

01/24/2025

# Barometer of mobile Internet connections in Germany

01/01/2024 - 12/31/2024



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assessment**



## Expert in the telecom network optimization

nPerf is an independent French company based in Lyon (France). For over a decade, nPerf has been a trusted partner for both fixed and mobile operators, providing comprehensive network testing solutions and analysis. Our mission is to accurately measure, evaluate, and enhance the understanding of Internet connectivity around the world.

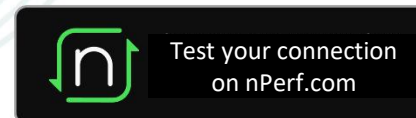
 **300k+** tests daily worldwide.

 **26Md+** coverage scans in total.

 **3k+** servers all around the world.

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## 2. Executive Summary



The subscribers of Telekom enjoyed the best mobile Internet performances in 2024.

### Mobile Internet connections in Germany

	O2	Telekom	Vodafone
Download bitrates (Mb/s)	66,35	142,56	91,10
Upload bitrates (Mb/s)	14,72	26,11	18,50
Latency (ms)	40,93	32,65	39,11
Web browsing (%)	68,03	72,94	69,04
Youtube streaming (%)	82,18	85,90	84,41
nPerf Score (nPoints)	80 863	101 942	88 432

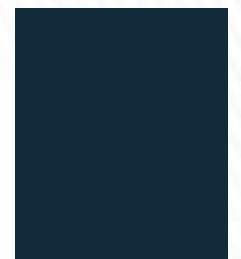
Source : nperf.com



Best mobile Internet performance in 2024




Source : nperf.com



Source : nperf.com

The subscribers of Telekom enjoyed the best 5G Internet performances in Germany in 2024.

### 5G mobile Internet connections in Germany

	O2	Telekom	Vodafone
▼ Download bitrates (Mb/s)	107,74	210,13	149,96
▲ Upload bitrates (Mb/s)	19,31	35,86	28,05
◀▶ Latency (ms)	38,09	29,84	35,37
🌐 Web browsing (%)	75,38	78,78	74,92
📺 Youtube streaming (%)	85,47	88,35	87,28
 nPerf Score (nPoints)	95 481	115 899	103 979

Source : nperf.com

### Introduction

In 2024, the mobile market in Germany has shown remarkable performances, particularly in the 5G technology sector. Telekom remains the leader, continuing its dominance from previous years. The market leader for 2024, Telekom, is not a new leader, as it continues to hold its position from previous periods. Telekom emerges as the sole market winner for 2024, demonstrating strong performances across various Key Performance Indicators (KPIs) including Download speed Upload speed, and Latency. In terms of focus areas, Telekom also leads in 5G technology. The market shows positive trends, with notable improvements in download and upload speeds, further solidifying the strengths of the key players.

### **Telekom: Leader of the market with exceptional performances.**

For the period analyzed, Telekom stands out as the market leader with an impressive overall performance. The operator excels in Download speed, achieving the highest speed among competitors, and also leads in Upload speed. Telekom has made significant strides in reducing Latency, earning it the top spot in this category as well. In the specific focus area of 5G, Telekom continues to be the leader, reinforcing its position in the mobile technology sector. Telekom's contributions to the market are substantial, showcasing its capabilities in delivering high-speed internet and minimal latency to its customers.

### **Vodafone: Excellence in Latency.**

Vodafone, while not the market leader, shows excellence in the Latency category, previously holding the top position. The operator's performance in this area

highlights its commitment to improving user experience by minimizing delays. Vodafone continues to be a strong competitor in the market, with noteworthy performances in both Browsing and Video streaming, where it maintains competitive scores. Although not a leader in the 5G focus area, Vodafone's steady performance across various KPIs contributes positively to the market dynamics.

### **O2: Strong performance in Streaming.**

O2 demonstrates strong performance in the Video streaming category, where it competes closely with other major operators. While not leading in the overall market, O2's dedication to providing quality streaming services is evident. The operator continues to enhance its offerings, showing improvements in both Download and Upload speed. O2 also plays a significant role in the mobile internet market by offering reliable connectivity to its users.

### **Conclusion**

Telekom is the undisputed market leader, showcasing exceptional performances in Download, Upload, and Latency, and leading in the 5G focus area. Vodafone and O2 also contribute significantly to the market, excelling in Latency and Video streaming respectively. The competitive landscape of the German mobile internet market remains robust, with operators continuously improving their services, leading to enhanced connectivity and user experiences.

## 4. Methodology



nPerf provides a free application to assess Internet connection quality via its website and mobile apps (Android, iOS). Daily, thousands of people rely on nPerf for speed tests in their country, contributing to a comprehensive crowdsourced database covering all operators.

The study employs a strong filtering method to reflect real customer experiences on a specific network (mobile or fixed line). Measures are taken to prevent probes and measurement robots from affecting the results.

We assess:

### ▼ Download bitrate

Indicates the amount of data your connection can receive in one second from the nPerf server. The highest the measured value, the best is the bitrate of your connection.

### ▲ Upload bitrate

Indicates the amount of data your connection can send in one second to the nPerf server. The highest the measured value, the best is the bitrate of your connection.

### ◀▶ Latency (ping)

It indicated the delay a small packet of data requires to make a round-trip from your computer to the nPerf server. The shorter the delay, the most reactive your connection is. The main is the minimum value

### 🌐 Browsing performance

The browsing test assesses the load time of the fully loaded pages, including images, javascript, CSS, and fonts, for the five most popular sites. This indicator reflects the perceived quality by the user.

