

## AN NEW TYPE OF INNOVATIVE RAILWAY TRACK DESIGNED BY SYSTRA INSTALLED FOR THE FIRST TIME IN THE PORT OF MARSEILLE-FOS

- **Completion of installation work on an innovative ballastless track design on the rail network of the Port of Marseille-Fos.**
- **This new generation of low-carbon concrete slab track was developed by SYSTRA and its partner STRADAL. This innovative patented solution is manufactured in France and is unique in the world. It offers numerous advantages in terms of design, installation, and maintenance.**

**Marseille, 20 September 2023** - SYSTRA, a global engineering and consultancy group specialising in public transport and mobility solutions, has supervised the implementation of an innovative ballastless track design on the rail network of the Port of Marseille-Fos. This 20-metre-long experimental track, a world first, is now open to rail traffic within the port's right-of-way.

### **A ballastless track solution tailored to the needs of the Port of Marseille-Fos**

Rail innovation is at the heart of the port's modal shift strategy. The number of containers transported by rail has increased by 200% in 10 years, rising to 230,000 by 2022. As part of its role as infrastructure manager, the Port wishes to develop and improve its rail network (excluding the national rail network), in particular that of the Fos-sur-Mer docks. In order to meet the environmental challenges and face up to the increasing costs of maintaining the railway tracks and the limits of current track-laying techniques, the Port has chosen to rely on innovative processes to regenerate its tracks.

### **An innovative track solution**

SYSTRA and STRADAL have designed and patented a new track system on a concrete slab to enable the regeneration and construction of railway lines. This French technology, presented in Berlin at InnoTrans 2022, differs from conventional ballasted track in that its components are interchangeable. These can be laid quickly, offer greater strength and durability, thanks especially to the use of low-carbon concrete, and require less maintenance.

This design is for all railway lines, including high-speed lines, whether for passenger transport (High-speed/Regional express trains/Intercity/Metro) or freight transport.

In addition, the track geometry adjustment system integrated into the structure can compensate for platform settlements of up to 100mm in height. Other ballastless track technologies do not have this advantage.

### **A sustainable solution**

The solution is resilient to climatic risks and respects the environment. It is the only ballastless track designed with an entirely prefabricated low-carbon reinforced concrete structure. What's more, the 10-centimetre rise in the level of the track above the roadbed allows water to run off the surface in the event of flooding, limits silting up of the tracks and allows small animals to pass through, making it a real sustainable solution for protected species. Finally, the design has the same permeability as a ballasted track, which avoids the need to resize existing hydraulic structures in the case of regeneration projects.

### **Easy and economical to lay, with significantly reduced maintenance**

The installation of this design does not require the use of sealants and can be laid using existing track-laying equipment, thereby optimising the laying schedule and reducing energy consumption. Compared with ballasted track, maintenance is considerably reduced and is also non-invasive thanks to the fact that heavy maintenance equipment is not used, which guarantees operators a high level of track availability. In addition, the condition of the track can be monitored by sensors and connected objects.

**Hervé Martel, Chairman of the Executive Board of Port de Marseille Fos, said: "We are delighted that the port is welcoming a major global innovation in ballastless track on our rail network. With almost 200% growth in modal shift to rail over the last 10 years, we have proved that we actively support the development of alternative modes of transport to road. For our clients, this means even faster and safer access to a corridor of 20 million inhabitants over more than 600km, covering 4 French regions."**

### **About the Port de Marseille Fos**

**As a major player in international trade, the Port of Marseille Fos welcomes nearly 10,000 ships every year, handles 80 million tonnes of goods and develops 10,400 hectares of land in an environmentally excellent manner.**

With an area the size of Paris, the Port de Marseille Fos has the space and infrastructure to accommodate maritime, logistics and industrial activities. It can handle a wide range of activities, from import to export of all types of goods (bulk liquids, containers, minerals, food products, etc.). The port has large-scale logistics platforms that cater for international players supplying the French and European markets. Industrial activities such as refining, steelmaking, the chemical industry and ship repair, including the world's third largest 'Form 10', illustrate the diversity of the port's ecosystem. The Port de Marseille Fos also meets the international standards required for passenger, cruise and ferry activities. The Port de Marseille Fos places environmental excellence at the heart of its strategy. It is banking on sustainable economic growth through responsible and innovative industrial development that promotes the circular economy. It is taking action to considerably reduce

the impact of maritime activities on air quality by connecting ships to electricity at quayside or fuelling them with LNG. [Accueil \(marseille-port.fr\)](https://www.marseille-port.fr/accueil)

**Press Contact for the Port de Marseille Fos:**

Nicolas Sire

+33 4 91 39 40 16 / +33 6 19 15 66 38

[nicolas.sire@marseille-port.fr](mailto:nicolas.sire@marseille-port.fr)

## About SYSTRA

SYSTRA is one of the world's leading engineering and consultancy groups specialising in public transport and mobility solutions. For over 65 years, the Group has been working with cities and regions to contribute to their development by creating, improving and modernising their transport infrastructure.

With its 10,300 employees, the Group's mission is to make travel easier throughout the world, bringing people together and facilitating their access to employment, healthcare, education and leisure.

Signature team for transport solutions, SYSTRA supports its partners and clients throughout the lifecycle of their projects.

[www.systra.com](https://www.systra.com)

**SYSTRA press contact** Vivien Michelet; Tel: +33 6.63.27.22.28; Email: [vivien.m@oxygen-rp.com](mailto:vivien.m@oxygen-rp.com)