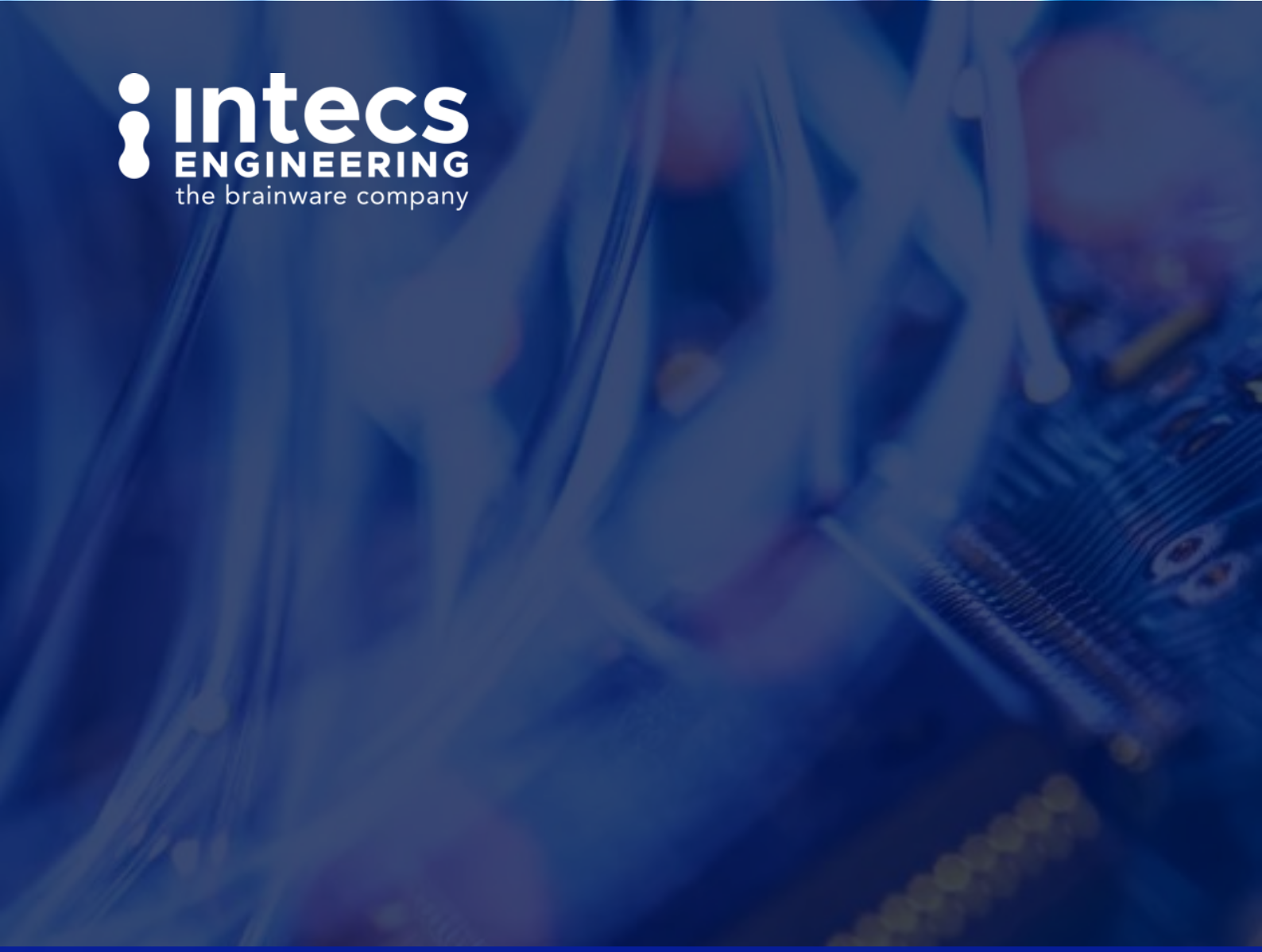


intecs ENGINEERING
the brainware company

PRODUCT ENGINEERING & RAILWAY INNOVATION

Digitalized, model-based, cyber security, safety-critical, embedded, systems engineering.

www.intecsengineering.it

A FOCUSED ENGINEERING COMPANY

Built on more than fifty years of INTECS heritage

INTECS Engineering was launched within the 2025-2028 Industrial Plan to strengthen the Group's high-technology positioning and accelerate product-led growth.