### 📺 Streaming performance

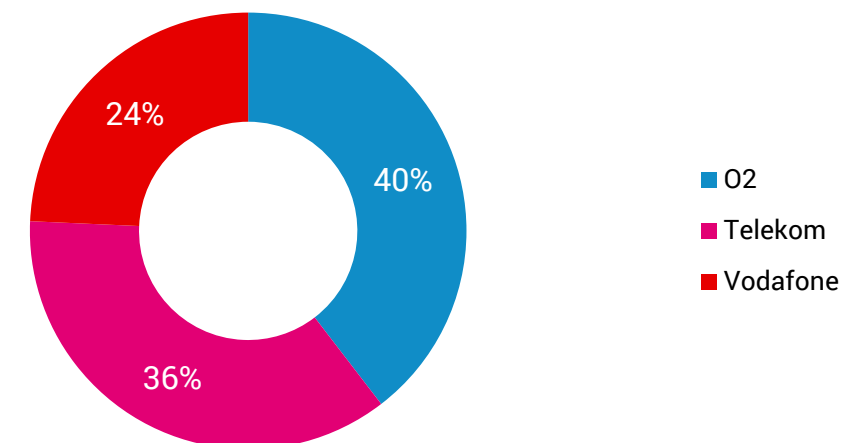
The video streaming test gauges the load time of a fully loaded video in three resolutions on YouTube, considering stalls during playback. This indicator reflects the perceived quality by the user.

Statistical precision is crucial in accurately determining winners. At nPerf, we prioritize test quality, precise reporting, and transparency. Analyzing a large volume of tests in this study, we've achieved 3% precision for absolute values, highlighting the reliability and accuracy of our data.

For a more comprehensive understanding of the user experience, our report features test results during both Busy hours (6 PM to 11 PM) and Idle hours (the rest of the day). Busy hours, marked by network strain, can impact user experience through congestion. This approach helps in understanding how network performance fluctuates throughout the day.

We only include national Internet service providers with test share above 5% share. The chart below shows the overall test distribution for each service provider.

Overall distribution of the tests per provider (ISPs Share)



Source : nperf.com



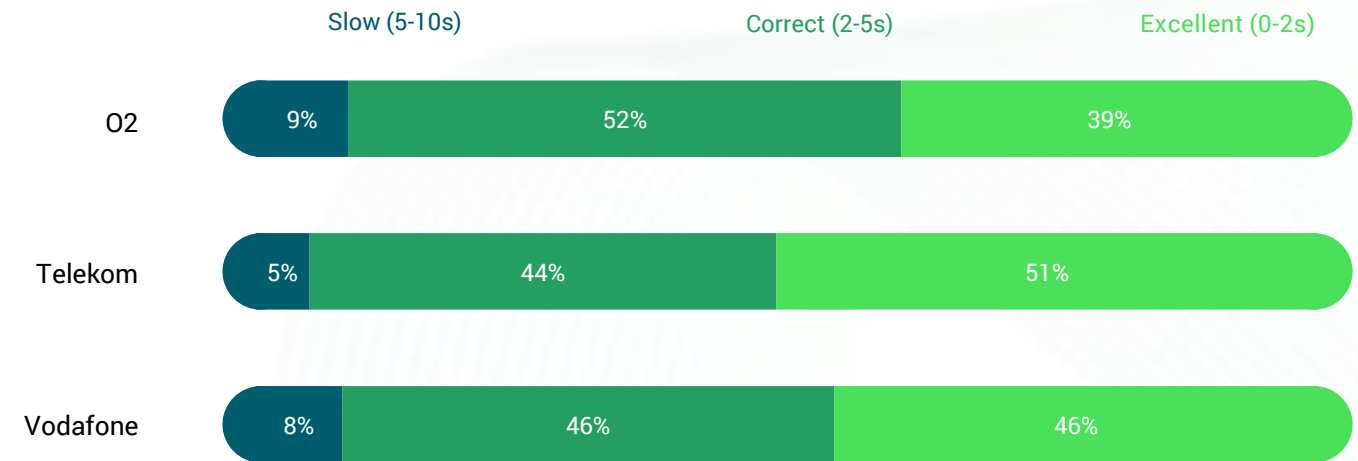
## Browsing Performance rate (average)



Source : nperf.com

The subscribers of Telekom enjoyed the best mobile Internet Internet browsing performance in 2024.

