



Tecnología

RAILWATCH 5020

*Obstacle Detection System
with Integrated Legal Recorder*



Innovation in Obstacle Detection

The **RAILWATCH 5020** represents a revolution in railway safety, specifically designed to surpass the challenges of traditional inductive loop detection systems. Its advanced technology not only reinforces safety at level crossings but also enhances reliability through precise detection using thermal cameras.

The development of the **RAILWATCH 5020** has been driven by the need to provide safety in the railway domain. However, its versatility makes it ideal for a wide range of applications. Configurable and adaptable, it can be used to detect object falls on any transit route, whether rail or road, and to improve safety at pedestrian crossings with the generation of proactive alerts.

The **RAILWATCH 5020** redefines risk prevention, setting an unprecedented horizon of safety and reliability in the field of transportation.



Innovation in Railway Safety

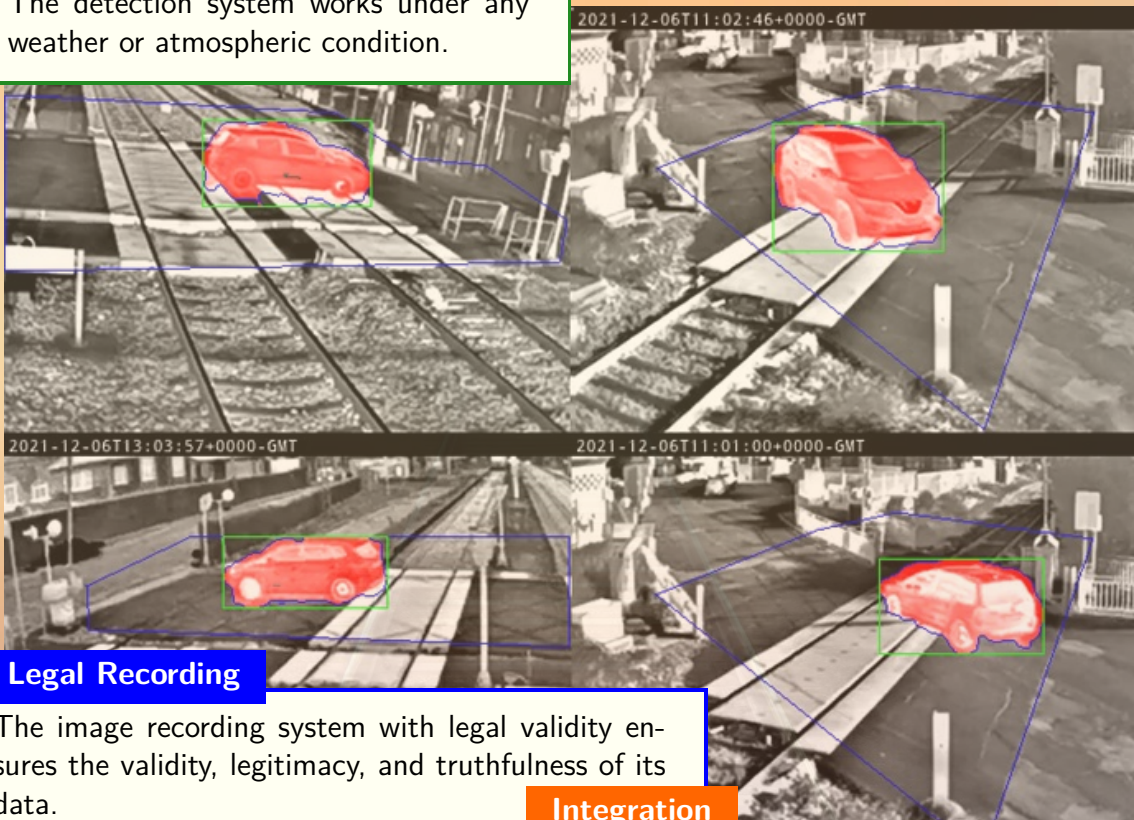
The **RAILWATCH 5020** redefines obstacle detection, integrating an advanced legal visual recorder to elevate facility safety to unprecedented levels. Through cutting-edge artificial vision, this system not only significantly improves operational safety but also provides a comprehensive visual record of any incident, ensuring clear and reliable evidence.

