

The Siemens logo, consisting of the word "SIEMENS" in a teal, sans-serif font, is positioned in the top left corner. It is set against a white rectangular background that has a thin horizontal line below it. The background of the entire advertisement is a long-exposure photograph of a city street at night, featuring light trails from cars and a blue high-speed train on an elevated track. A man in a high-visibility vest and glasses is in the foreground, talking on a mobile phone.

SIEMENS

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SIEMENS

# Siemens Mobility Services

Efficiency, Sustainability and Reliability

# Siemens Mobility Services

Your trusted partner for reliable service

SIEMENS

## Technologies served:

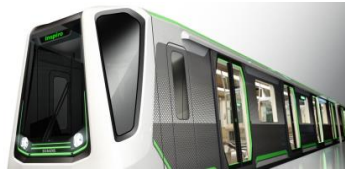
High Speed & Commuter Rail



Locomotives



Urban Transport



Rail Automation



Turnkey Projects & Electrification



Intelligent Traffic Systems



## SIMOS™ Portfolio

Maintenance Services

Spare Part Services

Assistance Services

Upgrade Services

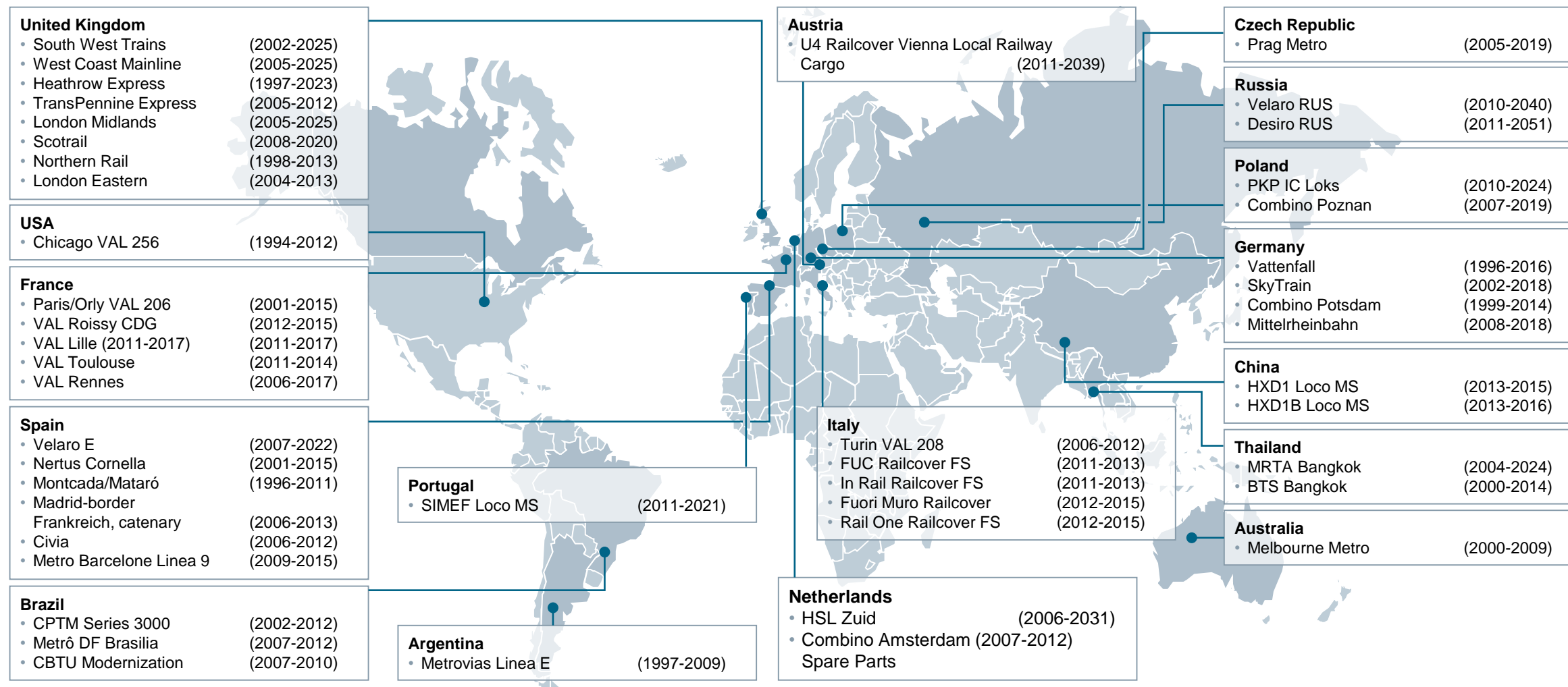
Qualification Services

Operation Services



# Siemens Mobility Services

## References worldwide



# Siemens Mobility Services

We are committed to ensure reliability rates of over 99 percent for our customers



