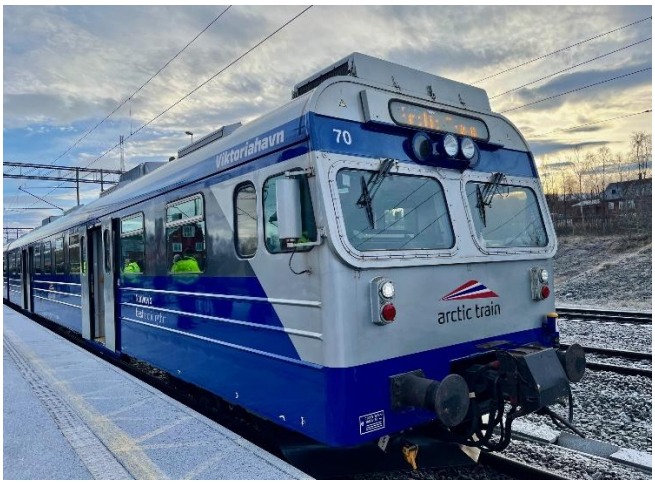
FP3-IAM4RAIL takes part in the Arctic Test Arena launch: a unique opportunity for real-world testing in the Arctic



FP3-IAM4RAIL takes part in the Arctic Test Arena launch: a milestone for rail innovation in extreme conditions.

The FP3-IAM4RAIL team is proud to announce its participation in the Arctic Test Arena launch, an extraordinary event that took place along one of the world's most northern and demanding railway lines, stretching from Narvik, Norway, across the border into Sweden, reaching Abisko.

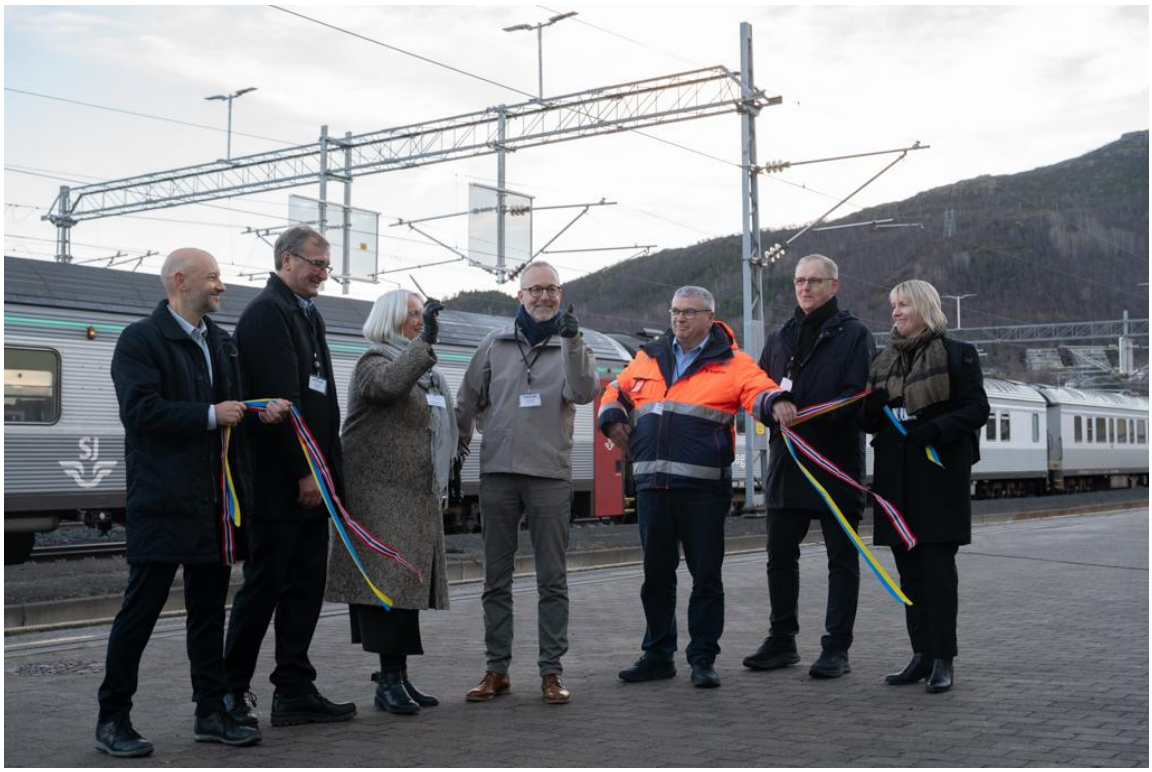
During the inauguration ceremony, several leading figures from the European rail ecosystem addressed the audience, highlighting the importance of the new Arctic Test Arena (ATA) for the future of European rail transport. Speakers included:

- Marit Rønning, Acting Director General at Jernbanedirektoratet.
- Sébastien Denis, Senior Programme Manager at Europe's Rail Joint Undertaking.
- Thor Brækkan, Regional Director North at Bane NOR.
- Anders Aabakken, Head of Technology & Environment at Trafikverket.
- Bjørn Reidar Sørensen, Dean at The Arctic University of Norway (UiT).
- Veronica Jägare, Director of JVTC, Luleå University of Technology (LTU).
- Bjørn Skjold Iversen, Vice President at SINTEF.

Ann Kristin Bjerknes was also there. She is the Project Manager of the Arctic Test Arena.

Their contributions emphasised the strategic relevance of this unique testing environment and the cross-border collaboration behind it, offering valuable insights into Arctic railway operations, innovation priorities and the collaborative European spirit behind ATA.

The project is supported by the Europe's Rail Joint Undertaking and its members.



Leading figures from the European rail ecosystem inaugurating ATA.

What Is the Arctic Test Arena?

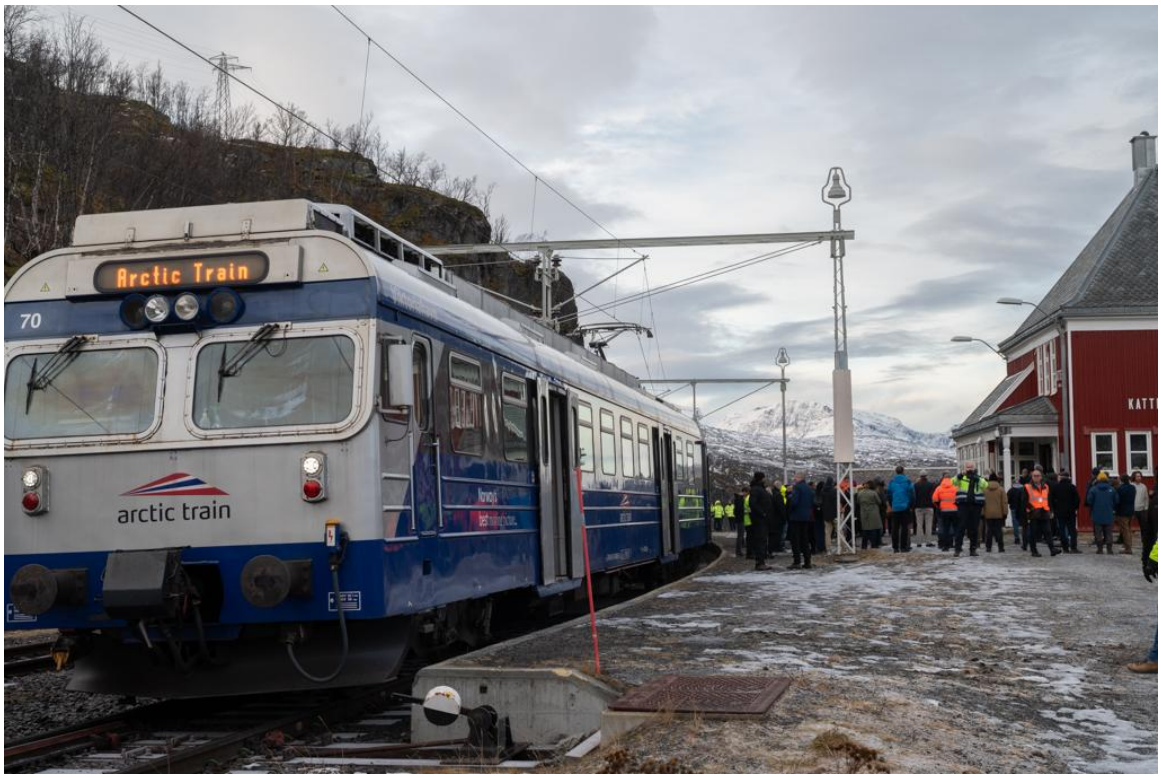
The Arctic Test Arena is not just a testing ground; it is a collaborative platform that unites research institutions, industry partners and railway operators to evaluate technological solutions in real-world conditions. Its goal is to enhance the resilience, safety and sustainability of rail transport across Europe and beyond.

The ATA offers:

- Real climatic conditions for testing materials, components and digital systems in sub-zero temperatures.
- Cross-border operations between Norway and Sweden, reflecting the complexity and interoperability of European rail networks.
- A data-driven approach, enabling improved performance, maintenance strategies and overall reliability.

