



Secure, safe and connected: The new era of railway networking

Sami Anttila, Global Market Director – Trackside and Signalling – Westermo Network Technologies

WESTERMO

WESTERMO

EPENDION GROUP



PRODUCTION AND TECH

Head office
Västerås, Sweden

Main production unit
Västermo, Sweden

Tech centers
Västerås, Sweden
Dublin, Ireland
Bubikon Switzerland
Mainz, Germany
Laer, Munster, Germany



OUR OFFER



Ultra-reliable network
products



Secure and reliable
software solutions



Industrial networking
services

OUR TYPICAL CUSTOMER

HITACHI
Inspire the Next



DB **ALSTOM**

ABB **SIEMENS**

CN **STADLER**

WESTERMO BY NUMBERS

590
employees

38
nationalities

15
sales offices

>50
partners

14%
R&D spend

1975
founded

120 Million
EUR in sales 2024

FOCUS SEGMENT



Energy



Train Networks



Trackside



Water &
Wastewater



Other Mission
Critical



Intelligent
Transportation
System

Your partner of choice



Built for Mission-critical applications
Our solutions thrive where reliability
is essential.



Cybersecurity is in our DNA
We protect what matters, your infrastructure
and passengers.



The new era of Digitalization

Efficiency & sustainability are non-negotiable

Public transport is central to CO₂ reduction

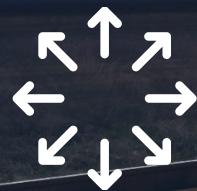
Digitalization needs reliable connectivity

Data networks are the backbone of smarter, safer rail systems.

Automation demands robust infrastructure

Electrified and dependable trackside systems are key to scaling automation.

