

best in test.

For adding something on top in Greece and reaching an overall score of 928 dots in mobile network benchmarking survey we proudly award this certificate to

Cosmote Greece

Score 928 out of 1000 in Total

Score 252 out of 270 in Voice Services

Score 447 out of 480 in Data Services

Score 229 out of 250 in Crowdsourced Quality



Hakan Ekmen

Global Networks Lead, Comms Industry





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 Greece.

The audit was done as a performance benchmark performed by umlaut between 07.05.2025 and 26.05.2025 in cities and towns as well as on connection roads.

Dedicated measurements have been executed as drive tests and walk test 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 CW50 2024 and CW22 2025.

The following pages provide a comparative overview about the performance results observed for the different tested service types.



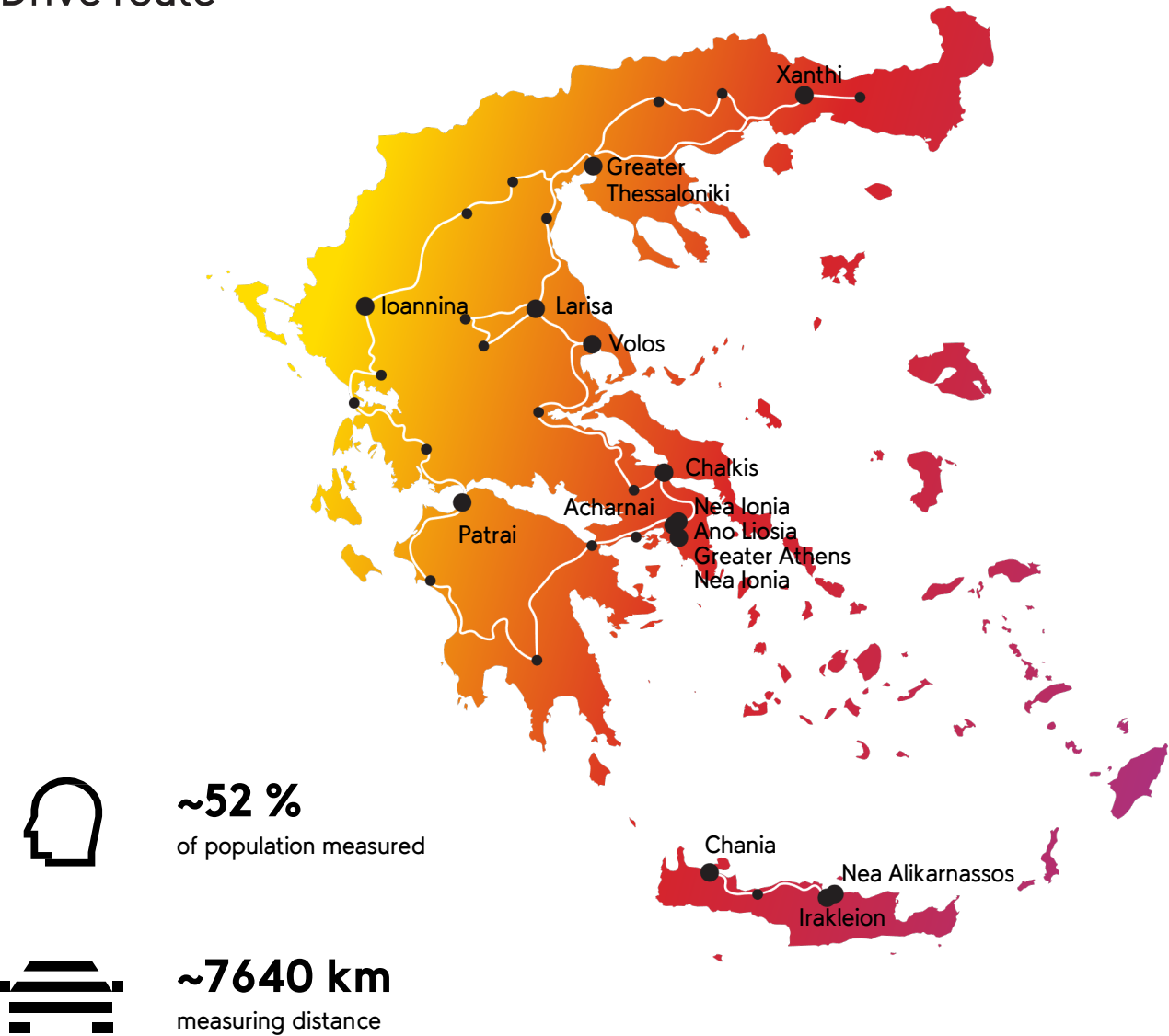
Measurement setup

Drivetest	Voice	Conversational App	Data
Device	Samsung Galaxy S24 Ultra	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	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	Data 5G preferred HTTP DL datastream 7s HTTP UL datastream 7s HTTP 10MB DL fixed file transfer HTTP 5MB UL fixed file transfer Web Browsing – (4 international pages, 4 local pages, 1 ETSI reference, 1 umlaut reference page) 2 YouTube videos ~45s (Full HD and Live Full HD) Interactivity eGaming, Video Chat HD
Mobility and Route Types	~56% in Cities, ~17% in Towns and ~36% on Roads		
Samples	10,253 in total		103,824 in total
Dates	07.05.2025 – 26.05.2025		
Crowd Data Assessment	24 weeks CW50 2024 – CW22 2022		

