

# CERTIFICATE

**ROHDE & SCHWARZ**

Make ideas real



Rohde & Schwarz SwissQual AG, as the issuer of this document, certifies that



**Telia Eesti AS**

Mustamäe tee 3  
15033 Tallinn  
Estonia

attained the

## Best Voice Service Performance Score

for Estonia, assessed during the 2025 nationwide mobile network benchmarking campaign from September 19 to October 11, 2025. We congratulate **Telia Estonia** for ranking first in the voice service with a score of **380 out of 400 points**, that corresponds to 95% of the maximum achievable score, on the Rohde & Schwarz Network Performance Score in line with ETSI TR 103 559.

**Hansmann Axel**

CEO Rohde & Schwarz SwissQual AG



Link to the benchmarking campaign details



Scoring methodology in line with ETSI TR 103 559

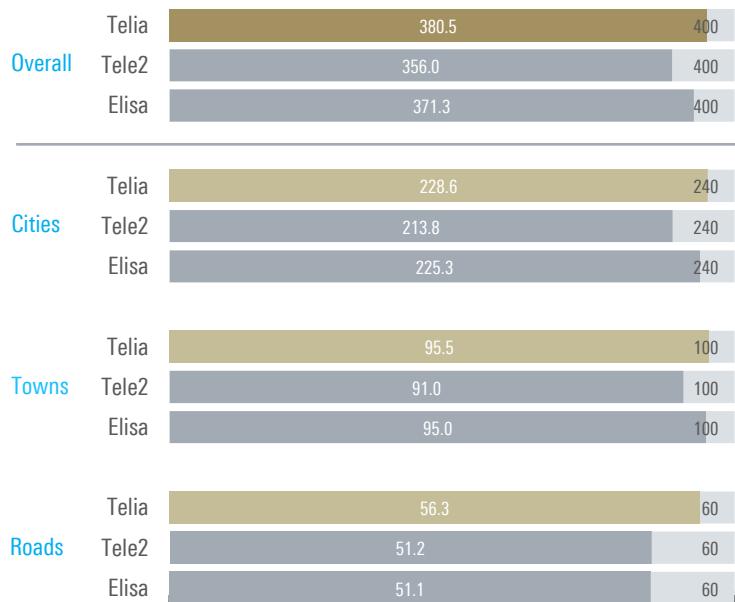


# NETWORK PERFORMANCE SCORE

Commissioned by Telia, Rohde & Schwarz SwissQual AG performed a mobile network benchmarking campaign assessing the quality and performance of Estonia's leading mobile operators. The drive-test based data collection campaign was implemented from September 19 to October 11, 2025 and covered Estonia's main cities, towns and roads.

During this mobile network benchmarking campaign, over 12,850 voice calls were performed to calculate a Network Performance Score in line with ETSI TR 103 559.

## Voice Services Score



## Measurement campaign overview

- **Driven Kilometers:** 5,740 km
- **Time period:** September 19 to October 11, 2025  
independently selected by Rohde & Schwarz SwissQual AG
- **Test routes:** Covering >64% of Estonian population,  
routes selected independently by Rohde & Schwarz SwissQual AG  
based on population and population density
- **Network operators:** Elisa, Tele2, Telia



# MEASUREMENT CAMPAIGN METHODOLOGY

Rohde & Schwarz SwissQual AG applied a fully transparent, harmonized and end-user centric scoring methodology as described in ETSI TR 103 559 and calculates a single overall Network Performance Score in line with this integrative methodology.

The scoring methodology includes essential aspects of popular mobile services and the resulting Network Performance Score reflects user's perceived performance of a mobile network in daily use regardless of the available technologies. The overall Network Performance Score is an aggregation of rated service performance over different regions covered by mobile networks with a state-of-art mobile phone.

- ▶ Data collection and analysis follows established standards and rules as defined in ETSI and ITU-T.
- ▶ The performance assessment uses tests of popular services in mobile networks, such as voice telephony, data transfer, video and app-specific services.
- ▶ The applied methodology provides insights into dedicated service classes and individual KPIs as well as for individual pre-defined geographical or morphologic categories.
- ▶ The entire measurement campaign used state-of-the art smartphones supported by all operators in Estonia.
- ▶ Data collection and analysis used Rohde & Schwarz SwissQual AG de-facto industry standard benchmarking equipment that supports the Network Performance Score methodology.

