best in test

For adding something on top in Romania and reaching an overall score of 914 dots in mobile network benchmarking survey we proudly award this certificate to

Vodafone Romania

Score 914 out of 1000 in Total
Score 444 out of 480 in Data Services
Score 257 out of 270 in Voice Services
Score 213 out of 250 in Crowdsourced Quality

Reliability Score 566 out of 600 in Total

Crescenzo Micheli
Global Network Benchmarking Lead

Best 06 in 26 Test

umlaut

Measurement Overview

umlaut tested and measured the performance of its voice and data services on smartphones in comparison to other 5G/LTE mobile radio networks in metropolitan and rural areas of Romania.
The audit was done as a performance benchmark perfor–med by umlaut between 06.05.2026 and 30.05.2026 in cities and towns as well as on connection roads.
Dedicated measurements were taken via outdoor drive tests using a Samsung Galaxy S24 Ultra.
All data measurements have been performed in 5G preferred mode. Voice measurements have been done in 5G/5G preferred mode on both sides, while call origin has been alternated.

In addition crowdsourced performance data has been collected and evaluated between W52 2025 and W23 2026.
The following pages provide a comparative overview about the performance results observed the different tested service types.

Drive Test	Voice	Data
Device	Samsung Galaxy S24 Ultra	Samsung Galaxy S24 Ultra
Test Cases	Mobile–to–Mobile Side1 (VoLTE, 5G pref.) to Side2 (VoLTE, 5G pref.) 105 sec call window 70 sec call duration 15 sec call setup timeout Multi–RAB traffic injection on both sides	Data 5G preferred HTTP 7s DL & HTTP 7s UL HTTPS 10MB DL & HTTPS 5MB UL Web Browsing (4 international pages, 4 local pages, 1 ETSI reference, 1 umlaut reference page) 2 YouTube videos (VOD and Live video) Interactivity eGaming & Video Chat Conversational App
Mobility & Route Types	Drivetest: 58% in Cities, 19% in Towns and 23% on Roads	
Samples	13,690 voice samples	136,174 data samples
Dates	Drive and Walk test: 06.05.2026 – 30.05.2026 Crowd test: W52 2025 – W23 2026	

