

# best in test.

For adding something on top in Croatia and reaching an overall score of 863 dots in fixed broadband benchmarking survey we proudly award this certificate to

## Hrvatski Telekom Croatia

Score 863 out of 1000



Hakan Ekmen  
Global Networks Lead, Comms Industry



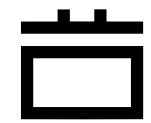



# Report facts

umlaut tested and measured the performance of fixed broadband services in Croatia. Focusing on the real user experience, we tested the categories Download Speed, Upload Speed, Latency and Stability.

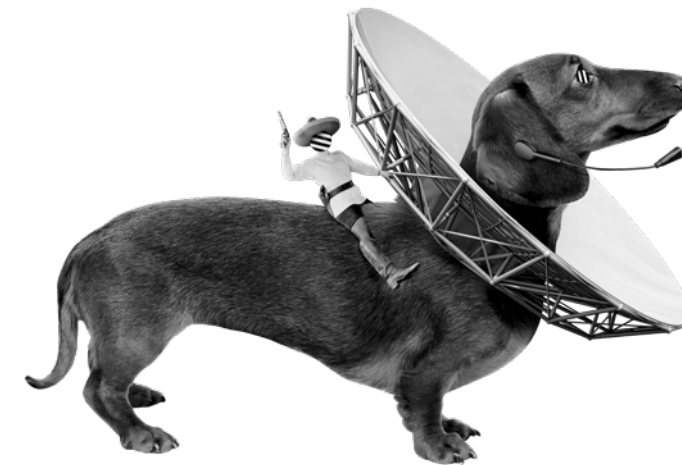
For this report crowdsourced performance data has been collected and evaluated in 24 weeks from CW33 2023 until CW04 2024. We collected 3.1 million samples from 5778 lines.

 **3.1 million**  
samples

 **CW33 2023**  
**to CW04 2024**  
measurement  
window

 **5.778**  
number of lines

# Claims



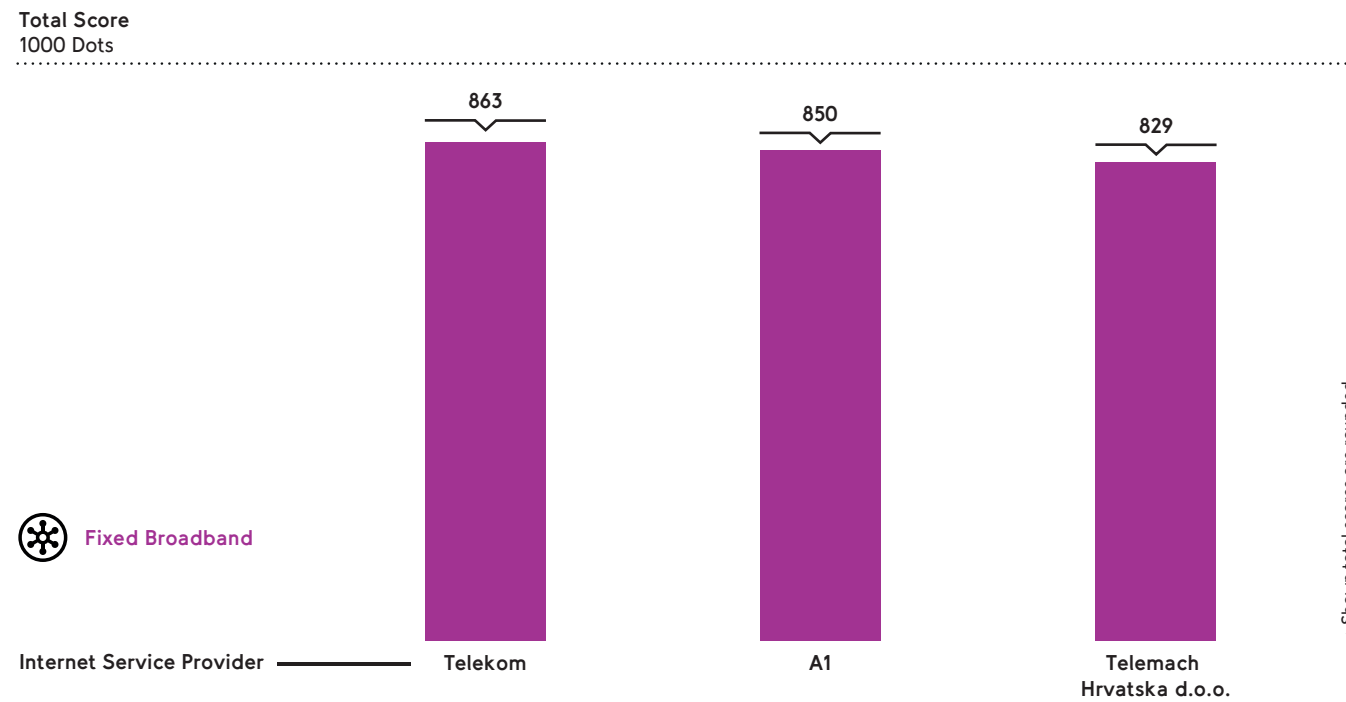
 **Best in test**  
Hrvatski Telekom Croatia

