

zentrak OBJECT CONTROLLER

Point, Light Signal, Level Crossing,
Inputs/Outputs and Train Detection Systems

TURNING DATA INTO RAILWAY RELIABILITY

THE MASTER KEY FOR MODERN AND EXISTING INTERLOCKINGS

The vision of an intelligent control with maximum railway availability – the zentrak OBJECT CONTROLLER

The **zentrak OBJECT CONTROLLER** embodies our vision of a fully digital, interoperable, and future proof railway system. Based on the **EULYNX Baseline 4** architecture, it creates a unified layer between digital interlockings and trackside assets — modernizing the heart of rail infrastructure while ensuring compatibility with legacy systems.

Our vision is to enable **open, modular, and data driven** rail operations that reduce lifecycle costs, increase availability, and ensure long-term independence for infrastructure managers worldwide.

The zentrak OBJECT CONTROLLER supports operators in **step-by step digitalisation** without having to replace existing systems. This creates a smooth and economical migration path towards a fully digital infrastructure. Optionally integrated diagnostics and sensor data feed into modern maintenance and asset management platforms.



Economical and Environmental Aspects for Sustainability and Lifecycle Value

- » Reduced energy consumption through optimized switching cycles
- » Lower maintenance emissions (less travel)
- » Longer equipment lifetime via predictive diagnostics
- » Reduced spare-parts dependency and lower TCO