The implementation of the **RAILWATCH 5020** optimizes costs associated with preventive and corrective maintenance, allowing for less invasive and much more effective interventions. This autonomous and secure solution integrates seamlessly with existing security infrastructures, offering full compatibility.

Validated by ADIF and certified in compliance with the Technical Specification "Obstacle detection system for level crossings by artificial vision cameras, ET 03.365.542.4 ed1 July 2020", the **RAILWATCH 5020** sets a new standard in railway protection and safety.

Obstacle Detection

The detection system works under any weather or atmospheric condition.



Legal Recording

The image recording system with legal validity ensures the validity, legitimacy, and truthfulness of its data.

Integration

The activation of the system, as well as the state of the safety zone or system availability, is performed through Safety Inputs and Outputs, thus facilitating its integration with any other system.

Cameras: Thermal Detection and Visual Recording

The **RAILWATCH 5020** leverages the precision of thermal vision to identify obstacles under the most challenging conditions, ensuring early and effective detection. This technology, crucial for incident prevention, is complemented by cameras in the visible spectrum to provide a detailed visual record of incidents, essential for legal procedures and safety audits.



High Availability

MTBF \geq 10000 hours

Safety

The use of artificial vision allows for SIL-4 certification. Artificial intelligence systems are not certifiable.



Resilient to External Conditions

The **RAILWATCH 5020** demonstrates exceptional adaptability to environmental challenges, highlighting its ability to handle situations of high brightness and intense reflections, thanks to its advanced thermal camera technology. The image on the left shows a flare that obscures details with a standard camera, while on the right, with a thermal camera, the people are clearly revealed, demonstrating its utility in difficult lighting conditions.



Weatherproof Independence

The **RAILWATCH 5020** accurately overcomes challenges like heavy rain, thick fog, and smoke, representing just a sample of its wide capability to handle various extreme conditions. In the image, the thermal camera on the left detects vehicles despite the fog, effectively marking them as obstacles. In contrast, the image on the right, captured by a standard camera, shows an opaque scene where such details are indiscernible. This demonstrates the capability of thermal technology to maintain visibility and safety in adverse conditions.

Field Equipment

The **RAILWATCH 5020** stands out for its set of state-of-the-art field components, designed to offer high adaptability and connectivity in demanding environments. Each element has been carefully selected to ensure maximum safety and efficiency.



Interface

Safety Inputs and Outputs.

Communications

Ethernet ports for reliable and fast communications.

Various

Robust storage with high-capacity hard drive.
Designed for high availability and continuous operation.

Format

Available in ADIF standardized R1 box and in 19" with 1U height.



LEGAL RECORDING

The **RAILWATCH 5020** ensures secure and reliable data management, complying with the strictest standards, including GDPR, for the protection of personal information. Its advanced storage system visually records events, ensuring the integrity and legitimacy of information through encryption and digital signature. This not only certifies the truthfulness and confidentiality of the data but also establishes a verifiable issuer, ensuring that each piece of information is unalterable and protected against unauthorized access.