## Browsing Performance results ventilation (average)



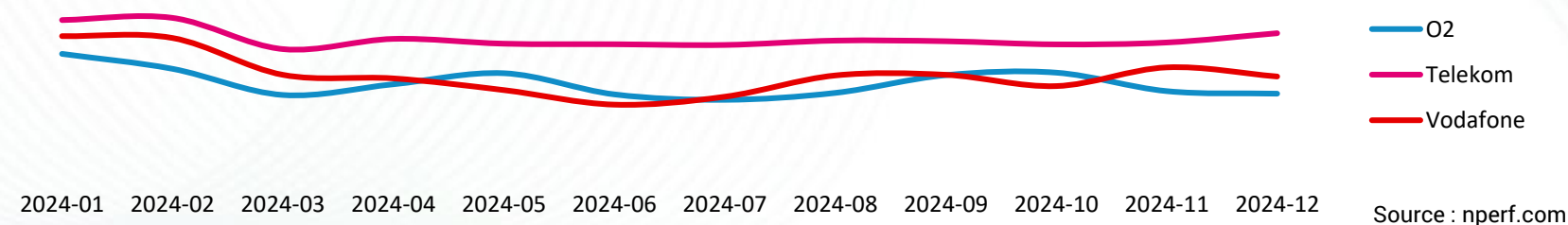
Source : nperf.com

## Browsing Performance rate (average)



Source : nperf.com

## Browsing performance rate (average) evolution over the year



Source : nperf.com





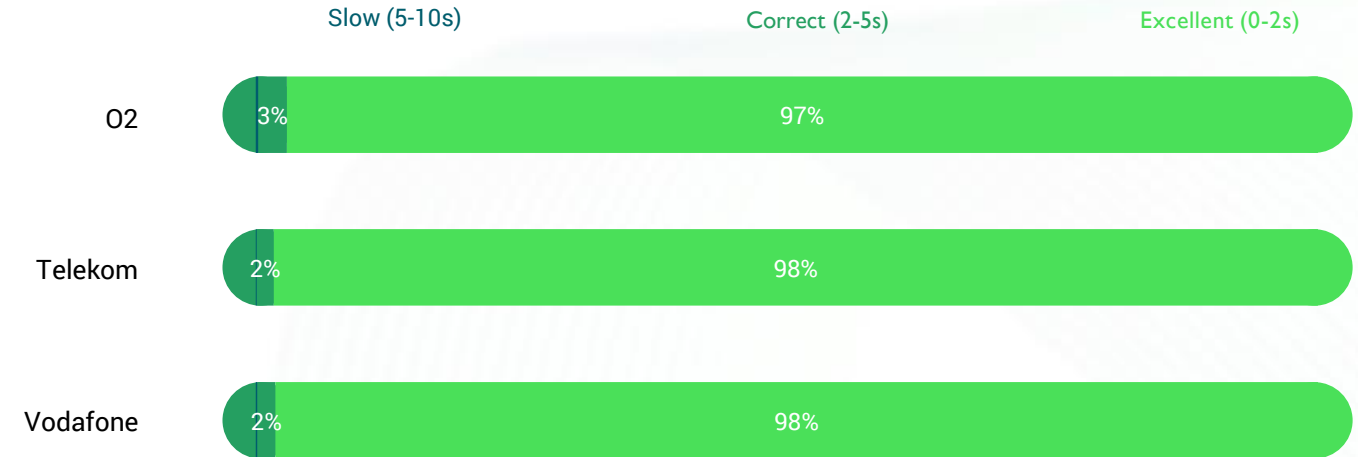
## Streaming Performance rate (average)



Source : nperf.com

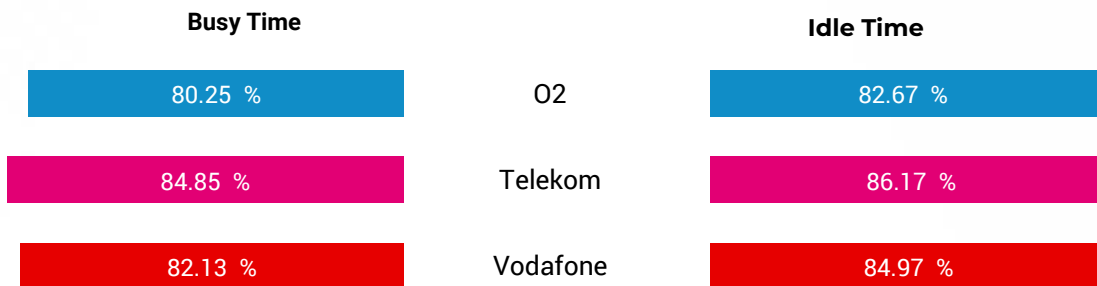
The subscribers of Telekom enjoyed the best mobile Internet streaming performance in 2024.

## Streaming Performance results ventilation (average)



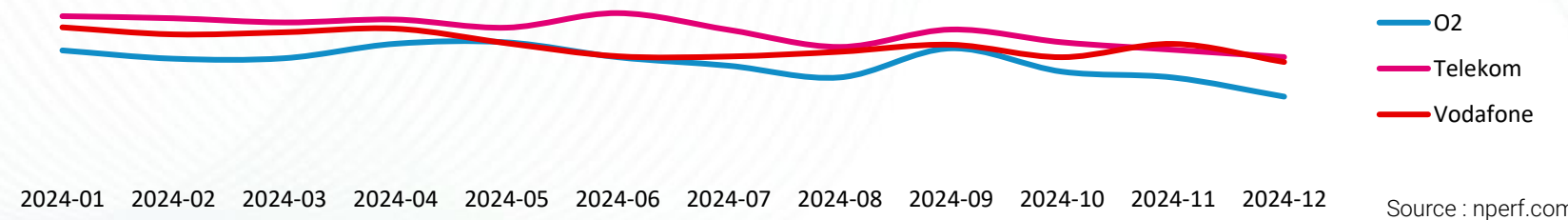
Source : nperf.com

## Streaming Performance rate (average)



Source : nperf.com

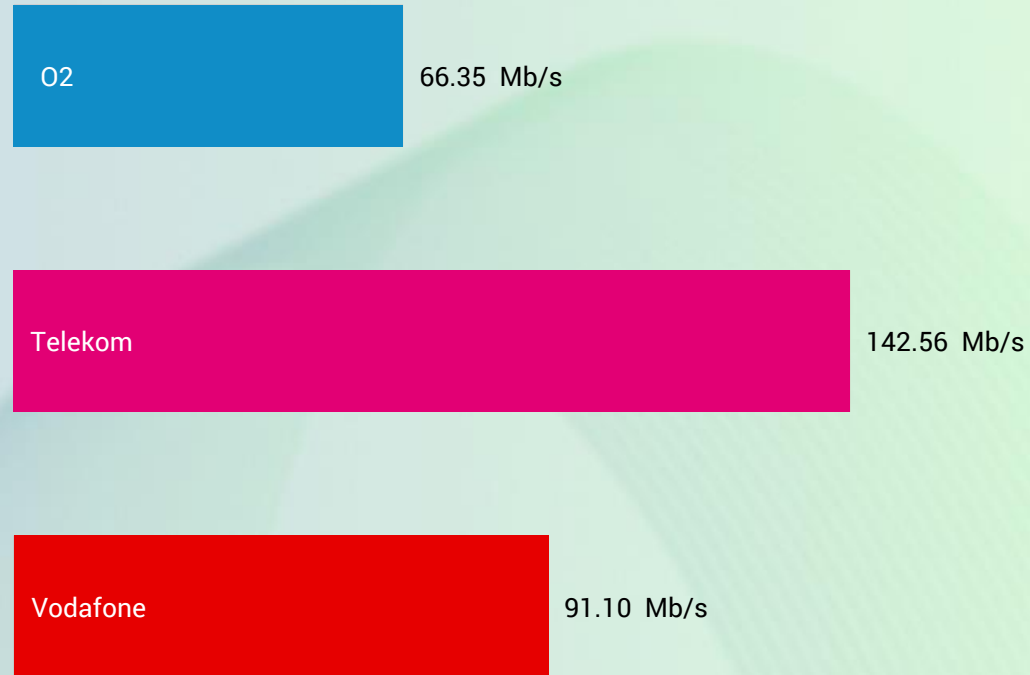
## Streaming performance rate (average) evolution over the year



