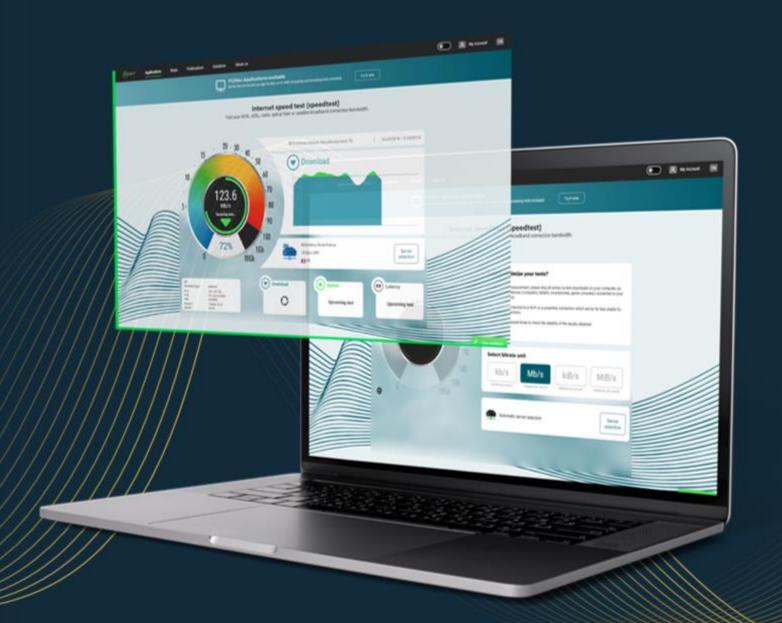
Barometer of fixed Internet connections in Hungary

01/01/2024 - 12/31/2024







Methodology

## 1. Introducing nPerf



### **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.







## **Test your Internet connection with nPerf!**

nPerf allows you to test the quality of your fixed, mobile, or Wi-Fi Internet connections up to 10 Gb/s! Dowload our app or visit our website!







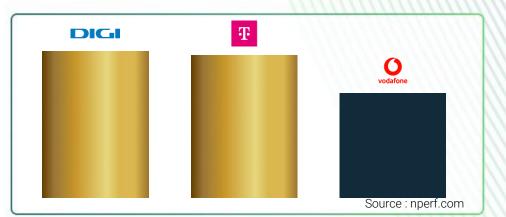
# 2. Executive Summary



The subscribers of Digi and Telekom enjoyed the best fixed Internet performances in 2024.

	Digi	Telekom	Vodafone
Download bitrates (Mb/s)	287,55	256,77	139,24
Upload bitrates (Mb/s)	149,43	167,37	24,26
I▶ Latency (ms)	14,88	19,35	26,09
Web browsing (%)	80,11	79,88	73,70
Youtube streaming (%)	87,65	88,54	78,53
nPerf Score (nPoints)	140 251	136 531	100 278







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

		Digi	Telekom	Vodafone	
	Download bitrates (Mb/s)	170,59	214,80	119,95	
	▲ Upload bitrates (Mb/s)	97,38	134,96	21,75	
	<b>◀▶</b> Latency (ms)	16,74	18,44	28,29	
	Web browsing (%)	81,25	80,77	74,71	
	Youtube streaming (%)	88,34	89,07	81,23	
	nPerf Score (nPoints)	130 466	134 566	99 005	

Source : nperf.com

### 3. Analysis



#### Introduction

The market analysis for the period Q1 2024-Q4 2024 highlights significant developments in the fixed-line technology sector in Hungary. Telekom and Digi have emerged as co-leaders, marking a shift in leadership from the previous year. The active focus on WiFi technologies has played a crucial role in this transformation. Telekom and Digi, as market winners, have demonstrated exceptional performance across various Key Performance Indicators (KPIs) such as Download speed, Upload speed, Latency, Browsing, and Video streaming. The market has shown positive trends, with improvements in speed and reliability, underscoring the strengths and competitiveness of the operators.

### Telekom: Co-leader of the market and domination in Upload speed

Telekom stands as a co-leader in the Hungarian fixed-line market for the period analyzed, showcasing impressive achievements. The company excels particularly in the Upload speed category, leading the market with significant improvements. Telekom also focuses on WiFi, cementing its position as a key player. The operator's commitment to enhancing user experience is evident in its stable performance across various metrics, contributing positively to the market's overall growth.

