


# SMART SOLUTIONS FOR RAILWAYS BASED ON INTERNET OF THINGS SOFTWARE





## PSS.Platform Product Line

- IoT Based Railway Infrastructure Condition Monitoring and Analytics
- Self-Service Ticketing Kiosk Software for Railways
- Passenger Information System (PIS) for Railways



# IoT Based Railway Infrastructure Monitoring and Analytics



# IoT Device Management System Software



## SERVER SOFTWARE



Device Management



Analytics & Reporting



User Personal Cabinet Administration Tools



Consumables and Resource Consumption Accounting



Railway Enterprise



ERP & Other IT Systems

## DATA ACQUISITION, MEASUREMENT & CONTROL DEVICE

Controllers



Sensors & Data Collectors



Managed Devices





## How You Benefit

Reduced maintenance costs through real-time diagnostics and predictive analytics.

Connect any sensor, device or asset to the platform to quickly create new and innovative services.

Unify any vertical, any device, any protocol and any connectivity on a single common platform

Make best business decisions with analytics – the platform can collect information from millions of sensors and devices, create events based on thresholds and store the results for Big Data and BI analytics.

Provide smart lighting and security monitoring for railways and train station facilities.

# Self-Service Ticketing Kiosk Software for Railways





# Public Transport Ticket Vending Machine Software



## SERVER SOFTWARE



Device Management



Analytics ]  
& Reporting



Accounting for Cash and Operating Assets



Service Provider Management



Railway Enterprise



Automatic Fare Collection System



Passenger Information System



Customer Service



Cash Collection Service

## SELF-SERVICE KIOSK SOFTWARE



Set of Various Ticket Scenarios



A Wide Range of Peripheral Devices



Bank



Card Processing

## How You Benefit

Facilitate the access to rail transport by offering an integrated ticket system.

Increase your fare collection revenue.

Reduce labor costs to sell train tickets.

Increase revenue stream through smart fare rate menu and e-ticketing.

Monitor and control your ticket vending machines with online and mobile remote management.



# Passenger Information System for Railways



# Passenger Information System Software



## SERVER SOFTWARE



Device Management



Analytics & Reporting



User Personal Cabinet Administration Tools



Content Management

## COMMUNICATION CHANNELS



Passenger Information Displays



Mobile Applications



Passenger Information Self-Service Kiosks



Railway Enterprise



IT Systems

## Information Providers



Government Information Services



Emergency Services



Global Internet Services



## How You Benefit

Facilitate access to rail transport by providing reliable information.

Improve the passenger experience and increase transit ridership.

Reduce labor costs to broadcast audio and visual messages.

Provide interactive navigation and information services for passengers.

Generate revenue through advertising campaigns using interactive self-service kiosks and information displays.

Respond quickly to accidents and incidents and provide emergency services to passengers.

# PSS.Platform – Internet of Things Platform for Enterprise Applications





## Internet of Things Based Device Management Software

**Analytics & reporting:** performs a range of complex analysis from basic data clustering and deep machine learning to predictive analytics extracting the most value out of the IoT data-stream. The analytics & reporting module includes Data Mining and Exploration, Statistical Process Control, Predictive Modeling, Machine Learning, Metrics and KPIs, Geospatial, Visualization, etc.

**Connectivity:** brings different protocols and different data formats into one software interface ensuring accurate data streaming and interaction with all devices.

**Device management:** ensures the connected devices work properly, seamlessly running patches and software updates, applications running on the device or edge gateways.

## Internet of Things Based Device Management Software

**Processing & action management:** brings data to life with rule-based event-action-triggers enabling execution of smart actions based on specific sensor data. The Group Policy Management console provides the possibility to configure customized settings for any selected group of devices.

**Database:** scalable storage of device data brings the requirements for hybrid cloud-based databases to a new level in terms of data volume, variety, velocity and veracity.

**Interaction gateways:** integrate with 3rd-party systems and the rest of the wider IT-ecosystem via built-in application programming interfaces (API), software development kits (SDK), and gateways.



## Components of PSS.Platform Device Management System



Technical  
monitoring and  
control



Operational  
monitoring



Event & incident  
notification  
module



Software  
update  
module



Platform  
interaction  
gateways



Analytics and  
reporting

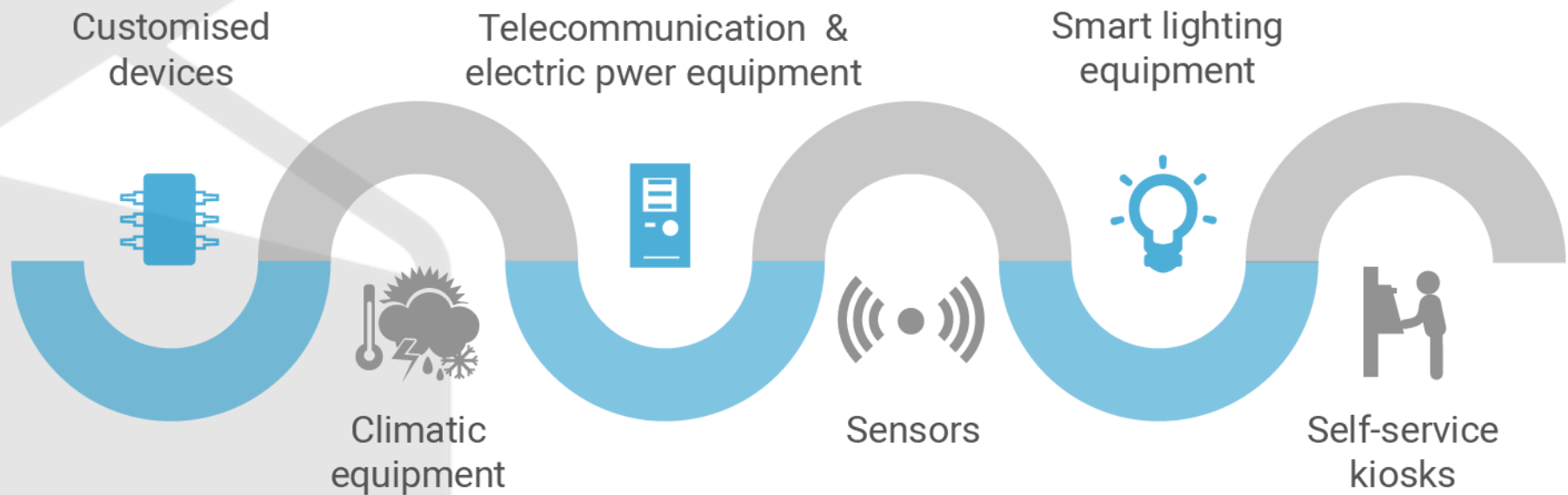


Role based  
access control



Group policy  
management

## Managed Devices





## PSS.Platform Drives Innovation and Transforms Business Across Various Industries



Smart city infrastructure



Transportation



Retail



Road construction



Manufacturing



Entertainment



Building life supporting infrastructure



Agriculture



## How You Benefit

Improve product quality and operational effectiveness by easily connecting IT and operational technology. Use analytics and open APIs to control, monitor, analyze, and optimize performance.

Create new revenue streams by using pervasive IoT analytics to accelerate new service delivery and enhance product quality with data privacy.

Mitigate risk in an increasing hostile threat environment with scalable, comprehensive cyber and physical security.

Lower operating expenses by using a common network to increase uptime, react quickly to changing market conditions, and reduce energy consumption.

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UNILIGHT



TRANSPORT  
DIRECTORATE

