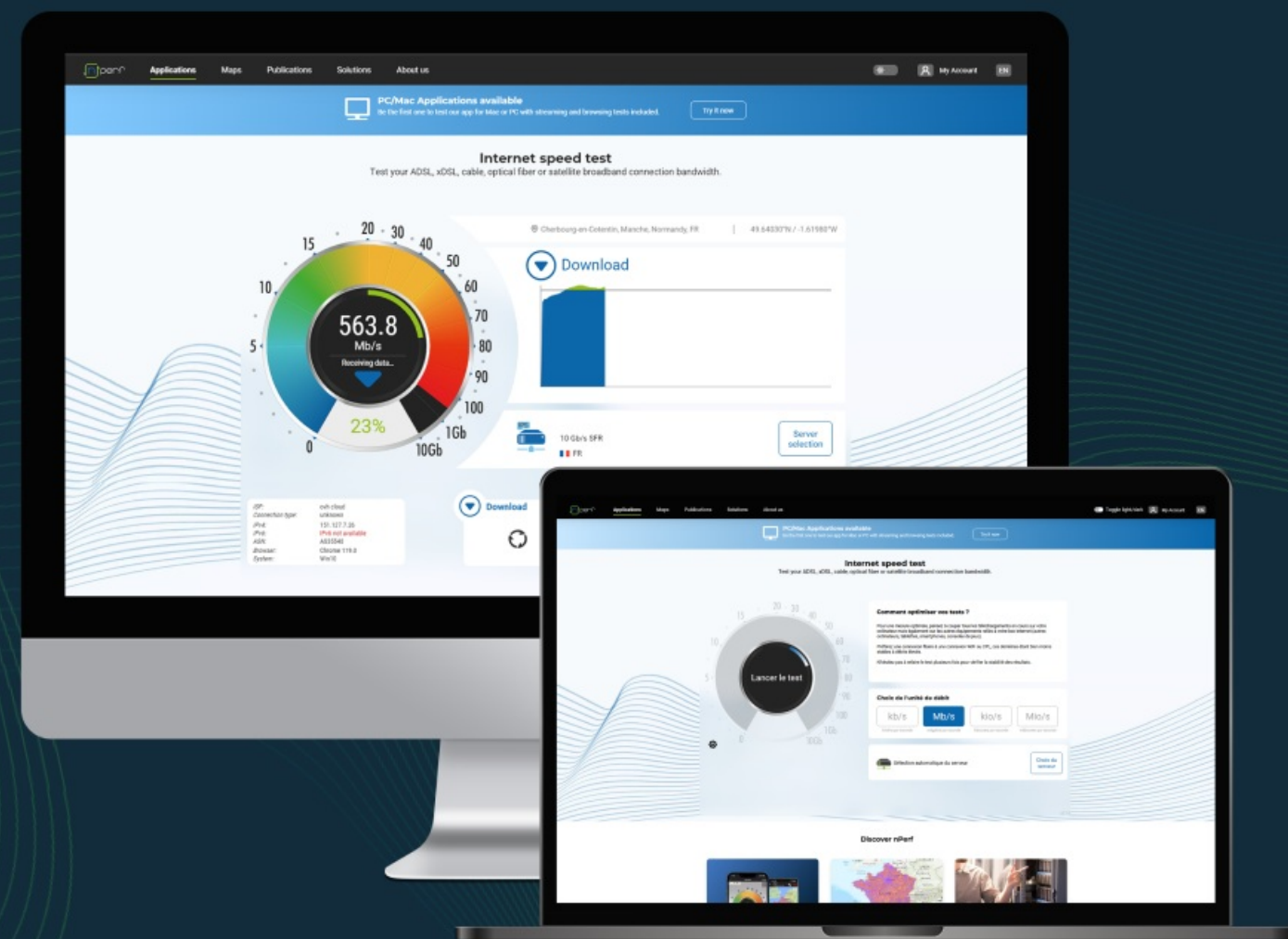# nperf
We qualify your connection

Barometer of fixed Internet Connections in Croatia.