### Digi: Co-leader of the market with excellence in Download speed and Latency

Digi shares the co-leader title with Telekom, excelling in Download speed and Latency. The operator's advancements in these areas highlight its dedication to delivering high-quality internet services. As a leader in both WiFi technologies, Digi

continues to strengthen its market position. The consistent improvements in speed and responsiveness reflect Digi's strategic focus on meeting consumer demands and setting new standards in the industry.

### **Vodafone: Excellence in specific categories**

While not a market leader, Vodafone demonstrates excellence in certain areas, contributing significantly to the competitive landscape. The operator maintains a strong presence with reliable service offerings, focusing on enhancing user satisfaction through targeted improvements. Vodafone's efforts in refining its service quality ensure its continued relevance and competitiveness in the market.

#### Conclusion

Telekom and Digi lead the Hungarian fixed-line internet market as co-leaders, with notable achievements in various KPIs and focus areas. The market has seen positive developments, with operators striving for excellence and pushing the boundaries of performance. The competitive dynamics and technological advancements promise a bright future for the industry, driven by the strengths and innovations of these key players.

## 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 birate

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 birate

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.

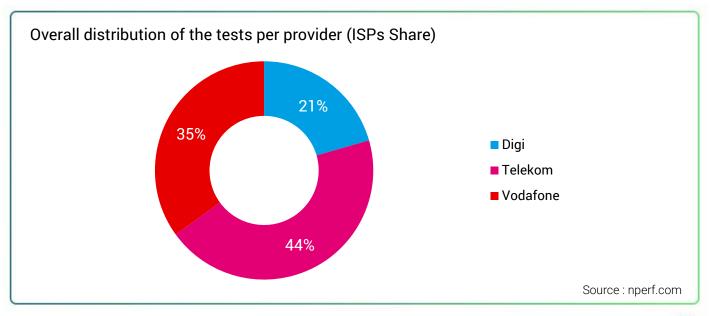
### **Streaming performance**

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.

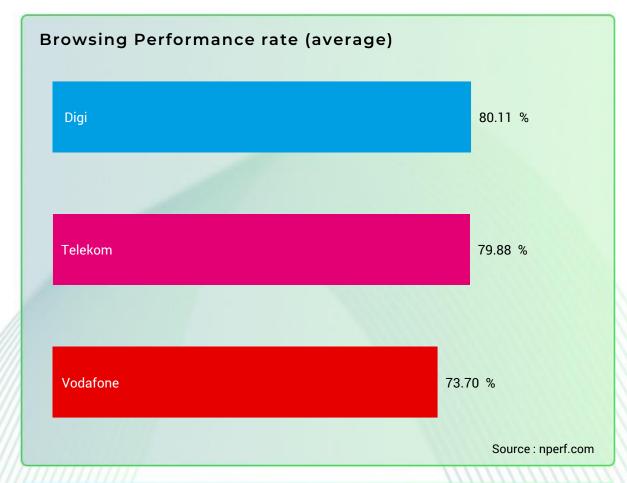
We only include national Internet service providers with test share above 5% share. The chart below shows the overall test distribution for each service provider.