Source : nperf.com



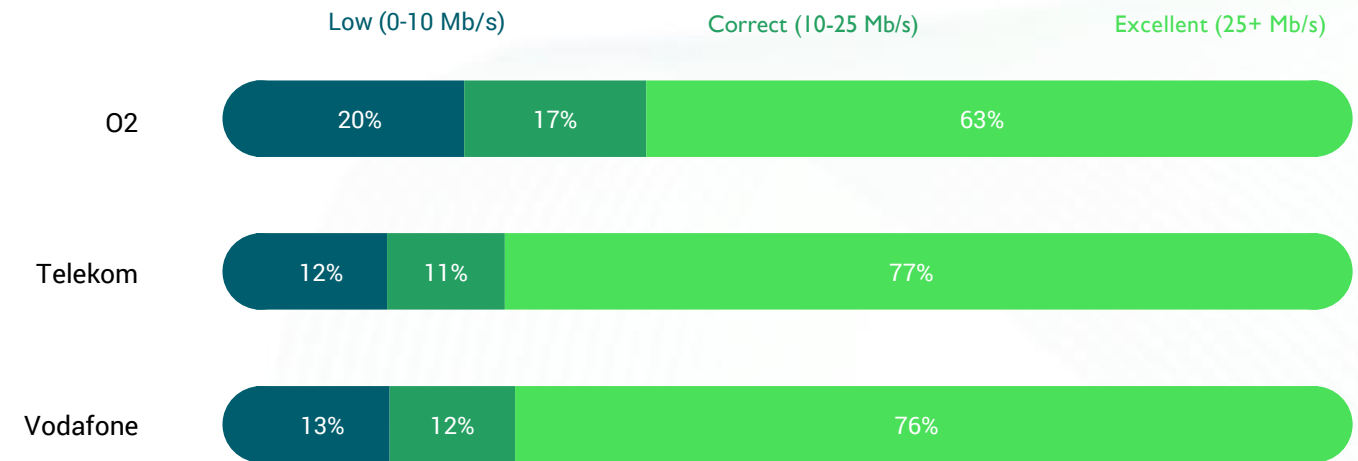
## Download Speed (average)



Source : nperf.com

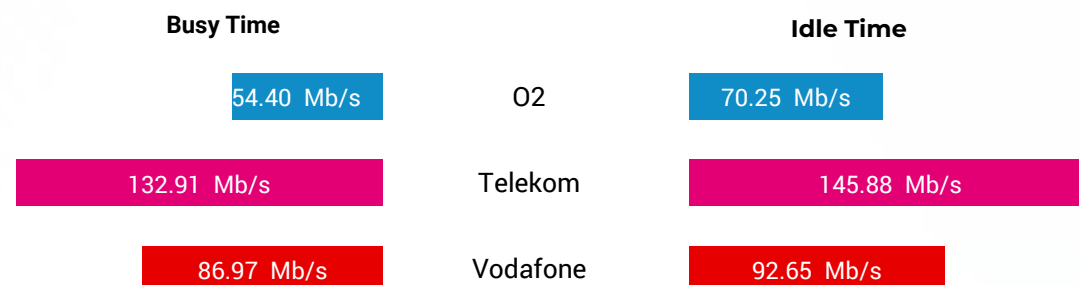
The subscribers of Telekom enjoyed the best average mobile Internet download speed in 2024.