Testing in the Arctic makes it possible to anticipate and prevent challenges associated with extreme weather, particularly relevant in a context of climate change and increasingly unpredictable winters.

The project is supported by the Europe's Rail Joint Undertaking and its members.



Arctic Train

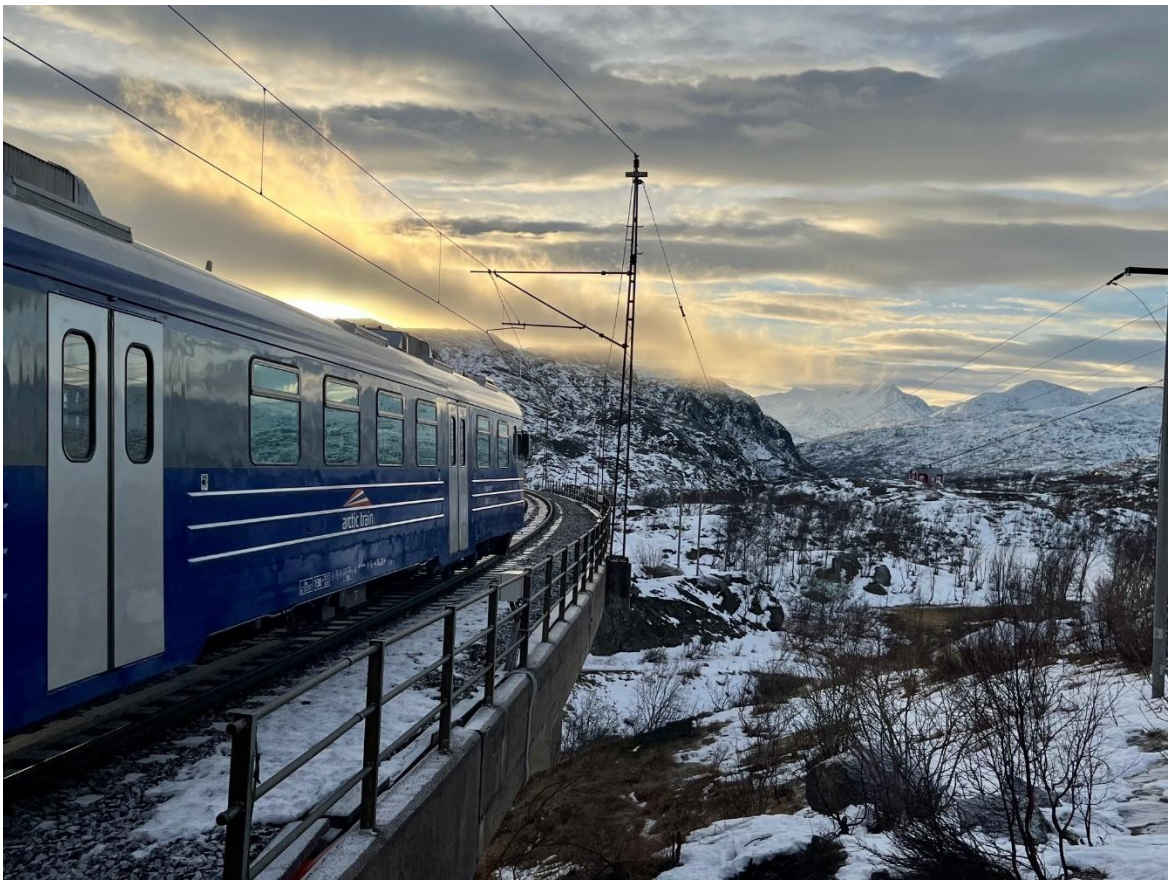
A railway like no other: unique facts about the test line

The launch took place along the historic Ofotbanen/Malmbanan corridor, one of Europe's most strategically important heavy-haul lines. Some remarkable technical characteristics highlight why this railway is ideal for extreme-condition testing:

- Total length Narvik–Kiruna–Luleå: 473 km.
- Axle load: 31.5 tonnes.
- Annual traffic volume: 32–35 MGT.
- Sharp curves: over 50% of the Norwegian section features curve radii below 500 m.
- Maximum speed for loaded iron ore trains: 50 km/h.
- Steep gradients: up to 21 mm/m.

These challenging conditions make the line a perfect real-world laboratory and an excellent stress test for innovations developed within FP3-IAM4RAIL.

The project is supported by the Europe's Rail Joint Undertaking and its members.