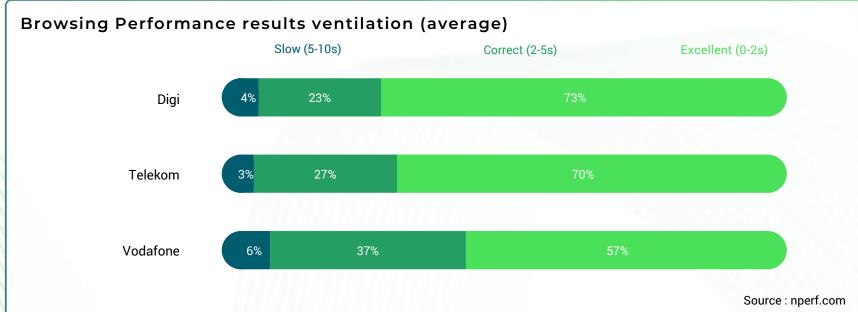


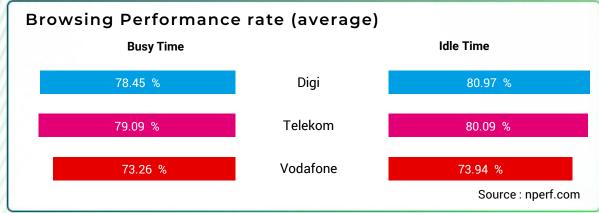
## **Quality of Experience: Browsing**

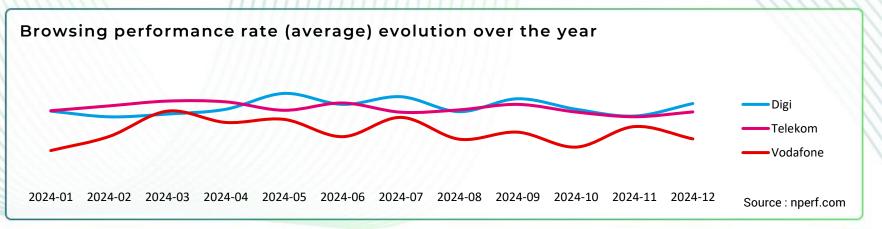




The subscribers of Digi and Telekom enjoyed the best fixed Internet browsing performance in 2024.



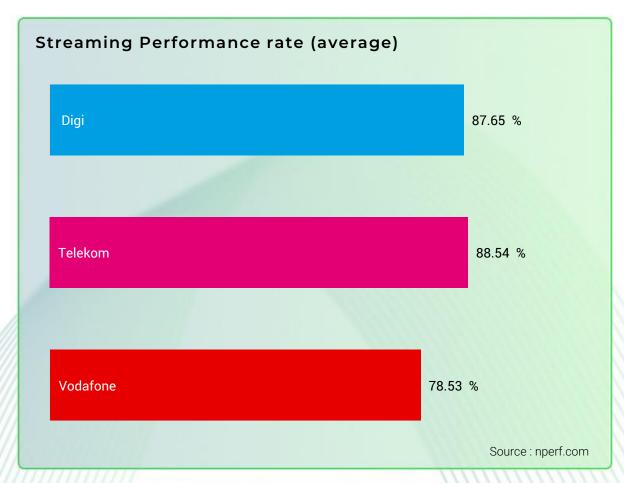




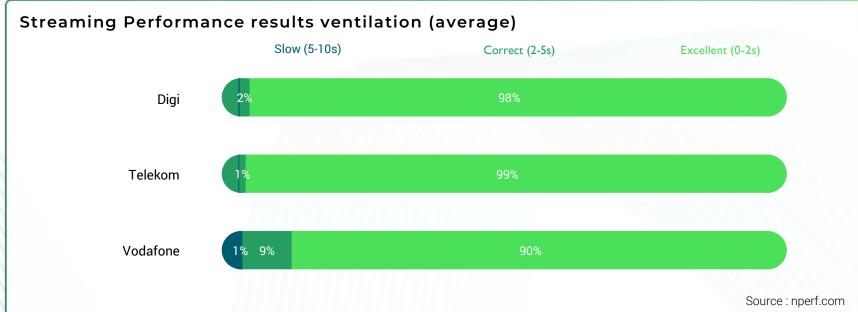


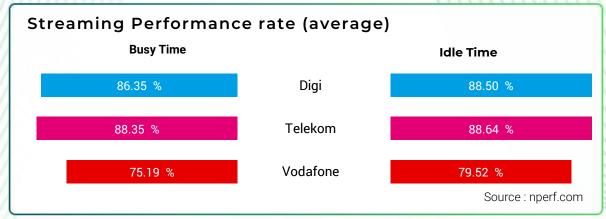
## **Quality of Experience: Streaming**

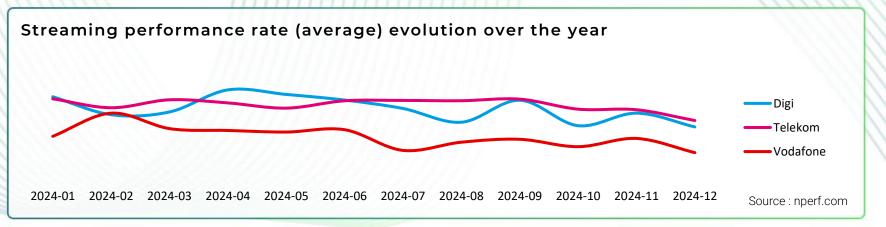




The subscribers of Telekom enjoyed the best fixed Internet streaming performance in 2024.