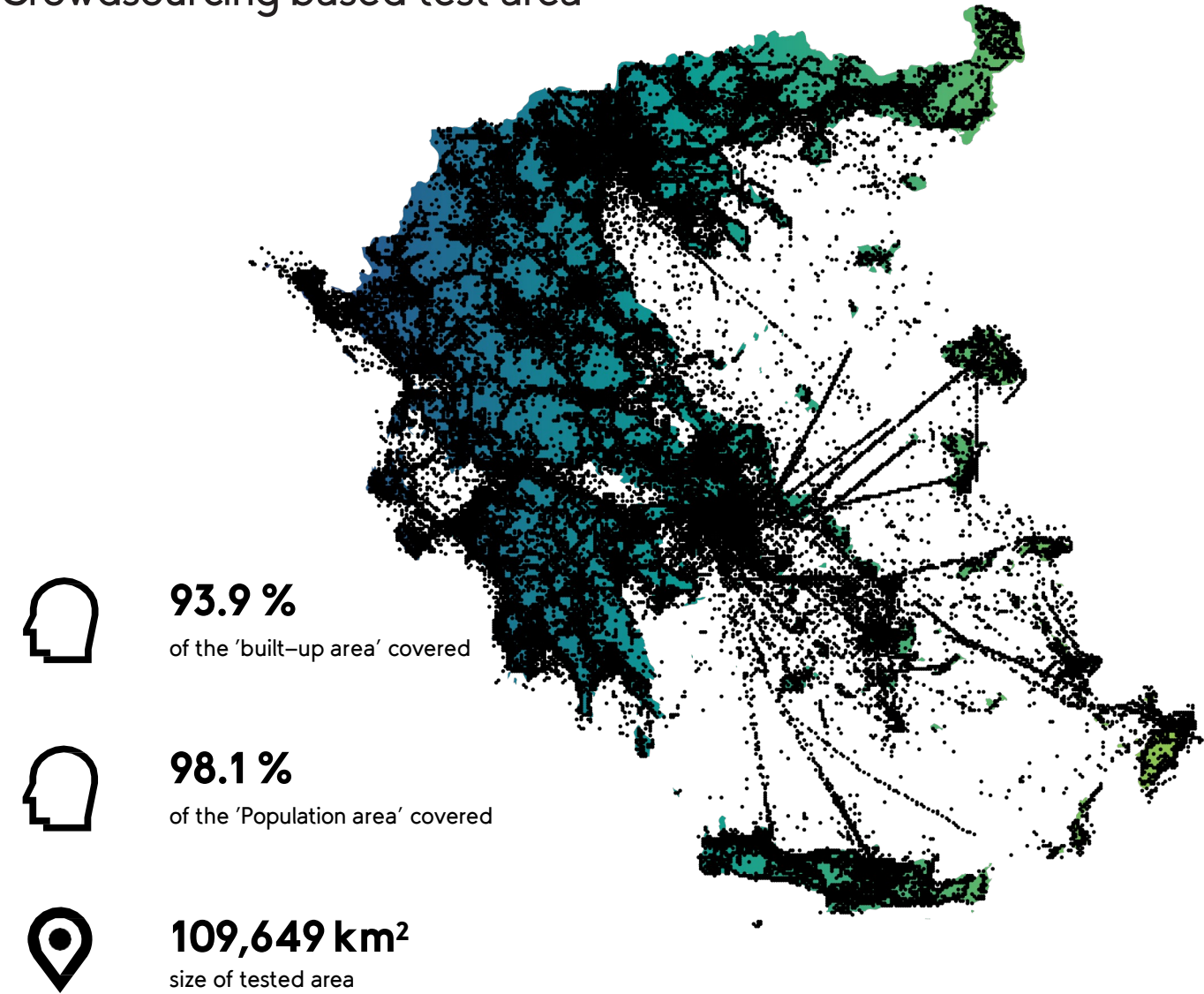


Testing areas

Drive route



Crowdsourcing based test area






Claims





Best in Reliability
Cosmote Greece




Best in test
Cosmote Greece



Best in data
Cosmote Greece



Best in voice
Cosmote Greece



Best in crowd-sourced quality
Cosmote Greece



Methodology

The leader in mobile benchmarking, umlaut, has analyzed the mobile networks of Greece with regards to mobile network performance. We measure smartphone voice and data performance based on extensive drivetests – from major metropolitan areas to smaller cities and connection roads.

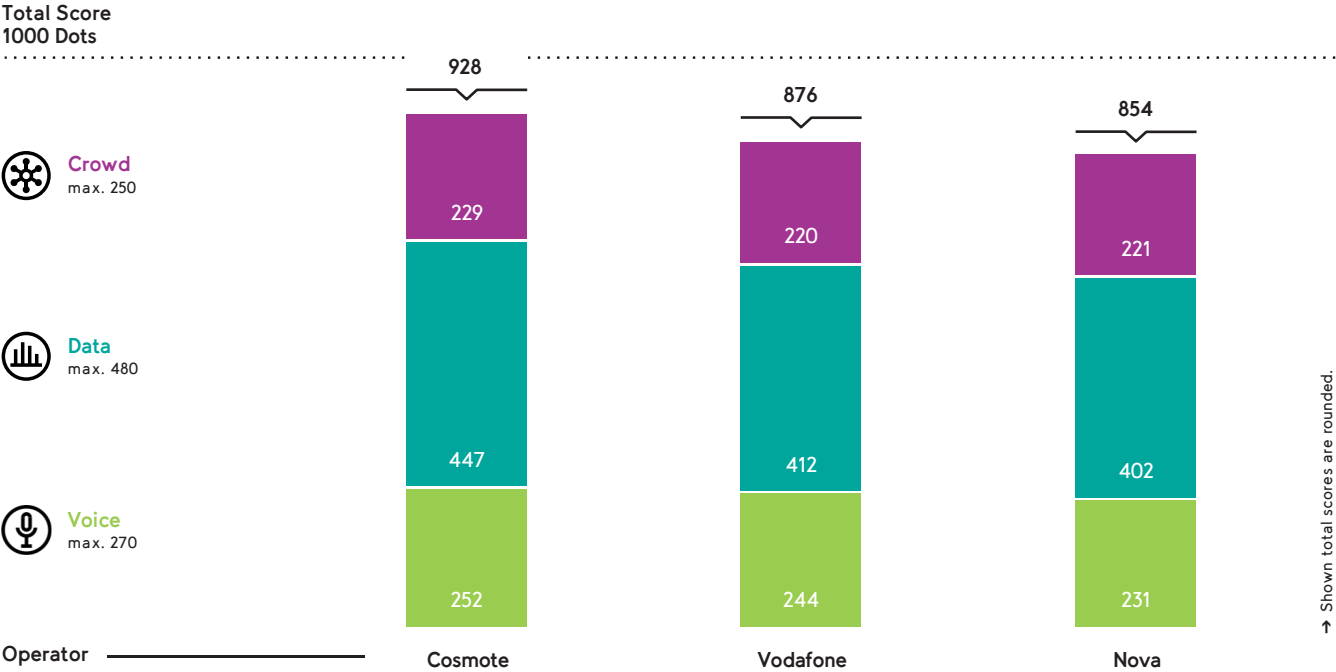
We objectively define the routes and test methodology and publish the results through certificates or public benchmark reports. In addition crowdsourced performance data has been collected and evaluated. As the de-facto industry standard, our benchmarking methodology focuses on customer-experienced network quality and covers a wide range of mobile services. Today, more than 200 mobile networks in more than 120 countries are being evaluated by our unique scoring

methodology. It allows a technical analysis that is unprecedented in its level of detail and enables comparisons between the network performance and capability of each mobile network. Our public benchmarks as well as the certificate benchmarks help network operators to demonstrate how well they are delivering wireless connections to consumers, business users and enterprises and reveals the areas of improvement.



