



Russia – 2021 Forecast Highlights

IP Traffic

- In Russia, IP traffic will grow 2-fold from 2016 to 2021, a compound annual growth rate of 17%.
- In Russia, IP traffic will reach 6.0 Exabytes per month in 2021, up from 2.7 Exabytes per month in 2016.
- Russia's IP networks will carry 197 Petabytes per day in 2021, up from 90 Petabytes per day in 2016.
- In Russia, IP traffic will reach an annual run rate of 71.9 Exabytes in 2021, up from an annual run rate of 32.7 Exabytes in 2016.
- In Russia, IP traffic will reach 42 Gigabytes per capita in 2021, up from 19 Gigabytes per capita in 2016.
- In Russia, average IP traffic will reach 18 Tbps in 2021, and busy hour traffic will reach 97 Tbps.
- In 2021, the gigabyte equivalent of all movies ever made will cross Russia's IP networks every 58 minutes.

Internet Traffic

- In Russia, Internet traffic will grow 2.2-fold from 2016 to 2021, a compound annual growth rate of 17%.
- In Russia, busy hour Internet traffic will grow 3.5-fold from 2016 to 2021, a compound annual growth rate of 29%.
- In Russia, Internet traffic will reach 5.3 Exabytes per month in 2021, up from 2.4 Exabytes per month in 2016.
- Russia's Internet traffic will be 173 Petabytes per day in 2021, up from 80 Petabytes per day in 2016.
- Russia's Internet traffic in 2021 will be equivalent to 16 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.

- Russian Internet traffic in 2021 will be equivalent to 244x the volume of the entire Russian Internet in 2005.
- In Russia, Internet traffic will reach 37 Gigabytes per capita in 2021, up from 16 Gigabytes per capita in 2016.
- In Russia, average Internet traffic will increase 2.2-fold by 2021 and will reach 16 Tbps.
- In Russia, busy hour Internet traffic will increase 3.5-fold by 2021 and will reach 85 Tbps.

Wired Wi-Fi and Mobile Growth

- Russia's Fixed/Wi-Fi was 55% of total IP traffic in 2016, and will be 47% of total IP traffic in 2021.
- Russia's Fixed/Wired was 32% of total IP traffic in 2016, and will be 25% of total IP traffic in 2021.
- Russia's Mobile was 13% of total IP traffic in 2016, and will be 28% of total IP traffic in 2021.
- Russia's Fixed/Wi-Fi was 60.2% of total Internet traffic in 2016, and will be 52.2% of total Internet traffic in 2021.
- Russia's Fixed/Wired was 25% of total Internet traffic in 2016, and will be 16% of total Internet traffic in 2021.
- Russia's Mobile was 14.5% of total Internet traffic in 2016, and will be 31.6% of total Internet traffic in 2021.
- In Russia, mobile data traffic will grow 5-fold from 2016 to 2021, a compound annual growth rate of 37%.
- In Russia, mobile data traffic will reach 1.7 Exabytes per month in 2021, up from 343 Petabytes per month in 2016.
- Russian mobile data traffic will grow 3 times faster than Russian fixed IP traffic from 2016 to 2021.
- Russia's Mobile was 13% of total IP traffic in 2016, and will be 28% of total IP traffic in 2021.
- In Russia, mobile data traffic in 2021 will be equivalent to 68x the volume of the entire Russian Internet in 2005.

IP Video

- In Russia, IP video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 23%.
- In Russia, IP video traffic will reach 4.8 Exabytes per month in 2021, up from 1.7 Exabytes per month in 2016.
- In Russia, IP video will be 81% of all IP traffic in 2021, up from 62% in 2016.
- In Russia, Ultra HD will be 11.9% of IP Video traffic in 2021, up from 0.6% in 2016 (120.9% CAGR).
- In Russia, HD will be 63.4% of IP Video traffic in 2021, up from 39.2% in 2016 (35.6% CAGR).
- In Russia, SD will be 24.7% of IP Video traffic in 2021, compared to 60.2% in 2016 (3.1% CAGR).
- In Russia, consumer IP video traffic will be 83% of consumer IP traffic in 2021, up from 68% in 2016.
- In Russia, business IP video traffic will be 71% of business IP traffic in 2021, up from 48% in 2016.