## Download Speed results ventilation (average)



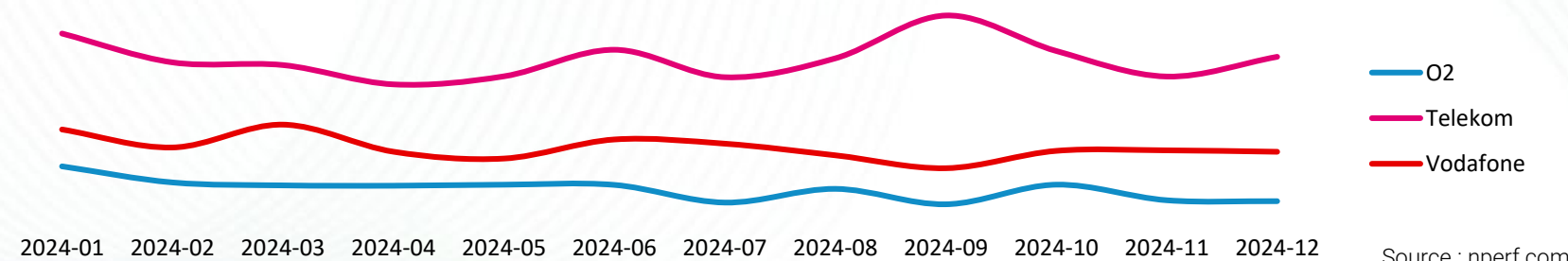
Source : nperf.com

## Download Speed (average)



Source : nperf.com

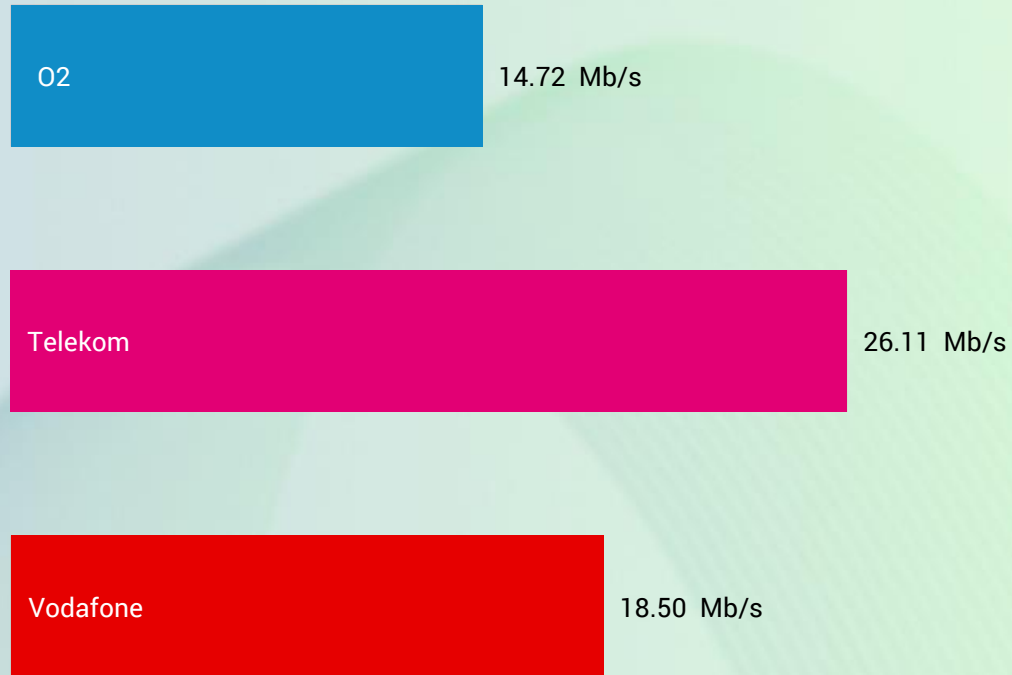
## Download Speed evolution over the year (average)



Source : nperf.com



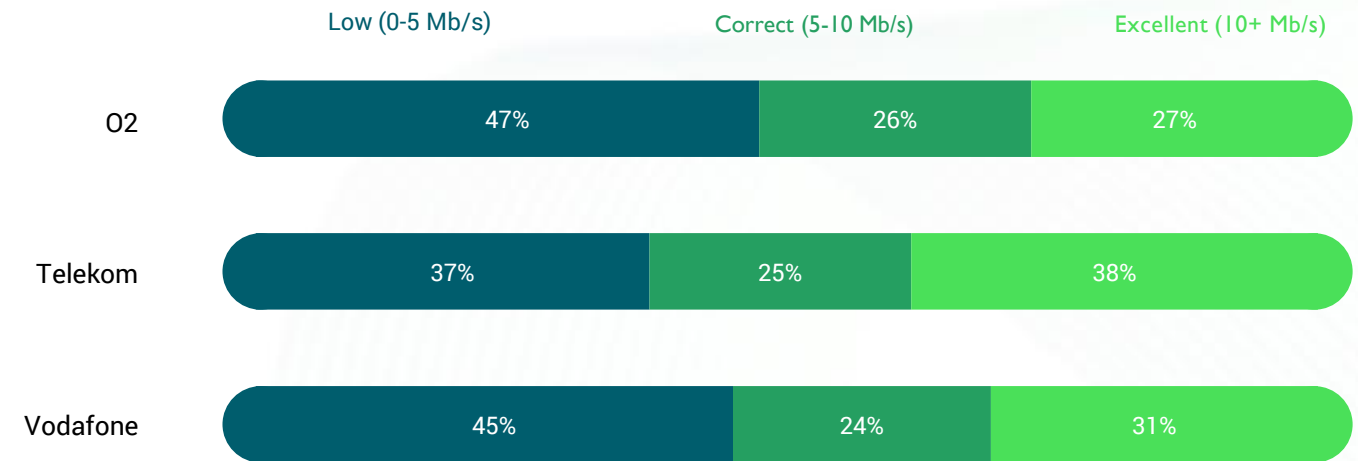
## Upload Speed (average )



Source : nperf.com

The subscribers of Telekom enjoyed the best average mobile Internet upload speed in 2024.