Score and breakdown

Cosmote Greece achieved the highest overall score among competitors with 928 dots out of 1000.



Overall score considering Voice, Data and Crowdsourcing.



Total score

		Cosmote	Vodafone	Nova
Voice	max. 270	252	244	231
Cities drivetest	162	94%	92%	84%
Towns drivetest	54	97%	93%	93%
Roads drivetest	54	89%	84%	83%
Data	max. 480	447	412	402
Cities drivetest	288	92%	86%	85%
Towns drivetest	96	95%	85%	81%
Roads drivetest	96	94%	85%	84%
Crowdsourced quality	max. 250	229	220	221
Broadband coverage	100	94%	90%	90%
Download speed	55	93%	85%	87%
Upload speed	20	91%	91%	84%
Latency	50	84%	83%	85%
Voice	10	95%	91%	93%
Stability	15	95%	94%	94%
Total	1000	928	876	854

Shown scores are rounded.



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

Data	Service Group	max	Cosmote	Vodafone	Nova
Cities drivetest	Web Browsing	50.4	97%	94%	93%
	File Download	64.8	96%	88%	84%
	File Upload	64.8	88%	85%	83%
	YouTube	64.8	91%	83%	83%
	OTT	43.2	88%	81%	80%
Towns	Web Browsing	16.8	99%	94%	93%
	File Download	21.6	99%	89%	82%
	File Upload	21.6	90%	82%	80%
	YouTube	21.6	95%	80%	74%
	OTT	14.4	94%	78%	76%
Roads	Web Browsing	16.8	97%	93%	90%
	File Download	21.6	98%	89%	88%
	File Upload	21.6	90%	85%	85%
	YouTube	21.6	94%	83%	82%
	OTT	14.4	91%	76%	74%



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

Crowd	Service Group	max	Cosmote	Vodafone	Nova
Crowdsourced Quality	Broadband Coverage	100	94%	90%	90%
	DL Speed	55	93%	85%	87%
	UL Speed	20	91%	91%	84%
	Latency	50	84%	83%	85%
	Voice	10	95%	91%	93%
	Stability	15	95%	94%	94%



Reliability



Reliability score considering Voice, Data and Crowd.



Total score

	Service Group	max	Cosmote	Vodafone	Nova
Reliability	Voice	162	91%	87%	80%
	Data	288	94%	89%	87%
	Crowd	150	90%	87%	88%

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	Cosmote	Vodafone	Nova
Voice M2M Cities	Qualifier	[%]	99.2%	99.0%	98.0%
	Call Setup Time (P90)	[s]	0.8	1.1	2.0
	Speech Quality (P10)	[MOS-LQO]	4.4	4.3	4.4
Voice M2M Towns	Qualifier	[%]	99.7%	99.2%	99.3%
	Call Setup Time (P90)	[s]	0.7	1.0	2.0
	Speech Quality (P10)	[MOS-LQO]	4.5	4.4	4.4
Voice M2M Roads	Qualifier	[%]	97.5%	96.7%	96.6%
	Call Setup Time (P90)	[s]	0.7	1.2	2.1
	Speech Quality (P10)	[MOS-LQO]	4.4	4.1	4.1



