RailXplore Capacity

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Reliable live data of passenger numbers in stations and trains to optimize the decision-making process of railway operators, reduce disruption, and improve the passenger experience.

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Product Description

Railway operators often lack information on passenger volume and passenger behavior within their station and train network. **RailXplore Capacity** measures, analyzes and allows the visualization of the quantity and movement of people in stations and on trains to improve the decision-making process and help our customers to adapt to the "new normal".

The RailXplore Capacity application

RailXplore Capacity collects and interrelates data from various sources, to afterward process and analyze it and provide valuable historical, forecasted, and live Key Metrics.

✓ Measures quantity and movement of passengers in real-time

✓ Alerts about thresholds reached or triggered by special events

✓ Optimized reporting through historical data and statistics

✓ Demand responsive planning through forecasts

CCTV cameras
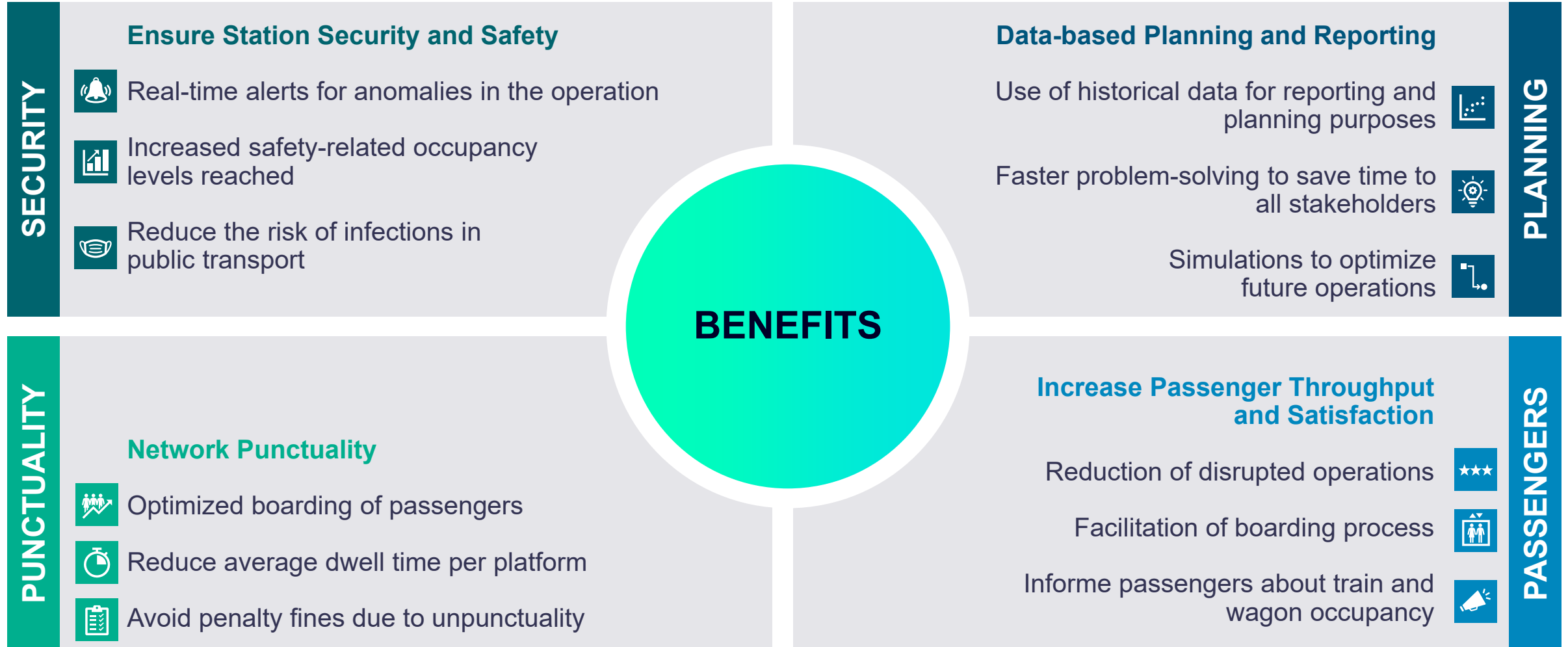- Data collected from 3D cameras & CCTV