Internet Video

- In Russia, Internet video traffic will grow 3-fold from 2016 to 2021, a compound annual growth rate of 24%.
- In Russia, Internet video traffic will reach 4.2 Exabytes per month in 2021, up from 1.4 Exabytes per month in 2016.
- In Russia, total Internet video traffic (business and consumer, combined) will be 79% of all Internet traffic in 2021, up from 61% in 2016.
- In Russia, Ultra HD will be 11.8% of Internet video traffic in 2021, up from 0.7% in 2016 (114.6% CAGR).

- In Russia, HD will be 63.1% of Internet video traffic in 2021, up from 38.3% in 2016 (36.5% CAGR).
- In Russia, SD will be 25.1% of Internet video traffic in 2021, compared to 60.9% in 2016 (3.5% CAGR).
- In Russia, consumer Internet video traffic will be 81% of consumer Internet traffic in 2021, up from 65% in 2016.
- In Russia, business Internet video traffic will be 72% of business Internet traffic in 2021, up from 50% in 2016.
- In Russia, Internet-Video-to-TV traffic will be 22% of fixed consumer Internet video traffic in 2021, up from 11% in 2016.
- In Russia, Internet-Video-to-TV traffic will increase 5-fold between 2016 and 2021 (35.6% CAGR).
- In Russia, 165 billion minutes (314,419 years) of video content will cross the Internet each month in 2021. That's 62,884 minutes of video streamed or downloaded every second.
- In Russia, 53% of all Internet video traffic will cross content delivery networks in 2021, up from 36% in 2016.
- In Russia, 66.7% of all Internet video traffic will be long-form video (including live) in 2021, up from 68.9% in 2016.

IP VOD

- In Russia, Ultra HD will be 14.8% of IP VOD traffic in 2021, up from 0.1% in 2016 (245.8% CAGR).
- In Russia, HD will be 76.2% of IP VOD traffic in 2021, up from 62.0% in 2016 (31.0% CAGR).
- In Russia, SD will be 9.0% of IP VOD traffic in 2021, compared to 37.9% in 2016 (-5.7% CAGR).

Gaming

- In Russia, gaming traffic will grow 4-fold from 2016 to 2021, a compound annual growth rate of 31%.
- In Russia, gaming traffic will reach 145 Petabytes per month in 2021, up from 38 Petabytes per month in 2016.
- In Russia, gaming traffic will be 3% of consumer Internet traffic in 2021, up from 2% in 2016.

Devices

- In Russia, there will be 841.3 million networked devices in 2021, up from 520.2 million in 2016.
- In Russia, there will be 5.9 networked devices per capita in 2021, up from 3.6 per capita in 2016.
- In Russia, 45% of all networked devices will be mobile-connected in 2021.
- In Russia, M2M modules will account for 57% (480.4 million) of all networked devices in 2021, compared to 37% (191.4 million) in 2016, (20.2% CAGR).
- In Russia, PCs will account for 3% (22.3 million) of all networked devices in 2021, compared to 9% (46.4 million) in 2016, (-13.6% CAGR).
- In Russia, Tablets will account for 3% (23.5 million) of all networked devices in 2021, compared to 4% (21.8 million) in 2016, (1.5% CAGR).
- In Russia, Smartphones will account for 26% (221.5 million) of all networked devices in 2021, compared to 29% (150.7 million) in 2016, (8% CAGR).
- In Russia, Connected TVs will account for 9% (77.4 million) of all networked devices in 2021, compared to 7% (38.1 million) in 2016, (15.2% CAGR).