01/01/2023 - 31/12/2023

1 Introducing nPerf

2 Executive summary

3 Analysis

4 Methodology

5 nPerf Network assesment

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.

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!

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Test your connection on nPerf.com

The subscribers of A1 enjoyed the best broadband performances in Croatia during 2023.

Fixed Internet connections in Croatia

	A1	Hrvatski Telekom	Iskon	Telemach
▼ Download bitrates (Mb/s)	130.30	66.98	42.58	64.94
▲ Upload bitrates (Mb/s)	49.65	40.02	20.56	35.29
◄► Latency (ms)	24.25	39.66	30.12	43.36
⌂ nPerf Score (nPoints)	137 739	116 234	109 019	113 199

Source : nperf.com

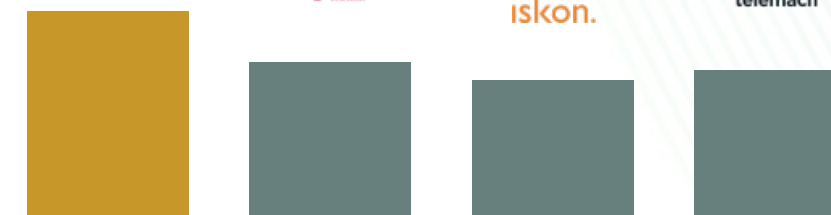Best fixed Internet performance in 2023

No.1 BROADBAND PERFORMANCE
nperf AWARDS

Source : nperf.com

Source : nperf.com

The fixed Internet market in Croatia presents a competitive environment between Internet Service Providers (ISPs), each offering distinct levels of quality of service, as evidenced by key performance indicators such as download and upload speeds. upload, latency, and overall nPerf scores. These metrics are crucial for assessing ISPs' ability to provide reliable, fast Internet services that are essential to residential and business customers.

A1: Undisputed leader in high performance

A1 is the leader in the Croatian fixed Internet market with exceptional performance in all areas. The ISP has a remarkable download bitrate of 130.3 Mb/s, coupled with an upload bitrate of 49.65 Mb/s, making it the top choice for high-demand Internet activities such as streaming high definition content, online gaming and downloading large files. With a low latency of 24.25ms, A1 ensures a smooth and responsive Internet experience. The nPerf score of 137,739 nPoints further strengthens A1's position as a market leader, reflecting the superior quality of its network and service delivery.

Hrvatski Telekom: A major competitor

Hrvatski Telekom is the leader in all fixed Internet performance in Croatia.
The ISP provides a download bitrate of 66.98 Mb/s and an upload speed of 40.02 Mb/s, catering well to the majority of internet usage scenarios. Despite a higher latency of 39.66 ms compared to A1, Hrvatski Telekom delivers a reliable service, as indicated by its nPerf score of 116,234 nPoints.

Telemach: Another competitive operator

Telemach offers competitive services with a download speed of 64.94 Mb/s and an upload speed of 35.29 Mb/s. The ISP latency amounts to 43.36 ms, which is higher but remains within a range allowing a satisfactory online experience for most applications. With an nPerf score of 113,199 nPoints, Telemach demonstrates its commitment to providing quality Internet services.

Iskon: Room for Improvement

Iskon, while not leading in terms of speed, still offers reliable Internet services with a download bitrate of 42.58 Mb/s and an upload speed of 20.56 Mb/s. The ISP's latency of 30.12 ms is commendable, indicating a responsive Internet experience. An nPerf score of 109,019 nPoints suggests that Iskon maintains a solid foundation in service quality, with potential for further enhancements in speed and capacity.

Conclusion

The analysis of Croatia's fixed Internet market reveals A1 as the clear frontrunner, excelling in both speed and efficiency, and providing an optimal online experience. Hrvatski Telekom and Telemach present themselves as strong alternatives, offering balanced services that cater to a wide range of Internet needs. Iskon, while trailing in terms of speed, still provides a reliable service, highlighting the competitive nature of Croatia's fixed Internet sector.

nPerf provides a **free tool 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.