## Upload Speed results ventilation (average)

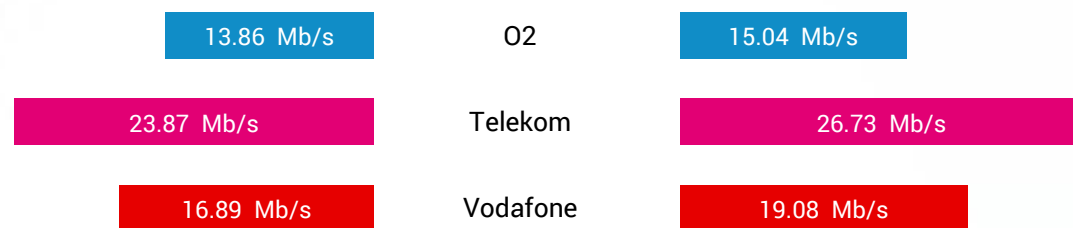


Source : nperf.com

## Upload Speed (average )

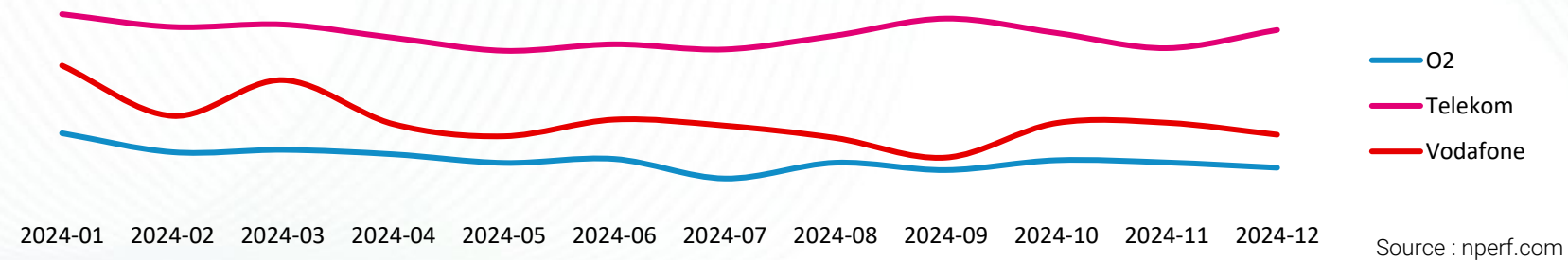
### Busy Time

### Idle Time



Source : nperf.com

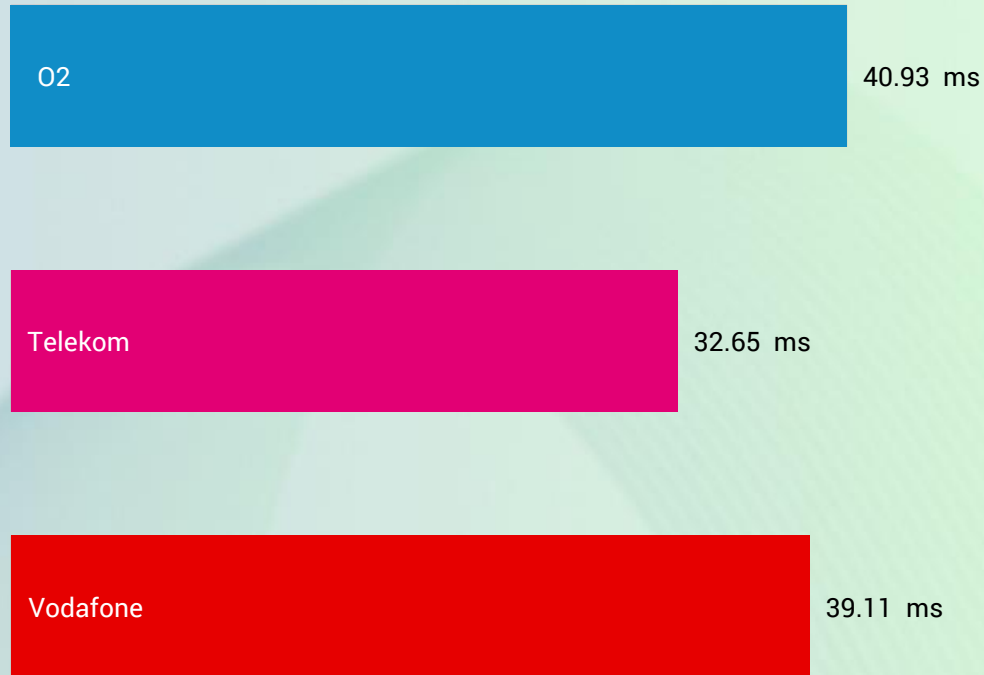
## Upload Speed evolution over the year (average)



Source : nperf.com



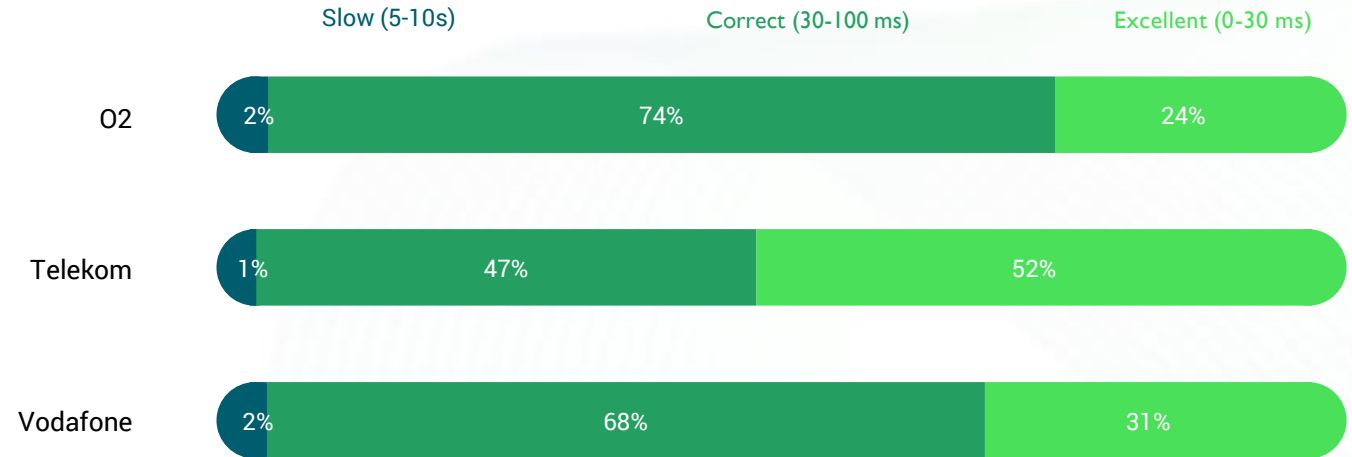
## Latency Speed (average)