# MEASUREMENT CAMPAIGN CONFIGURATION AND SETUP

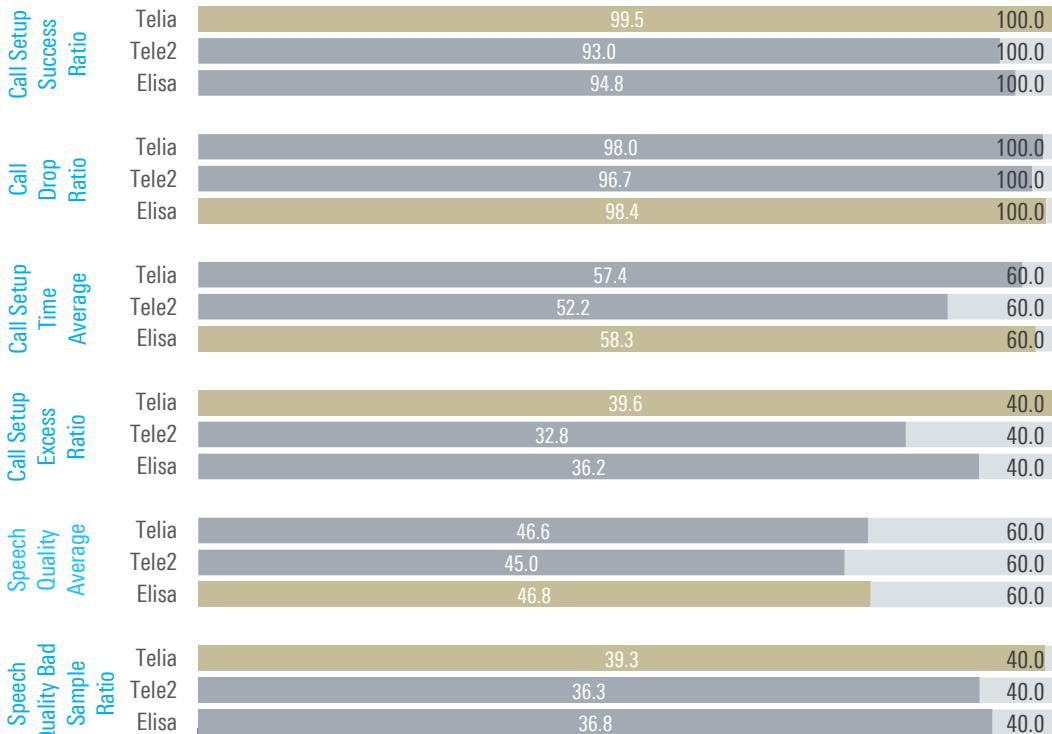
## VOICE SERVICE TESTING

Measurement device used for voice telephony testing: Samsung S25+ (SM-S936B)



- ▶ Mobile-to-mobile voice calls between two smartphones, VoLTE enabled
- ▶ Call length 75s in line with ETSI TS 102 250-2 and TR 102 506
- ▶ Alternating speech transmission in both directions using a speech sample in line with ETSI TR 103 138 and defined in ITU-T P.501 Annex D
- ▶ Speech Quality measurement in line with ITU-T P.863 POLQA v3
- ▶ Success, setup time and speech quality evaluated in line with ITU-T E.804.1

## Voice Services Score - KPI Breakdown



## VOICE KPIs

Geographical Category	Service KPI	Elisa	Tele2	Telia
City	Call Setup Success Ratio	99.59 %	99.18 %	100.00 %
	Call Drop Ratio	0.00 %	0.14 %	0.14 %
	Call Setup Time	3.17 s	3.97 s	3.29 s
	Call Setup Excess Ratio (>10sec)	0.27 %	0.50 %	0.05 %
	Speech Quality	4.46 MOS	4.38 MOS	4.45 MOS
	Speech Quality Bad Ratio (MOS<1.6)	0.56 %	0.89 %	0.10 %
Town	Call Setup Success Ratio	99.75 %	99.62 %	100.00 %
	Call Drop Ratio	0.13 %	0.25 %	0.13 %
	Call Setup Time	3.17 s	3.75 s	3.31 s
	Call Setup Excess Ratio (>10sec)	0.00 %	0.38 %	0.00 %
	Speech Quality MOS	4.48 MOS	4.40 MOS	4.46 MOS
	Speech Quality Bad Ratio (MOS<1.6)	0.41 %	0.58 %	0.08 %
Road	Call Setup Success Ratio	98.61 %	99.22 %	99.69 %
	Call Drop Ratio	0.47 %	0.39 %	0.08 %
	Call Setup Time	3.35 s	3.97 s	3.36 s
	Call Setup Excess Ratio (>10sec)	0.79 %	0.94 %	0.00 %
	Speech Quality MOS	4.37 MOS	4.29 MOS	4.40 MOS
	Speech Quality Bad Ratio (MOS<1.6)	2.32 %	1.73 %	0.66 %

## About Rohde & Schwarz SwissQual AG

Together with teams from the global Rohde & Schwarz group of companies, our employees in the Swiss Rohde & Schwarz SwissQual AG subsidiary develop and market integrated solutions and managed services to test and improve the quality and performance of mobile networks.

Our experts for global benchmarking campaigns plan and run large-scale optimization and benchmarking campaigns and empower customers to make QoE centric business decisions with confidence, to deliver better services with higher quality for their end users, to reduce time to market for new technologies and services and to safeguard and increase the value of their business.

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Telia Estonia sponsored an independent evaluation of its mobile network performance that was conducted by Rohde & Schwarz SwissQual AG. Telia was ranked with the leading performance score in Estonia based on an ETSI approved methodology