Increase of efficiency through optimized processes

Efficiency



Sustainability through leveraging our longtime experience

Sustainability



High reliability through innovative maintenance concepts

Reliability

Reliability rate of over  
99 percent

### Efficiency

#### Increase of efficiency through optimized processes



**innovative  
IT-based maintenance  
processes**

#### Benefits

- Shortened standstill times because of trouble shooting
- Optimized support of the maintenance personnel
- Quality increase through standardized processes
- Paperless maintenance documentation

# Siemens Mobility Services

## Maintenance support through Augmented Reality

### Fade-in of device designations



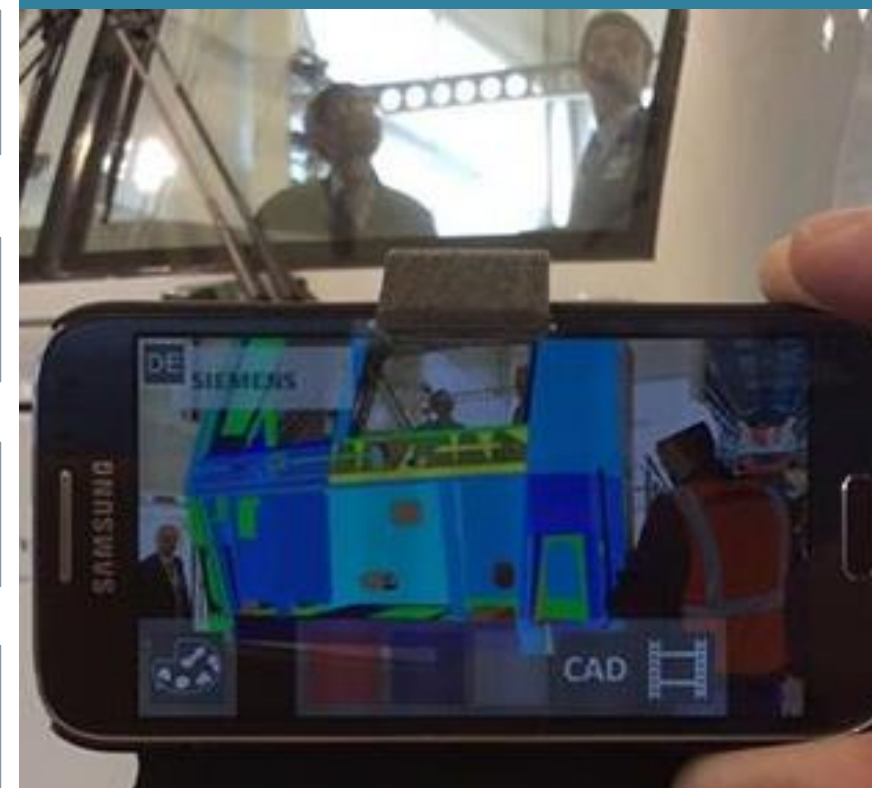
Shorter downtimes through  
quick fault recovery

Optimized support of  
maintenance staff

Quality assurance through  
standardized processes

Paperless documentation of  
maintenance approach

### Overlay with CAD data



# Siemens Mobility Services

## Additive manufacturing opens up new possibilities

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Manufacturing small quantities  
cost-effectively

Manufacturing of each design without  
minimum order quantity and Intellectual  
Properties (IP)