Rolling stock
- Data collected from PDI (e.g., train occupancy, train weight)

External data
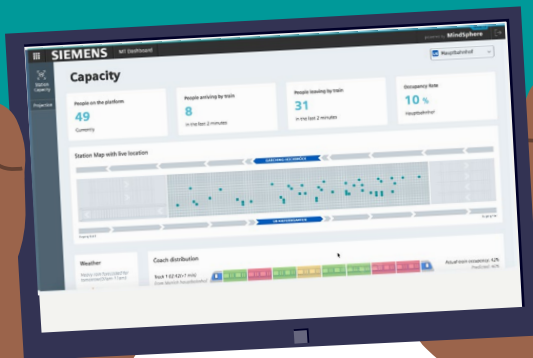- Use of forecasting algorithm to predict future demands

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Benefits of RailXplore Capacity

SECURITY

Ensure Station Security and Safety

- Real-time alerts for anomalies in the operation
- Increased safety-related occupancy levels reached
- Reduce the risk of infections in public transport

PLANNING

Data-based Planning and Reporting

- Use of historical data for reporting and planning purposes
- Faster problem-solving to save time to all stakeholders
- Simulations to optimize future operations

BENEFITS

PUNCTUALITY

Network Punctuality

- Optimized boarding of passengers
- Reduce average dwell time per platform
- Avoid penalty fines due to unpunctuality

PASSENGERS

Increase Passenger Throughput and Satisfaction

- Reduction of disrupted operations
- Facilitation of boarding process
- Informe passengers about train and wagon occupancy

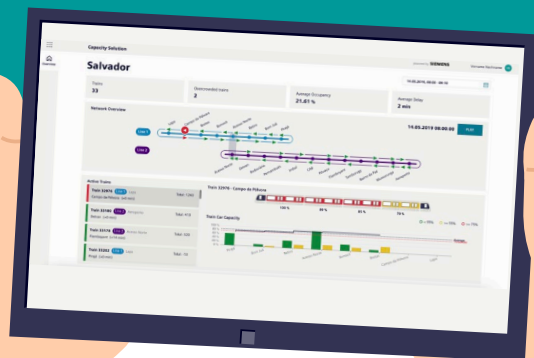**SIEMENS**

Key Functionalities

Station Occupancy

- Real-time, historical, and forecasted data about passenger numbers
- Distribution of passengers – movement analysis (heatmaps)
- Alert system: Safety-related occupancy levels, unusual crowding, and people on track
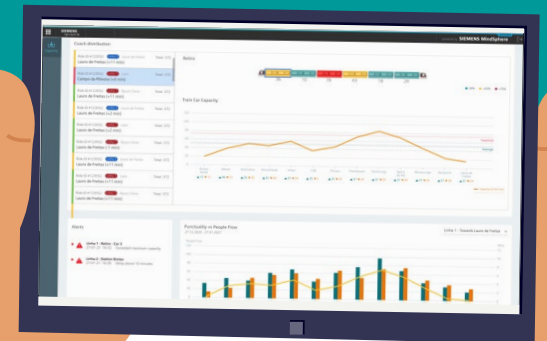
Train Occupancy

- Passenger counting in the vehicle
- Supporting the line operator with reliable data of train occupancy, position and delay
- Informing passengers via PIDS on platforms or passenger/ticketing apps

Data-based Planning

Based on forecasted demand:

- Reports about daily operations and special incidents
- Evaluation and adaptation of rental prices of ads and shops
- Planning of staff, train schedule, and more, based on forecasted passenger numbers
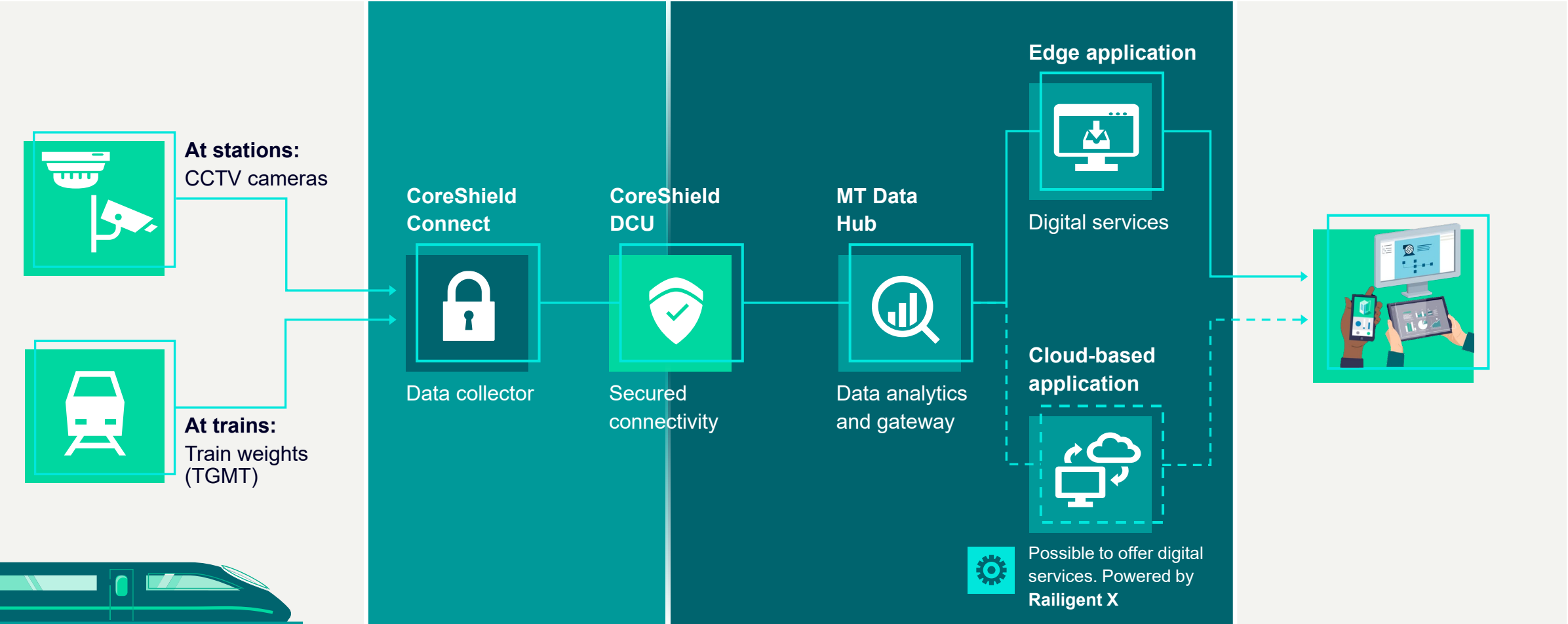- Customized statistics to review daily operations or report about special events

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System Architecture

Data sources

At stations:
CCTV cameras

At trains:
Train weights (TGMT)

System connectivity

CoreShield Connect
Data collector

CoreShield DCU
Secured connectivity

Data processing

MT Data Hub
Data analytics and gateway

Edge application
Digital services

Cloud-based application
Possible to offer digital services. Powered by **Railigent X**

Output front end

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References

ProRail – Capacity Management for operators
The Netherlands

RailXplore Capacity helped the customer to overview stations and improve operations, by giving them reliable data on passenger numbers and movements.

SWM – Security Monitoring in special events
Germany

Thanks to **RailXplore Capacity** it was possible to support station operators and handle security measures and ensure the safety of attendees and staff in major events, such as Octoberfest and during Bayern Munich football matches.

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