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European Optimised Pantograph Catenary interface

Fact Sheet

Project Information

EUROPAC

Grant agreement ID: 12440

Project closed

Start date

1 January 2005

End date

31 December 2007

Funded under

Sustainable Development, Global Change and Ecosystems: thematic priority 6 under the Focusing and Integrating Community Research programme 2002-2006.

Total cost

€ 4 922 244,00

EU contribution

€ 2 599 997,00

Coordinated by

SOCIÉTÉ NATIONALE DES
CHEMINS DE FER FRANÇAIS

 France

Objective

Europac will gather major European railway stakeholders around a research project on vehicle-infrastructure interaction through the pantograph-catenary contact. The project aims at enhancing interoperability between pantographs and catenaries all over Europe, decreasing the number of incidents related to this system, and reducing maintenance costs by improving preventive maintenance and diminishing corrective maintenance.

On that purpose, Europac will develop a comprehensive system composed of a joint interoperable software, an on-board monitoring system and a track-side monitoring station. The Europac software is designed to predict the interoperability between any present and future pantograph and catenary. Moreover, it is intended to take into account up to now unaddressed effects of deteriorated conditions such as extreme temperatures, cross-winds, wear or defects in devices.

The on-board monitoring system aims at detecting defects in a catenary, identifying their origins and evaluating their seriousness. The goal of the track-side monitoring station is to evaluate both compatibility and quality of a pantograph coming into a network. The two systems will combine human-like expert-systems with real-time analyses.

Europac's contribution to integration of European railways is manifold:

- At the regulation level, it will help refining interoperability specifications and standards and defining new ones.
- At the industrial level, it will help manufacturers to comply with interoperability requirements while reducing their development costs.
- At the operational level, it will allow railway operators and infrastructure managers to both increase interoperability and reinforce reliability of their rolling stocks and infrastructures.

Increased productivity along with economies of scale allowed by interoperability will radically improve competitiveness of the railway transport, thus reversing the trend in favour to this environmentally-friendly mode of transport.

Fields of science (EuroSciVoc)

[natural sciences](#) > [computer and information sciences](#) > **[software](#)**

[social sciences](#) > [sociology](#) > [industrial relations](#) > **[automation](#)**

[social sciences](#) > [economics and business](#) > [economics](#) > [production economics](#) > **[productivity](#)**

[natural sciences](#) > [computer and information sciences](#) > [artificial intelligence](#) > **[expert systems](#)**

[engineering and technology](#) > [electrical engineering, electronic engineering, information engineering](#) > [electronic engineering](#) > **[sensors](#)**



Keywords

[Interoperability](#)

[expert system](#)

[joint software](#)

[maintenance](#)

[monitoring systems](#)

[real-time](#)

[regularity](#)

[reliability](#)

[standards](#)

Programme(s)

[FP6-SUSTDEV - Sustainable Development, Global Change and Ecosystems: thematic priority 6 under the Focusing and Integrating Community Research programme 2002-2006.](#)

Topic(s)

[SUSTDEV-2005-3.4.1.4.2 - Research domain 4.13 \(only for rail transport and powered two-wheelers\) and research domains 4.15 and 4.16](#)

Call for proposal

FP6-2003-TRANSPORT-3

[See other projects for this call](#)

Funding Scheme

[STREP - Specific Targeted Research Project](#)

Coordinator



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EU contribution

No data

Total cost

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ALSTOM TRANSPORT SA

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No data



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No data



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Total cost

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Total cost

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