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# R&S® QPS QUICK PERSONNEL SECURITY SCANNERS



# AT A GLANCE

The R&S®QPS is a state-of-the-art millimeterwave security scanner that automatically detects potentially dangerous items carried on the body or in clothing. The scanner is used for security checks at airports, for property protection, for security at public events with a high threat potential and for access control at security-related facilities.

The R&S®QPS201 security scanner offers highly precise and efficient security screening while providing an unobtrusive, hassle-free process for scanned persons. It consists of flat panels with thousands of transmit antennas that emit extremely low-power millimeterwaves in very rapid succession and an equal number of receive antennas that record high-resolution 3D information. The persons to be scanned stand between the panels as if facing a mirror with the arms held slightly away from the body.

To find conspicuous objects (regardless of material) the detection software uses algorithms based on artificial intelligence. The scanner searches for anomalies that indicate

unusual objects, enabling it to find unknown and novel threats. The R&S®QPS was designed to protect the privacy of the person being scanned. Rather than generating images, it evaluates physical information. The locations of the detected objects are marked on a symbolic graphic of the human body.

The R&S®QPS does not pose any health risks. It uses frequencies similar to those of a vehicle distance warning system. The transmitted power at the scanned person's location is almost undetectable and several orders of magnitude lower than mobile phone emissions.



# DETECTION CHARACTERISTICS

- ▶ Detection of all types of potentially dangerous objects (metallic, ceramic, plastic, liquid, organic)
- ▶ Outstanding body coverage; complete head, shoulder and leg illumination
- ▶ High system resolution, bandwidth and dynamic range for high detection performance and minimum false alarms
- ▶ Certified by the European Civil Aviation Conference (ECAC), Transportation Security Administration (TSA) and other supervisory authorities

# BENEFITS

## For operating companies

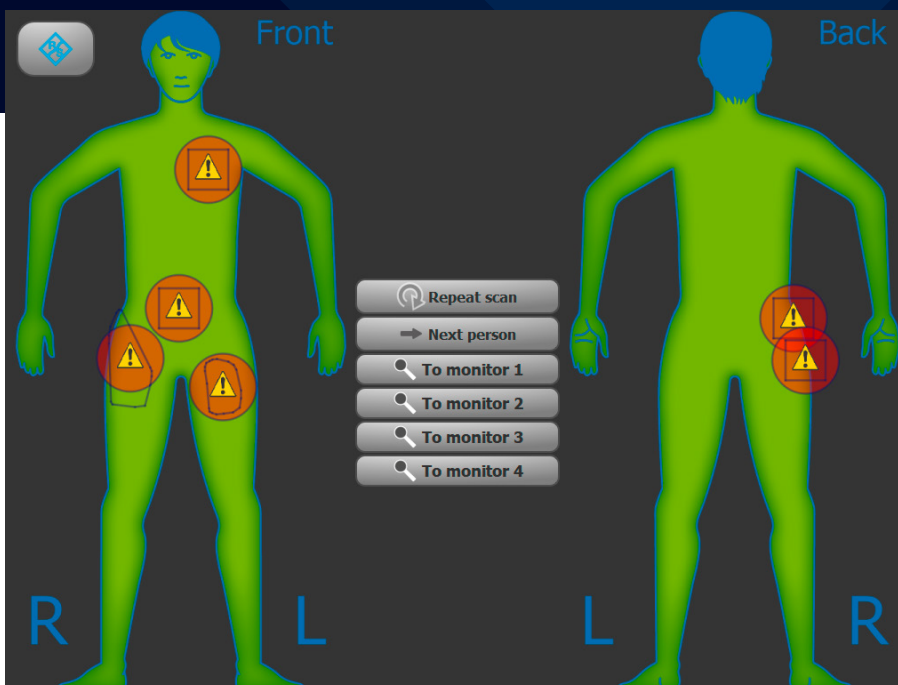
- ▶ Short process time for the highest possible throughput
- ▶ Slim, easy-to-install device with flexible setup options
- ▶ No calibration during operation necessary
- ▶ Open escape route thanks to a large walk-through area
- ▶ Low fire load
- ▶ Reliable, quiet, continuous operation
- ▶ Insensitive to temperature fluctuations
- ▶ Low maintenance costs due to stable calibration and no moving parts
- ▶ Rail-mounted panels for trouble-free service access
- ▶ Integration into local networks possible via the R&S®QPS Server solution
- ▶ Future-proof through software updates

## For screeners

- ▶ Easy to use touchscreen operation
- ▶ Unobstructed view of approaching people
- ▶ Direct access to persons prior to the scanning process
- ▶ Barrier-free entry and exit for wheelchair users

## For scanned persons

- ▶ Open, transparent scanning environment; no booth
- ▶ Comfortable body position; not necessary to raise the arms
- ▶ Extremely short scan time in the millisecond range
- ▶ Easy-to-hold position, no need to change position



The scan results are shown on a neutral, symbolic body graphic.



