

Innovation: the key to maximising rail's societal and economic impact

Rail can contribute to the growth of a smart, inclusive, competitive, and green society connected via a sustainable and seamless mobility network.



According to research conducted by EU-Rail, the key to maximising this potential is to position rail as an attractive alternative or complementary solution to road and air transport.



The study looked at how rail improvements and changes in mobility could impact rail traffic volume.



Key Finding

Efficiently using existing rail networks, intramodal competition, yield management, and online ticketing can increase demand for passenger rail.



Key Finding

Passenger rail will likely be impacted by deregulation, the electrification/automation of road transport, and the reduced competitiveness of regional aviation.



Key Finding

Track charging policies help drive rail development, providing incentives for reducing capacity constraints, decreasing costs, and enhancing innovation.

CONCLUSION : By inducing a modal shift from road and air to rail, EU-Rail's innovations will ensure that rail delivers on its societal and economic objectives.

Assessing the impact of innovation

EU-Rail also evaluated the actual performance of its innovations, with a particular focus on measuring their ability for achieving expected results.



Key Finding

Innovation is responsible for a **41%** decrease in lifecycle costs for freight.






Key Finding

It also triggered a **96%** and **90%** increase in capacity for freight and regional rail respectively.

CONCLUSION : EU-Rail's innovations have resulted in significant improvements to rail, especially in the regional and freight segments.


Beyond innovation, EU-Rail also looked at:


	Standardisation 	Virtual testing 	Human-centred design 
Objective	Propose ways to transfer research results into standards needed to ensure a fast and easy exploitation of said results.	Motivate stakeholders to, at least partially, reduce physical tests.	Develop a concept for human-centred design that balances the benefits and risks of technological innovation.
Outcome	A global standardisation roadmap and guidelines for standardisation were developed.	Delivered recommendations for using methods for virtual validation and certification for rail components and sub/systems.	Studied the impact of Shift2Rail innovations mainly related to digitisation and automation on both the rail workforce and rail customers.

IN SUMMARY


Whether it be through studying the impact and performance of innovation, developing a roadmap and guidelines for standardisation and virtual testing, or highlighting workforce trends, EU-Rail has provided a blueprint for **maximising rail's societal and economic potential.**

Who Benefits







Infrastructure managers



Railway operators



Suppliers



Final users

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Solutions developed by Shift2Rail, Europe's Rail's predecessor programme