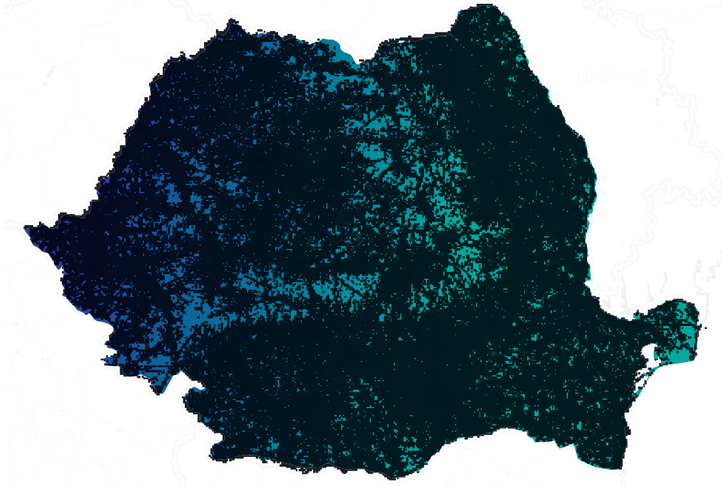
Testing area

Driving Route

~24%
of population measured

7,800 km
measuring distance

Crowdsourcing based test area



99.8%
of the 'Population area' covered

99.8%
of the 'Built-up area' covered

197,089 km²
size of tested area

Claims

Best in test
Vodafone Romania

Best in voice
Vodafone Romania

Best in data
Vodafone Romania

Best in Reliability
Vodafone Romania

Methodology

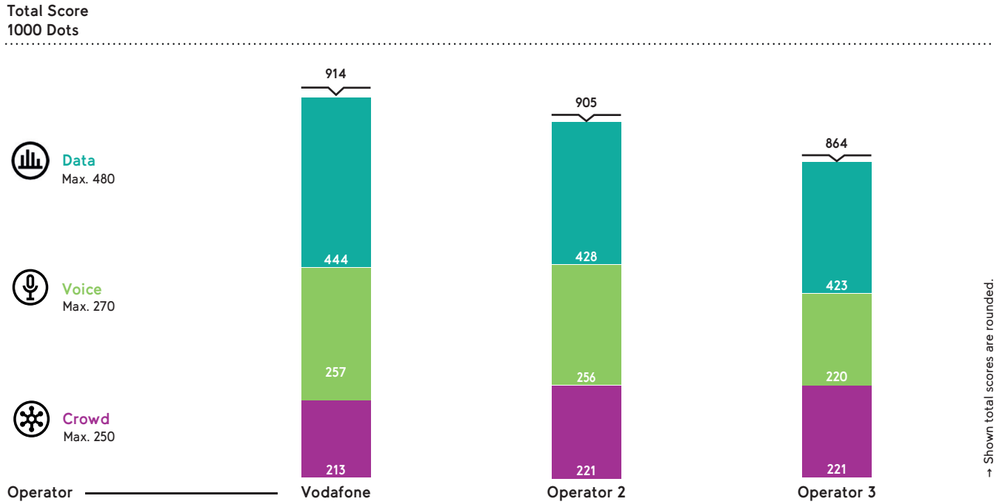
As the de–facto industry standard, umlaut's benchmarking methodology focuses on customer–perceived network quality and covers a wide range of mobile and fixed broadband services.

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.

Score and breakdown

Vodafone achieved the highest overall score among competitors with 914 dots out of 1000.



Overall score considering Crowdsourcing, Voice and Data.

Total Scores

		Vodafone	Operator 2	Operator 3
Data	max. 480	444	428	423
Cities drive test	216	95%	92%	90%
Cities walk test	72	96%	95%	92%
Towns drive test	96	91%	86%	86%
Roads drive test	96	85%	82%	83%
Voice	max. 270	257	256	220
Cities drive test	122	98%	96%	79%
Cities walk test	41	99%	98%	93%
Towns drive test	54	93%	96%	83%
Roads drive test	54	89%	90%	77%
Crowd	max. 250	213	221	221
Broadband Coverage	100	83%	88%	93%
Download speed (Service Category)	19	89%	92%	91%
Upload speed (Service Category)	19	77%	77%	66%
Download Speed (Data Rates)	19	78%	85%	79%
Upload Speed (Data Rates)	19	90%	91%	85%
Latency	50	85%	89%	87%
Voice	10	95%	96%	97%
Stability	15	95%	96%	97%
Total	1000	914	905	864

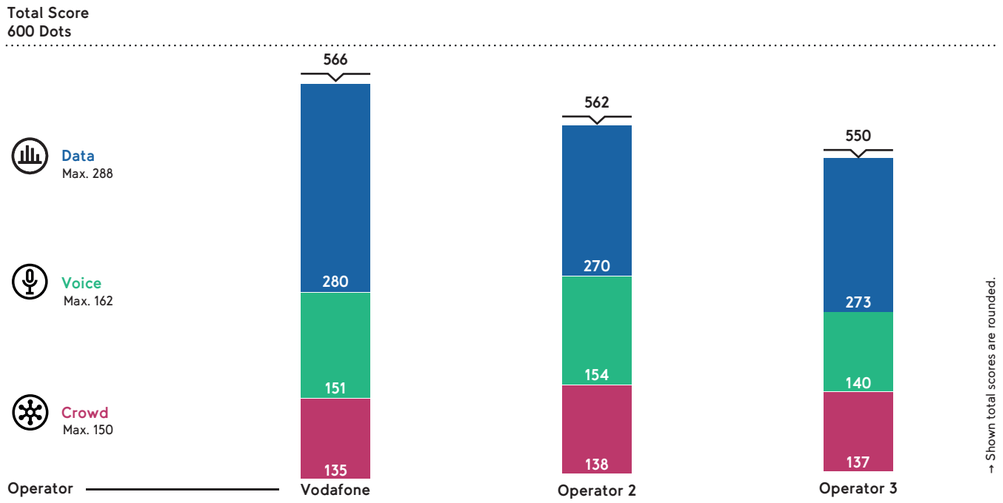
Achieved percentage of the maximum score in each of the different data services.