For fixed connections, 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 from the nPerf server. The highest the measured value, the best is the bitrate of your connection.
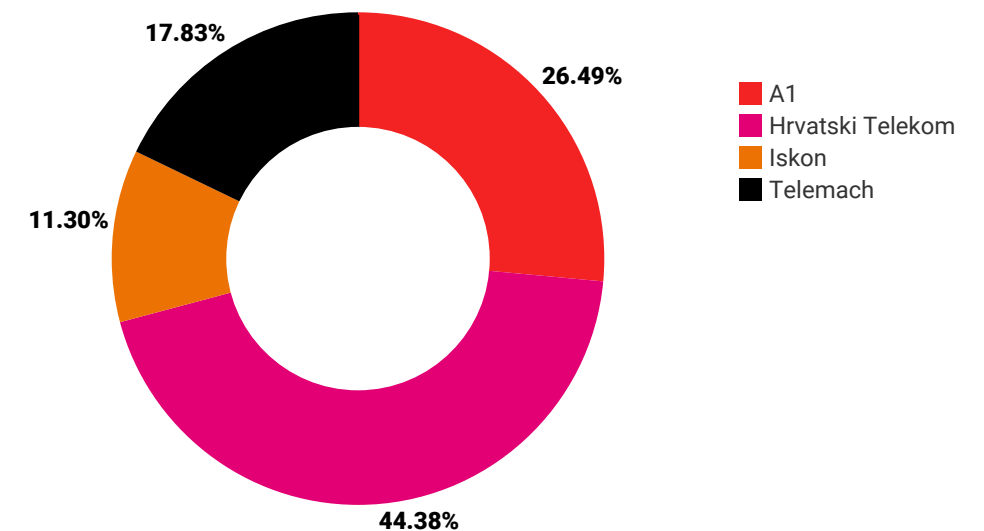
◀▶ Latency (ping) :

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.