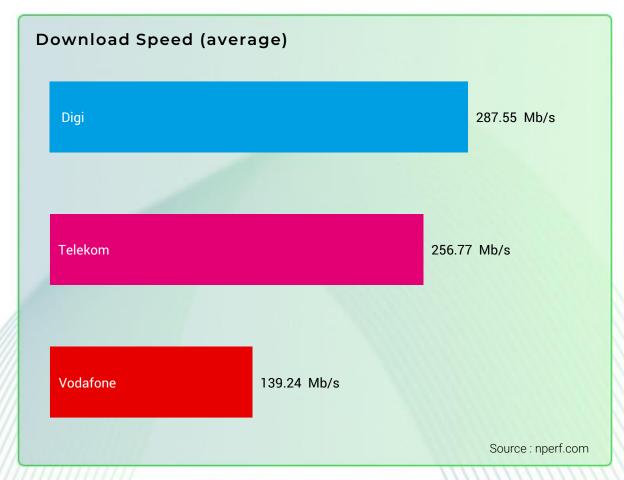




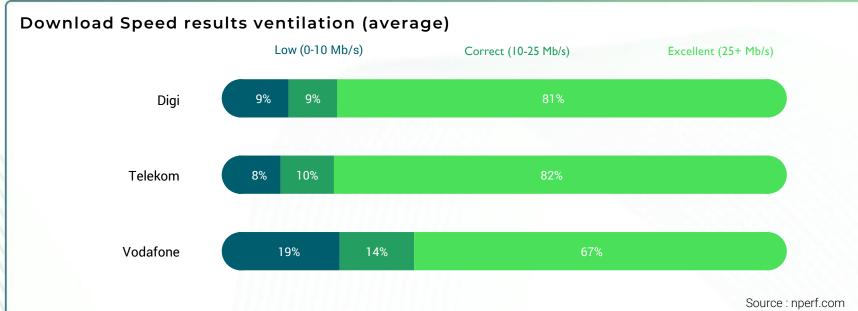


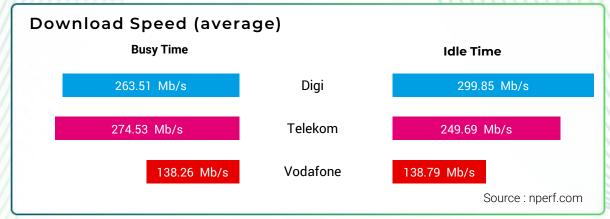
## Speed: Download

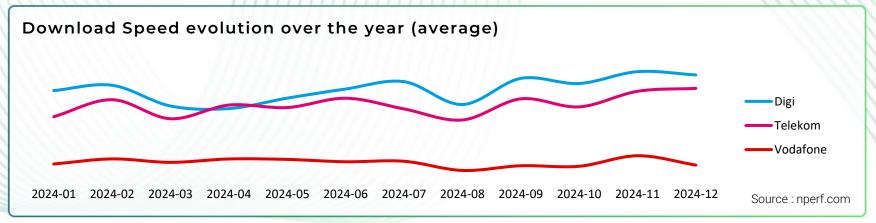




The subscribers of Digi enjoyed the best average fixed Internet download speed in 2024.