Data	Service group	Max.	Vodafone	Operator 2	Operator 3
Cities drive test	Web Browsing	37.8	98%	95%	95%
	File Download	43.2	97%	96%	88%
	File Upload	43.2	97%	94%	94%
	YouTube	36.7	98%	93%	90%
	OTT	55.1	88%	83%	85%
Cities walk test	Web Browsing	12.6	98%	98%	96%
	File Download	14.4	98%	98%	93%
	File Upload	14.4	96%	96%	92%
	YouTube	12.2	98%	95%	96%
	OTT	18.4	90%	89%	87%
Towns	Web Browsing	16.8	98%	93%	90%
	File Download	19.2	92%	86%	84%
	File Upload	19.2	94%	91%	87%
	YouTube	16.3	96%	88%	88%
	OTT	24.5	82%	76%	83%
Roads	Web Browsing	16.8	92%	92%	90%
	File Download	19.2	82%	83%	84%
	File Upload	19.2	87%	88%	82%
	YouTube	16.3	87%	78%	86%
	OTT	24.48	79%	72%	77%

Achieved percentage of the maximum score in each of the different crowdsourcing services.

Crowd	Service group	Max.	Vodafone	Operator 2	Operator 3
Crowdsourced Quality	Broadband Coverage	100	83%	88%	93%
	Download speed (Service Category)	19	89%	92%	91%
	Upload speed (Service Category)	19	77%	77%	66%
	Download Speed (Data Rates)	19	78%	85%	79%
	Upload Speed (Data Rates)	19	90%	91%	85%
	Latency	50	85%	89%	87%
	Voice	10	95%	96%	97%
	Stability	15	95%	96%	97%

Reliability



Reliability score considering Crowd, Voice and Data.

Total Scores

	Service group	Max.	Vodafone	Operator 2	Operator 3
Reliability	Data	288	97%	94%	95%
	Voice	162	93%	95%	86%
	Crowd	150	90%	92%	92%

Score achievement in school grades:
outstanding (95%), very good (85% and <95%), good (75% and 85%), satisfactory (65% and <75%), sufficient (55% and <65%).

Voice KPI overview

Achieved values of all networks under test in each of the relevant Voice Key Performance Indicators (KPIs) for the geographical categories "Cities", "Towns" and "Roads".

Voice	Service group	Unit	Vodafone	Operator 2	Operator 3
Cities drive test	Qualifier	[%]	99.8%	99.7%	98.9%
	Call Setup Time P90)	[s]	1.3	2.1	5.0
	Speech Quality (P10)	[MOS–LQO]	4.5	4.5	3.9
Cities walk test	Qualifier	[%]	99.9%	100.0%	99.7%
	Call Setup Time P90)	[s]	1.2	2.1	2.4
	Speech Quality (P10)	[MOS–LQO]	4.7	4.6	4.0
Towns	Qualifier	[%]	99.2%	99.7%	99.1%
	Call Setup Time P90)	[s]	1.3	2.2	4.6
	Speech Quality (P10)	[MOS–LQO]	4.5	4.5	3.9
Roads	Qualifier	[%]	97.6%	98.0%	96.9%
	Call Setup Time P90)	[s]	1.5	2.2	4.4
	Speech Quality (P10)	[MOS–LQO]	4.4	4.3	3.8

Data Service KPI overview

Achieved values of all networks under test in each of the relevant Data Key Performance Indicators (KPIs) for the geographical category "Cities drive test".