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 and 1 point for percentage-based results, 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.
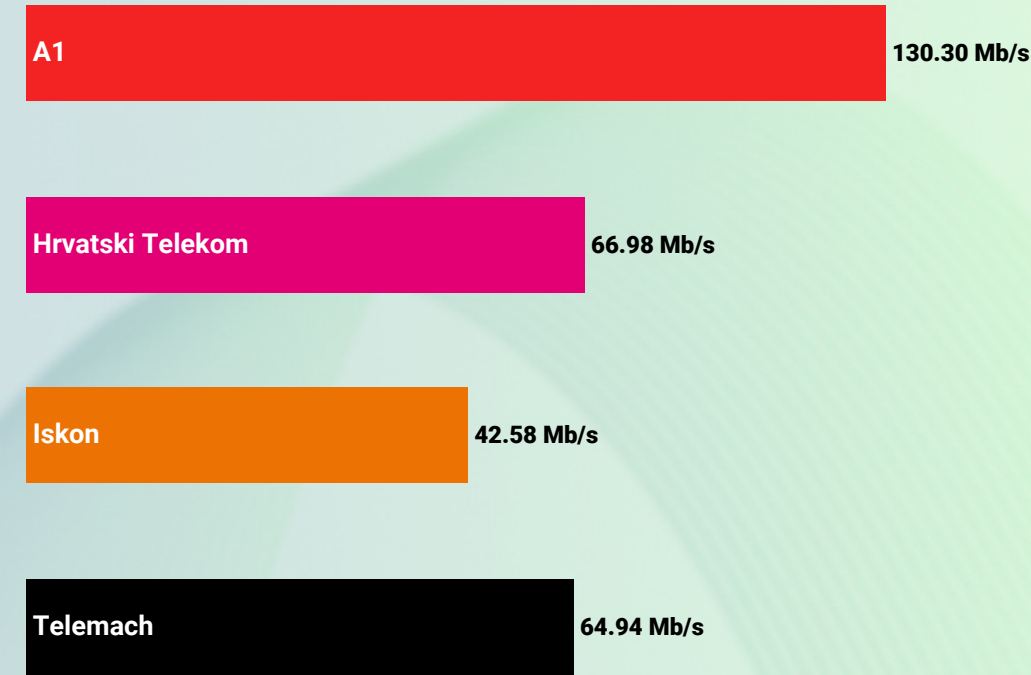
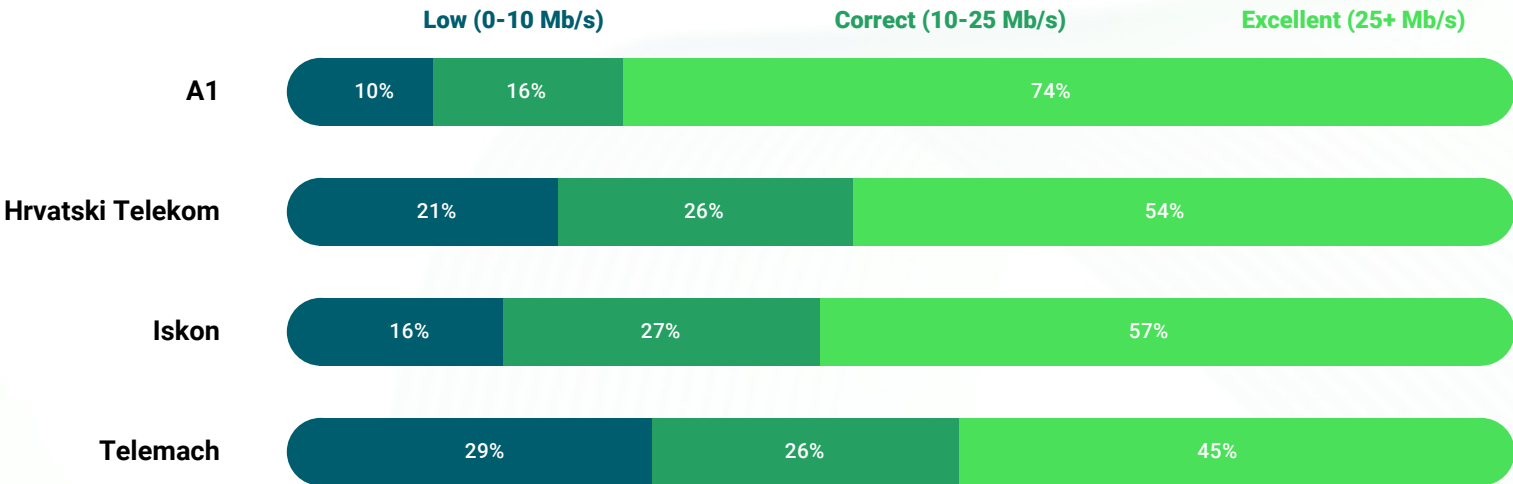**Overall distribution of the tests per provider (ISPs Share)**

- 17.83%
- 26.49%
- 44.38%
- 11.30%

Legend:
- ■ A1
- ■ Hrvatski Telekom
- ■ Iskon
- ■ Telemach

Source : nperf.com

Speed : Download

Download Speed (average)

Provider	Speed
A1	130.30 Mb/s
Hrvatski Telekom	66.98 Mb/s
Iskon	42.58 Mb/s
Telemach	64.94 Mb/s

Source : nperf.com

The subscribers of A1 enjoyed the best average broadband download speed in 2023.