The company concentrates engineering know-how for complex safety-critical and mission-critical systems, with a particular focus on railway and industrial applications. It develops high-tech solutions, applications, components and products in cooperation with industrial partners, universities and research centres.

50+

YEARS OF HERITAGE

- **RAILWAY**
- **ENGINEERING**

PRODUCTS

CORE MARKET

HW + SW

INTEGRATED ENGINEERING

R&D

PRODUCT INNOVATION

1974

Origins

Founded in Rome: advanced electronic systems and critical software.

1994

Railway division

Railway Division established, building on critical software and systems expertise

2009

Products division

Product path begins with scalable technological solutions.

2025

INTECS Engineering

A dedicated company focuses on railway innovation and product engineering.

01

FROM IDEA TO INDUSTRIALIZED SOLUTION

Flexible methods, rigorous standards and complete lifecycle responsibility

INTECS Engineering combines systems integration, consulting, laboratories and product engineering to transform customer needs into reliable, certifiable and industrializable solutions.

01

Requirements & feasibility

Use cases, constraints, standards and architecture options.

02

System architecture

Model-based design, interfaces and safety concepts.

03

HW / SW development

Embedded systems, FPGA, electronics, firmware, application software, and cloud-native web applications

04

Prototype & integration

MVPs, custom boards, mechanics and COTS integration.

05

V&V and assurance

RAMS, independent verification, testing and certification support.

06

Industrialization

Documentation, small series, product evolution and lifecycle support.

PRODUCT ENGINEERING

SYSTEMS INTEGRATION

CONSULTING

R&D AND LABS



02 RAILWAY ENGINEERING

Thirty years of expertise in safety-critical railway software, systems and independent assurance

Signalling and train control

Design and development for ATP, ATC and ATO applications, including onboard and trackside software, safety-related communication layers, equipment-specific software and systems integration.

CENELEC compliance

Engineering, verification and validation in compliance with EN 50126, EN 50128/50716 and EN 50129, supporting clients throughout the safety certification process.

Platforms and low-level software

OS porting, boot/ loaders, common software layers, embedded platforms and software tailored to specific hardware and system requirements, complemented by the design and development of secure cloud-native and microservices-based solutions for mission- and safety-critical applications.

Independent Verification & Validation

Functional, integration and unit testing, system-level IV&V to ensure compliance with the project requirements and applicable standards and regulations.

Cyber Security Services

NIS2 Compliance: Support for the NIS2 European directive adoption and company procedure definition.
OT Security Analysis: Support for compliance in accordance with CRA and IEC 62443 frameworks.
Railway Applications: Support for compliance with TS 50701 Technical Specification.

Safety Services

Comprehensive safety analysis and end-to-end support to successfully obtain EN 50129 certification from a recognized Independent Safety Assessor.

02

RAILWAY ENGINEERING SERVICES

End-to-end coverage of the railway domain: INTECS Engineering supports customers across the entire lifecycle, from design through in-service operation and Safety.

Software & Systems Development

Design and development of software and systems for railway signalling applications.

SW & System V&V

Verification & Validation of RBC, Interlocking (IXL) and On-board subsystems.

Design

Engineering design of railway signalling and control solutions, from concept to detailed specification.

Installation

On-site installation and setup of systems and equipment, aligned with project schedules and safety standards.

RAMS Analysis

Reliability, Availability, Maintainability and Safety analysis across the entire system lifecycle.

Test & Commissioning

Functional testing and commissioning activities to bring systems into safe, reliable service.

02

RAILWAY SIGNALLING SOFTWARE

Mission-critical solutions for Traffic Management Systems with safety, reliability and innovation at the core.

intecs ENGINEERING the brainware company

15+ YEARS
of experience in railway signalling and control systems

SAFETY FIRST
Solutions developed to the highest safety standards

SPECIALIZED TEAM
Multidisciplinary engineers with certified competences

CONTINUOUS INNOVATION
Modern technologies for reliable, flexible and sustainable systems