Source : nperf.com

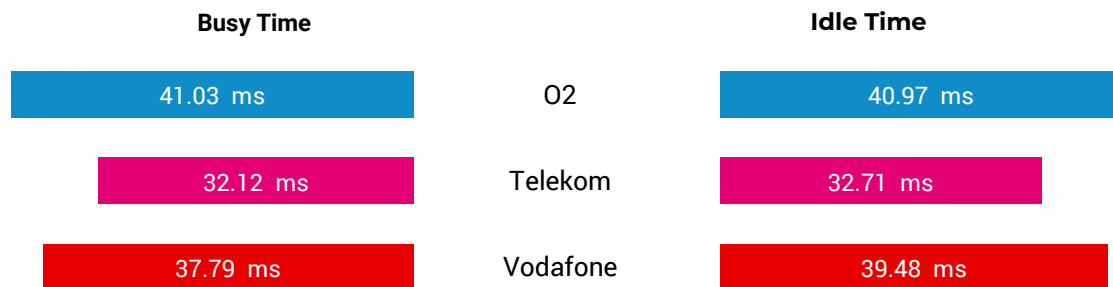
The subscribers of Telekom enjoyed the best average mobile Internet latency speed in 2024.

## Latency Speed results ventilation (average)



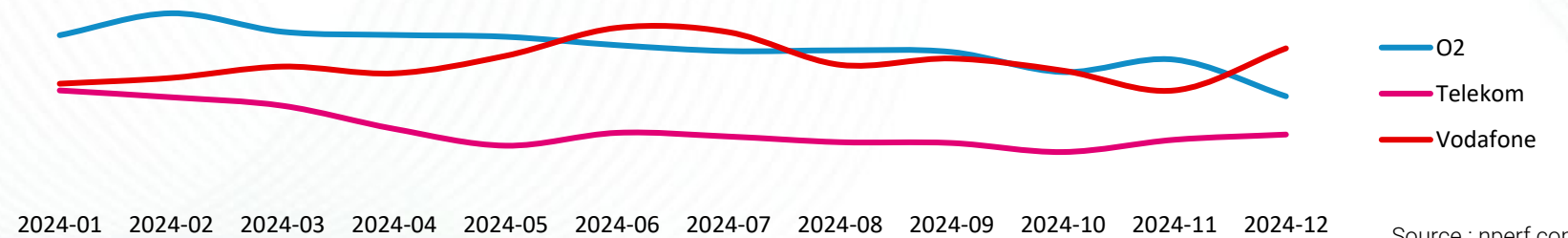
Source : nperf.com

## Latency Speed (average)



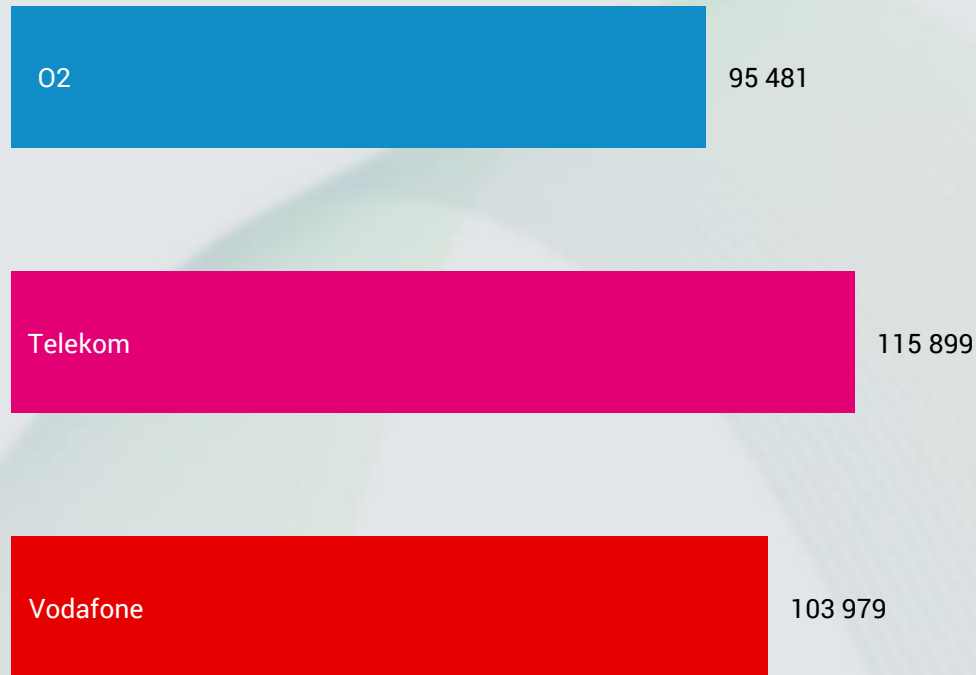
Source : nperf.com

## Latency Speed evolution over the year (average)



Source : nperf.com

## nPerf Score (nPoints)



Source : nperf.com

The subscribers of Telekom enjoyed the best 5G Internet performances in 2024.