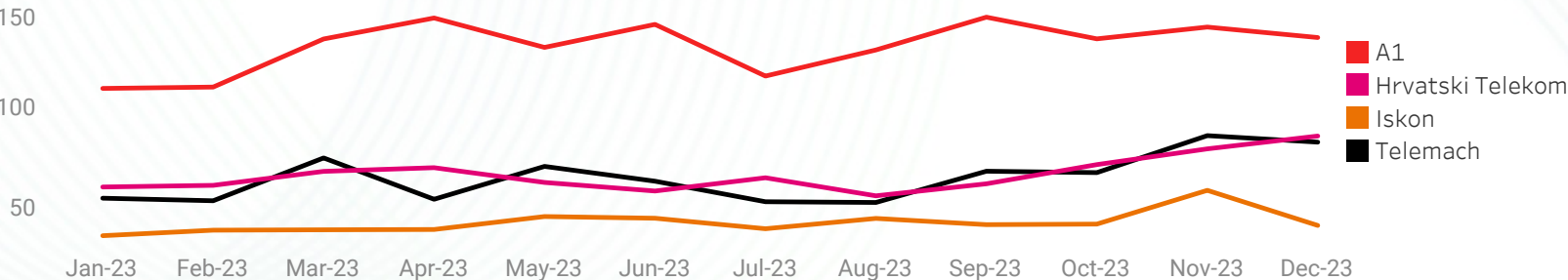## Download Speed results ventilation (average)

	Low (0-10 Mb/s)	Correct (10-25 Mb/s)	Excellent (25+ Mb/s)
A1	10%	16%	74%
Hrvatski Telekom	21%	26%	54%
Iskon	16%	27%	57%
Telemach	29%	26%	45%

Source : nperf.com

Download Speed (average)

Busy Time		Idle Time
131.14 Mb/s	A1	129.82 Mb/s
62.14 Mb/s	Hrvatski Telekom	69.83 Mb/s
41.48 Mb/s	Iskon	43.21 Mb/s
62.56 Mb/s	Telemach	66.32 Mb/s

Source : nperf.com

Download Speed evolution over the year (average)

Legend: A1, Hrvatski Telekom, Iskon, Telemach

Jan-23, Feb-23, Mar-23, Apr-23, May-23, Jun-23, Jul-23, Aug-23, Sep-23, Oct-23, Nov-23, Dec-23

Source : nperf.com

Upload Speed (average)

A1	49.65 Mb/s
Hrvatski Telekom	40.02 Mb/s
Iskon	20.56 Mb/s
Telemach	35.29 Mb/s
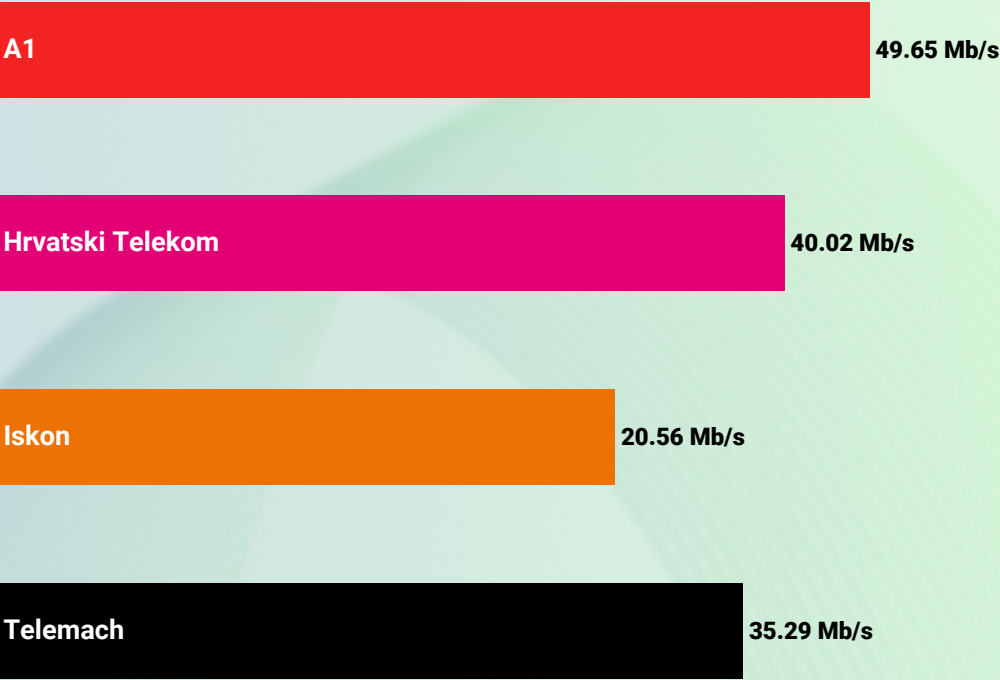
Source : nperf.com

The subscribers of A1 enjoyed the best average broadband upload speed in 2023.

