

Mobile Network Testing

5G PRIVATE NETWORKS

Ensure optimum QoS & QoE performance for human & machine end-users in business critical networks

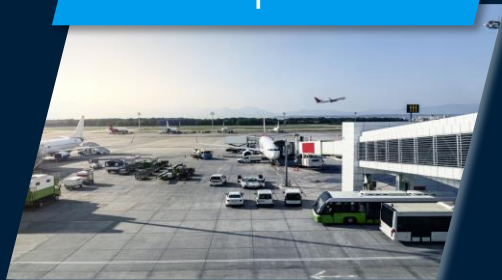
ROHDE & SCHWARZ

Make ideas real



5G PRIVATE NETWORK VERTICALS

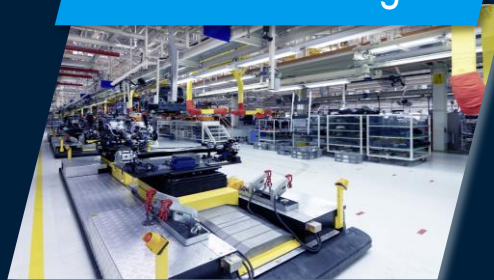
Airports



Energy utilities



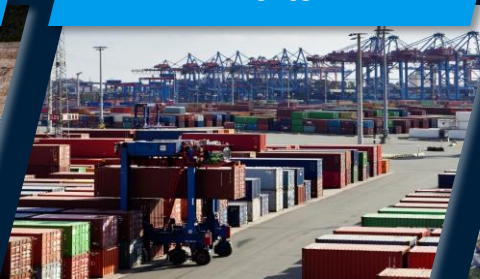
Manufacturing



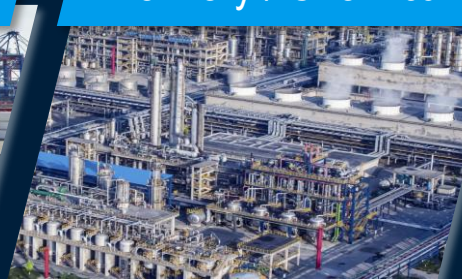
Mining



Ports



Refinery / Chemical



Warehouses



5G PRIVATE NETWORK DEPLOYMENT & TEST PHASES

Research & Engineering



**Rollout
preparation**

Incl. clean spectrum
& eliminate
interference



Acceptance

Test & tune network
performance to meet
defined KPIs



**Performance &
service level
verification**

Perform regular KPI
verification tests

Monitor network
performance



Troubleshooting

Test & identify root
cause of network
issues

SOLUTIONS FOR ALL PHASES OF 5G PRIVATE NETWORKS

Ensure optimum QoS & QoE in private networks for human and machine end-users

Research & Engineering

**Rollout
preparation**

Spectrum clearance & interference hunting inside the factory, survey of surrounding networks

Acceptance

Passive RF & active tests. Tuning network performance to meet customer KPIs (acceptance report)

**Performance &
service level
verification**

Predictive maintenance by either regular performance verification or 24/7 autonomous monitoring with trend analysis

Troubleshooting

Detailed passive RF & active tests on site to identify root cause of network issues



R&S®FPH, R&S®5G STS

R&S®5G STS,
QualiPoc Android

QualiPoc Android,
SmartMonitor

R&S®PR200, R&S®5G STS,
QualiPoc Android, SmartAnalytics

AIRPORTS USE CASES & TEST SCENARIOS

Customer applications

Connect airport workers

Connect IoT sensors & devices

Connect vehicles (AGV, AMR)

Remote control & operation of robots, machines etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

AIRPORTS

Ensure optimum QoS/QoE performance for human & machine end-users



Unmanned aerial
network coverage &
performance testing



In-field passive &
active QoS/QoE
performance testing



Autonomous network
probe(s) for 24/7/365
QoS/QoE monitoring

ENERGY UTILITIES USE CASES & TEST SCENARIOS

Customer applications

Connect workers

Connect IoT sensors & devices

Connect machines, vehicles (AGV, AMR)

Remote control & operation of robots, machines etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

ENERGY UTILITIES

Ensure optimum QoS/QoE performance for human & machine end-users



Unmanned aerial
network coverage &
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In-field passive &
active QoS/QoE
performance testing



Autonomous network
probe(s) for 24/7/365
QoS/QoE monitoring

MANUFACTURING USE CASES & TEST SCENARIOS

Customer applications

Connect factory workers & factories

Connect IoT sensors & devices

Connect machines, robots, vehicles (AGV, AMR)

Remote control & operation of robots, machines etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)



MANUFACTURING

Ensure optimum QoS/QoE performance for human & machine end-users



Autonomous network probe(s) for 24/7/365 QoS/QoE monitoring



Unmanned aerial network coverage & performance testing



In-field passive & active QoS/QoE performance testing

PORTS USE CASES & TEST SCENARIOS

Customer applications

Connect dock workers

Connect IoT sensors & devices

Connect port equipment incl. machines, vehicles (AGV, AMR)

Remote control & operation of vehicles, cranes etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

PORTS

Ensure optimum QoS/QoE performance for human & machine end-users



Unmanned aerial
network coverage &
performance testing



Autonomous network
probe(s) for 24/7/365
QoS/QoE monitoring



In-field passive &
active QoS/QoE
performance testing

REFINERY / CHEMICAL USE CASES & TEST SCENARIOS

Customer applications

Connect factory workers & factories

Connect IoT sensors & devices

Connect machines, robots, vehicles (AGV, AMR)

Remote control & operation of robots, machines etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

REFINERY / CHEMICAL

Ensure optimum QoS/QoE performance for human & machine end-users



Unmanned aerial
network coverage &
performance testing



In-field passive &
active QoS/QoE
performance testing



Autonomous network
probe(s) for 24/7/365
QoS/QoE monitoring

MINING USE CASES & TEST SCENARIOS

Customer applications

Connect mine workers

Connect IoT sensors & devices

Connect mine equipment incl. machines, vehicles (AGV, AMR)

Remote control & operation of vehicles, cranes etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

MINING

Ensure optimum QoS/QoE performance for human & machine end-users

Unmanned aerial
network coverage &
performance testing



In-field active &
passive QoS/QoE
performance testing



Autonomous network
probe(s) for 24/7/365
QoS/QoE monitoring



WAREHOUSES USE CASES & TEST SCENARIOS

Customer applications

Connect warehouse workers

Connect IoT sensors & devices

Connect machines, robots, vehicles (AGV, AMR)

Remote control & operation of robots, machines etc.

In-field testing



Aerial / drone-based testing



Autonomous network probe



T&M scenarios

Spectrum clearance / monitoring, interference hunting

Network coverage & performance analysis

Latency, capacity, service availability (Interactivity Test)

WAREHOUSES

Ensure optimum QoS/QoE performance for human & machine end-users



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network coverage &
performance testing



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probe(s) for 24/7/365
QoS/QoE monitoring



In-field passive &
active QoS/QoE
performance testing

Find more information here

www.rohde-schwarz.com/mnt/private-networks