# R&S®QPS201

The R&S®QPS201 is a state-of-the-art security scanner designed for high throughput and excellent detection rates.

In just a few milliseconds, the person is scanned, and the operator sees the results within 2.5 seconds. During the actual scan, the person to be scanned stands in a comfortable position between the panels.

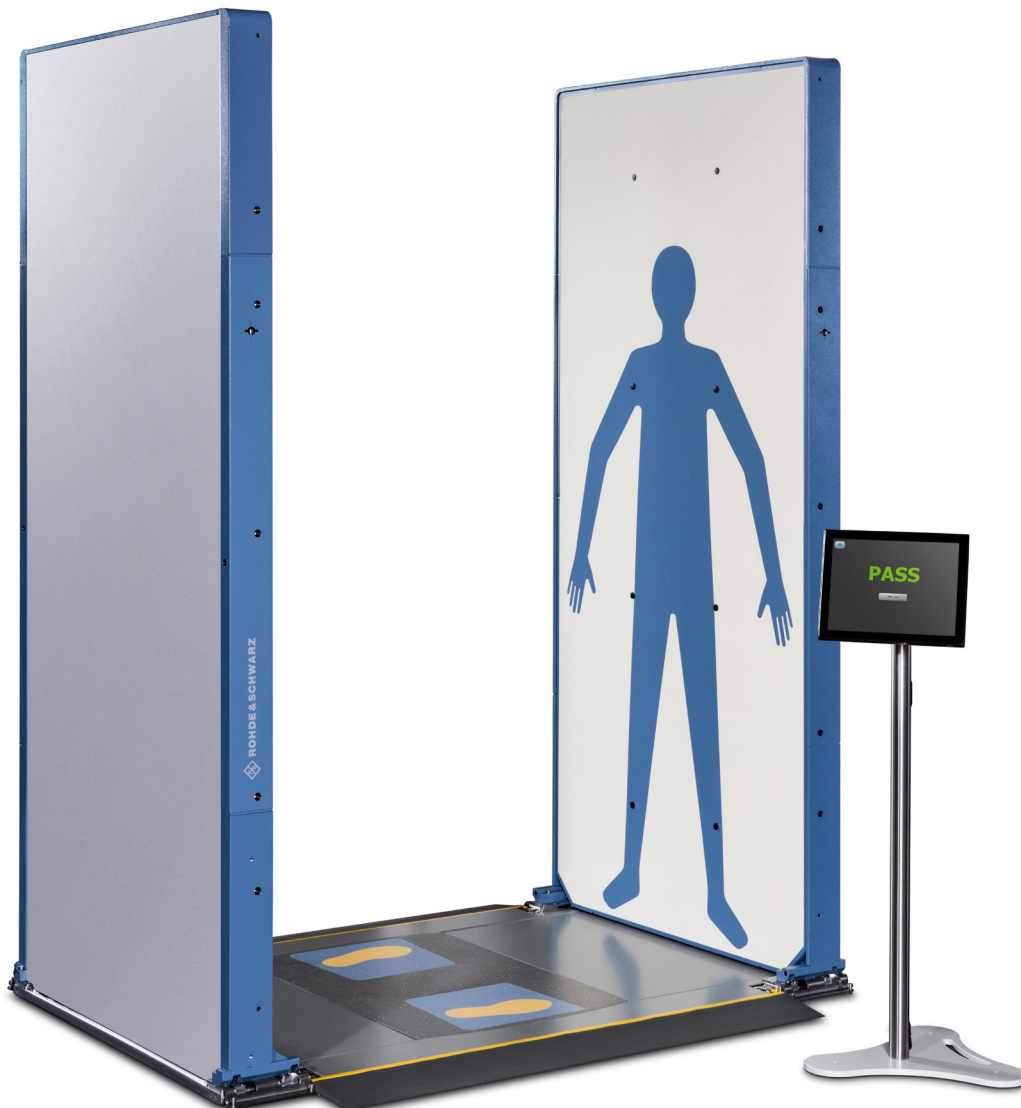
The open architecture gives security personnel a clear view of arriving persons, an open escape route and easy passage for wheelchairs.

