10th ERCI INNOVATION AWARDS 2024

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Winners of the ERCI Innovation Awards 2024

- **Best Small and Medium-sized Enterprise:** **CargoBeamer AG**

- **Best Large Enterprise:** **Hitachi Rail GTS Italia S.r.l.**

- **Coup de Cœur Winner :** **Siemens Mobility GmbH**

On Wednesday 25 September 2024 (0900-1100hrs CEST), during the 14th InnoTrans at Berlin ExpoCenter City, Messedamm 22, 14055 Berlin, the European Railway Clusters Initiative (ERCI) awarded prizes to the best European innovations in the railway industry from those companies who submitted applications to the annual ERCI Railway Innovation Competition.

The competition identifies the best innovation at Technology Readiness Level (TRL) 7 or above from large enterprises as well as deciding on the best innovation from the small and medium-sized enterprise (SME) nominations.

The competition also identifies a 'Coup de Cœur' award from the remaining nominations where the jury identified particularly strong nominations that were worthy of special recognition.

It goes without saying that, without any nominations, there could not be a competition - and all 31 nominations along with their parent railway clusters are to be commended on submitting the nominations. Furthermore, the CNA Cluster BahnTechnik deserve our congratulations and deep gratitude for providing the administration and oversight for this year's ERCI Innovation Award.

We remain most grateful to Josef Fischer, Secretary of the Board for the CNA Cluster BahnTechnik for his most valuable contribution as Chairperson of the ERCI Railway Innovation Competition. Additionally, we are delighted that Josef will also be attending the ceremony and he will give a speech congratulating the winners as well as recognising the efforts of all entrants in this prestigious competition.

Last, but certainly not least, we are particularly grateful to Christian Bernreiter, Minister of State in the Bavarian State Ministry for Housing, Construction and Transport who will present the trophies to the winning entrants.

The 2024 ERCI Innovation Awards

The 31 participating companies have had their submissions assessed by a European Jury composed of railway experts from Austria, Belgium, France, Germany, Italy, Poland, Portugal, Spain, Türkiye and the United Kingdom. The following companies were selected as winning entries and have been awarded ERCI Innovation Awards as follows:

Best Small and Medium-sized Enterprise:

CargoBeamer AG with their CargoBeamer-Terminal Calais. CargoBeamer AG are based in Leipzig, Germany and were nominated by the Rail.S Cluster.

Company: CargoBeamer is a pioneer in the combined road-rail sector and provides a European network of intermodal terminals, railcars, and rail connections for semi-trailers.

Website: www.cargobeamer.com

Innovation: The CargoBeamer terminal technology loads semi-trailers onto a freight train horizontally and fully automatically in just 20 minutes. This allows especially non-craneable units (approx 95% of road freight units in Europe) to use rail for the first time.

Advantages: The CargoBeamer-Terminal Calais is a new, customer-oriented solution to boost the much-needed shift from road to rail. It enables sustainable logistics (achieving 85% less CO_2 vs diesel trucks) for existing trailer fleets. Additionally, the CargoBeamer is significantly faster: 20 minutes for loading or unloading instead of 3-5 hours in a crane terminal. A CargoBeamer terminal can save external costs of about €100M per year. CargoBeamer has been operating successfully since 2021.

Contact: Tim Krause (email: tkrause@cargobeamer.com)

Best Large Enterprise:

Hitachi Rail GTS Italia S.r.l. with their Autonomous Tram AI Technologies. Hitachi Rail GTS Italia are based in Sesto Fiorentino (Fi), Italy and were nominated by the DITECFER cluster.

Company: Hitachi Rail GTS Italia develops telecommunications, supervision, and signalling systems for Railway Transports. It is also a global Centre of Competence for LRT signaling solutions.

Website: www.hitachirail.com/it/

Innovation: The Autonomous Tram AI Technologies integrates AI with key functions like Next Generation Autonomous Positioning (NGAP) for track localization with sub-1m accuracy, as well as Obstacle Detection and Tracking (ODT) to minimize false positives and negatives. These systems use a state-of-the-art Sensor Fusion Algorithm (SFA) combining data from IMU, Radar, Lidar, stereo cameras, and GNSS.

Advantages: Financial benefits include reduced CAPEX and OPEX by minimizing the requirement for ground equipment, thereby leading to lower installation costs and simplified maintenance. The system provides greater position and speed accuracy, achieving safe positioning accuracy of <1m, increasing capacity without compromising safety. Overall safety is enhanced due to a significant reduction in ODT accidents. Last, but not least, the system usability is enhanced through a proprietary mechanism that minimizes false positive rates.

Contact: Gianluca Mandò (email: gianluca.mando@urbanandmainlines.com)

Coup de Cœur Award:

Siemens Mobility GmbH with their Piccadilly Line trains for the London Underground. Siemens Mobility are headquartered in Munich, Germany and were nominated by CNA Mobility Cluster.

Company: Siemens Mobility provides innovative, sustainable transportation solutions globally, enhancing efficiency and reliability in urban and long-distance transit through advanced rail systems and intelligent infrastructure.

Website: www.siemens.com

Innovation: London Underground Rolling Stock for the Piccadilly Line. These new Piccadilly Line trains feature 95% recyclable materials, with energy-efficient systems, advanced motors and regenerative braking reducing energy use by 20%.

Advantages: The innovative articulated design for this rolling stock reduces bogie count and overall train weight. Also, the traction system with optimized permanent magnet motors and a compact gearbox high-efficiency Auxiliary Converter using silicon carbide semiconductors along with regenerative braking significantly lowers energy consumption. All components are specifically designed for maximum efficiency and sustainability.

Contact: Maxime Prieur (email: maxime.prieur@siemens.com)

Summary

Many thanks to the ERCI Railway Innovation Competition Team for all their hard work and all the companies which participated this year; we look forward to seeing you in 2025 for a new edition of the ERCI Innovation Awards!

ABOUT ERCI – the European Railway Clusters Initiative

Founded in 2010, the ERCI ASBL is the only railway meta-cluster network in Europe. The ERCI includes 18 major research and innovation driven railway clusters and represents over 2,300 SMEs in 17 European countries. During 2022, the ERCI was registered as a legal entity (ERCI ASBL) with the intention of delivering more premium content and offering more collaborative opportunities for railway sector innovation.

The primary objective of the ERCI is to reinforce the competitiveness of the European rail industry through cooperation between large companies, SMEs and research institutes on close-to-market innovation projects.

Website: www.eurailclusters.com

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