SmartAnalytics

Powerful QoE-centric insights into your mobile network performance

ROHDE & SCHWARZ

Make ideas real

SmartAnalytics
POWERFUL AND INTUITIVE QOE INSIGHTS

Delivering excellent quality of experience to end users is a primary objective for mobile network operators in order to retain subscribers, attract new customers and competitively position themselves.

With network complexity increasing and the emergence of new cellular use cases with more demanding subscribers and machine QoEs enabled by the rollout of technologies such as IoT and 5G, it becomes even more crucial to understand the current network situation and pinpoint areas for development that will efficiently deliver the required performance.

For accurate network engineering, benchmarking, monitoring and optimization, it is necessary to process a large quantity of complex data and produce clear and easy-to-understand intelligence on a network in order to make better decisions. Correct decisions can only be made based on reliable and accurate data that is processed quickly and appropriately.

By processing data acquired from the end-user perspective, SmartAnalytics provides a precise and clear assessment of the operator's own network quality (QoE from end-user perspective) and competitive position in the market.

SmartAnalytics provides visibility of the principle factors influencing network performance and the QoE status, its context, development trends, problems and possible degradation causes. Thanks to the network performance score use case, network operators can identify strategic areas for investment. SmartAnalytics leverages machine learning based methods to extract more value out of the data collected. As a result, mobile operators can efficiently deliver optimal end-user quality of experience and move ahead of the competition, which leads to a higher number of subscribers, a lower cost base and access to new revenue streams.
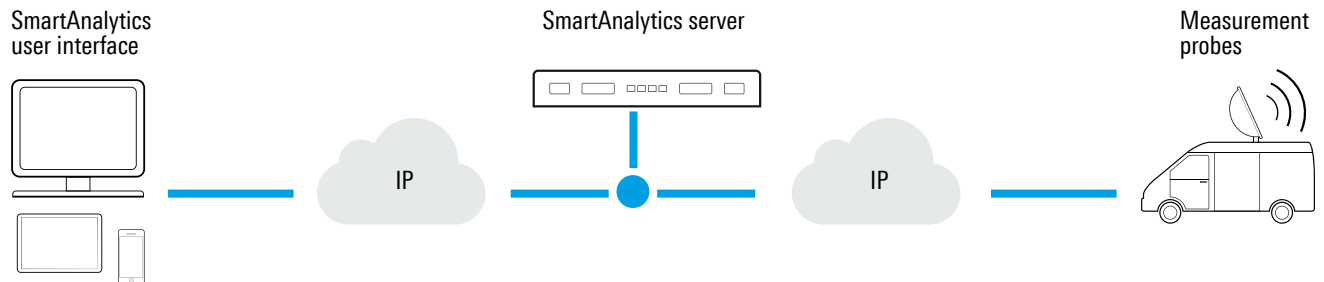
AT A GLANCE

▶ A new generation of intelligent analytics software that provides QoE use-case-driven insights, offers intuitive web based views and facilitates benchmarking, optimization, monitoring and network engineering
▶ Stores, processes and analyzes mobile network data acquired in the RAN to deliver deep insights into end-user QoE and network performance
▶ Highlights network performance issues and analyzes their probable causes, which are quickly identified from a macro level down to individual cell sites and sessions
▶ Flexible on-premise, private or public cloud deployment options, including optional convenient subscription packages
▶ Can be installed on a laptop for portable data measurements in the field

It allows mobile network operators to:
▶ Get an accurate and clear picture of the true network performance and QoE that end users perceive when using services such as voice, video and data
▶ Make smarter decisions about how and where to focus investments to maintain or improve the end-user quality of experience and strengthen their competitive position
▶ Reduce effort and complexity by automatically identifying network issues and probable causes that previously required intensive manual effort
▶ Understand their network performance and competitors, including tactics, evolution and trends
▶ Subscribe to a flexible and simple "QoE analytics as a service" paradigm

SmartAnalytics network diagram

SmartAnalytics user interface

SmartAnalytics server

Measurement probes

IP

IP

KEY USE CASES

ACTIONABLE BENCHMARKING, OPTIMIZATION AND MONITORING INTELLIGENCE FROM DRIVE TEST DATA

SmartAnalytics is a flexible tool that encompasses different mobile network testing use cases such as engineering, optimization, monitoring and benchmarking across all technologies, including 5G NR, using the same user interface and platform. It eliminates the need for separate test platforms, removing compatibility issues and providing a seamless interface across each stage of the network testing lifecycle. This improves OPEX and CAPEX efficiencies in test resources, equipment and execution.

Network performance score (NPS)

The network performance score integrates all relevant RAN factors that influence the end-user QoE to provide a unified metric that quantifies the network in a single number. It uses objective methodology to deliver a network-wide, vendor-independent assessment that enables comparison with other networks in the same market and globally. SmartAnalytics calculates the NPS for the overall network and can drill it down by use case, services, technology and other variables.

As a reference benchmarking metric, it allows precise improvement targets to be set based on a holistic view of the network and across competitors. It is a framework for prioritizing QoE based investments by specific performance areas.