Services	KPI name	Unit	Vodafone	Operator 2	Operator 3
HTTP Web page DL Smart–phone	Qualifier	[%]	100.0%	99.7%	99.7%
	Overall session time	[s]	1.3	1.4	1.5
HTTP 10MB DL Smartphone	Qualifier	[%]	100.0%	100.0%	99.9%
	Average session time	[s]	1.0	1.3	2.2
	90% faster than	[Mbit/s]	47.1	35	20.9
	10% faster than	[Mbit/s]	288.8	231.9	148.4
HTTP 5MB UL Smartphone	Qualifier	[%]	100.0%	99.7%	100.0%
	Average session time	[s]	1.6	2.0	2.1
	90% faster than	[Mbit/s]	16.4	12	11.8
	10% faster than	[Mbit/s]	65.1	66.9	61.4
HTTP DL FDTT	Qualifier	[%]	100.0%	99.7%	99.7%
	10% faster than	[Mbit/s]	686.5	587	220.2
	Faster than 20Mbits/s	[%]	98.6%	97.4%	93.2%
	Faster than 100Mbits/s	[%]	79.1%	77.8%	53.9%
HTTP UL FDTT	Qualifier	[%]	100.0%	99.9%	99.8%
	10% faster than	[Mbit/s]	101.7	118.6	91.5
	Faster than 2Mbits/s	[%]	99.8%	99.8%	99.5%
	Faster than 5Mbits/s	[%]	99.0%	98.3%	97.8%
YouTube	Qualifier	[%]	100.0%	99.6%	99.4%
	Start time	[s]	1.7	2.0	2.1
	Average resolution	[p]	1080.0	1080.0	1079.3
YouTube live smartphone	Qualifier	[%]	100.0%	99.5%	98.9%
	Start time	[s]	2.0	2.3	2.4
	Average resolution	[p]	1080.0	1079.4	1078.1
Interactivity EGaming	Qualifier	[%]	99.7%	94.1%	97.8%
	Interactivity score	[%]	53.8%	51.5%	49.8%
Interactivity videochat	Qualifier	[%]	96.1%	95.8%	95.2%
	Interactivity score	[%]	87.4%	85.5%	84.0%
Conversational app	Qualifier	[%]	100.0%	99.9%	99.9%
	Speech quality (P10)	[MOS–LQO]	4.3	3.9	3.9

Data Service KPI overview

Achieved values of all networks under test in each of the relevant Data Key Performance Indicators (KPIs) for the geographical category "Cities walk test".

Services	KPI name	Unit	Vodafone	Operator 2	Operator 3
HTTP Web page DL Smart–phone	Qualifier	[%]	99.9%	100.0%	99.9%
	Overall session time	[s]	1.2	1.3	1.5
HTTP 10MB DL Smartphone	Qualifier	[%]	100.0%	100.0%	100.0%
	Average session time	[s]	0.8	1.0	1.8
	90% faster than	[Mbit/s]	66.3	47.6	30.8
	10% faster than	[Mbit/s]	314.9	236.6	151.1
HTTP 5MB UL Smartphone	Qualifier	[%]	99.7%	100.0%	100.0%
	Average session time	[s]	1.6	1.8	2.5
	90% faster than	[Mbit/s]	17	12.3	8.7
	10% faster than	[Mbit/s]	66.8	69.8	63.3
HTTP DL FDTT	Qualifier	[%]	100.0%	100.0%	100.0%
	10% faster than	[Mbit/s]	814.2	667.1	231.3
	Faster than 20Mbits/s	[%]	99.7%	99.1%	96.8%
	Faster than 100Mbits/s	[%]	85.9%	83.2%	55.6%
HTTP UL FDTT	Qualifier	[%]	100.0%	100.0%	99.7%
	10% faster than	[Mbit/s]	110.6	129.4	95.1
	Faster than 2Mbits/s	[%]	99.7%	100.0%	99.4%
	Faster than 5Mbits/s	[%]	98.6%	98.3%	96.2%
YouTube	Qualifier	[%]	100.0%	99.7%	100.0%
	Start time	[s]	1.8	1.8	2.1
	Average resolution	[p]	1080.0	1080.0	1080.0
YouTube live smartphone	Qualifier	[%]	100.0%	99.7%	100.0%
	Start time	[s]	2.0	2.3	2.5
	Average resolution	[p]	1080.0	1079.9	1079.0
Interactivity EGaming	Qualifier	[%]	100.0%	99.7%	98.9%
	Interactivity score	[%]	57.6%	54.2%	52.9%
Interactivity videochat	Qualifier	[%]	98.3%	97.7%	96.5%
	Interactivity score	[%]	90.8%	89.3%	88.9%
Conversational app	Qualifier	[%]	100.0%	100.0%	99.9%
	Speech quality (P10)	[MOS–LQO]	4.3	4.3	4.2