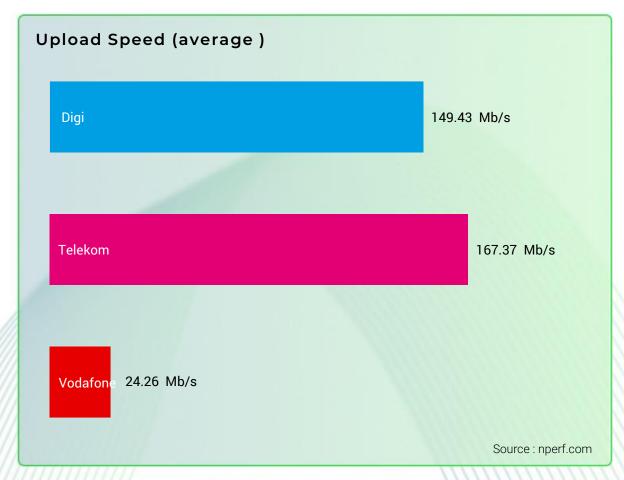




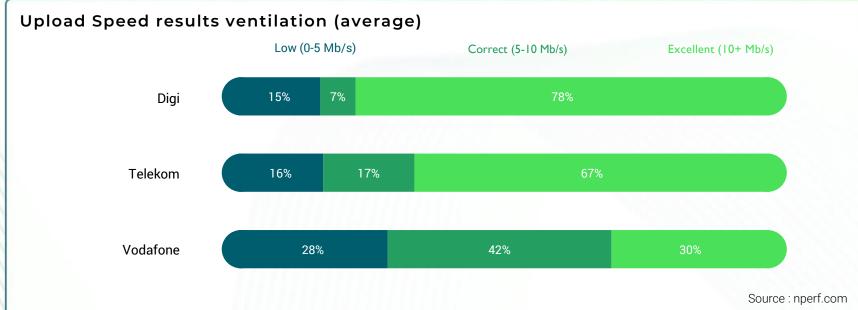


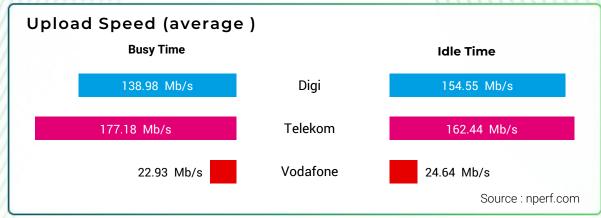
# Speed: Upload

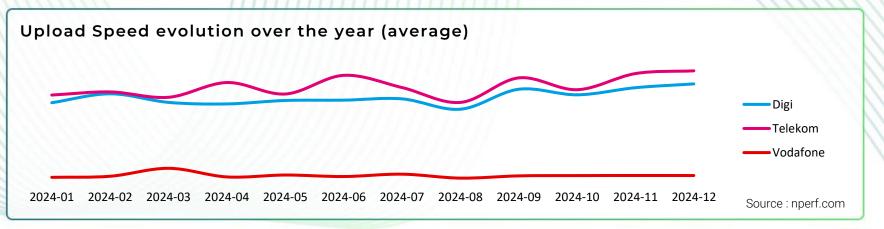




The subscribers of Telekom enjoyed the best average fixed Internet upload speed in 2024.



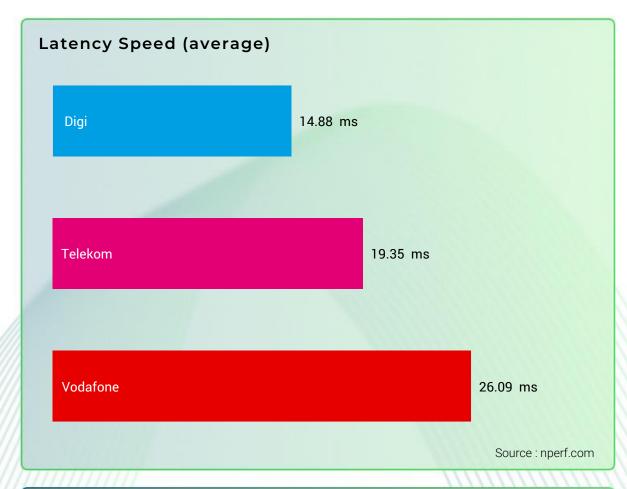




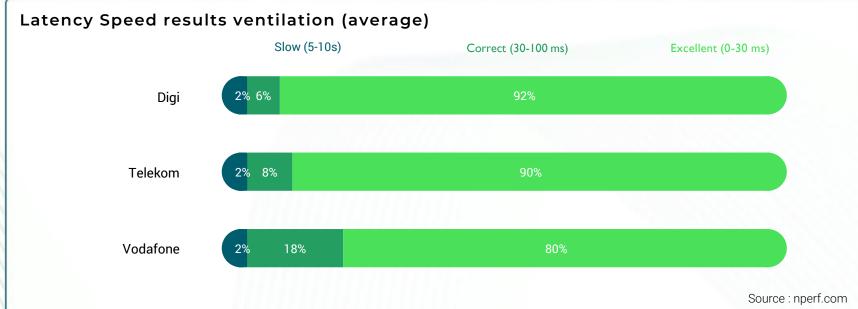


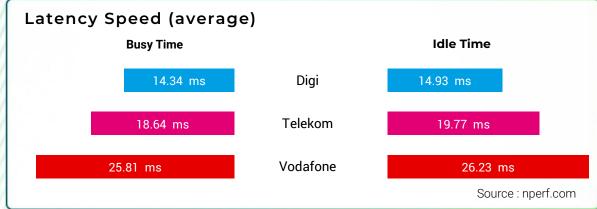
# Speed: Latency

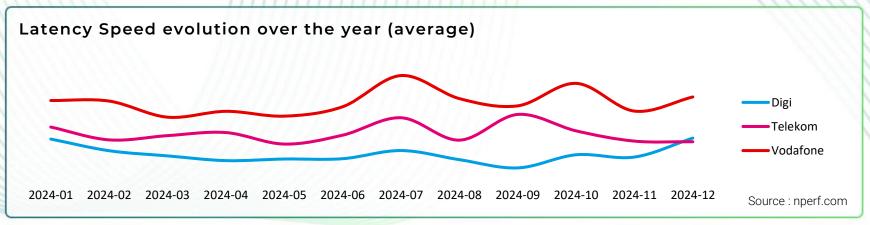




The subscribers of Digi enjoyed the best average fixed Internet latency speed in 2024.

