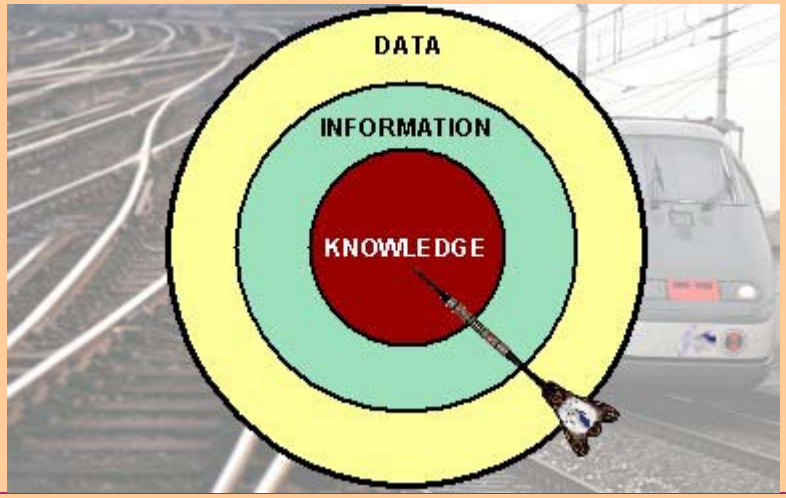

CENTER YOUR TARGET WITH INTEGRAIL

Open results

InteGRail Technology Platform

Reference Technology Platform for Railway Information Systems

Integration of information is key for further growth of railway transport volume. Decision makers will be able to make better decisions once they have the right information at hand about their own processes and about the processes of their partners in business. InteGRail is the project that developed an enabling technology to allow universal access to existing information systems, be it databases, monitoring systems or existing user applications. For this purpose InteGRail defined a complete Technology Platform, which can become the reference for all new information systems, while at the same time allowing to integrate legacy systems. The Technology Platform is the basis for all applications developed in the project and will be offered as an open input for standardisation proposals in the field. The objective is to avoid a growing number of proprietary solutions to the same problems, which will bring to incompatibilities and higher costs.

What is the InteGRail Technology Platform?

In InteGRail we have two types of results: the reference Technology Platform and the application prototypes.
The former provides a stable platform which is the basis for all applications developed in the project.
This is essential, in order to convince railway organisations to invest in developing and using products which are based on and strongly require a well defined platform.
The InteGRail Technology Platform can be the European answer to such a need, as it has been developed by a wide consortium of railways and industries. Moreover, it has been tested and proved, through a number of business oriented demonstration scenarios, that it can really work in the real railway world.
The InteGRail Technology Platform is a set of open specifications, many of which are being offered as inputs for standardisation proposals. It is described in a number of specific Fact Sheets:

1. InteGRail Vision – How can InteGRail contributing in changing railways for better future performance
2. Key Performance Indicator trees – How to define and measure railway performance in a standard way
3. Railway Domain Ontology – How to clearly define and unambiguously understand railway information
4. System Architecture – How to retrieve, integrate and share railway information
5. Distributed reasoning – How to elaborate information and extract new hidden information out of it
6. Intelligent Communication Infrastructure (ICOM) – How to transfer information from its origin to wherever it is needed, both on trains, wayside or in other ground systems

Who can benefit?

All railway stakeholders (railway operators, infrastructure managers, industry, subsystem suppliers, maintainers, etc.) will greatly benefit from the general, flexible and expandable Technology Platform defined by InteGRail.

How is the benefit realised?
The InteGRail Vision and the KPI Trees will contribute to the definition of the new strategies of railways for the future.
The Railway Domain Ontology, System Architecture, Distributed Reasoning and ICOM will completely define the middleware which can support railway applications and information systems, decoupling them from the communication details and enabling wider information exchange and cooperation between applications.
By providing means for integrating legacy systems, the middleware will preserve past investments, reduce interfacing costs and open the market.

Present status, availability and future possibilities
Results are already available and usable, as it can be seen in the developed Demonstration Scenarios (See DS1, DS2 and DS3). Obviously, some more work will be needed in order to transfer such results from the research level to the market level. First steps aimed at having some parts of the Technology Platform become standards have already been started.
The Technology Platform will be expanded in the future, always checking the consistency with previous versions. This will require a coordination between all stakeholders, but will ensure a controlled growth, keeping the complexity of the overall system under control and enabling a more effective information management.
The Technology Platform can be especially applied when information exchange is needed (Corridors) or mandatory (implementation of TSI's), overcoming barriers related to complexity of the processes, number of involved organisations, national borders and conflicting interests.
It will eventually allow railways to efficiently operate as one single system, where decisions and strategies are defined and optimised taking into consideration the best results for all stakeholders, not only one of them.

Other results of InteGRail

Architecture definition of integrated information systems: IGRIS

Semantic data structure of the railway domain, the InteGRail ontology

Example user applications: ODSS for on-line operational decision support, IAC for on-line infrastructure availability, IDT for on-line vehicle maintenance information

Description of interdependence of performance of railway processes: the railway KPI tree, and a tool to assess and visualise performance

InteGRail - Facts and Figures

InteGRail started on 1/1/2005 and ends on 31/12/2008

Total project budget:
20 million Euros

EC funding : 11 million Euros

Total effort over 125 person-years

39 partners from 11 countries

Partners of InteGRail:
UNIFE • Alstom Transport • AnsaldoBreda • Bombardier Transportation • Siemens Mobility • UIC • Trenitalia • D'Appolonia • TSB-FAV • DeltaRail • ATSF • CAF • Nortel Networks • Laboratori Guglielmo Marconi • FAR Systems • MER MEC • Italcertifer • ATOC • České dráhy • MAV • UNICONTROLS • Strukton Railinfra • Deuta-Werke • Heriot-Watt University • IMEC • OFFIS • Televic • Seebyte • Kontron • University of Chile • INRETS • Wireless Future • University of Birmingham • ADiF • RFF • ARGE Corridor X • Network Rail • ProRail • SNCF

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