## Remote resolution stations

The system can optionally be equipped with follow-up resolution stations. These stations can be connected to the scanner via LAN (PoE) and can dramatically increase the number of individuals being screened.

## Specifications

- ▶ Frequency range: 70 GHz to 80 GHz
- ▶ Multistatic operation with thousands of transmit and receive antennas per panel
- ▶ Transmit power: approx. 1 mW
- ▶ Data acquisition time: approx. 32 ms per panel
- ▶ Fully electronic; no moving parts
- ▶ Dimensions (W × H × D):  
1750 mm × 2320 mm × 1433 mm



# OPTIONS

Additional hardware and software options are available on request.

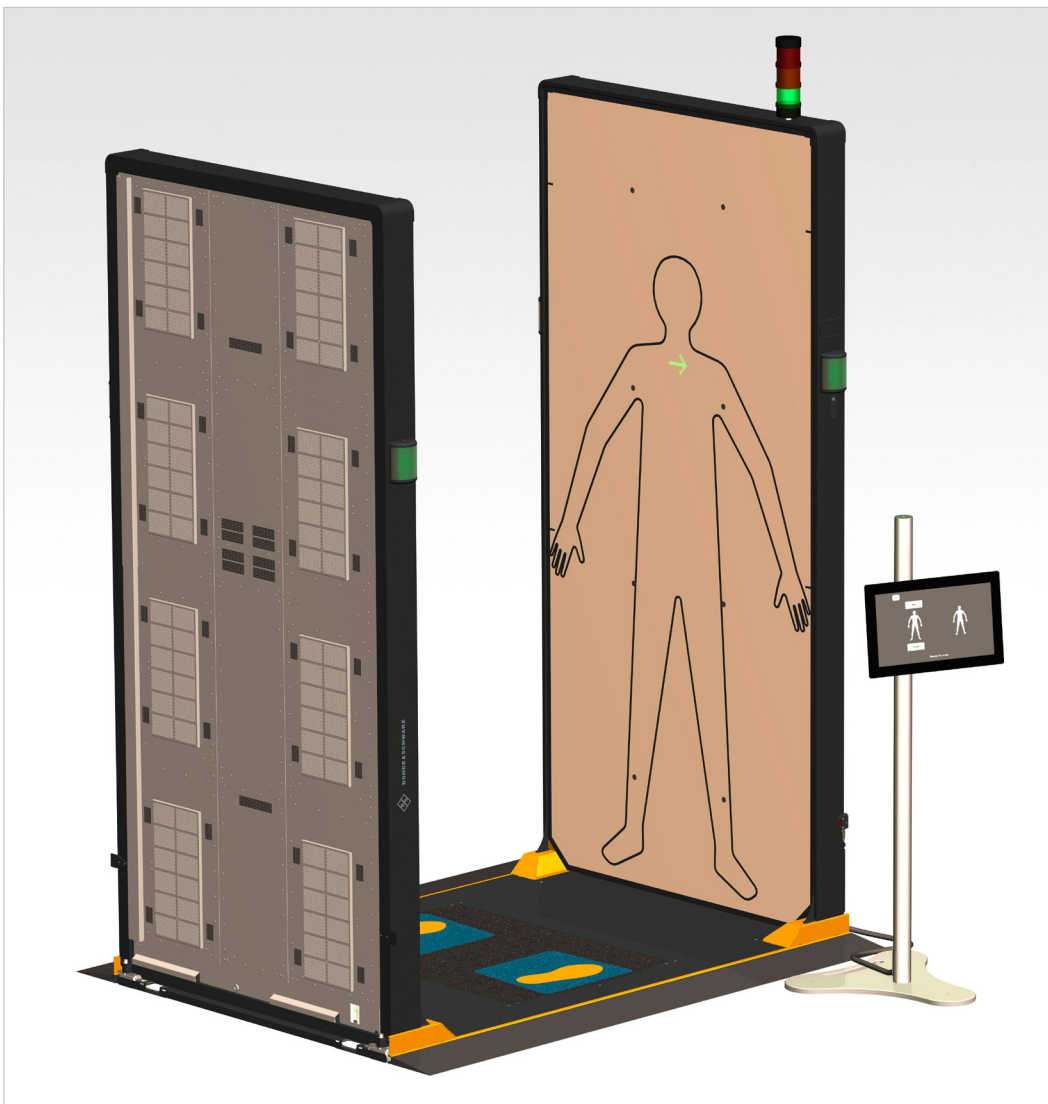
## Hardware options

- ▶ Clip-on frames in a choice of RAL colors allow the R&S®QPS to easily match the look of existing designs
- ▶ Light barriers trigger alarms when persons pass through without being scanned
- ▶ Indication lights serve as a traffic light for the scanned person
- ▶ Signal light for mounting on top of the panel displays the light barrier alarm or scanning results for the screeners

## Software options

Available software options are optimized for the various applications of the R&S®QPS201:

- ▶ ECAC and TSA certified algorithms with excellent detection performance and a low false alarm rate for aviation safety
- ▶ Proven and approved detection algorithms especially for correctional institutions
