



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

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**westermo**



# WESTERMO

## EPENDION GROUP



## PRODUCTION AND TECH

### Head office

Västerås, Sweden

### Main production unit

Västermo, Sweden

### Tech centers

Västerås, Sweden

Dublin, Ireland

Bubikon Switzerland

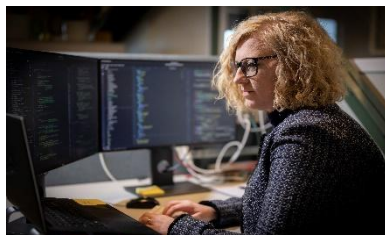
Mainz, Germany

Laer, Munster, Germany

## OUR OFFER



Ultra-reliable network  
**products**



Secure and reliable  
**software solutions**



Industrial networking  
**services**

## OUR TYPICAL CUSTOMER

**HITACHI** Inspire the Next **Epiroc**

**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 CO<sub>2</sub> 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

EN 50121-4

Compact  
design

Low power  
consumption

Cybersecure  
EN62443  
design

Long time  
availability

Robust

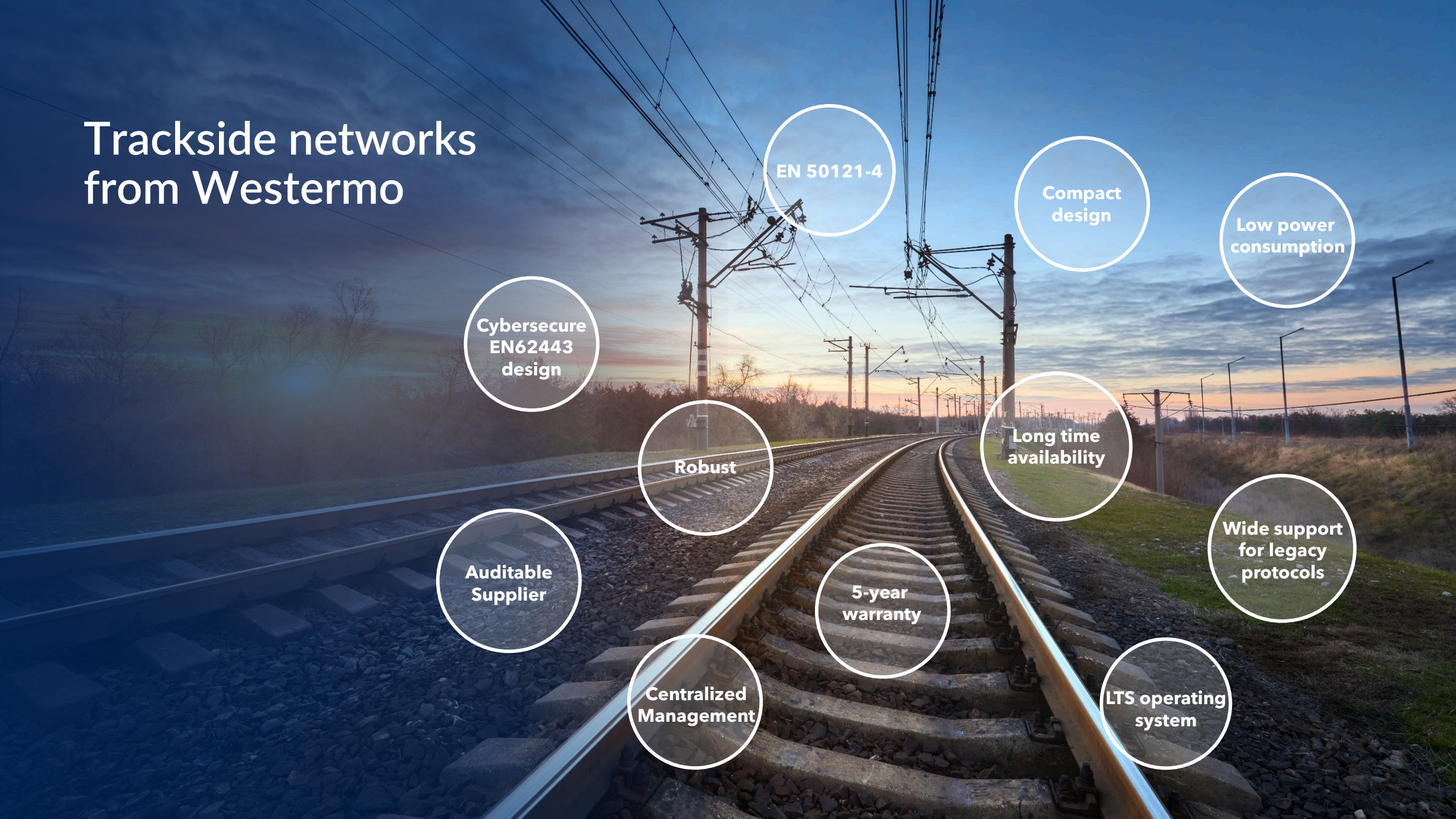
Wide support  
for legacy  
protocols

Auditable  
Supplier

5-year  
warranty

Centralized  
Management

LTS operating  
system





# 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

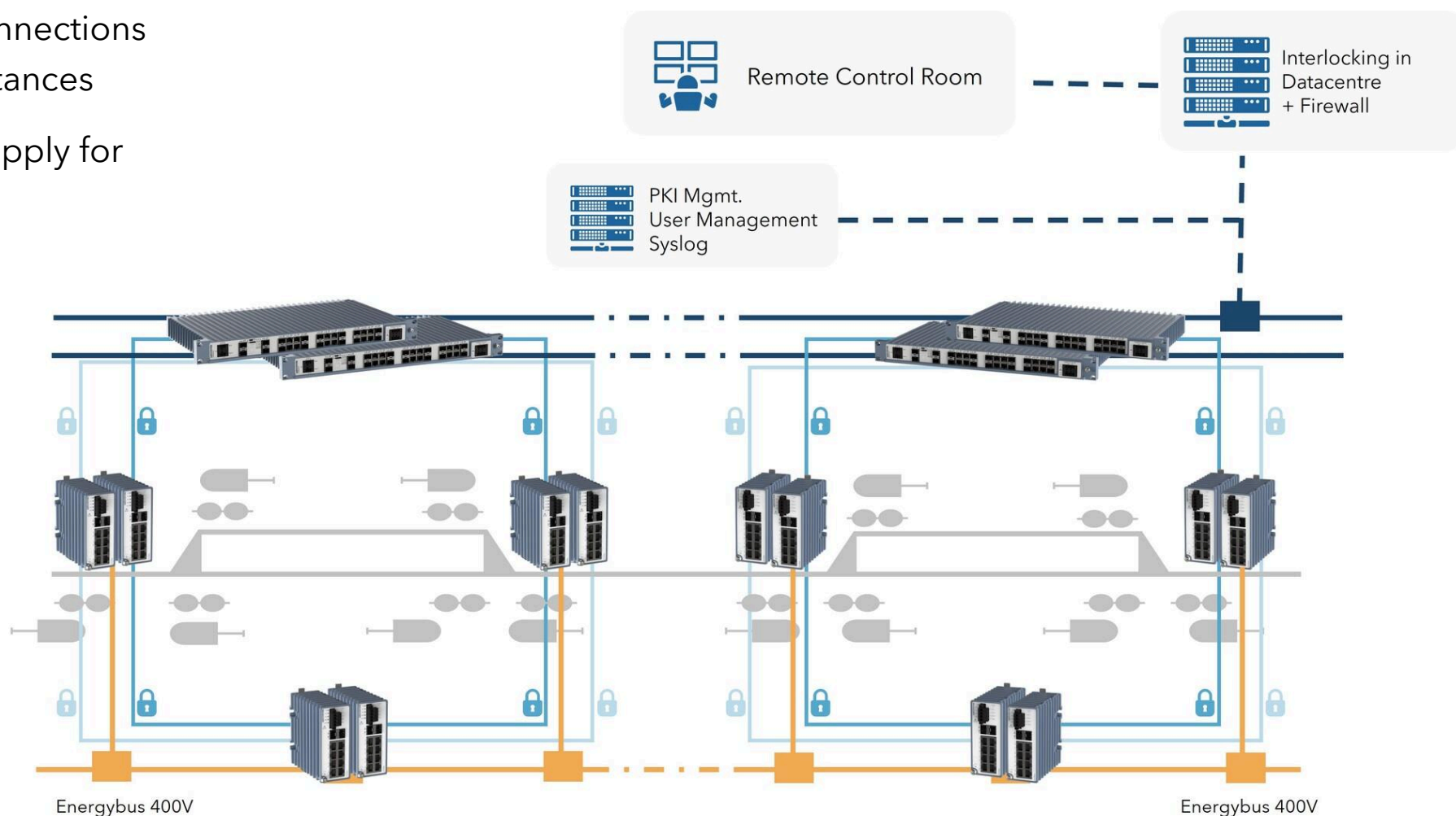
- European Initiative by 18 Infrastructure Managers
- Started in 2014
- Significant reduction of the lifecycle cost for signaling systems
- What does EULYNX deliver:
  - **Standardized interfaces** of the digital control command communication, signaling and automation system (interoperability between 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:

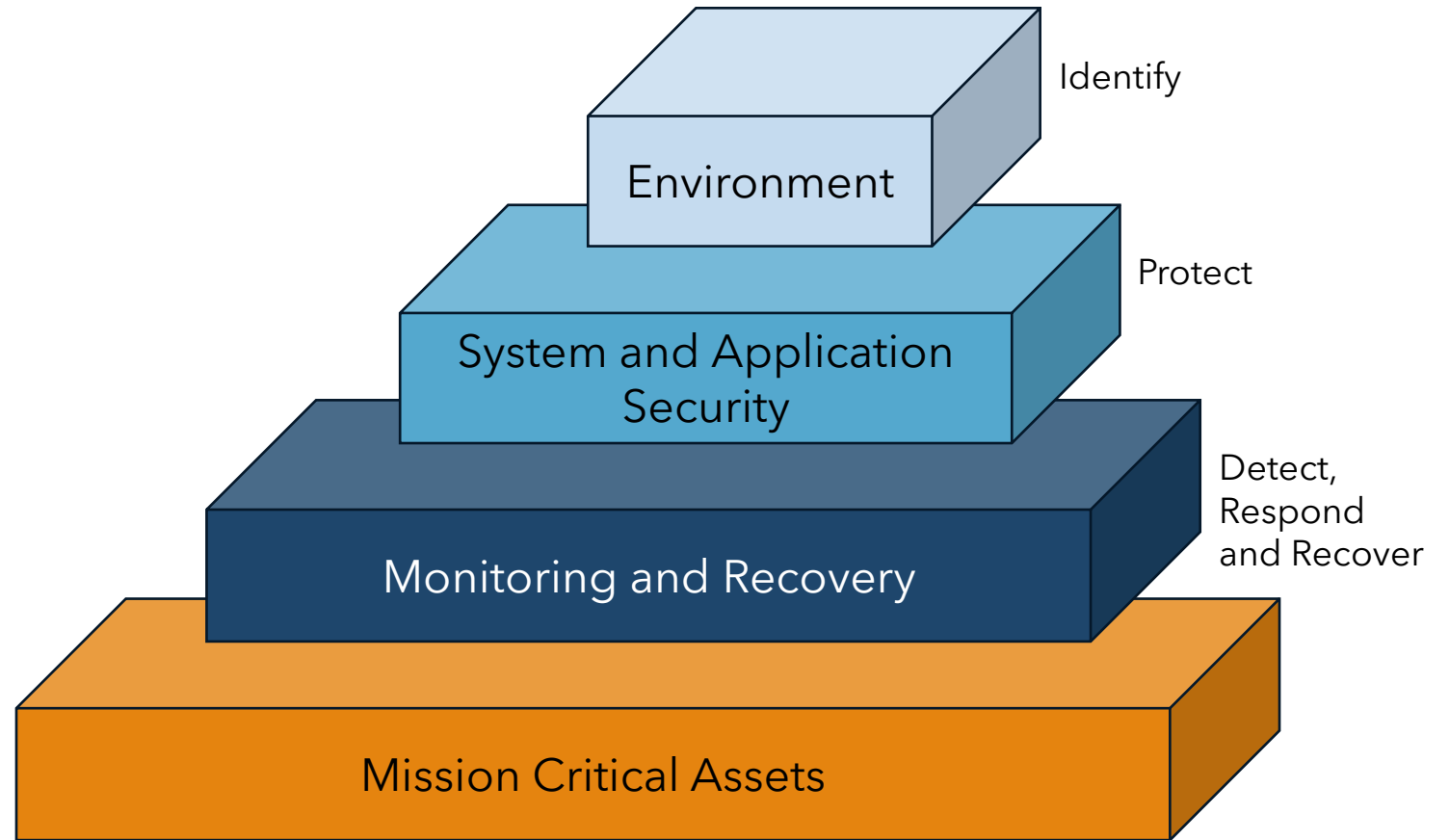
- Physical Environment
- Logical Environment
- Integration Capabilities

### 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)



**westermo**





## 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'.





# Hitachi Rail

## Redundant Ethernet network supports Falling Object Detection system

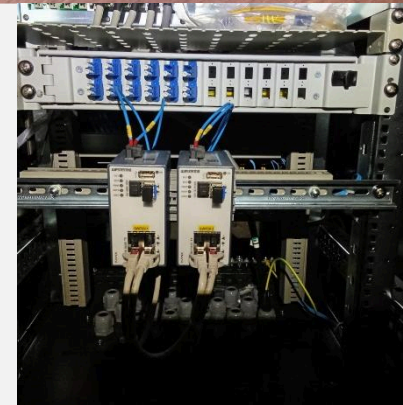
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### About

In an effort by ADIF to improve safety on high-speed rail networks, Westermo supplies redundant communication network to Hitachi Rails 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**





# WESTERMO

YOUR PARTNER FOR MISSION CRITICAL INDUSTRIAL NETWORKS