→ Sand nozzle with integrated heating



Customer specific solutions with  
technical improvements

Building of “Better – Part” and  
manufacturing for low volume productions

→ Air Intake Vectron Finland



Anytime availability of  
obsolete parts

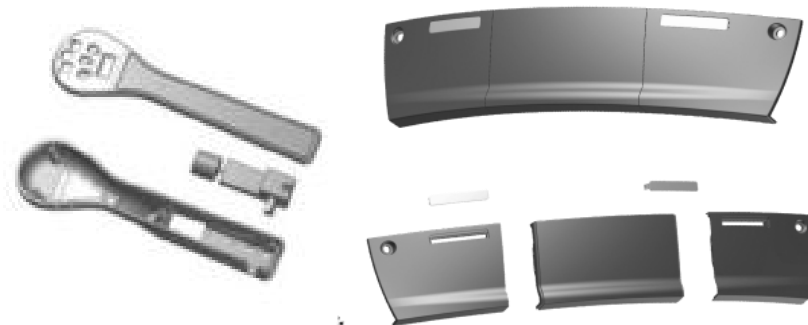
Reproduction obsolete spare parts

→ Cover Metro Nuremberg DT3



Higher and faster availability

Reduction of the planned delivery time in specific cases up to  
70 – 80 %





### Sustainability

#### Sustainability through leveraging our longtime experience



**sustainable,  
maintenance-friendly  
system design based  
on years of experience**

#### Benefits

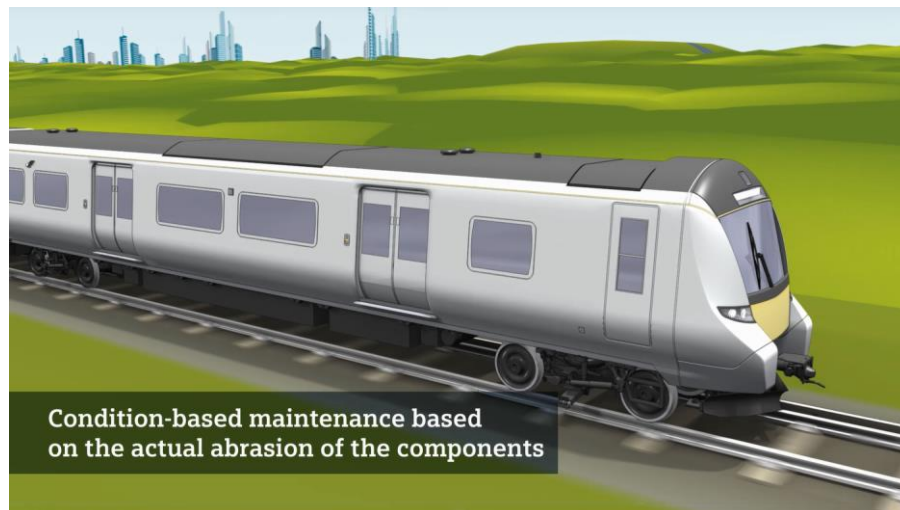
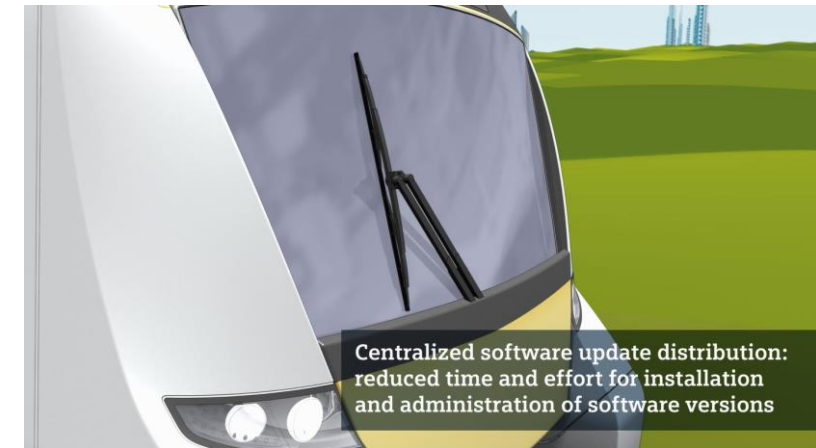
- Shortened maintenance times
- Extended maintenance intervals
- Reduced spare part usage