Data Services KPI overview

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

Data Cities	KPI Name	Unit	Cosmote	Vodafone	Nova
HTTP Web Page DL Smartphone	Qualifier	[%]	99.6%	99.4%	99.2%
	Overall Session Time	[s]	1.1	1.4	1.4
HTTP 10MB DL Smartphone	Qualifier	[%]	99.9%	99.9%	99.6%
	Average Session Time	[s]	1.0	2.2	2.6
	90% faster than	[Mbit/s]	62.6	20.3	16.0
	10% faster than	[Mbit/s]	294.1	224.2	205.7
HTTP 5MB UL Smartphone	Qualifier	[%]	99.4%	99.8%	99.7%
	Average Session Time	[s]	2.7	3.5	4.3
	90% faster than	[Mbit/s]	7.2	5.4	4.6
	10% faster than	[Mbit/s]	82.3	61.8	47.9
HTTP DL FDTT	Qualifier	[%]	99.5%	99.4%	99.6%
	10% faster than	[Mbit/s]	828.3	452.0	420.9
	faster than 20 Mbit/s	[%]	98.4%	92.4%	87.4%
	faster than 100 Mbit/s	[%]	91.0%	58.9%	53.0%
HTTP UL FDTT	Qualifier	[%]	99.6%	99.6%	99.5%
	10% faster than	[Mbit/s]	113.2	88.5	84.9
	faster than 2 Mbit/s	[%]	98.5%	97.2%	97.8%
	faster than 5 Mbit/s	[%]	95.0%	92.0%	90.7%
YouTube	Qualifier	[%]	99.4%	98.6%	98.7%
	Start Time	[s]	1.8	2.0	2.0
	AVG Resolution	[p]	1080.0	1079.0	1079.2
YouTube Live Smartphone	Qualifier	[%]	98.6%	97.5%	97.4%
	Start Time	[s]	2.4	2.7	2.6
	AVG Resolution	[p]	1079.5	1074.5	1074.9
Interactivity eGaming	Qualifier	[%]	93.0%	90.6%	92.1%
	Interactivity score	[%]	83.0%	74.1%	74.6%
Interactivity Videochat	Qualifier	[%]	92.8%	88.0%	87.5%
	Interactivity score	[%]	86.5%	84.8%	82.8%
Conversational App	Qualifier	[%]	99.6%	99.8%	99.1%
	Speech Quality (P10)	[MOS-LQO]	3.7	3.3	3.5



Data Services KPI overview

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

Data Towns	KPI Name	Unit	Cosmote	Vodafone	Nova
HTTP Web Page DL Smartphone	Qualifier	[%]	100.0%	99.5%	99.4%
	Overall Session Time	[s]	1.1	1.5	1.5
HTTP 10MB DL Smartphone	Qualifier	[%]	100.0%	100.0%	99.2%
	Average Session Time	[s]	1.0	2.3	3.2
	90% faster than	[Mbit/s]	63.2	17.1	10.9
	10% faster than	[Mbit/s]	272.5	211.9	212.8
HTTP 5MB UL Smartphone	Qualifier	[%]	99.8%	99.8%	99.2%
	Average Session Time	[s]	2.4	4.1	5.5
	90% faster than	[Mbit/s]	8.6	4.4	3.5
	10% faster than	[Mbit/s]	68.6	48.5	37.9
HTTP DL FDTT	Qualifier	[%]	100.0%	99.8%	99.8%
	10% faster than	[Mbit/s]	795.1	408.6	369.0
	faster than 20 Mbit/s	[%]	99.2%	90.7%	87.4%
	faster than 100 Mbit/s	[%]	90.2%	61.8%	52.7%
HTTP UL FDTT	Qualifier	[%]	99.8%	99.4%	99.8%
	10% faster than	[Mbit/s]	94.0	69.5	58.9
	faster than 2 Mbit/s	[%]	98.3%	97.4%	97.6%
	faster than 5 Mbit/s	[%]	95.8%	89.6%	88.1%
YouTube	Qualifier	[%]	99.6%	98.8%	98.0%
	Start Time	[s]	1.8	2.2	2.3
	AVG Resolution	[p]	1080.0	1075.4	1079.0
YouTube Live Smartphone	Qualifier	[%]	99.8%	96.6%	95.8%
	Start Time	[s]	2.4	2.7	2.9
	AVG Resolution	[p]	1079.7	1073.5	1072.1
Interactivity eGaming	Qualifier	[%]	97.9%	88.8%	89.3%
	Interactivity score	[%]	83.4%	72.8%	69.6%
Interactivity Videochat	Qualifier	[%]	96.1%	87.9%	84.3%
	Interactivity score	[%]	89.1%	84.9%	80.7%
Conversational App	Qualifier	[%]	99.8%	99.0%	99.8%
	Speech Quality (P10)	[MOS–LQO]	3.9	3.3	3.3