Arctic Train

FP3-IAM4RAIL: bringing innovation to the field

The FP3-IAM4RAIL project focuses on developing and integrating advanced predictive, monitoring and maintenance technologies to make the railway system more efficient, sustainable and interoperable.

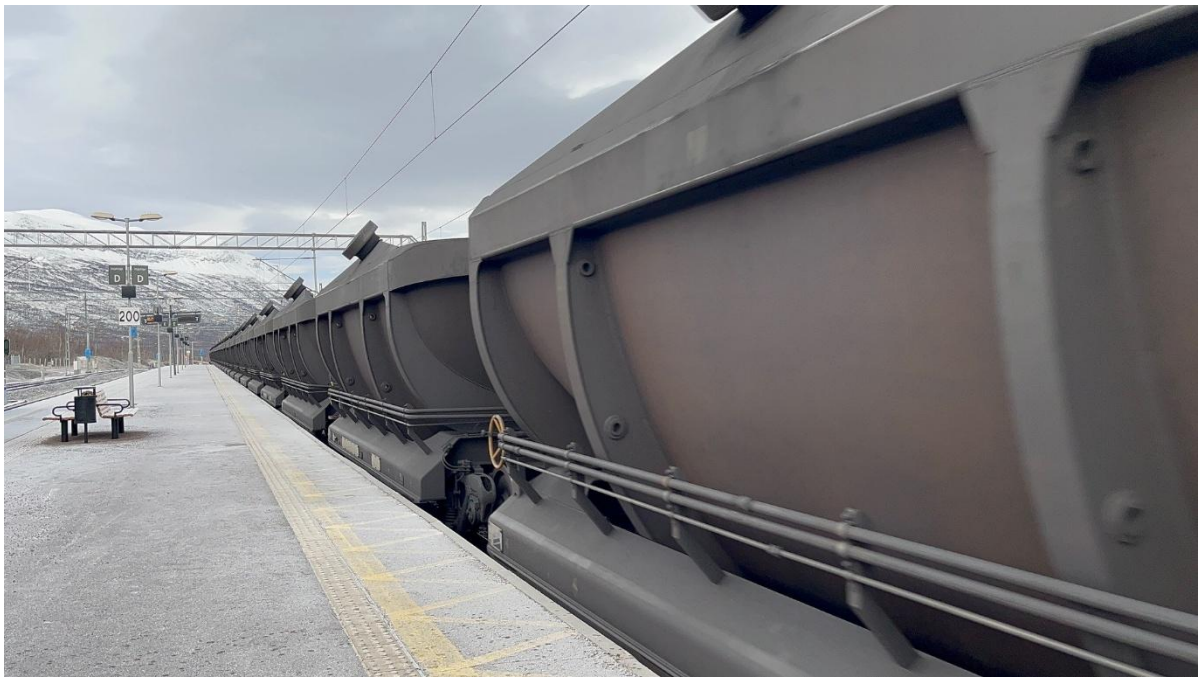
Participating in the Arctic Test Arena launch allowed the FP3 consortium to observe how these solutions behave far from controlled laboratory environments. The tests conducted between Narvik and the Swedish border provided insights into:

- Performance of monitoring systems in extreme cold.
- Robustness of materials and components exposed to ice and snow.
- Adaptability of digital platforms and predictive algorithms exposed to real operating stress.

A central demonstration took place at the Søsterbekk Bridge, where the FP3 project installed advanced structural and rail performance sensors capable of withstanding temperatures as low as –30 °C. This monitoring activity generated highly valuable data on infrastructure

The project is supported by the Europe's Rail Joint Undertaking and its members.

behaviour in Arctic conditions. Watch the film: Bridge monitoring with sensors: The challenge of harsh environments - Ofotbanen and Malmbanan on Vimeo



Iron ore train

Collaboration and knowledge exchange

The Arctic Test Arena launch gathered engineers, researchers and innovators from across Europe. FP3 representatives and beneficiaries had the opportunity to exchange knowledge with other key rail stakeholders, sharing expertise, results and lessons learned.

This collaboration reinforces the European commitment to building a single, integrated rail innovation framework that supports both technical advancement and environmental responsibility.