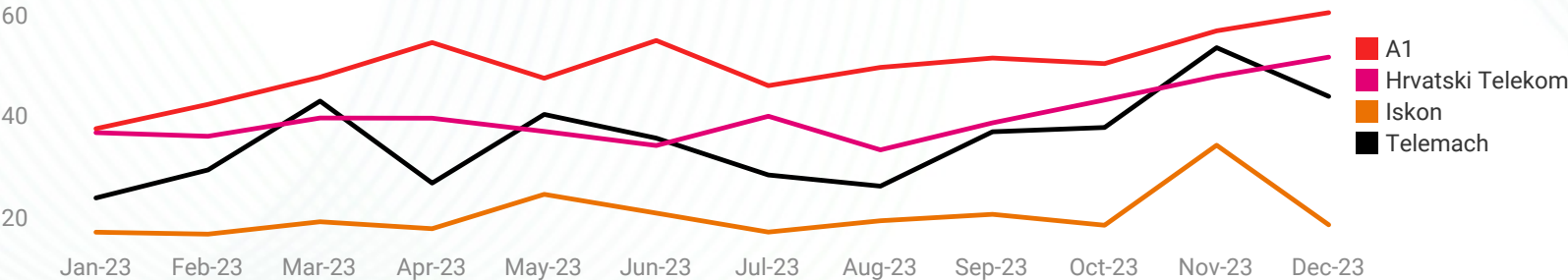### Upload Speed results ventilation (average)

	Low (0-5 Mb/s)	Correct (5-10 Mb/s)	Excellent (10+ Mb/s)
A1	19%	6%	76%
Hrvatski Telekom	31%	14%	56%
Iskon	31%	38%	30%
Telemach	44%	13%	42%

Source : nperf.com

Upload Speed (average)

Busy Time		Idle Time
51.17 Mb/s	A1	48.77 Mb/s
36.87 Mb/s	Hrvatski Telekom	41.87 Mb/s
19.32 Mb/s	Iskon	21.26 Mb/s
35.49 Mb/s	Telemach	35.17 Mb/s

Source : nperf.com

Upload Speed evolution over the year (average)

Legend: A1, Hrvatski Telekom, Iskon, Telemach

Source : nperf.com

Speed : Latency

Latency Speed (average)

- **A1** — 24.25 ms
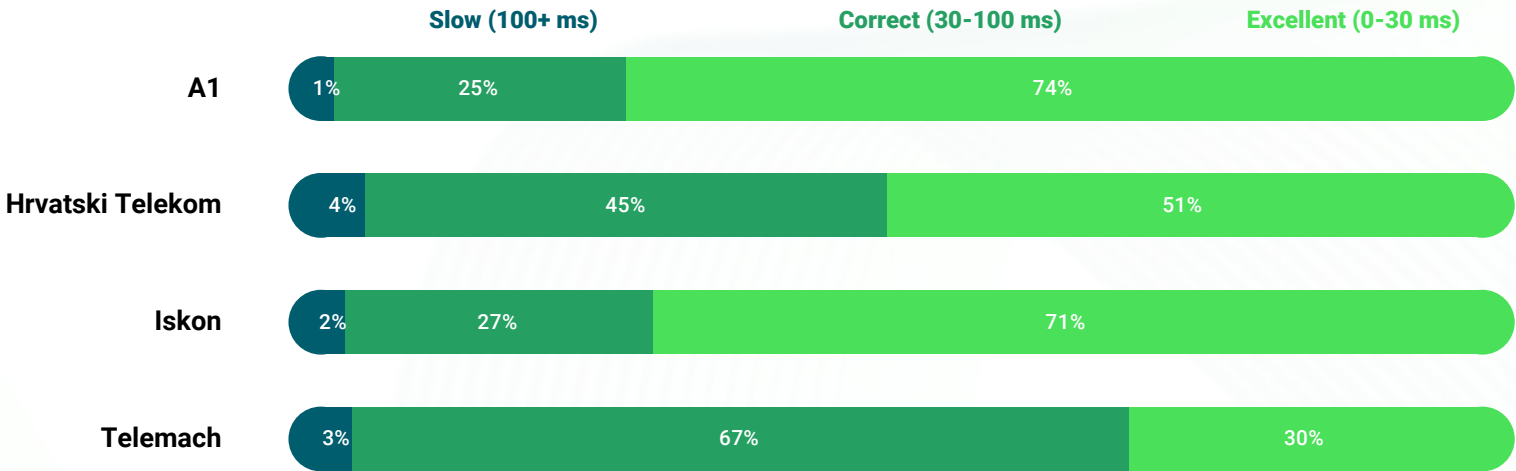- **Hrvatski Telekom** — 39.66 ms
- **Iskon** — 30.12 ms
- **Telemach** — 43.36 ms