- ▶ Specialized detection algorithms for property protection and loss prevention with adjustable sensitivity for individual requirements and an optional second posture to maximize detection rates



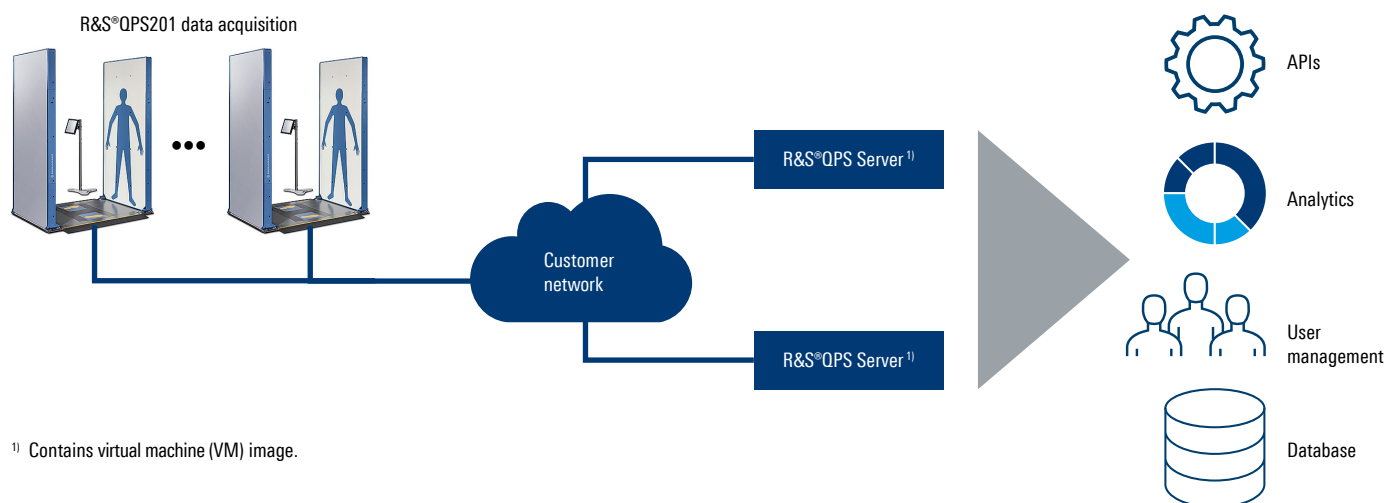
# R&S®QPS SERVER SOLUTION

- ▶ Using R&S®QPS Server, all R&S®QPS201 units can be networked either via existing networks or directly via routers. Data from the R&S®QPS201 can be backed up on the R&S®QPS Server or centrally evaluated in real time
- ▶ R&S®QPS Server can easily be integrated into existing security management systems through a non-proprietary open format (JSON) for statistics, analytics and central user management
- ▶ R&S®QPS Server acts as the central security management system for all connected R&S®QPS201 units
- ▶ R&S®QPS Server can also be used for data integration from third-party devices, e.g. for metal detectors and barcode scanners
- ▶ R&S®QPS Server enables shared data use via REST APIs and other open architecture APIs

R&S®QPS Server is a centralized management solution for R&S®QPS security scanners. It includes:

- ▶ Data acquisition for statistics, log and performance data
- ▶ Status overview of all R&S®QPS security scanners in the network
- ▶ Analysis and display tools for performance and statistics
- ▶ Central user and group administration/authentication
- ▶ Data protection through the use of the latest cybersecurity standards
- ▶ Comprehensive interfaces for flexible integration into existing customer infrastructures and applications