Smarter railways with digital interlocking



Increased network size



Decentralized Power Supply

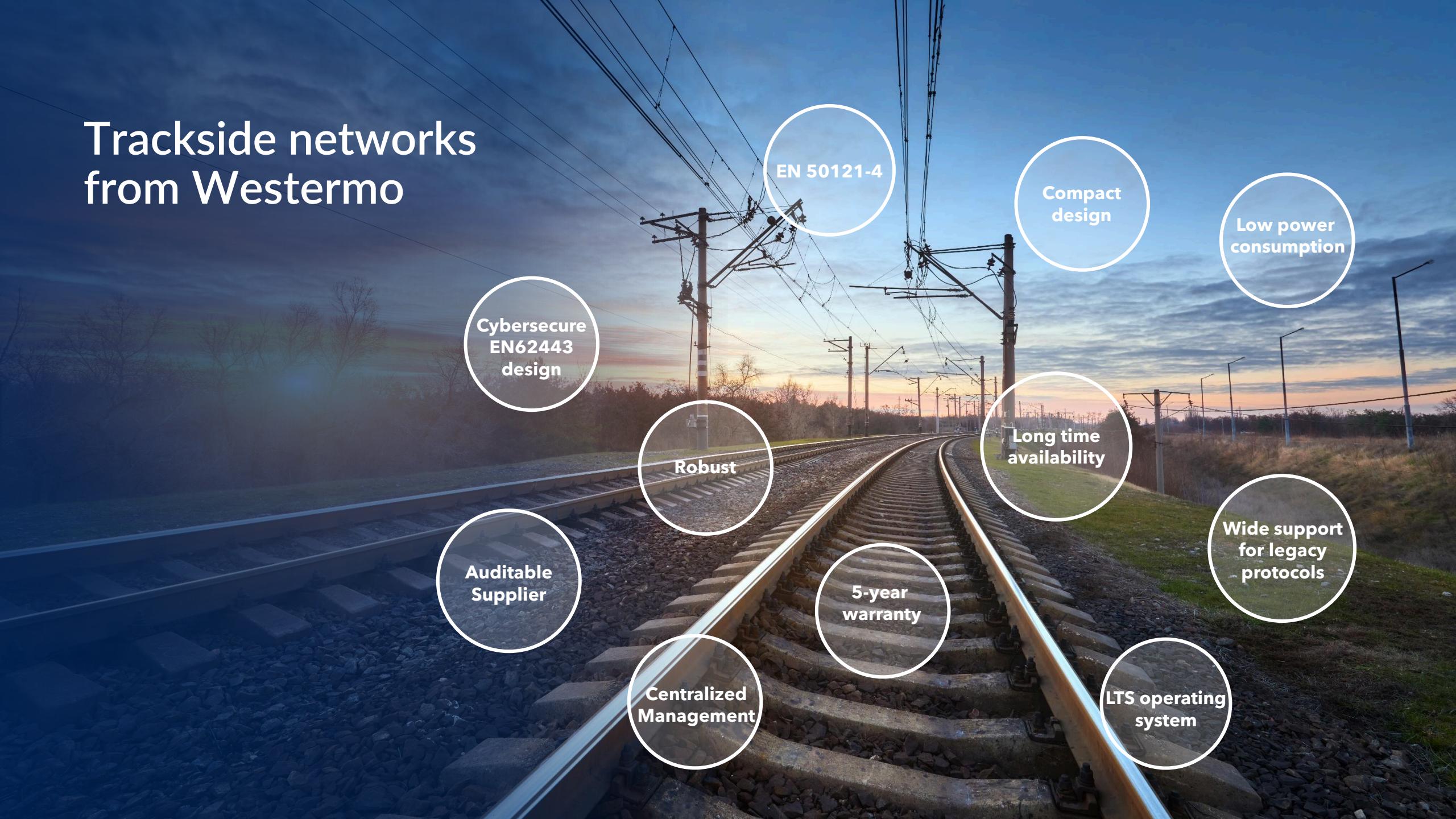


Performance and reliability



Standardization and cost reduction

Trackside networks from Westermo



Applications we cater to



TRACK

- Rail Electrification system
- Predictive maintenance
- Switch point connection
- Track camera system
- Level Crossing system
- Substation connectivity
- Tunnel ventilation



PLATFORM

- Video surveillance
- Public announcement system
- Digital Payment System
- Platform Camera Connectivity
- Ticketing machines
- Passenger counting
- Emergency phones



SIGNALLING

- Axle Counting System
- Trackside Backbone System
- Signalling
- Digital Interlocking
- Train to Ground Connectivity
- Wireless Video Streams from train to OCC
- High Speed Video content uploading