Data Services KPI overview

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

Data Roads	KPI Name	Unit	Cosmote	Vodafone	Nova
HTTP Web Page DL Smartphone	Qualifier	[%]	99.5%	99.0%	98.5%
	Overall Session Time	[s]	1.2	1.6	1.7
HTTP 10MB DL Smartphone	Qualifier	[%]	99.8%	99.8%	99.8%
	Average Session Time	[s]	1.2	2.7	3.1
	90% faster than	[Mbit/s]	45.7	14.1	12.9
	10% faster than	[Mbit/s]	226.8	191.6	189.7
HTTP 5MB UL Smartphone	Qualifier	[%]	99.3%	99.6%	99.2%
	Average Session Time	[s]	3.0	4.4	5.1
	90% faster than	[Mbit/s]	5.9	4.1	3.7
	10% faster than	[Mbit/s]	70.1	52.2	40.3
HTTP DL FDTT	Qualifier	[%]	99.8%	98.7%	98.8%
	10% faster than	[Mbit/s]	564.1	376.7	375.8
	faster than 20 Mbit/s	[%]	98.5%	88.5%	87.1%
	faster than 100 Mbit/s	[%]	83.2%	47.7%	39.2%
HTTP UL FDTT	Qualifier	[%]	99.3%	98.5%	99.2%
	10% faster than	[Mbit/s]	104.6	76.6	67.5
	faster than 2 Mbit/s	[%]	98.3%	97.1%	97.7%
	faster than 5 Mbit/s	[%]	94.4%	90.0%	87.5%
YouTube	Qualifier	[%]	99.2%	98.1%	97.3%
	Start Time	[s]	1.9	2.1	2.4
	AVG Resolution	[p]	1080.0	1078.2	1080.0
YouTube Live Smartphone	Qualifier	[%]	99.3%	96.0%	96.6%
	Start Time	[s]	2.6	2.9	3.2
	AVG Resolution	[p]	1079.0	1068.5	1076.2
Interactivity eGaming	Qualifier	[%]	95.9%	85.2%	84.7%
	Interactivity score	[%]	78.0%	73.6%	69.4%
Interactivity Videochat	Qualifier	[%]	88.9%	79.9%	79.5%
	Interactivity score	[%]	86.6%	83.3%	82.3%
Conversational App	Qualifier	[%]	99.9%	98.8%	98.3%
	Speech Quality (P10)	[MOS–LQO]	3.5	3.0	3.1



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", "Latency". "Voice Crowd" and "Stability".

Category	KPI name	Unit	Cosmote	Vodafone	Nova
Broadband Coverage	Coverage Quality	[%]	98.6 %	98.0 %	97.9 %
	Coverage Reach	[%]	92.1 %	85.4 %	82.6 %
	Time on broadband	[%]	97.2 %	96.1 %	97.0 %
Download Speed	Basic internet class	[%]	95.7 %	95.0 %	95.5 %
	HD video class	[%]	88.3 %	86.1 %	87.1 %
	UHD video class	[%]	32.6 %	26.6 %	27.3 %
Latency	OTT voice class	[%]	96.2 %	95.3 %	95.9 %
	Gaming class	[%]	89.2 %	88.4 %	89.4 %
	Egoshooter Class	[%]	6.7 %	17.1 %	21.6 %
Voice	HD voice	[%]	96.2 %	93.7 %	94.9 %
Download Speed Active	10% faster than	[Mbit/s]	7.4	4.9	5.7
	90% faster than	[Mbit/s]	297.1	136.3	122.2
	AVG data rate	[Mbit/s]	107.0	59.9	53.9
Upload Speed Active	10% faster than	[Mbit/s]	2.4	2.7	2.2
	90% faster than	[Mbit/s]	55.8	42.9	40.1
	AVG data rate	[Mbit/s]	24.3	19.4	16.8
Stability	Transaction success	[%]	94.7 %	93.8 %	94.4 %



umlaut

umlaut communications GmbH

Am Kraftversorgungsturm 3 · 52070 Aachen · Germany

www.umlaut.com/benchmarking