# Siemens Mobility Services

## Serviceability, exemplified by Thameslink

SIEMENS



Relia-  
bility

## High reliability through innovative maintenance concepts



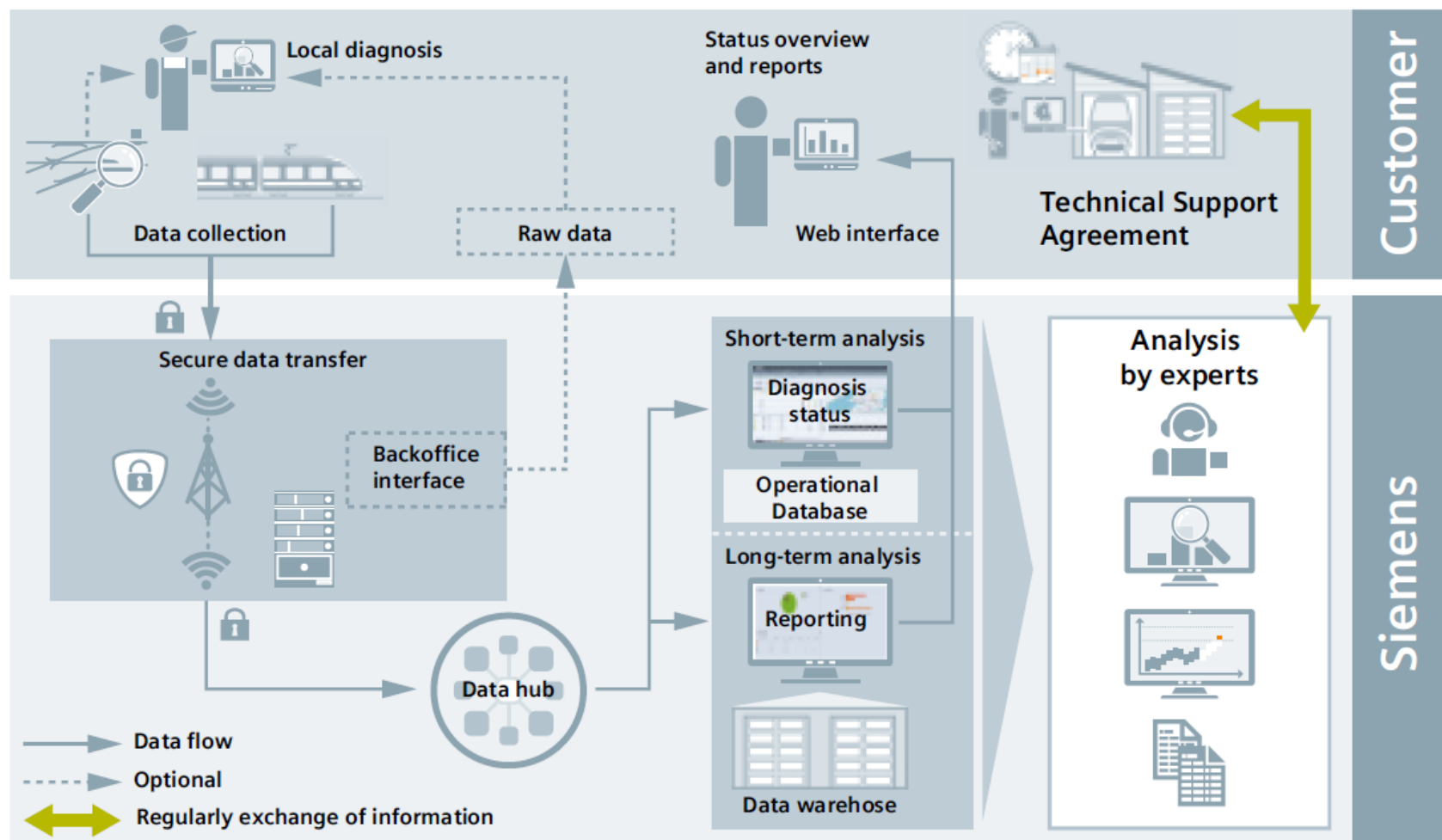
**predictive maintenance  
based on data analysis  
and remote monitoring**

### Benefits

- Shift from corrective to predictive measures
- Increase in availability and avoidance of unplanned downtimes

# Siemens Mobility Services

Remote Diagnosis Services to ensure predictive maintenance



# Siemens Mobility Services

Smart Insights – our solutions for data analytics and predictive maintenance

Maintenance  
Services

Spare Part  
Services

Assistance  
Services

Upgrade  
Services

Qualification  
Services

Operation  
Services

## Smart Insights

1

### Monitoring

Data transmission and visualization

2

### Diagnosis

Data evaluation and analysis

3

### Prescription

Optimization of maintenance activities  
to prevent failures before they occur through  
prediction and decision support



