



EXTEND ASSET LIFE | MEASURE THE TRUTH | PREDICT THE FUTURE

Same ARGOS[®]. New Eyes.

newLight is not a replacement for Argos — it is a fiber-optic sensor extension. Customers keep their existing Argos backend, analytics, and reporting. newLight simply adds a new class of sensors where electrical strain gauges reach their limits.

A new fiber-optic sensor layer for trusted railway monitoring.

ARGOS® newLight extends the proven ARGOS® platform with innovative fiber-optic (FBG) sensor technology, delivering precise, reliable measurements where conventional electrical strain gauges reach their limits.

Keep your existing ARGOS® backend, analytics and reporting while adding a new generation of sensors that are easier to install, immune to electromagnetic interference and designed for long-term railway monitoring.

Same platform. New sensors. Smarter maintenance.

Smarter Measurements. Better Maintenance Decisions.

Railway operators and infrastructure managers are expected to do more with less. Growing traffic volumes, ageing infrastructure, limited maintenance windows and increasing pressure to maximize fleet availability require a more intelligent approach to asset management. Traditional inspection methods struggle to keep pace.

Scheduled maintenance often replaces healthy assets too early or discovers problems too late. Manual inspections require track possession, disrupt operations and only provide isolated snapshots of asset condition.

The result is a familiar cycle:

- Rising maintenance costs
- Unexpected failures and service disruptions
- Increasing pressure on maintenance teams
- Limited access to infrastructure
- More operational data, but not necessarily better decisions



ARGOS® newLight

A new sensor approach

ARGOS® newLight introduces a fiber-optic sensing layer that complements the proven ARGOS® platform.

Instead of replacing your monitoring solution, newLight extends it with Fiber Bragg Grating (FBG) sensors that can be bonded directly to existing rails, eliminating the need for rail replacement while providing highly reliable measurements in even the most demanding railway environments.

The result is trusted measurement data that enables predictive maintenance with greater confidence.

Variant 1: – FBG Pad

The Fiber Bragg Grating sensors are integrated into a robust, rigid, pre-fabricated metal pad de-signed to be bonded flat directly to the rail web.

Ideal for retrofit installations where rapid deployment is required.

- Low-profile FBG pad
- Direct bonding to the rail web
- Fast installation
- No rail replacement
- Ideal for Electromagnetic Compatibility (EMC)-critical environments



HBK Wayside fiber-optic FBG sensor

Same Platform. New Sensors.

ARGOS® newLight brings fiber-optic sensing to the proven ARGOS® ecosystem, allowing railway operators to benefit from next-generation measurements without changing the software platform they already trust.

Whether installed on new infrastructure or retrofitted onto existing rails, newLight delivers certified, high-quality measurements for multiple railway monitoring applications.

Variant 2: – FBG Tape

A flexible, ultra-thin tape profile designed to conform and wrap along the contour profile of the rail web (matching the rail-web profile / IN-STANT line)

Designed for maximum protection and long-term durability.

- Bonded within the rail web profile
- Protected by rail geometry
- High mechanical protection
- Optimized for heavy axle loads
- Excellent long-term stability



HBK's ARGOS® newLight wayside rail monitoring system

Why ARGOS® newLight?



Easy Installation

FBG pads and tapes are bonded directly onto the existing rail web.

- No rail replacement
- No welding
- Minimal disruption
- No track possession required*
(*where installation conditions allow)



Lower Installation Cost

Lower installation complexity means lower over-all project costs.

- No rail procurement
- No surge protection hardware
- Reduced installation time



Electromagnetic Compatibility (EMC) Immune

Unlike electrical strain gauges, fiber-optic sensors are immune to:

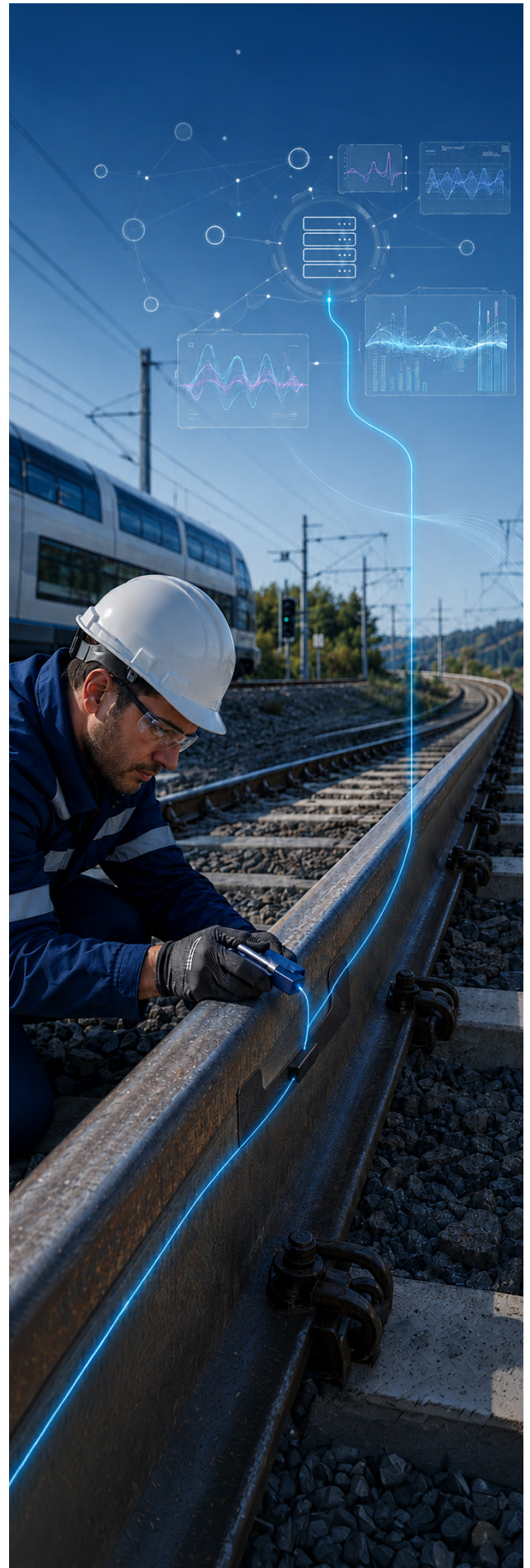
- Traction currents
- Lightning strikes
- Electromagnetic interference
- Railway-specific EMC challenges