## Components and functions



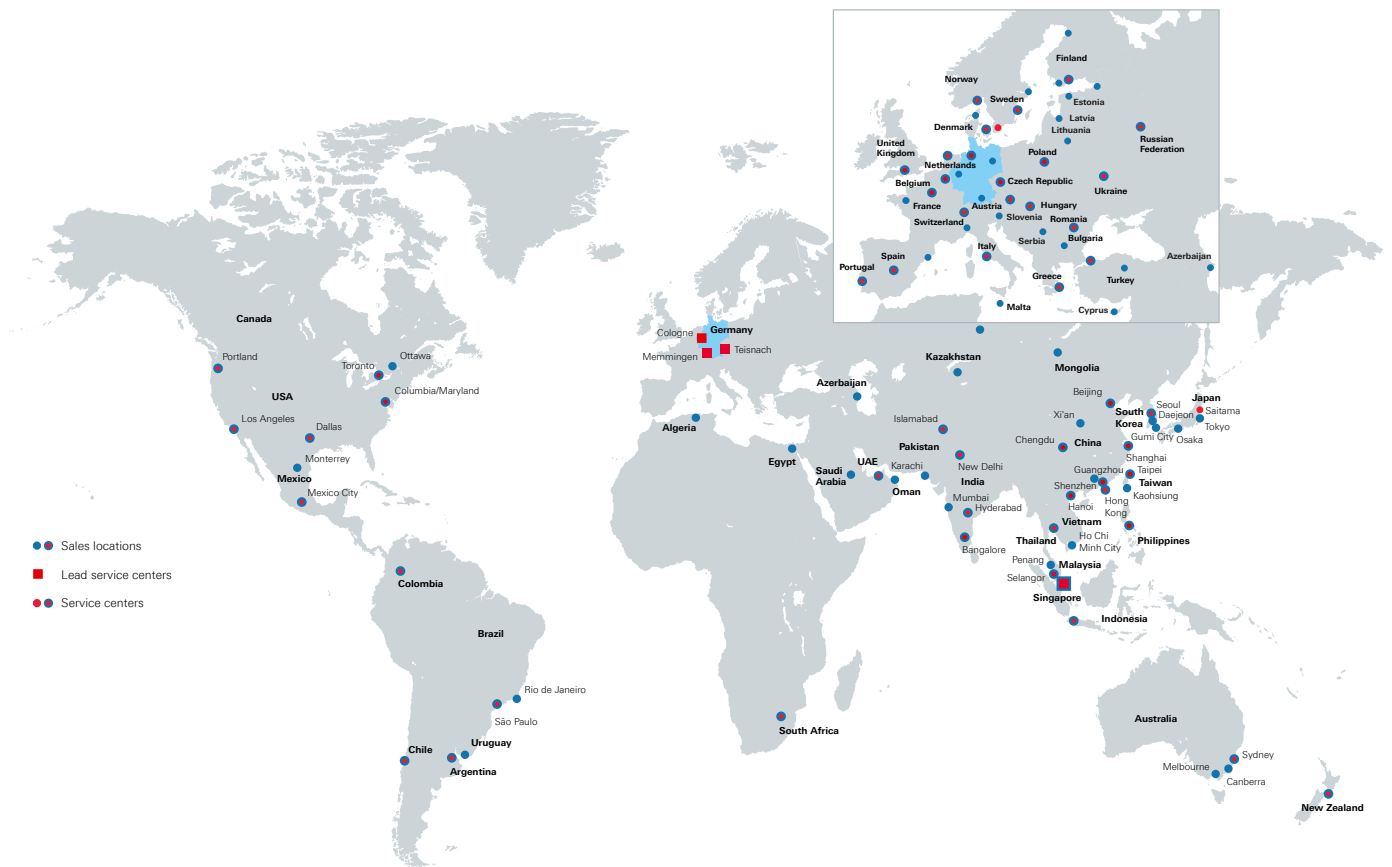
<sup>1)</sup> Contains virtual machine (VM) image.

# FROM PRESALES TO SERVICE. AT YOUR DOORSTEP.

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User risks are reduced to a minimum at all project stages:

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- ▶ Technical startup/application development/integration
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R&S®QPS Quick Personnel Security Scanners

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