Source : nperf.com

The subscribers of A1 enjoyed the best average broadband latency in 2023.
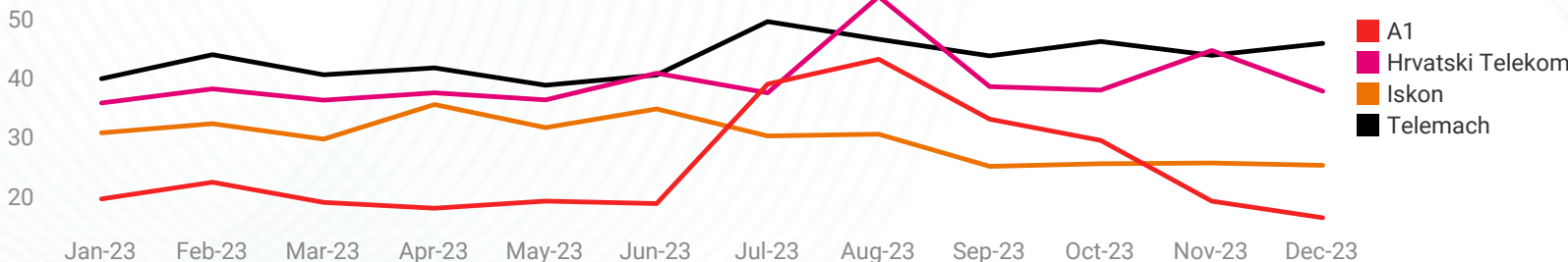
Latency Speed results ventilation (average)

	Slow (100+ ms)	Correct (30-100 ms)	Excellent (0-30 ms)
A1	1%	25%	74%
Hrvatski Telekom	4%	45%	51%
Iskon	2%	27%	71%
Telemach	3%	67%	30%

Source : nperf.com

Latency Speed (average)

	Busy Time		Idle Time
A1	25.27 ms		23.66 ms
Hrvatski Telekom	42.60 ms		37.93 ms
Iskon	30.98 ms		29.63 ms
Telemach	45.20 ms		42.29 ms

