UIC contribution to progressive management of railways assets

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Agenda

• Objectives and overview
• Guidelines for the asset management of railway infrastructures
• Examples of application of AM in Railways Governance
• Conclusions
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The preparations for the European Single Market 1993 led to liberalisation of transportation markets

The responsibility of IMs has broadened with Directive 91/440 and subsequent EU packages.
(e.g. open access, acceptance of rolling stock, maximizing traffic, minimizing operational hindrance, providing quality services, maintaining safety, reducing costs etc).

Restructuring of Infrastructure Management organizations, has produced a number of different Asset Management Strategies in Europe, even within the same company, over the last 10-15 years. Lessons can be learned.

IMs need to exercise strong control over large expenditure areas and justify their costs to stakeholders (State, Regulators, Railway Undertakings, public)

Making correct investment decisions, which can have a long –term impact, necessitate best use of data, tools and instruments.
Transportation figures railways in EU

Length of lines: 353746 Km
Duble Track: 103103 Km
Electrified: 177305 Km
Train km: 5533 million
Gross train tones-km: 5993823 million
Passenger km: 624124 million
Tonnes km: 2411352 million
Acces Charge pass&freight versus cost M&R Euro/Trainkm

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Network:
- C
- D
- E
- F
- G
- H
- J
- K
- M
- N
- Q
- U
- X
- Y

Legend:
- M+R
- access charge freight
- access charge passengers
The changing world is asking new questions

- What will be the costs of a better performance?
- Reduce the delays on the line A-B
- Why is maintenance so expensive?
- Can you improve the performance of line A and G?
- What do we have to pay for 1% more availability?
- What are the best actions to be taken to improve performance?
first task: to identify all areas of interest where the UIC can contribute to the development of professional Asset Management, applied to Rail infrastructure management.
Main aspects of Asset Management and what is new

- Meet stakeholder)* interests, by exploring them explicitly and translating them into companies objectives.
- Finding a balance between the requirements and the overall (lifecycle) cost by applying risk management and consequently linking activities to the companies objectives.
- Managing the company in a fully transparent )** way by means of an explicitly traceable analysis.
- By taking all relevant aspects and activities into account.

)* Main stakeholders are: Government, Operators, Local Authorities and Public/Customer.
)** Because of a lack of competition in the monopolistic rail world, transparency is essential to convince the stakeholders of our quality.
Managing the balance...

Railinfrastructure

Professional asset management

Stakeholders perspective

Investments

Renewals

Life cycle Costs

$ maintenance

Management skills

Health

Working conditions

Rams

Environment

Planning

Capability

Performance
Asset management comprises all systems, methods, procedures and tools to optimize costs, performance and risks for the complete rail infrastructure life cycle. The aim is to realize the best ‘value for money’.

Asset management is defined in BSI (British Standard Institution) PAS 55 as:

“The systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditure over their life cycles for the purpose of achieving its organisational strategic plan.”

An other definition is give by the European Federation for National Maintenance Societies:

“the optimal lifecycle management of physical assets to sustainably achieve the stated business objectives”
Current rail-infra asset management.

The current practices result in a reliable, safe network founded on solid technical standards.

- **Technical** orientation rather than functional
- Cost management is primarily focused on **execution** of maintenance and projects
- Except for HS and cargo-lines, routes are built and maintained according to a general specification: **differentiation is not common**
- The purpose of rail-infra-management is comparable in Europe, but **processes and organisational aspects** differ widely
- International benchmarking is focussed on **costs only**
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What we set out to achieve

• A common interpretation of asset management shared by all the group’s members
• A specification and description of the components that comprise and asset management system
• A framework to help infrastructure managers to:
  – develop asset management within their own organisations
  – compare their performance with similar organisations
Existing frameworks

Nuclear Generation

Oil and Gas

Water Utilities

Defence
Learning from existing standard – PAS 55

- Definition of what good asset management looks like
- 28 point checklist specifying requirements of an asset management system
- First issue released in 2004, update in 2008
- Developed by more than 50 public and private companies
- Update involved participants from 10 countries and 15 sectors
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PRORAIL Netherlands

PAS55

AM-framework UIC

Internationaal

“What” should be organised

Railinfra

ProRail

“How” do we organise it?

Operations/AM à la Carte

Strategic plan

Actual situation
Prioritization of the budget allocation Switzerland (SBB)
The 3-level-net-definition

- **Core-net 1 (50%)**
- **Core-net 2 (26%)**
- **Remaining (24%)**

Map showing the prioritization network with lines indicating the different levels of allocation.
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UIC contribution on innovation in AM

UIC is the platform to facilitate the development and exchange of knowledge with respect to Asset management for railways

- a common, shared understanding of asset management for rail
- exchange of best practice when applying AM
- support and facilitate the execution of benchmarks
- use of common key performance indices (KPI) referred to asset management
- development of a standardized AM-process based on the life cycle of assets
- shared innovative views on organization, knowledge and education
Key issues

• Finding a balance between the requirements and the overall (lifecycle) cost by applying risk management and consequently linking activities to the companies objectives.

• Introduction of standardized procedures for the efficiency of the hole life cycle of the physical assets. (Further ISO standards 55000 series).

• AM can be implemented at any time or existing evolution state of a company.
Thank you for your kind attention

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