 **Best rated latency**  
Hrvatski Telekom Croatia



# Score and breakdown

Hrvatski Telekom Croatia achieved the highest overall score among competitors with 863 dots out of 1000.



Score achieved by the networks under test.



→ Shown total scores are rounded.

Service	max.	Telekom	A1	Telemach
Download Speed	450	376,1	391,1	365,0
Upload Speed	250	215,2	228,1	229,6
Latency	250	223,6	183,5	188,0
Stability	50	47,6	47,0	46,0



# KPI overview

## Speed, Latency and Stability

Download Speed KPIs		Unit	Telekom	A1	Telemach
Download Speed Active	AVG Datarate	[Mbit/s]	60.8	71.1	50.0
	P10 Datarate	[Mbit/s]	13.7	13.3	21.1
	P90 Datarate	[Mbit/s]	133.1	165.6	104.4
Download Speed Passive	Bulk DL	[%]	10.7	13.8	15.7
	DL UHD Video class	[%]	37.1	35.3	35.8
Upload Speed KPIs					
Upload Speed Active	AVG Datarate	[Mbit/s]	39.2	35.9	36.5
	P10 Datarate	[Mbit/s]	6.3	8.1	12.7
	P90 Datarate	[Mbit/s]	94.6	89.7	70.5
Upload Speed Passive	UL HD Video class	[%]	49.5	53.3	46.2
	UL UHD Video class	[%]	35.7	44.7	45.7
Latency KPIs					
Latency	Egoshooter class	[%]	70.0	54.1	54.5
	Egoshooter class 10ms	[%]	35.6	35.7	24.4
	Gaming class	[%]	94.0	90.2	92.7
Stability KPIs					
Stability	Transaction success	[%]	98.6	98.2	97.6

Measurement values achieved by the ISPs under test.

# Methodology

As the de-facto industry standard, umlaut's benchmarking methodology focuses on customer-perceived network quality and covers a wide range of mobile and fixed broadband services.

For the collection of crowd-data used for this certification report, we have integrated a background diagnosis processes into thousands of diverse Android apps. If one of these applications is installed on the end-user's phone, data collection takes place 24/7, 365 days a year. We focus on the user experience. Our data collection is compliant with the GDPR, since we do not include any personal user data. This unique crowdsourcing technology allows us to collect data about real-world experience wherever and whenever customers use their smartphones to consume data services or place phone calls.

The umlaut benchmarking framework is based on a unified measurement method for true international comparability combined with the umlaut-Score approach. Our top priority is to fairly and transparently assess the global development of networks, push their quality and performance with our benchmarks and ultimately achieve improvements for every customer.



**umlaut – Part of Accenture**

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