Benchmarking, insights on competition

SmartAnalytics provides a quantitative evaluation of the network QoE and a comparison with competitor networks. What is the best network in this area, in this service? Where do I not have coverage? Why are my competitors better in this specific service?

Its powerful architecture enables users to easily browse huge benchmarking data files in real time. It is also possible to easily adapt the interface to compare different networks and generate data insights on the fly.

Optimization and lab testing – go down to the bit level to understand network behavior

Why is the network behaving in this way? How can I get the most out of my network? What is preventing me from having a better NPS? Where are the risk areas?

SmartAnalytics leverages machine learning methods to identify specific areas for network optimization, and offers drilldown, root-cause analysis capabilities.

It goes to a level of detail that explains every parameter affecting the quality of experience perceived by end users. Does my network have coverage issues compared with other operators? Why are my competitors better in this specific service?

SmartAnalytics

GAIN INSIGHT INTO YOUR NETWORK
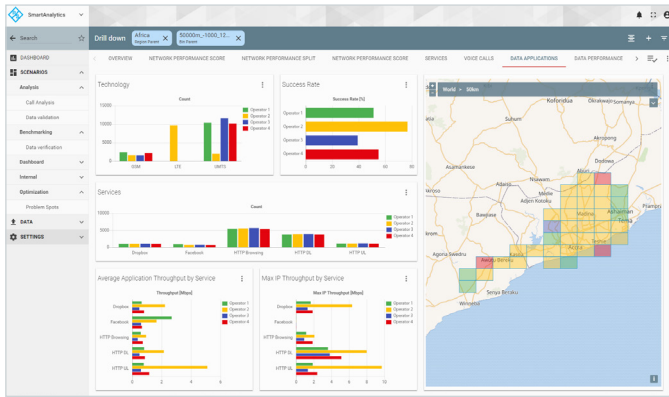
KEY PRODUCT HIGHLIGHTS

GET INSIGHTS FROM YOUR DATA, IMMEDIATELY AND EVERYWHERE

The intuitive web design significantly simplifies and speeds up file analysis, processing terabytes of data to extract actionable conclusions:

▶ QoE use case driven insights
▶ Machine learning based methods to extract more value out of your data
▶ Guided optimization
▶ Special statistical analysis interface
▶ Highly flexible and modular architecture for tailored use
▶ Customizable workspaces
▶ Intelligent filtering; cross-correlate different dimensions
▶ 5G NR aggregated statistical analysis and detailed troubleshooting for different use cases
▶ Total deployment and delivery flexibility: SmartAnalytics can be used on a laptop or in a client/server installation as on-premise or cloud solution, including different subscription options

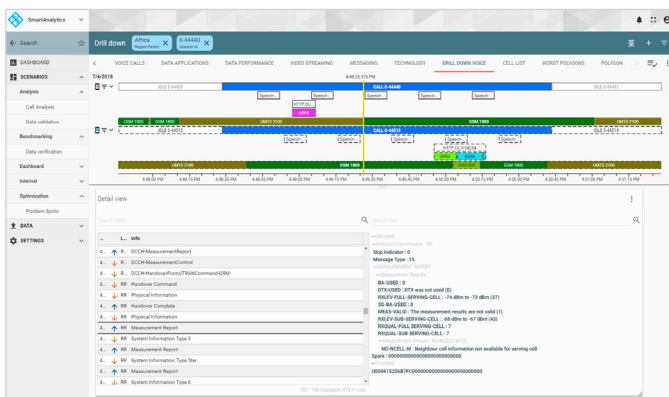# EXAMPLES

IDENTIFY PROBLEMATIC AREAS IN YOUR NETWORK

IDENTIFY

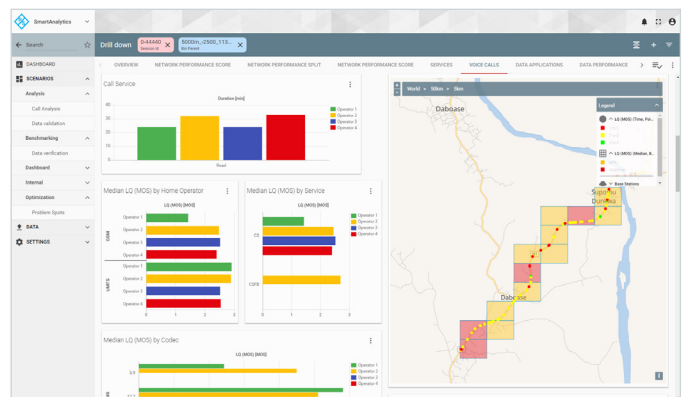## UNDERSTAND THE REASONS FOR THE QUALITY DIFFERENCES

UNDERSTAND

TROUBLESHOOT SINGLE USE CASES

TROUBLESHOOT

FIND SOLUTIONS TO MAXIMIZE NETWORK INVESTMENT

FIND

Rohde & Schwarz

The Rohde & Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test & measurement, technology systems and networks & cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

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Mobile network testing

The company's broad and diverse product portfolio for mobile network testing addresses every test scenario in the network lifecycle – from base station installation to network acceptance and network benchmarking, from optimization and troubleshooting to interference hunting and spectrum analysis, from IP application awareness to QoS and QoE of voice, data, video and app based services.

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