Common challenges for all applications



Harsh environments



Need for uninterrupted service 24/7



Need for long operational life-time



Increasing level of cyber threats

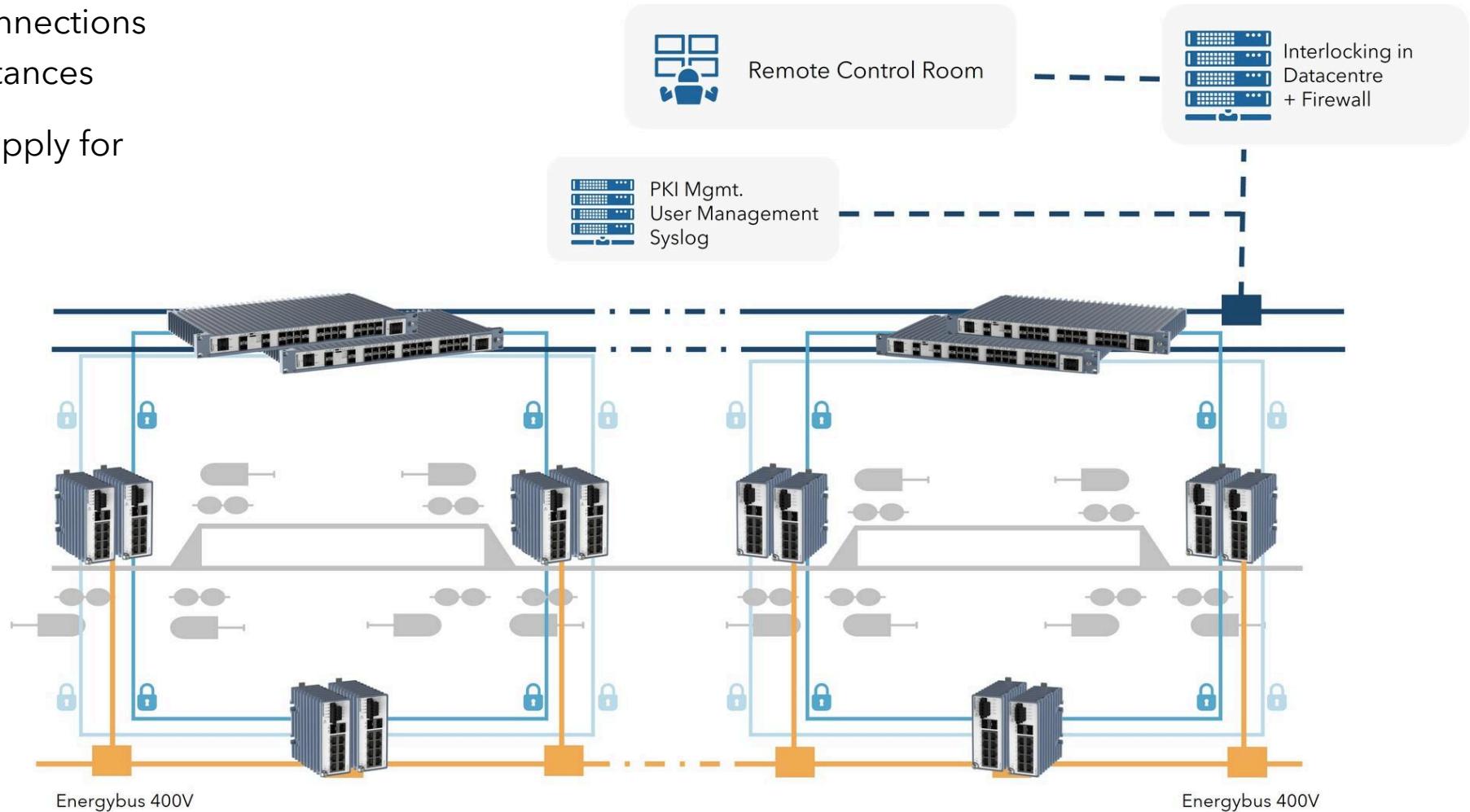
Digitalization as part of EULYNX

- European Initiative by 18 Infrastructure Managers
- Started in 2014
- Significant reduction of the lifecycle cost for signaling systems
- What does EULYNX deliver:
 - **Standardized interfaces** of the digital control command communication, signaling and automation system (interoperability between different suppliers)
 - **Network guidelines, Security concept and specification**
- Regularly publish specification documents (Baseline Sets)
 - current version: Baseline Set 4 Release 2



Application example for digital interlocking

- Redundant Ethernet connections allows for unlimited distances
- Decentralized power supply for local hardware
- Encrypted connections between network components





Safety meets Security in railway digitalization

Ethernet connectivity at the network edge

- Railway industry is rapidly embracing digitalization
- Ethernet connectivity now reaches the network's edge

+ Enhances operational capabilities

- Introduces new cybersecurity risks

Concept	Focus	Threat Type
Safety	Reliable, fail-safe principles	Unintentional accidents
Security	Dynamic threat countermeasures	Intentional attacks





A layered approach

- Security and Safety layers remain distinct but work together
- Security upgrades don't disrupt safety certifications
- Layered approach enables continuous improvements to cybersecurity
- Westermo's model supports both innovation and protection

Industrial Cybersecurity

Westermo Defense in Depth

Environment:

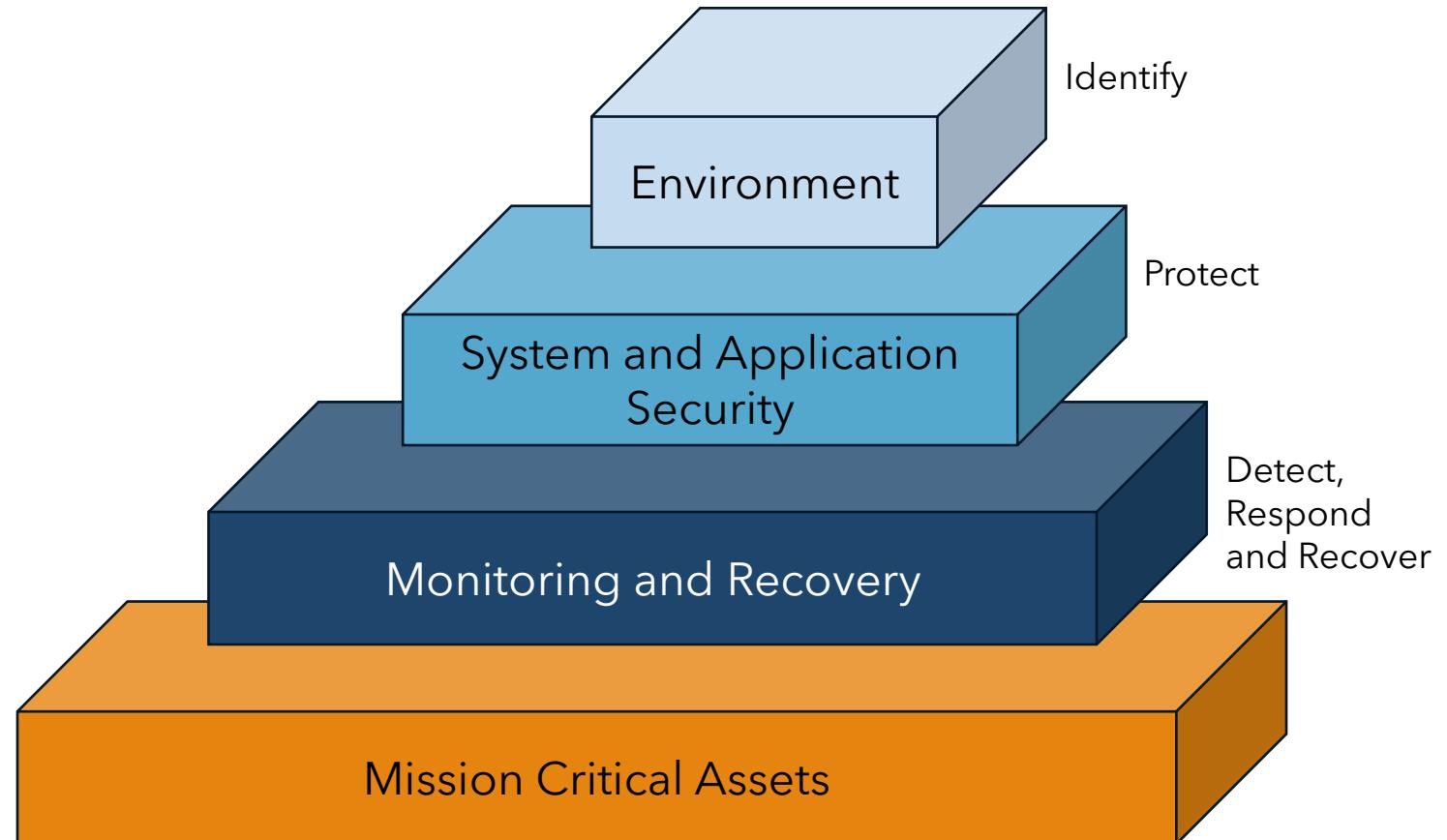
- Physical Environment
- Logical Environment
- Integration Capabilities

System and Application Security:

- Device Security
- Device Hardening
- Patch Management

Monitoring and Recovery:

- Monitoring
- Audit Trail
- Backup and Restore



Our commitment to cybersecurity

- Technical expertise
- Rapid incident response
- Simple network security configuration
- Strong and secure supply chain
- Certified to world leading cybersecurity standards (ISO-27001, IEC 62443-4-1/2)





Examples of Successful collaborations

Pilatus Bahnen

The steepest cogwheel railway in the world runs on Westermo technology

"We chose Westermo because the collaboration was constructive and very engaging right from the start of our discussions. A project like this one has never been built before and is essentially a prototype. To be able to accomplish this project, we need partners like Westermo who actively contribute their know-how and support us with planning."

- Patrick Blaser, Operations Manager and Member of the Executive Board at Pilatus.

About

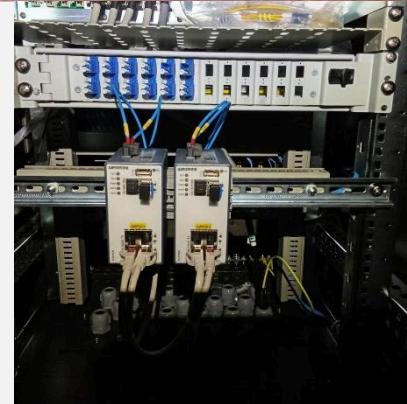
A highly reliable Ethernet data network is essential for intelligent and automated transportation systems such as Pilatus Railways'.