### Reliability

#### High reliability through innovative maintenance concepts

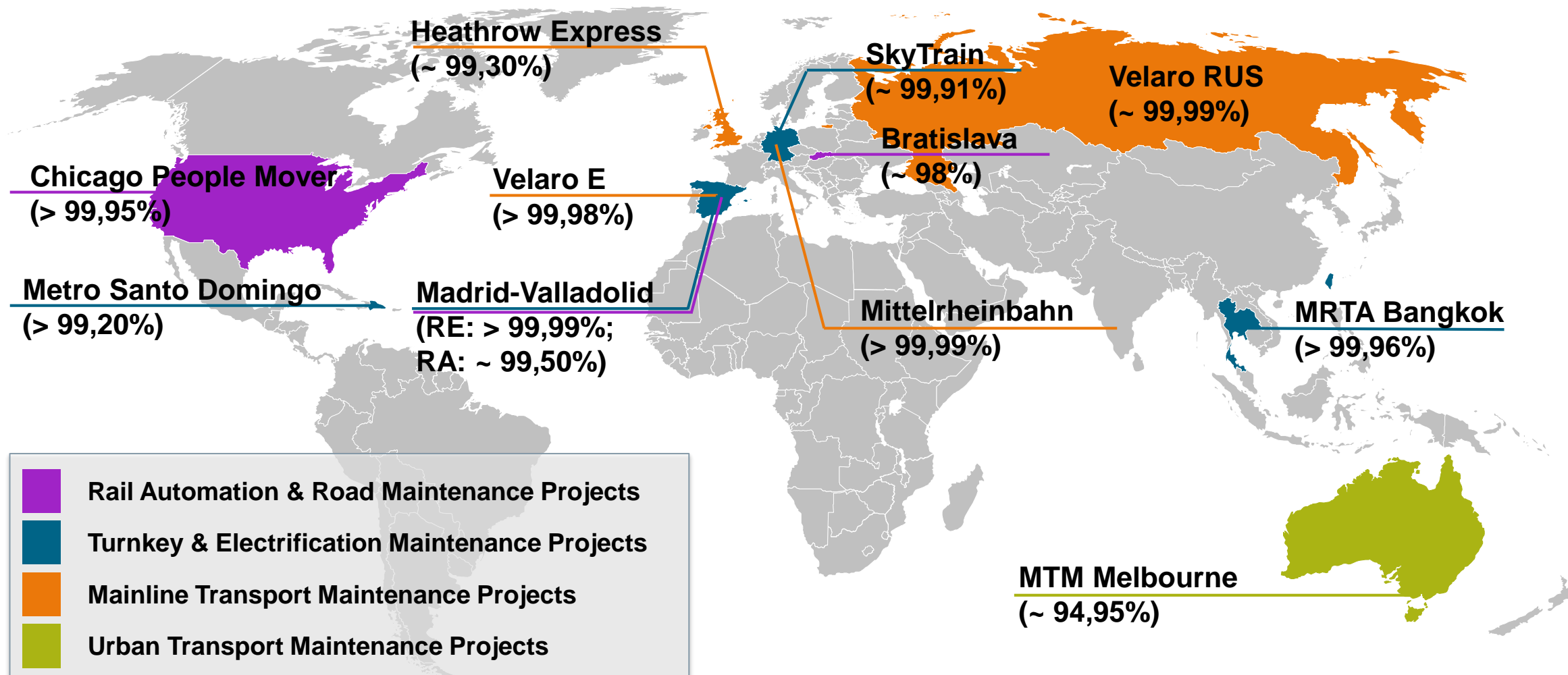


#### Benefits

- World-class Rail Service Centers strategically located in Wegberg-Wildenrath and Munich Allach
- Highest level of fleet-availability based on intelligent interaction between Rail Service Centers and local Rail Service Depots
- Optimum fleet-performance based on customer-specific, tailor-made solutions
- Top-level quality based on best-in-class, highly trained personnel

# Siemens Mobility Services

Proven availability and highest customer satisfaction all over the world



# Siemens Mobility Services

Our portfolio creates added value for our customers

## Siemens Mobility Services (SIMOS)



# Siemens Mobility Services

Velaro E – runs more than 1.1 million kilometers without maintenance caused delays

## Fleet: Velaro E

- 26 trains in daily use: Madrid - Barcelona and Madrid - Malaga
  - Complete maintenance for 26 8-parted trains with Siemens Mobility Services for a period of 14 years
  - 24 hours service by 160 Siemens employees to guarantee the daily trains' availability and reliability
  - Flexible maintenance intervals on the basis of the „performance-based-maintenance“-concept
  - Maintenance via Nertus: Joint Venture of Renfe and Siemens
- Complete reimbursement of fare costs for passengers in case of delays > 15 minutes
- Only one out of 2.300 rides runs late





# Siemens Mobility Services

## Continuous passenger take-over from plane by train

### Convincing advantages for future projects:

- Optimization of components under consideration of deterioration effects
- Consequent optimization of maintenance expenditures
- Improvement and increased profitability of the entire system
- Delays caused by technical failures with more than 10 minutes occur on average only every 1.5 million kilometers
- Availability of 99.94%



### Impacts:

- Increase of train competitiveness on medium-haul routes, e.g. between Madrid and Barcelona
- Between Madrid – Barcelona more than 50% of passengers were taken over from plane by train





# Thank you

[siemens.com/mobility-services](https://www.siemens.com/mobility-services)