



**indra**

**Press  
Release**

## **INDRA DEVELOPS AN INNOVATIVE RAILROAD SECURITY PLATFORM**

- **Developed as a result of a major R+D+i program, the comprehensive platform covers hardware as well as on-board and on-track systems for digital ASFA and level 2 ERTMS**
- **InVITALRAIL is a comprehensive rail security platform built with 100% Spanish technology, developed by Indra, complying with the most demanding industry security standards (SIL4)**
- **Indra's commitment to the rail industry and innovation has placed the firm's solutions at the forefront of the global rail sector.**

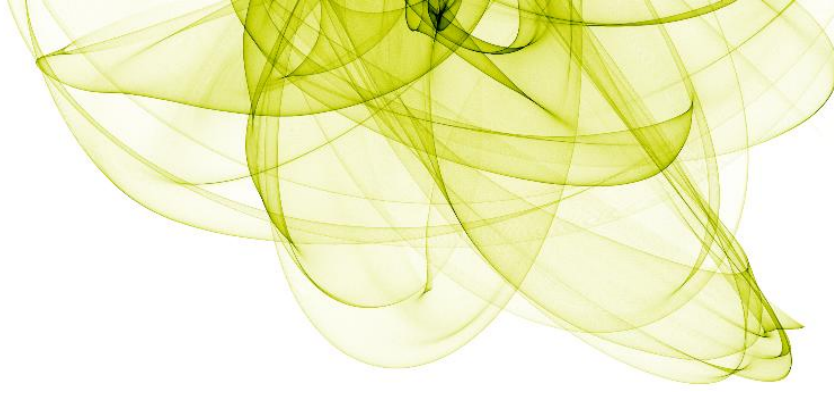
Indra has completed the development of an innovative technological platform for rail security, called InVITALRAIL. The system features cutting-edge hardware, combined with on-track and on-board systems compliant with Spain's digital ASFA and Europe's level 2 ERTMS standards, as well as Centralized Traffic Control (CTC) and on-track security sensor concentrators.

This comprehensive rail signaling platform uses 100% Spanish technology and meets the most stringent quality standards, with all systems being awarded SIL 4 security certification, the highest certification level available in the rail industry.

These new solutions bolster Indra's position in rail security systems, following deployment of the Digital ASFA system (ASFA-D) to cover approximately one third of all trains running in Spain. Digital ASFA (Announcement Signals and Automatic Braking) is an ATP (Automatic Train Protection) system that ensures secure use of railroad infrastructure and automates traffic control and supervision operations.

This technology reaches maximum security and functionality levels when combined with track mounted ASFA-D beacons, although these have not yet been deployed in Spain. Some months ago Indra completed development of an advanced ASFA-D beacon prototype that has already been tested on-track. The firm is now one of very few capable of providing such technology.

This is an entirely novel system, built as a result of major R+D investment and developed by the multinational over the last year. The system differs from the conventional ASFA platform by incorporating new functionalities and having achieved maximum SIL 4 certification. ASFA-



D beacons double check signals and ensure constant supervision of trains. Therefore, if a driver fails to comply with a given signal the train will automatically come to a halt.

### **ERTMS European signaling system**

Indra has also developed on-board equipment (Euro-cabin) for level 1 and level 2 ERTMS, with SIL 4 certification, as well as the RBC system, which is the primary on-track equipment and the cornerstone of the level 2 ERTMS platform. The RBC system has also been granted SIL 4 certification and an interoperability certificate conferred by CETREN, guaranteeing that it is fully ready for deployment.

Level 2 ERTMS is currently the most advanced system in the rail industry, supporting the most extensive range of features. It ensures permanent supervision of trains and is designed to allow high-speed trains to travel at over 300km per hour and to run with smaller gaps between them, therefore allowing for more frequent services.

### **InVITALRAIL, a new open security platform**

To support each or all of these signaling systems, Indra has also developed a new generic and open security platform (secure processing platform) called InVITALRAIL, which also lends its name to the entire suite. This hardware, which has been granted SIL 4 maximum security certification, was conceived as a modular and open security platform that, unlike previous platforms on the market, supports the integration of commercial solutions from different suppliers.

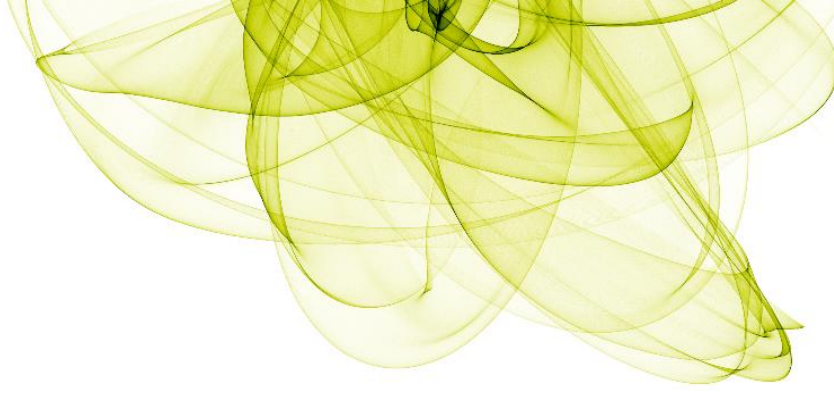
InVITALRAIL processors, also designed by Indra technicians, offer far greater capacity than is standard in such platforms. The system supports multiple connections and can tolerate extended ranges of temperatures, vibrations, damp, etc. This equipment is ideal for housing both on-board and on-track signaling systems.

Indra has also developed new on-track security sensor concentrators, which integrate data sent from the numerous sensors, and a new Centralized Traffic Control (CTC) platform, the software that centralizes and controls all the signaling systems required for proper functioning of railroads.

### **Cutting-edge technology for the industry**

Indra's commitment to the rail industry and innovation has placed the firm's solutions at the global vanguard of the rail sector. In partnership with highly innovative Spanish clients, Indra has developed latest generation solutions that are already operational in countries such as the USA, Mexico, Colombia, China, India, Malaysia and elsewhere.

The Mecca-Medina high-speed line in Saudi Arabia will also use Indra technology, with the firm being the technological partner of the Spanish consortium due to build the line. This is



the biggest overseas contract ever to be awarded to a Spanish business. The project unlocks the value of top-tier Spanish technological development with strong potential for export.

The new suite of signaling solutions developed by Indra seeks to repeat the success of the DaVinci system, the finest example of the firm's commitment to innovation and the railroad sector. The result of major R+D+i investments and four years of development work, DaVinci is now established as the world's leading platform in railroad traffic management. Developed by Indra and the intellectual property of Adif, the system manages Spain's high-speed train network and has been successfully exported to other railroad networks, such as in Medellin, Colombia, as well as Morocco and Lithuania.

Indra, chaired by Javier Monzón, is one of the world's largest consultancy and technology multinationals, a leader in Europe and Latin America and is expanding in other emerging economies. Innovation is the cornerstone of its business, which is highly focussed on the customer and on sustainability. The multinational is one of the leaders in its sector in Europe in terms of investment in R&D and innovation, having invested more than €570M in the last three years. With sales approaching €3,000 million, it employs 42,000 professional and has customers in 138 countries.