

## ETSI STQ Mobile Ongoing Work and Challenges

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## Historical Mission Statement of STQ Mobile.

founded as a Subgroup of TC STQ when moved from GSMA to ETSI.

Historically, the scope was to work on mobile telephony related aspects of QoS. Data services gradually entered into the picture.

Speech and multimedia Transmission Quality – as described in 2012:

*“The working group STQ Mobile focuses on QoS aspects for popular services in mobile networks (TS 102 250-x) including speech and video quality. Working areas for the mobile QoS assessment include aspects of Push -to -Talk over Cellular, video telephony, mobile broadcast, video quality for mobile and the definition of http reference web pages.”* – source: Kamcke, STQ Workshop, Vienna, Nov. 2012

At a high level, this is still our mission, despite all changes to our dynamic ecosystem ...



More recently, STQ Mobile has ...

... been an inspiration for work in other bodies, e.g. ITU-T (see e.g. E.804 based on TS 102 250 series) and maintaining its existing series of standards

... pushed the boundaries of its scope to include 4G and 5G networks and in particular over the top services

... focused work not just on defining QoS parameters but also on a lot of technical guidance on how to measure, report and interpret them



# Overview of Released Work Items since 2018.

## New releases highlighted.

ETSI deliverable	title
ETSI TR 103 733 V1.1.1 (2022-03)	<b>Best practices of testing the performance of web content delivery</b>
ETSI TR 103 702 V1.1.1 (2020-11)	<b>QoS parameters and test scenarios for assessing network capabilities in 5G performance measurements</b>
ETSI TS 102 250-3 V2.4.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 3: Typical procedures for Quality of Service measurement equipment
ETSI TS 102 250-6 V1.3.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 6: Post processing and statistical methods
ETSI TS 102 250-2 V2.7.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 2: Definition of Quality of Service parameters and their computation
ETSI TS 102 250-5 V2.5.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 5: Definition of typical measurement profiles
ETSI TS 102 250-1 V2.3.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 1: Assessment of Quality of Service
ETSI TS 102 250-4 V2.3.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 4: Requirements for Quality of Service measurement equipment
ETSI TS 102 250-7 V1.2.1 (2019-11)	QoS aspects for popular services in mobile networks; Part 7: Network based Quality of Service measurements
ETSI TR 103 559 V1.1.1 (2019-08)	<b>Best practices for robust network QoS benchmark testing and scoring</b>
ETSI TR 103 488 V1.1.1 (2019-01)	<b>Guidelines on OTT Video Streaming; Service Quality Evaluation Procedures</b>
ETSI TS 102 250-8-1 V1.1.1 (2018-12)	<b>QoS aspects for popular services in mobile networks; Part 8: Formalized definition of Quality of Service parameters and their computation; Sub-part 1: General aspects and terminology</b>
ETSI TR 101 578 V1.3.1 (2018-10)	QoS aspects of TCP-based video services like YouTubeTM
ETSI TR 103 501 V1.1.1 (2018-10)	<b>Guidelines for the Measurement of Data Throughput on Devices connected to Mobile Networks</b>
ETSI TR 103 138 V1.5.1 (2018-08)	Speech samples and their use for QoS testing
ETSI TR 103 468 V1.1.1 (2018-07)	<b>Quality of Service aspects for 5G; Discussion of QoS aspects of services related to the 5G ecosystem</b>
ETSI TR 103 482 V1.1.1 (2018-07)	<b>Framework for multi-service testing</b>
ETSI TR 103 467 V1.1.1 (2018-06)	<b>Quality of Service aspects for IoT; Discussion of QoS aspects of services related to the IoT ecosystem</b>



# Key challenges of today.

Do we still know how user experience relates to (mobile) network performance?

## Ecosystem Characteristics

- Capacity Demand, Bitpipe MNOs
- Convergence Fixed / Mobile offerings, services and applications

## Use Cases

- App-type traffic
- M2M type applications
- OTT services,
- diversification of players in the ecosystem

## Apps/OTT challenges

- challenging MNO services (most often preempting / overtaking)
- proprietary conversational services, video platforms, location services etc., and E2E quality control measures
- Encrypting traffic and offering little to no APIs to access trigger points allowing the collection of classical QoS data. Testing has to go OTT as well.