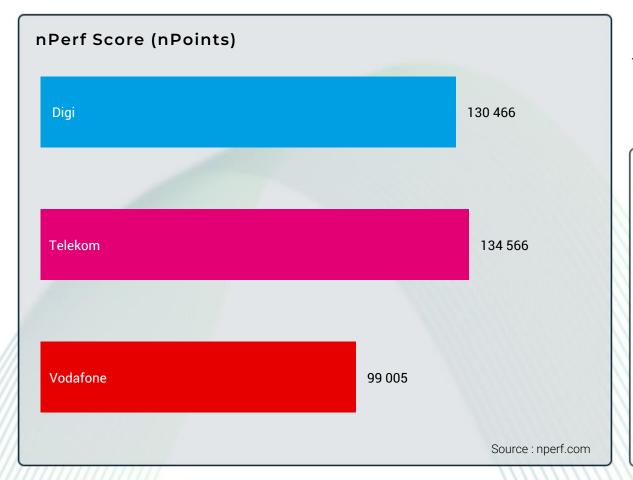






# Fixed Internet performance in Hungary

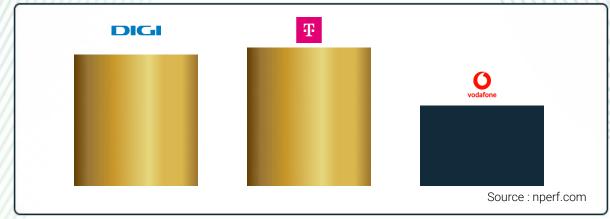


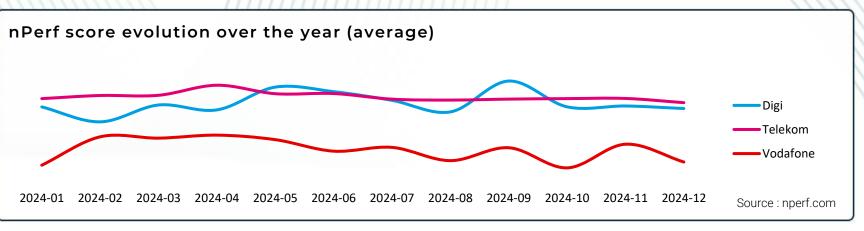


The subscribers of Telekom enjoyed the best WIFI Internet performances in Hungary in 2024.

- Best performances WIFI: Telekom
- Best web browsing performances WIFI: Digi and Telekom
- Best video streaming performances WIFI: Digi and Telekom
- Fastest performances (Download) WIFI: Telekom
- Fastest performances (Upload) WIFI: Telekom
- WIFI connections with the lowest latency: Digi

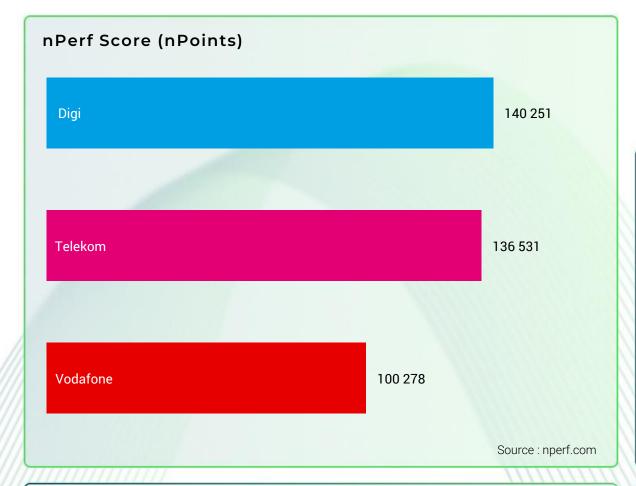
Source: nperf.com





# Fixed Internet performance in Hungary





The subscribers of Digi and Telekom enjoyed the best fixed 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