Data Service KPI overview

Achieved values of all networks under test in each of the relevant Data Key Performance Indicators (KPIs) for the geographical category "Town".

Services	KPI name	Unit	Vodafone	Operator 2	Operator 3
HTTP Web page DL Smart–phone	Qualifier	[%]	100.0%	99.5%	99.6%
	Overall session time	[s]	1.4	1.6	1.9
HTTP 10MB DL Smartphone	Qualifier	[%]	100.0%	99.8%	99.8%
	Average session time	[s]	1.7	2.9	2.6
	90% faster than	[Mbit/s]	25.2	15.5	16.4
	10% faster than	[Mbit/s]	198.6	183.3	138.3
HTTP 5MB UL Smartphone	Qualifier	[%]	100.0%	100.0%	100.0%
	Average session time	[s]	2.3	3.1	3.4
	90% faster than	[Mbit/s]	9.7	7.7	5.9
	10% faster than	[Mbit/s]	48.9	43.9	55.5
HTTP DL FDTT	Qualifier	[%]	100.0%	100.0%	99.7%
	10% faster than	[Mbit/s]	545.2	407.1	206.3
	Faster than 20Mbits/s	[%]	95.2%	90.2%	88.9%
	Faster than 100Mbits/s	[%]	46.2%	46.6%	46.4%
HTTP UL FDTT	Qualifier	[%]	100.0%	99.8%	99.7%
	10% faster than	[Mbit/s]	73.6	78.3	85.9
	Faster than 2Mbits/s	[%]	100.0%	99.8%	97.9%
	Faster than 5Mbits/s	[%]	98.5%	98.1%	92.8%
YouTube	Qualifier	[%]	99.7%	99.2%	99.3%
	Start time	[s]	1.9	2.2	2.5
	Average resolution	[p]	1080.0	1079.9	1079.1
YouTube live smartphone	Qualifier	[%]	100.0%	98.9%	99.0%
	Start time	[s]	2.2	2.7	2.9
	Average resolution	[p]	1079.8	1076.1	1078.0
Interactivity EGaming	Qualifier	[%]	97.5%	92.1%	96.3%
	Interactivity score	[%]	45.4%	40.4%	46.5%
Interactivity videochat	Qualifier	[%]	92.2%	91.6%	94.0%
	Interactivity score	[%]	84.4%	81.6%	85.7%
Conversational app	Qualifier	[%]	99.7%	99.9%	100.0%
	Speech quality (P10)	[MOS–LQO]	4.3	3.8	4.0

Data Service KPI overview

Achieved values of all networks under test in each of the relevant Data Key Performance Indicators (KPIs) for the geographical category "Road".