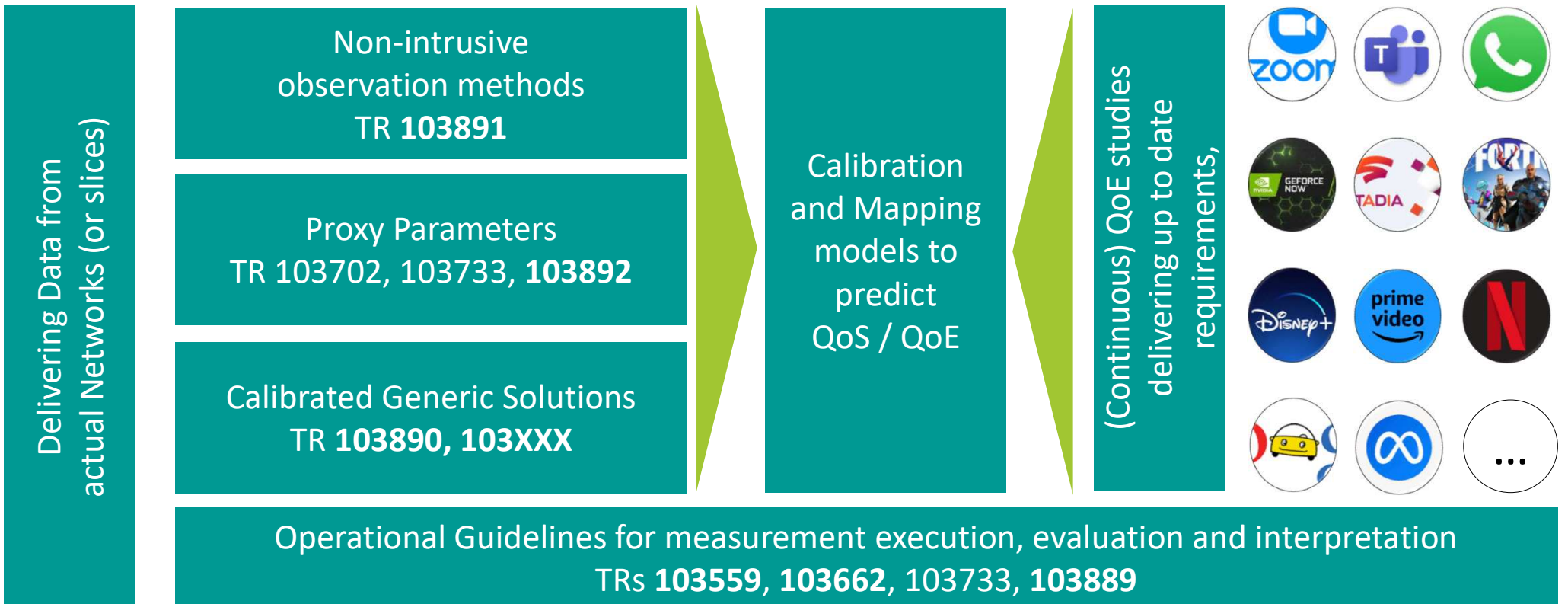
## Consequences

- coupling between QoE and network QoS parameters is weaker, and often not well understood
- QoS Parameters are highly implementation-dependent and often difficult to access in practice
- meaningful standards are hard to define due to the dynamic ecosystem and proprietary, non-disclosed nature



Way forward.

STQ Mobile work will benefit from input in all areas for true e2e scope.





## STQ Mobile current Work Program.

6 New Pieces of Work (**bold**) and 2 revisions in preparation.

**TR 103662 – “Guidelines for assessing statistical properties of benchmarking and scoring results”**

TR 103138 – “Speech samples and their use for QoS testing”

TR 103559 – “Best practices for robust network QoS benchmark testing and scoring”

**TR 103889 – “Guidelines for measurement campaign planning”**

**TR 103890 – “Guideline for a generic approach to test network performance for OTT conversational voice services”**

**TR 103891 – “Parametric non-intrusive QoS evaluation of Cloud Gaming Services over RTP/UDP streaming”**

**TR 103892 – “Methods for evaluation of transport capacity achievable by devices in mobile networks”**

WI in preparation:

**TR 103XXX – “Guideline for a generic approach to test network performance for OTT conversational voice services”**



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