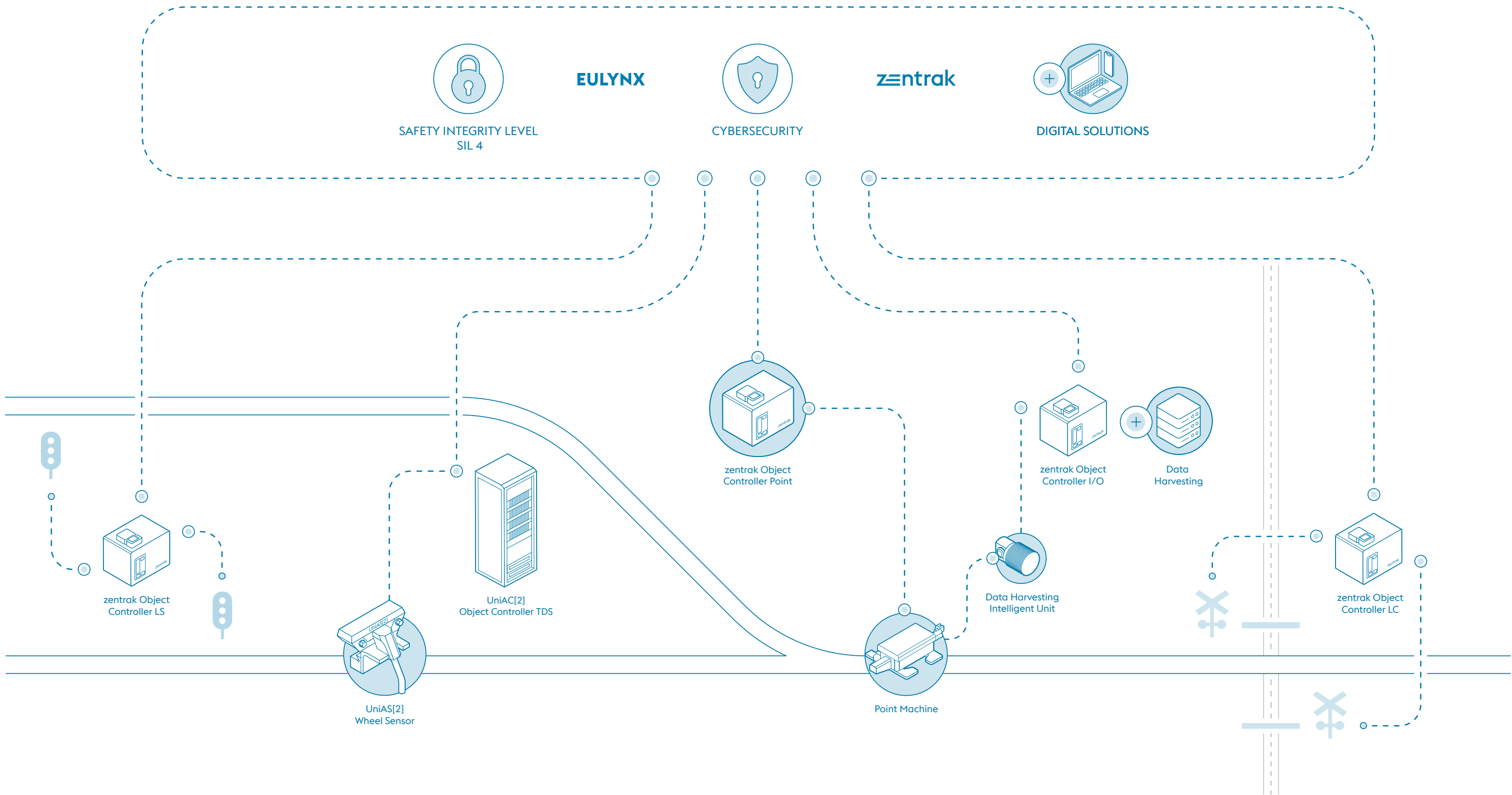
IRIS certified long term support

- » Remote support & monitoring
- » Cloud-based analytics options
- » Multi-year partnership programs
- » Training & upskilling for digital competencies

zentrak **WAYSIDE**
DIGITALIZATION SYSTEMS

Object controller enables **interoperable communication** between **interlocking** system and **field assets**, such as points, signals, axle counters or level crossings.

Using **standardized EULYNX** interfaces, it **reduces integration complexity**, **supports supplier independence** and creates a foundation for future railway digitalization.





For railways that already use EULYNX or want to modernise to ERTMS compliance:

- » **Interoperability**
Interchangeability and manufacturer independence increase flexibility and reduce long-term costs.
- » **Modular architecture approach**
Enables rapid customization, upgrades and expansions.
- » **Digital diagnostic and monitoring functions**
Support condition monitoring, predictive maintenance and data provision for asset management systems.
- » **Standardised interfaces**
Harmonised communication according to EULYNX Baseline 4.
- » **Rapid migration to ETCS / Digital Interlocking Systems**
The OC is already optimised for modern digital operating modes.

For railways that still operate with traditional signal boxes, relay technology or proprietary systems:

- » **Compatibility with existing signal boxes**
Supports legacy protocols and traditional solutions.
- » **Improved system availability**
Through intelligent sensor technology, status data collection and rapid fault reporting.
- » **Reduced maintenance costs**
Fewer manual inspections thanks to remote monitoring.
- » **Digitalisation without complete replacement**
The OC can be integrated into existing infrastructures.
- » **Future-proof migration path**
Railways can grow towards EULYNX, digital signal boxes and networked infrastructure.

Combo module technical data

Parameter	Value
Material	Aluminium
Installation	DIN rail
Protection class	Class 1
Power Supply	24-60 V ±20% 3 × 400 V ±25%
Power Consumption	8 W
Connectors (depend on the module type)	1 × Amphenol 12 pin / 26 pin 2 × Amphenol 12 pin / 32 pin 1 × Amphenol 8 pin / 32 pin 2 × Harting 12 pin 2 × SFP 2 × RJ45
Safety Integrity Level	up to SIL4 for EULYNX applications, Basic Integrity for Data Harvesting
Security Level	up to SL3
Cryptography	included; no external cryptography box
Temperature range of OC	-40 °C to +70 °C
IP class	up to IP67
MTBF	> 1 Mio. h
MTTR	< 10 min
Applications	Point Control (turnout), Level Crossing, Light Signal, Digital Input / Output, Data Harvesting
Dimensions	160 × 120 × 136 mm
Weight	2000 g



Contact us