- In Russia, Non-Smartphones will account for 0.3% (2.6 million) of all networked devices in 2021, compared to 13% (66.2 million) in 2016, (-47.7% CAGR).
- In Russia, Other Portables will account for 2% (13.6 million) of all networked devices in 2021, compared to 1% (5.6 million) in 2016, (19.5% CAGR).
- In Russia, 4K TVs will account for 45% (17.2 million) of all flat panel TVs in 2021, compared to 8.1% (1.5 million) in 2016, (62.9% CAGR).
- Russia's IP traffic from non-PC devices was 34% of total IP traffic in 2016, and will be 76% of total IP traffic in 2021.
- In Russia, PCs accounted for 66% of IP traffic in 2016, and will be 24% of IP traffic in 2021.
- In Russia, TVs accounted for 10% of IP traffic in 2016, and will be 18% of IP traffic in 2021.
- In Russia, Smartphones accounted for 17% of IP traffic in 2016, and will be 43% of IP traffic in 2021.
- In Russia, Tablets accounted for 5% of IP traffic in 2016, and will be 7% of IP traffic in 2021.
- In Russia, M2M modules accounted for 1.9% of IP traffic in 2016, and will be 7.7% of IP traffic in 2021.
- In Russia, PCs accounted for 64% of consumer Internet traffic in 2016, and will be 22% of consumer Internet traffic in 2021.
- In Russia, TVs accounted for 5% of consumer Internet traffic in 2016, and will be 12% of consumer Internet traffic in 2021.
- In Russia, TVs accounted for 4% of total Internet traffic in 2016, and will be 10% of total Internet traffic in 2021.

Speed Evolution

- In Russia, the average fixed broadband speed will grow 1.6-fold from 2016 to 2021, from 30.1 Mbps to 47.1 Mbps.
- In Russia, 93% of fixed broadband connections will be faster than 5 Mbps in 2021, up from 83% today.
- In Russia, 84% of fixed broadband connections will be faster than 10 Mbps in 2021, up from 67% today.
- In Russia, 61.9% of fixed broadband connections will be faster than 25 Mbps in 2021, up from 48.4% today.
- In Russia, 34.2% of fixed broadband connections will be faster than 50 Mbps in 2021, up from 23.9% today.
- In Russia, the average Wi-Fi speeds from mobile devices will grow 1.4-fold from 2016 to 2021, from 18.5 Mbps to 27 Mbps.
- In Russia, the average mobile connection speed will grow 3-fold from 2016 to 2021, reaching 15 Mbps in 2021.

Traffic per User and Household

- In Russia, the average Internet user will generate 34.9 Gigabytes of Internet traffic per month in 2021, up 68% from 20.8 Gigabytes per month in 2016, a CAGR of 11%.
- In Russia, the average Internet household will generate 80.1 Gigabytes of Internet traffic per month in 2021, up 70% from 47.2 Gigabytes per month in 2016, a CAGR of 11%.
- In Russia, the average FTTx Internet household will generate 99.7 Gigabytes of Internet traffic per month in 2021, 90.8% more than other broadband households.
- In Russia, the average FTTx Internet household generated 65.9 Gigabytes of Internet traffic per month in 2016, 96.0% more than other broadband households.

- In Russia, there will be 3 million Internet households (8.0% of all Internet households) generating more than 250 Gigabytes per month in 2021.
- In Russia, there will be 678,910 households (2.0% of all Internet households) generating more than 500 Gigabytes per month in 2021.
- In Russia, there will be 339,455 households (1.0% of all Internet households) generating more than a terabyte per month in 2021.
- In Russia, the average mobile connection will generate 6,380 Megabytes of mobile data traffic per month in 2021, up from 1,441 Megabytes in 2016.

Traffic Topology and Traffic Patterns

- In Russia, 46% of all Internet traffic will cross content delivery networks in 2021, up from 25% in 2016.
- In Russia, peak Internet traffic will grow at a compound annual growth rate of 29% from 2016 to 2021, compared to 17% for average Internet traffic.