WHAT WE DO

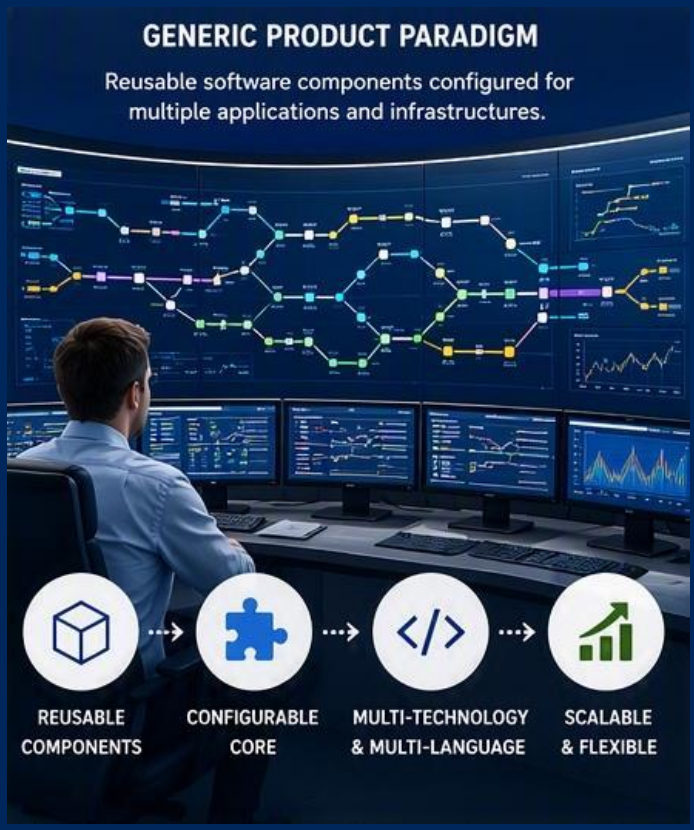
TRAFFIC MANAGEMENT SYSTEMS
Integrated solutions for real-time traffic management and railway network control.

SIGNALLING SYSTEMS
Interlocking, RBC, CTC, SCADA, ATS, ETCS L2/L3 and more.

SIMULATION PLATFORMS
Standalone and environment-independent software for testing and validation.

REUSABLE PRODUCTS
Generic product paradigm for maximum flexibility, scalability and time-to-market.

WEB & STANDALONE PLATFORMS
Modern architectures for control rooms and field operations.



TECHNOLOGIES & ARCHITECTURES

MICROSERVICES
Distributed, resilient and highly available architectures.

HIGH-LEVEL TECHNOLOGIES
Modern programming languages and best-of-breed frameworks.

WEB PLATFORMS
Intuitive web interfaces for operators and remote management.

STANDALONE SOFTWARE
Simulators and engineering tools for advanced performance.

DEVOPS & CI/CD
Modern processes for quality, traceability and fast delivery.

02

RAILWAY SIGNALLING SOFTWARE

Mission-critical solutions for Traffic Management Systems with safety, reliability and innovation at the core.

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FUNCTIONAL SAFETY & INTEGRITY

COMPLIANT WITH CENELEC 50716

BASE INTEGRITY LEVEL FOR THE MAJORITY OF CASES

- ✓ Requirements analysis and Risk Management (RAMS)
- ✓ System design and development following the V-model
- ✓ Independent verification, validation and testing
- ✓ Configuration management and traceability
- ✓ Safety assessment and certification support

CYBERSECURITY BY DESIGN



Cybersecurity integrated across the product lifecycle, in compliance with:

- ✓ IEC 62443
- ✓ EN 50126 / EN 50129
- ✓ EU Regulation 2016/679 (GDPR) & NIS2
- ✓ Threat analysis, hardening, monitoring and incident management

APPLICATION AREAS

- METRO NETWORKS
- MAINLINE NETWORKS
- HIGH SPEED & ERTMS
- FREIGHT TERMINALS
- TRAFFIC CONTROL CENTRES
- NATIONAL SAFETY AUTHORITIES

OUR VALUES

SAFE
Reliable systems by design.

ACCURATE
Precise and deterministic data and control.

RESILIENT
Continuous operation even in critical conditions.

EFFICIENT
Lower total cost of ownership and shorter time-to-deploy.

SCALABLE
Open, interoperable and future-proof solutions.

SECURE
Cybersecurity and data protection as a priority.

02

INTERLOCKING (IXL) ENGINEERING

End-to-end coverage of the railway domain: INTECS Engineering supports customers across the entire lifecycle, from design through in-service operation and Safety.

01



Generic Application (GA)
Architecture, SwRS, interfaces, configuration rules, code and VHMI design.

02



Specific Application (SA)
Schematic plans, control tables, databases, operator interfaces and installation packages.



03



Verification & Validation
Design validation, automated and bench testing, configuration comparison and operations verification.