Redundant Ethernet network supports Falling Object Detection system

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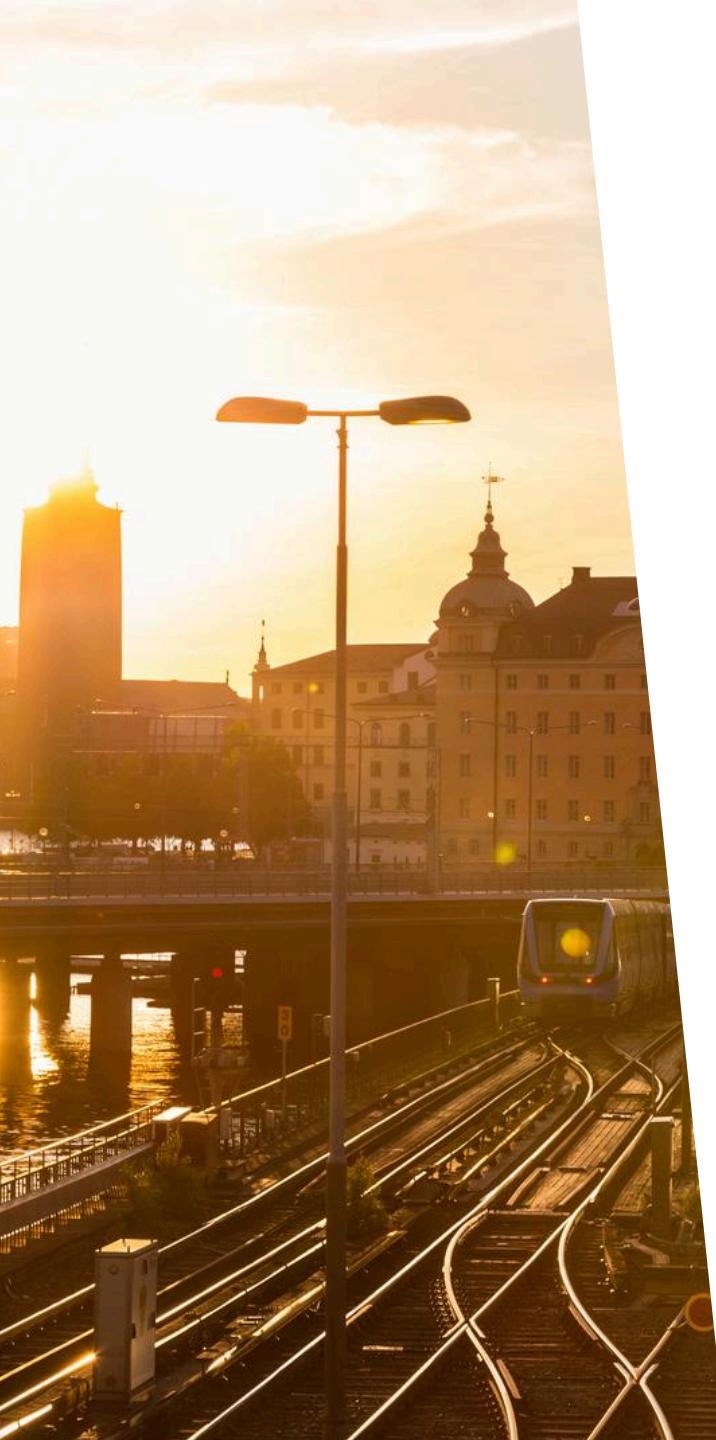
- Patrick Blaser, Operations Manager and Member of the Executive Board at Pilatus.



About

In an effort by ADIF to improve safety on high-speed rail networks, Westermo supplies redundant communication network to Hitachi Rail's Falling object detection system.





Working with Westermo?

- Meeting the evolving needs of mission critical networking solutions
- Flexible network architecture depending on encryption and safety requirements
- Wireless and wired portfolio
- Scalable for modern railways
- Bridging OT and IT for rail

We're here to help you implement long-lasting, cost-effective systems that keep your railway safe, efficient, and competitive.



WESTERMO

WESTERHO

YOUR PARTNER FOR MISSION CRITICAL INDUSTRIAL NETWORKS