Services	KPI name	Unit	Vodafone	Operator 2	Operator 3
HTTP Web page DL Smart–phone	Qualifier	[%]	98.8%	98.9%	98.4%
	Overall session time	[s]	1.5	1.7	1.7
HTTP 10MB DL Smartphone	Qualifier	[%]	99.4%	99.9%	99.6%
	Average session time	[s]	3.6	4.2	3.5
	90% faster than	[Mbit/s]	10.5	9.7	14
	10% faster than	[Mbit/s]	120.2	99.9	92.4
HTTP 5MB UL Smartphone	Qualifier	[%]	99.4%	99.2%	99.3%
	Average session time	[s]	4.3	4.1	5.5
	90% faster than	[Mbit/s]	4.7	5.2	3.4
	10% faster than	[Mbit/s]	42.6	40.8	36.6
HTTP DL FDTT	Qualifier	[%]	98.9%	99.3%	99.4%
	10% faster than	[Mbit/s]	178.7	163.1	123.3
	Faster than 20Mbits/s	[%]	74.3%	76.3%	81.4%
	Faster than 100Mbits/s	[%]	22.9%	21.5%	15.6%
HTTP UL FDTT	Qualifier	[%]	99.2%	99.2%	99.0%
	10% faster than	[Mbit/s]	58.9	60.9	51.9
	Faster than 2Mbits/s	[%]	98.9%	99.1%	95.0%
	Faster than 5Mbits/s	[%]	92.4%	92.7%	86.9%
YouTube	Qualifier	[%]	98.9%	96.0%	97.6%
	Start time	[s]	2.2	2.3	2.2
	Average resolution	[p]	1078.5	1078.7	1078.8
YouTube live smartphone	Qualifier	[%]	97.1%	96.0%	98.0%
	Start time	[s]	2.6	2.8	2.7
	Average resolution	[p]	1072.4	1072.5	1073.9
Interactivity EGaming	Qualifier	[%]	92.9%	87.1%	91.7%
	Interactivity score	[%]	45.8%	38.6%	39.3%
Interactivity videochat	Qualifier	[%]	85.0%	83.1%	87.5%
	Interactivity score	[%]	85.1%	82.3%	85.5%
Conversational app	Qualifier	[%]	98.9%	99.1%	98.2%
	Speech quality (P10)	[MOS–LQO]	3.8	3.6	3.8

Crowd KPI overview

Achieved values of all networks under test in each of the relevant Crowd Key Performance Indicators (KPIs) for the categories "Broadband Coverage", "Download Speed", "Upload Speed", "Latency". "Voice Crowd" and "Stability".

Category	KPI name	Unit	Vodafone	Operator 2	Operator 3
Broadband Coverage	Coverage Reach	[%]	82.3 %	86.4 %	91.8 %
	Time on broadband	[%]	98.0 %	98.9 %	99.5 %
Download Speed (Service Category)	Basic internet class	[%]	97.2 %	97.9 %	97.9 %
	HD video class	[%]	87.9 %	90.4 %	89.9 %
	UHD video class	[%]	56.5 %	63.5 %	62.0 %
Upload Speed (Service Category)	Basic internet class	[%]	92.7 %	92.6 %	89.0 %
	HD video class	[%]	78.7 %	78.9 %	72.7 %
Download Speed (Data Rates)	P10 data rate	[Mbit/s]	4.6	5.9	5.6
	P90 data rate	[Mbit/s]	153.7	179.7	106.5
	AVG data rate	[Mbit/s]	59.7	68.6	46.0
Upload Speed (Data Rates)	P10 data rate	[Mbit/s]	2.8	2.8	2.2
	P90 data rate	[Mbit/s]	40.8	46.1	38.8
	AVG data rate	[Mbit/s]	18.7	20.7	17.8
Latency	OTT voice class	[%]	96.9 %	97.3 %	97.4 %
	Gaming class	[%]	82.8 %	86.1 %	88.1 %
	Egoshooter class	[%]	7.7 %	10.0 %	5.0 %
Voice	HD voice	[%]	96.3 %	97.4 %	97.9 %
Stability	Transaction Success	[%]	95.3 %	95.6 %	97.1 %

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