04



Hardware & SCMT
Equipment-room and field design, cable plans, telecom architecture, functional and application SCMT design

05



Test & Commissioning
Manuals and training, laboratory and on-site installation, commissioning and post-activation support.

06



Safety & Certification
Validation reports, GA and SA Safety Cases, and SCMT conformity



02 RAILWAY IN OPERATION

From control centers to H24/7 support: expertise ensuring safe, continuous railway operations.

Control centers

Our personnel are positioned directly inside railway station control centers.

24/7 coverage

Support is provided continuously, day and night, without interruption.

Issue management

Any anomaly or operational issue is promptly handled and managed

Train operations

The service supports real-time railway operations and operational continuity.

PRODUCTS

Proprietary solutions born from research, industrial experience and product engineering



DEDALO

Passive radio-frequency drone detection for continuous, automatic and omnidirectional airspace monitoring.



SKYCARE

Integrated anti-drone solution for detection and neutralization, with RF Scanner, Jammer and Monitoring Center.



GIASONE

Advanced GNSS signal integrity monitoring based on multi-frequency, multi-constellation and SDR technologies.



SIRIO LX

Radar-based safety system for obstacle detection on tracks and at level crossings.

DEDALO

Passive radio-frequency drone detection



CONTINUOUS AIRSPACE AWARENESS

DEDALO passively detects and characterizes drone transmissions without emitting radio-frequency signals. The system provides continuous, automatic and omnidirectional monitoring of the surrounding airspace.

- Passive RF detection and identification
- Automatic, continuous and omnidirectional monitoring
- Configurable command-and-control architecture
- Suitable for airports, critical infrastructure and urban areas
- Designed for scalable and distributed deployments

DRONE DETECTION SYSTEM

SKYCARE

Integrated radio-frequency detection and neutralization



A modular anti-drone architecture

SkyCare provides continuous, automatic and omnidirectional protection through a compact system designed for efficient transport, installation and integration with additional sensors.



RF SCANNER

Detects drones and their operators.



JAMMER

Neutralizes detected UAVs.



MOC

Monitoring Center for command and control.

GIASONE AND SIRIO LX

Two product lines for resilient navigation and railway safety



GIASONE

Advanced GNSS signal integrity monitoring

A multi-frequency, multi-constellation choke-ring antenna and an SDR processing unit deliver high performance, reliability, configurability and continuous upgradeability for real-time PNT monitoring.

PNT INTEGRITY | SDR | MFMC GNSS



SIRIO LX

Radar obstacle detection for level crossings

An automatic radar-based system designed to prevent train collisions with obstacles that have accidentally fallen onto the tracks or are stationary at level crossings. The product is rooted in INTECS railway safety and SIL 4 engineering experience.

RAILWAY SAFETY | RADAR | SIL 4

R&D, LABS AND ARTIFICIAL INTELLIGENCE

Research becomes product value through multidisciplinary teams, co-funded programmes and industrial partnerships.

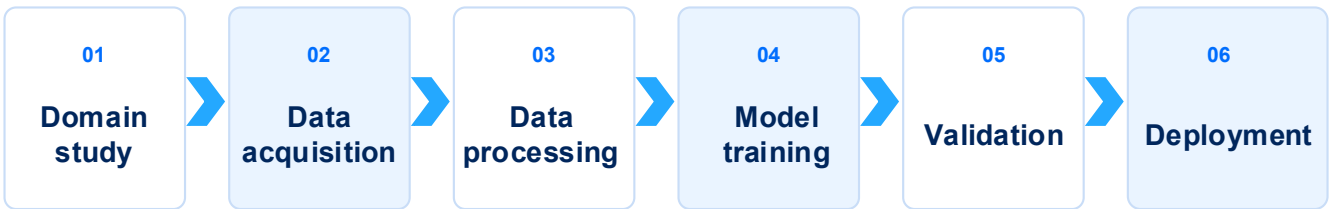
Innovation ecosystem

INTECS Engineering works with large industrial companies, SMEs, universities and research centres in national and European programmes, often coordinating projects and translating results into concepts, prototypes and products.

Technology areas

Software and systems engineering, embedded systems, communications, intelligent systems, interoperable platforms, surveillance and control, aeronautical systems and rail transport.

AI DEVELOPMENT WORKFLOW



LET'S ENGINEER THE NEXT RELIABLE SYSTEM.

Product engineering. Railway innovation. Safety-critical excellence.

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Pittsburgh presence through INTECS Solutions USA Inc.

Visit the website

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