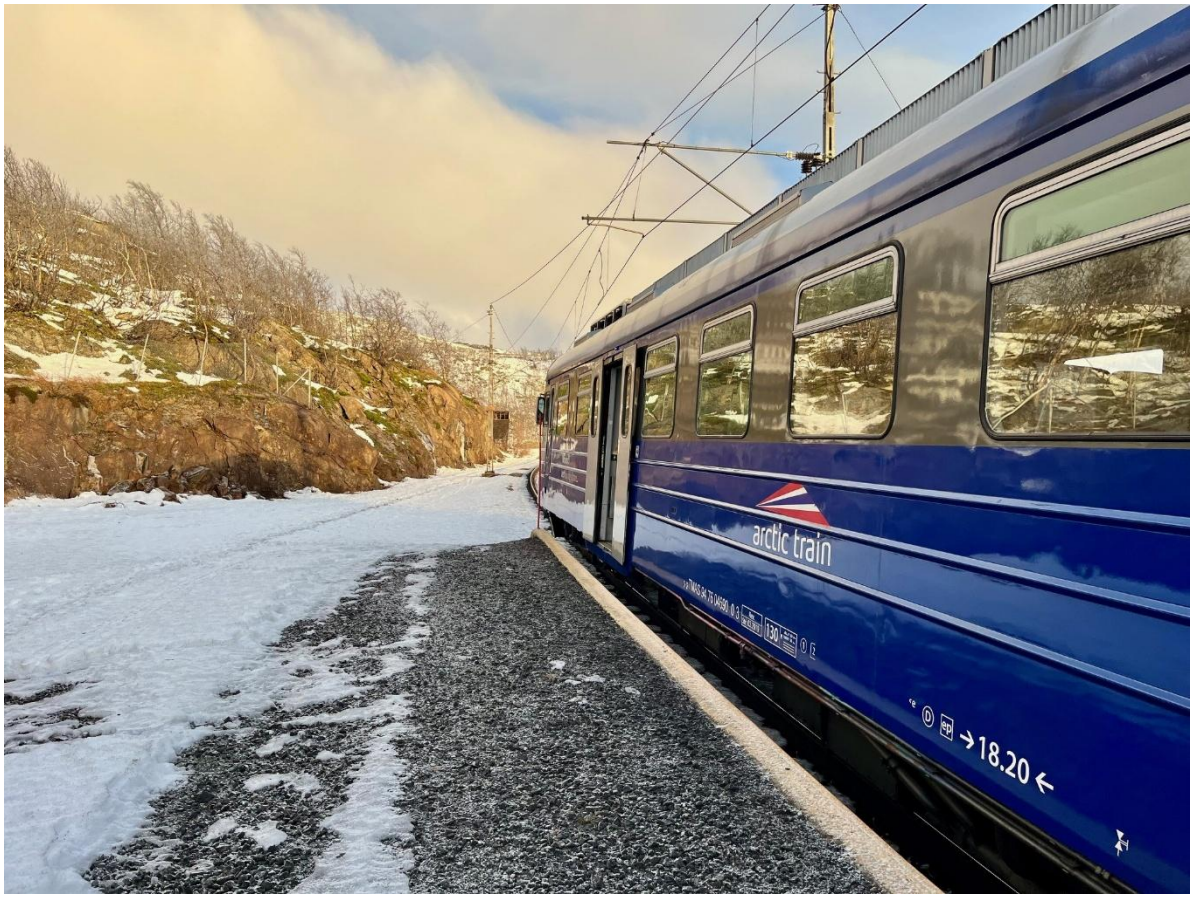
Through FP3's participation, valuable feedback and data were gathered, which will contribute directly to the ongoing development of solutions within the FP3-IAM4Rail project and its future applications in Europe's rail system.

The project is supported by the Europe's Rail Joint Undertaking and its members.

A remarkable experience and a step forward

For all those involved, participating in the Arctic Test Arena launch has been a truly memorable experience. Seeing the technologies tested in such challenging conditions and witnessing how trains perform under the Arctic's frozen landscape, was both exciting and inspiring and highlighted the importance of resilient and climate-ready railway systems.

This event marks a significant milestone for FP3-IAM4RAIL and for the European rail sector overall. It demonstrates that innovation, collaboration and real-world testing are essential to building the next generation of safe, efficient and sustainable rail systems.



Arctic Train

Looking ahead

The FP3-IAM4RAIL consortium will continue analysing the results obtained during the Arctic Test Arena launch to refine and validate its technologies. The insights gained will be crucial for the next stages of the project and for future applications across Europe's railway network.

FP3-IAM4RAIL is proud to have contributed to the launch of the Arctic Test Arena, supporting the development of a more reliable, sustainable and resilient future for European rail transport.

The project is supported by the Europe's Rail Joint Undertaking and its members.

Europe's Rail

Founding Members

"Funded by the European Union. Views and opinion expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Europe's Rail Joint Undertaking. Neither the European Union nor the granting authority can be held responsible for them. The project FP3-IAM4Rail is supported by the Europe's Rail Joint Undertaking and its members."