Same ARGOS Platform

Nothing changes where it matters. Continue using:

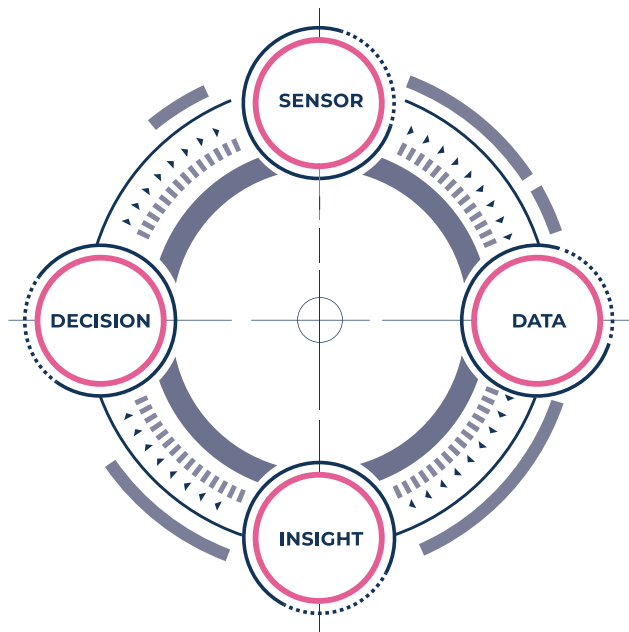
- Existing backend
- Existing analytics
- Existing reporting
- Existing user interfaces



One Platform. Many Applications.

ARGOS® newLight supports multiple certified railway monitoring applications including:

- WIM : Weigh-in-motion for Wheel and axle load monitoring
- WILD: Wheel impact load detection
- OOR: Out-of-roundness and wheel profile monitoring
- RBM: Running behaviour measurement and hunting detection
- LONG: Longitudinal force and braking analysis



Trusted Measurements. Smarter Analytics. Longer Asset Life.

Reliable maintenance starts with reliable measurements.

ARGOS® newLight combines trusted fiber-optic sensing with the proven ARGOS® platform and HBK Monitor360 analytics, transforming high-quality measurement data into actionable maintenance intelligence.

By combining physics-based measurements with AI-assisted analytics, operators gain continuous in-sight into wheel, vehicle and infrastructure condition, allowing maintenance teams to intervene earlier, reduce unnecessary work and maximize asset availability.

Delivering measurable business value. Extending Asset Life

Early anomaly detection and condition-based maintenance help maximize the lifetime of wheels, vehicles and infrastructure.

In one customer application, wheel lifetime increased by more than 50%, from approximately 1 million to 1.5 million km.

Improve Availability

Continuous wayside monitoring reduces unexpected failures and supports more efficient maintenance planning, increasing fleet availability while minimizing operational disruption.

Reduce Maintenance Costs

Fast installation, no rail replacement and optimized maintenance scheduling lower both installation and lifecycle costs.

Maintenance decisions are based on actual asset condition, not fixed inspection intervals.

Make Better Decisions

Monitor360 combines trusted measurement data with AI-assisted analytics to deliver physics-informed diagnostics and predictive insights. Because reliable decisions begin with reliable data.

Ready to extend the life of your railway assets?

Whether you are planning a new installation or looking to modernize an existing ARGOS deployment, HBK's railway specialists can help you identify the best solution for your network and maintenance strategy.

Discover the impact HBK's ARGOS® newLight and Monitor360 can have on your operations. Let us demonstrate how our integrated solutions can significantly extend your asset life and reduce costs.

Let's discuss your railway monitoring goals.

Our experts can help you:

- Evaluate the right sensor configuration for your application
- Modernize existing ARGOS installations with newLight technology
- Reduce maintenance costs through condition-based monitoring
- Improve wheel, vehicle and infrastructure lifetime
- Build a scalable predictive maintenance strategy using Monitor360 analytics

Talk to our railway experts.

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We provide exceptional sensing and insights to create solutions for a cleaner, healthier and more productive world

Contact us



Accelerate your product innovation

HBK provides integrated solutions and domain expertise across the test and measurement product life cycle, bridging the gap between the physical world of sensors, testing and measurement and the digital world of simulation, modelling software and analysis.