GDPR

GDPR Compliance

STORAGE

Visual event recording

ENCRYPTION

DIGITAL SIGNATURE



LEGITIMACY

Verifiable issuer

VERACITY

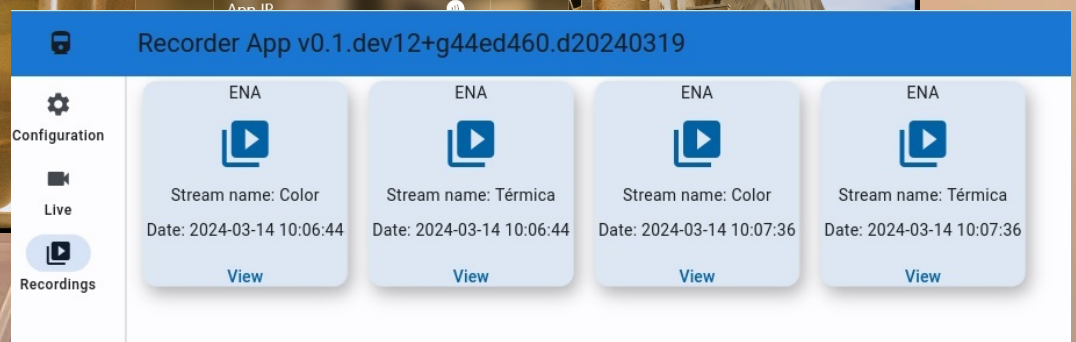
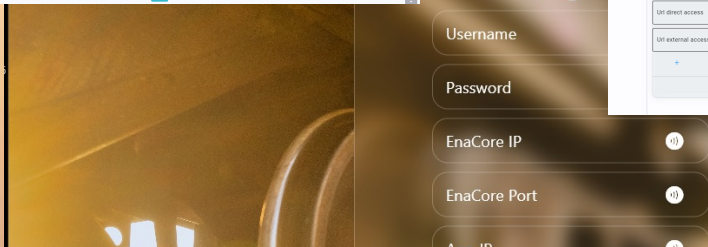
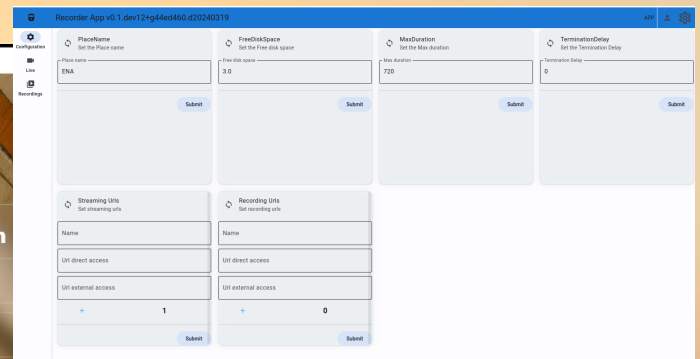
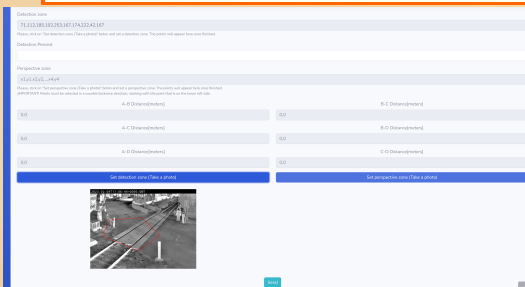
Unalterable data

CONFIDENTIALITY

Secure data

Simplified User Interface

The **RAILWATCH 5020** redefines user-equipment interaction with its focus on simplicity and accessibility. Users can connect directly to the system without the need for additional applications, facilitating an intuitive and hassle-free user experience. This direct connection ensures efficient management and a minimal learning curve, putting the power and precision of the Railwatch-5020 within reach of all its users.



Versatility in Safety

The **RAILWATCH 5020** transcends traditional expectations of a detection system by offering versatile safety solutions that go beyond the railway environment. Its advanced technology is crucial for identifying obstacles on the tracks, increasing operational safety for the railway and optimizing traffic flow. Furthermore, this system plays a vital role in pedestrian crossing safety, issuing preventive warnings that protect highly trafficked areas. Beyond these applications, the **RAILWATCH 5020** adapts to various contexts, from road monitoring to critical infrastructure protection, demonstrating its capacity to be customized according to the specific safety needs of each environment.

This holistic approach to safety reflects the adaptability and broad spectrum of applications of the **RAILWATCH 5020**, ensuring its value in a variety of critical safety scenarios.



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