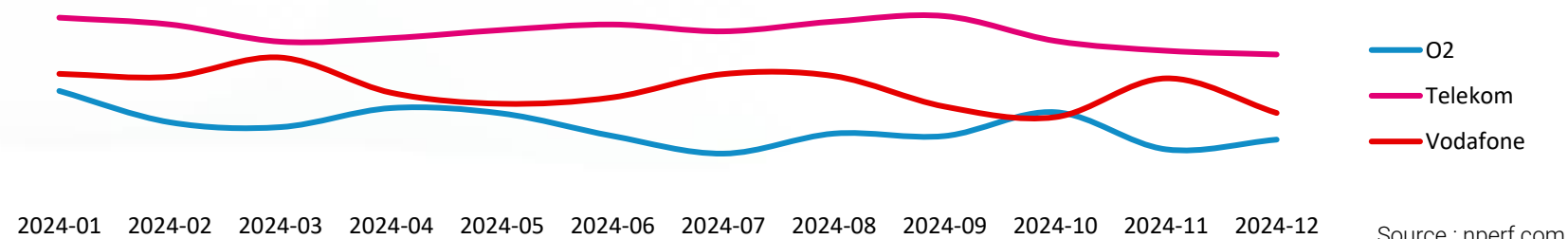
- Best performances 5G: Telekom
- Best web browsing performances 5G: Telekom
- Best video streaming performances 5G: Telekom
- Fastest performances (Download) 5G: Telekom
- Fastest performances (Upload) 5G: Telekom
- 5G connections with the lowest latency: Telekom

Source : nperf.com



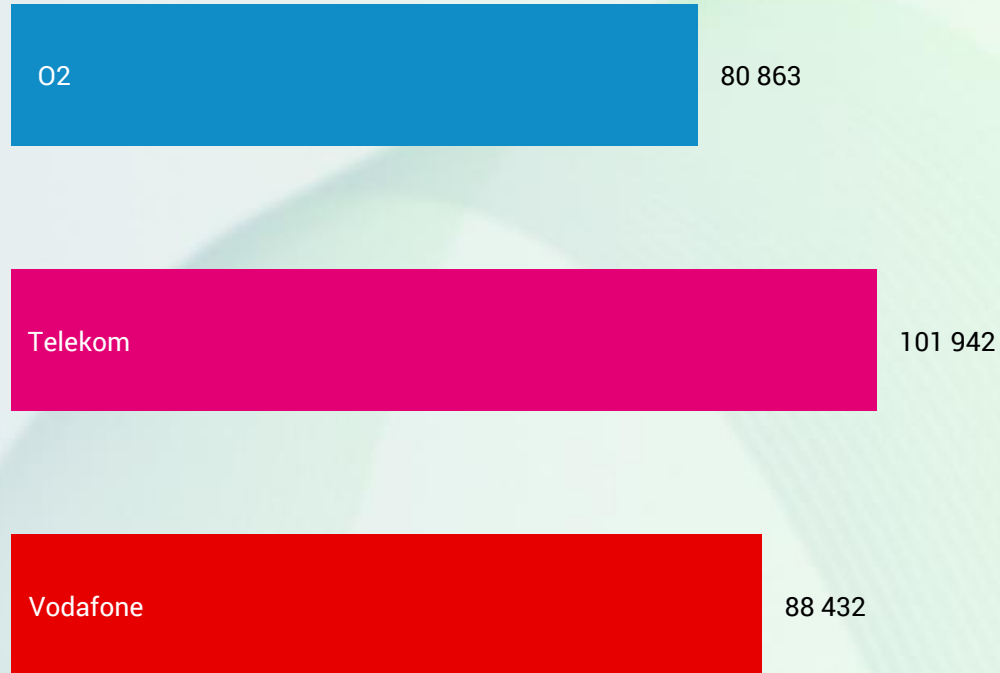
Source : nperf.com

## nPerf score evolution over the year (average)



Source : nperf.com

## nPerf Score (nPoints)



Source : nperf.com

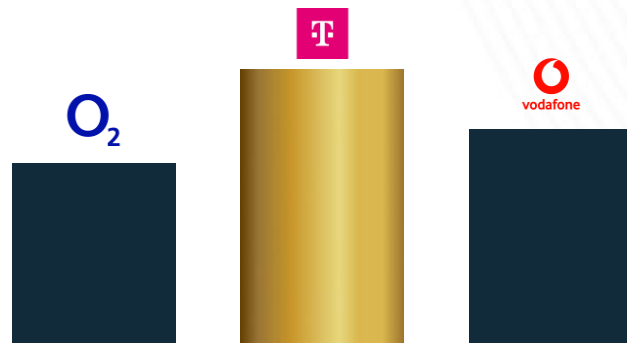
The subscribers of Telekom enjoyed the best mobile Internet performances in 2024.

The nperf score takes into account the measured bitrates, the latency and the Qoe tests. The value of the points for the rates and the latency is calculated on a logarithmic scale, to better represent the perception of the user.

Thus, this score reflects the overall quality of the connection experienced by the user.

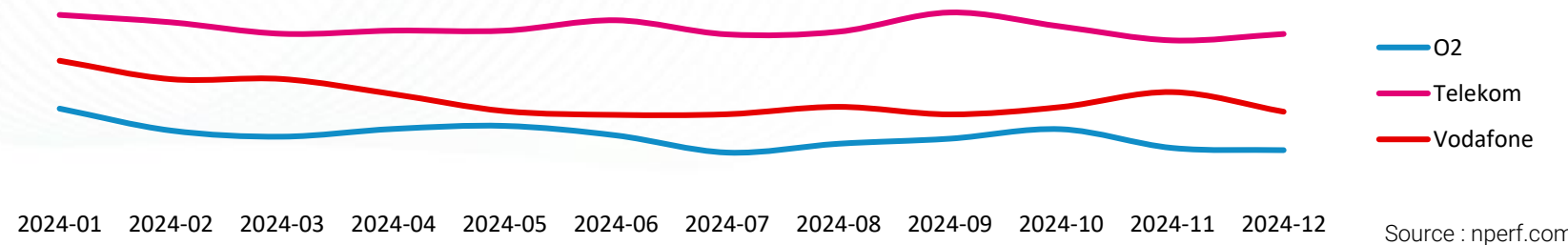
Source : nperf.com

Best mobile Internet performance in 2024



Source : nperf.com

## nPerf score evolution over the year (average)



Source : nperf.com

The background features a series of thin, light-colored wavy lines that create a sense of motion and depth, set against a dark blue background.

↳ perf