Source : nperf.com

Average latency Speed evolution over the year
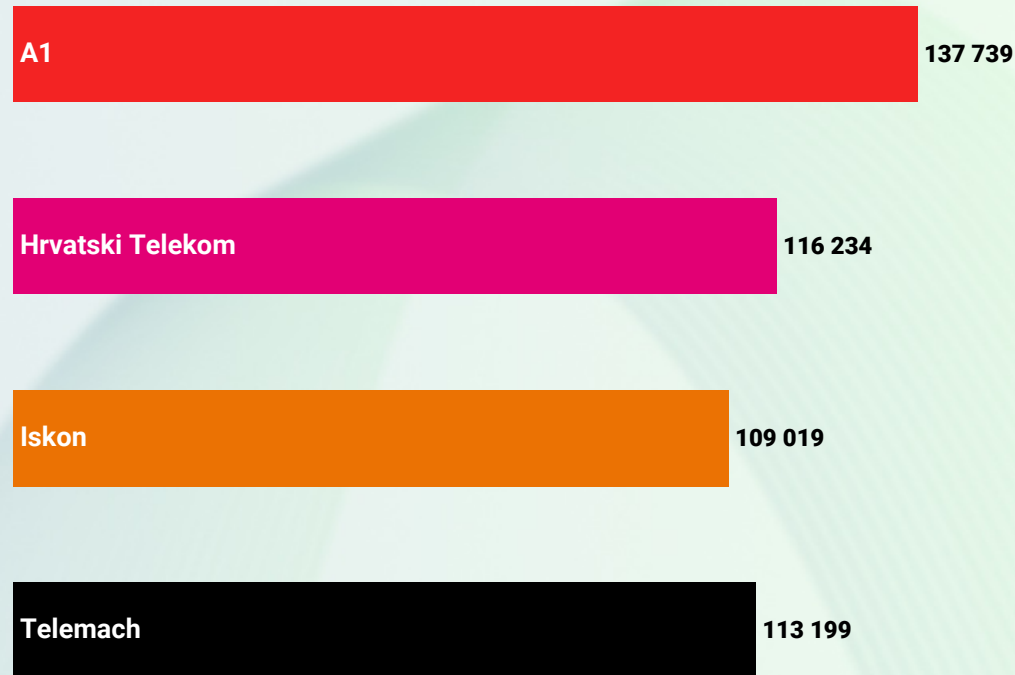
Legend: A1, Hrvatski Telekom, Iskon, Telemach

Source : nperf.com

Fixed Internet performance in Croatia

nPerf Score (nPoints)

A1 — 137 739
Hrvatski Telekom — 116 234
Iskon — 109 019
Telemach — 113 199

Source : nperf.com

The subscribers of A1 enjoyed the best broadband performances in Croatia during 2023.

The nperf score takes into account the measured bitrates and the latency. 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.

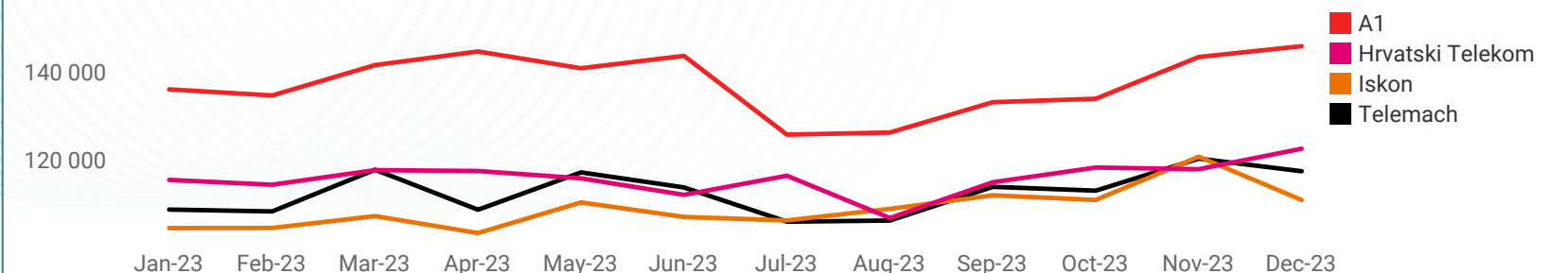Thus, this score reflects the overall quality of the connection experienced by the user.

Source : nperf.com

Best fixed Internet performance in 2023

Source : nperf.com

nPerf score evolution over the year (average)

A1
Hrvatski Telekom
Iskon
Telemach

140 000
120 000

Jan-23 Feb-23 Mar-23 Apr-23 May-23 Jun-23 Jul-23 Aug-23 Sep-23 Oct-23 Nov-23 Dec-23

Source : nperf.com

nPerf — We qualify your connection