internet traffic in 2020.
- In India, TVs accounted for 4% of consumer Internet traffic in 2015, and will be 6% of consumer Internet traffic in 2020.
- In India, TVs accounted for 3% of total Internet traffic in 2015, and will be 5% of total Internet traffic in 2020.

### Speed Evolution

- In India, the average fixed broadband speed will grow 2.5-fold from 2015 to 2020, from 5.1 Mbps to 12.9 Mbps.
- In India, 45% of fixed broadband connections will be faster than 5 Mbps in 2020, up from 29% today.
- In India, 33% of fixed broadband connections will be faster than 10 Mbps in 2020, up from 18% today.
- In India, 10.4% of fixed broadband connections will be faster than 25 Mbps in 2020, up from 5.5% today.
- In India, 3.6% of fixed broadband connections will be faster than 50 Mbps in 2020, up from 2.7% today.
- In India, the average Wi-Fi speeds from mobile devices will grow 2.2-fold from 2015 to 2020, from 3.3 Mbps to 7 Mbps.
- In India, the average mobile connection speed will grow 3-fold from 2015 to 2020, reaching 3 Mbps in 2020.

### Traffic per User and Household

- In India, the average Internet user will generate 18.1 gigabytes of Internet traffic per month in 2020, up 198% from 6.1 gigabytes per month in 2015, a CAGR of 24%.
- In India, the average Internet household will generate 57.8 gigabytes of Internet traffic per month in 2020, up 242% from 16.9 gigabytes per month in 2015, a CAGR of 28%.
- In India, the average FTTx Internet household will generate 140.6 gigabytes of Internet traffic per month in 2020, 133.8% more than other broadband households.
- In India, the average FTTx Internet household generated 67.4 gigabytes of Internet traffic per month in 2015, 185.1% more than other broadband households.

- In India, there will be 2 million Internet households (6.0% of all Internet households) generating more than 250 gigabytes per month in 2020.
- In India, there will be 572,934 households (2.0% of all Internet households) generating more than 500 gigabytes per month in 2020.
- In India, there will be 286,467 households (1.0% of all Internet households) generating more than a terabyte per month in 2020.
- In India, the average mobile connection will generate 1,352 megabytes of mobile data traffic per month in 2020, up from 149 megabytes in 2015.