Capgemini engineering

ENGINEERING THE FUTURE OF RAILWAY

Bringing innovation to mobility technologies and passenger services solutions

As digitalization emerges within the transportation sector, manufacturers and operators must ensure that they make the most of technology, connectivity, big data, and innovation, whilst continuing to ensure safety and security.

New rail opportunities

For a sustainable future
Of the 1.3 million kms of rail lines worldwide, only 25% are electrified.

A great opportunity for growth
The global autonomous and connected train market size is projected to reach $5 billion by the end of 2024, with a CAGR of 8.2%.

Enhancing passenger experience
The smart railway market was valued at approximately $16 billion in 2020, and is expected to reach $37 billion by 2026 at a 15.14% CAGR (2021 - 2026), with trends such as digitization, connectivity, sustainability, energy conservation, and integration of IoT.

Propelling the industry
The huge rail infrastructure market will continue to grow, from $47 billion to $57 billion by 2023.

Customizing the journey
Services is the fastest growing segment of the global rail supply market, currently representing 38% of the market, tantamount to $70 billion per annum.

Capgemini Engineering's expertise in railways comes from over 30 years of experience with leading railway manufacturers, as well as infrastructure providers and operators. With more than 1,200 rail experts, this railway vertical contributes to the global engineering and R&D services positioning.

What we offer

We have an offerings portfolio dedicated to our manufacturers, infrastructure providers, and operators:

Optimized engineering for rolling stock
Embracing the rolling stock full lifecycle, from design, verification, and validation, up to testing and commissioning. This includes:
- Design-to-x
- Managed test services
- Decarbonization (hydrogen, battery)

Control command and signalling systems
Development and integration of critical, autonomous control and command systems. These include:
- End-to-end critical software engineering
- Application engineering
- Autonomous train

Next-gen infrastructure and traffic management
Advanced systems, tools, and processes to monitor the infrastructure and traffic. These include:
- Supervision and monitoring systems
- Sustainable operations

Intelligent manufacturing and supply chain
Advanced tools and processes to embrace the industry 4.0 revolution. These include:
- Smart factory for rolling stock
- Intelligent supply chain

Intelligent support and services
Services for better, long-term efficiency. These inlcude:
- Digital technical publications
- Long lifecycle signalling software maintenance
- Railway academy

Success stories

In the frame of the SNCF autonomous train research program, Capgemini Engineering is part of a freight train partnership which is designed to develop the autonomous freight system of tomorrow by demonstrating feasibility on a test platform and rolling prototype.

Capgemini Engineering is working in partnership with network rail on the Degraded Mode Working System (DMWS), which will minimize disruption for the passengers in the event of a failure of the signaling system – improving situational awareness and decision making through digitization of the current emergency work.

Strong and successful partnerships

For more information, contact:
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