Advancing asset management through collaboration between national railways

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Brief history of the UIC AMWG

- UIC has strong tradition in technical leadership e.g. rolling stock, signalling etc.
- AMWG formed in 2008 to provide a whole system perspective
- Initial focus on sharing good practices and developing a common interpretation of Asset Management
- Current focus is on the practical implementation of Asset Management

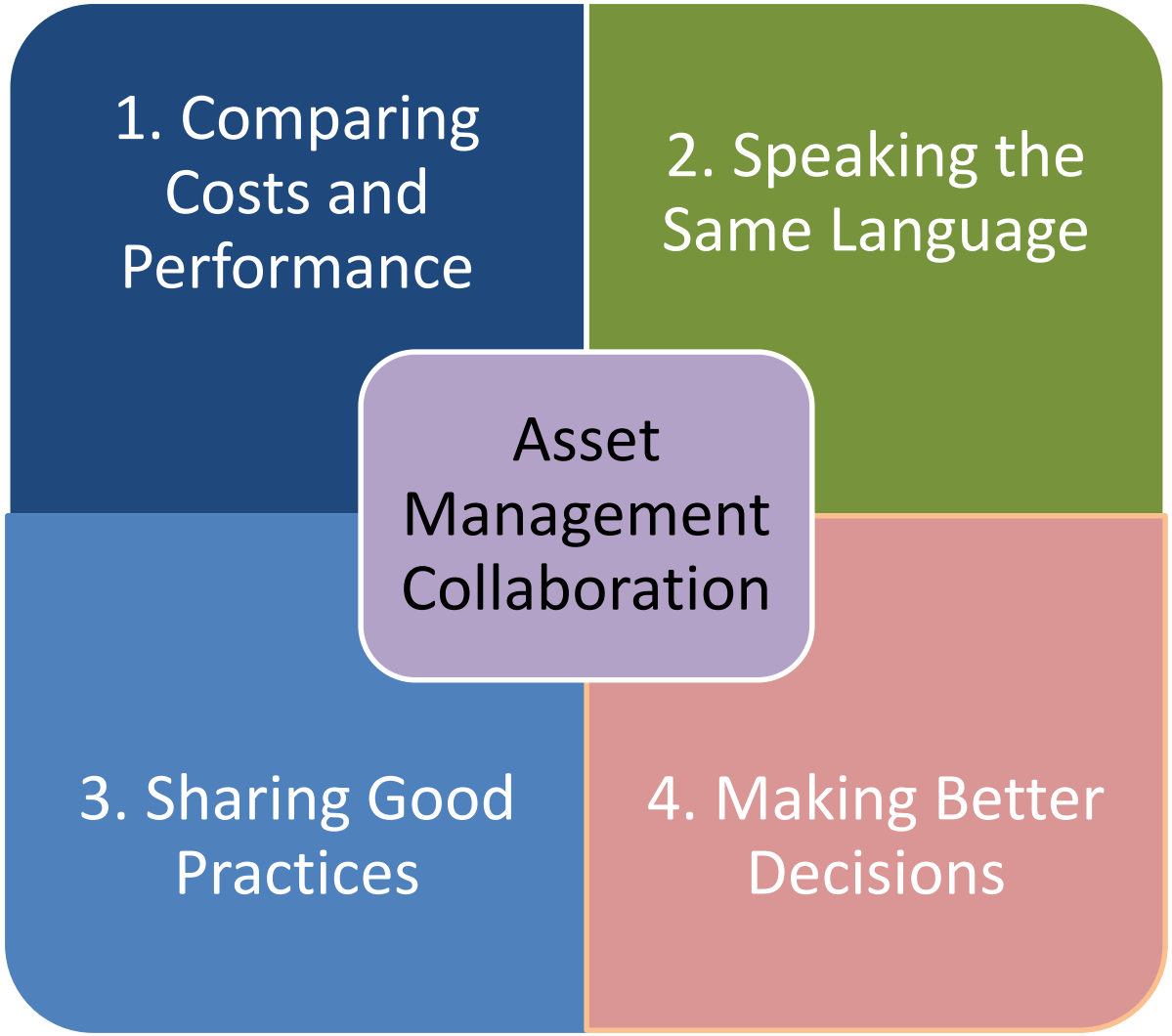
AMWG members

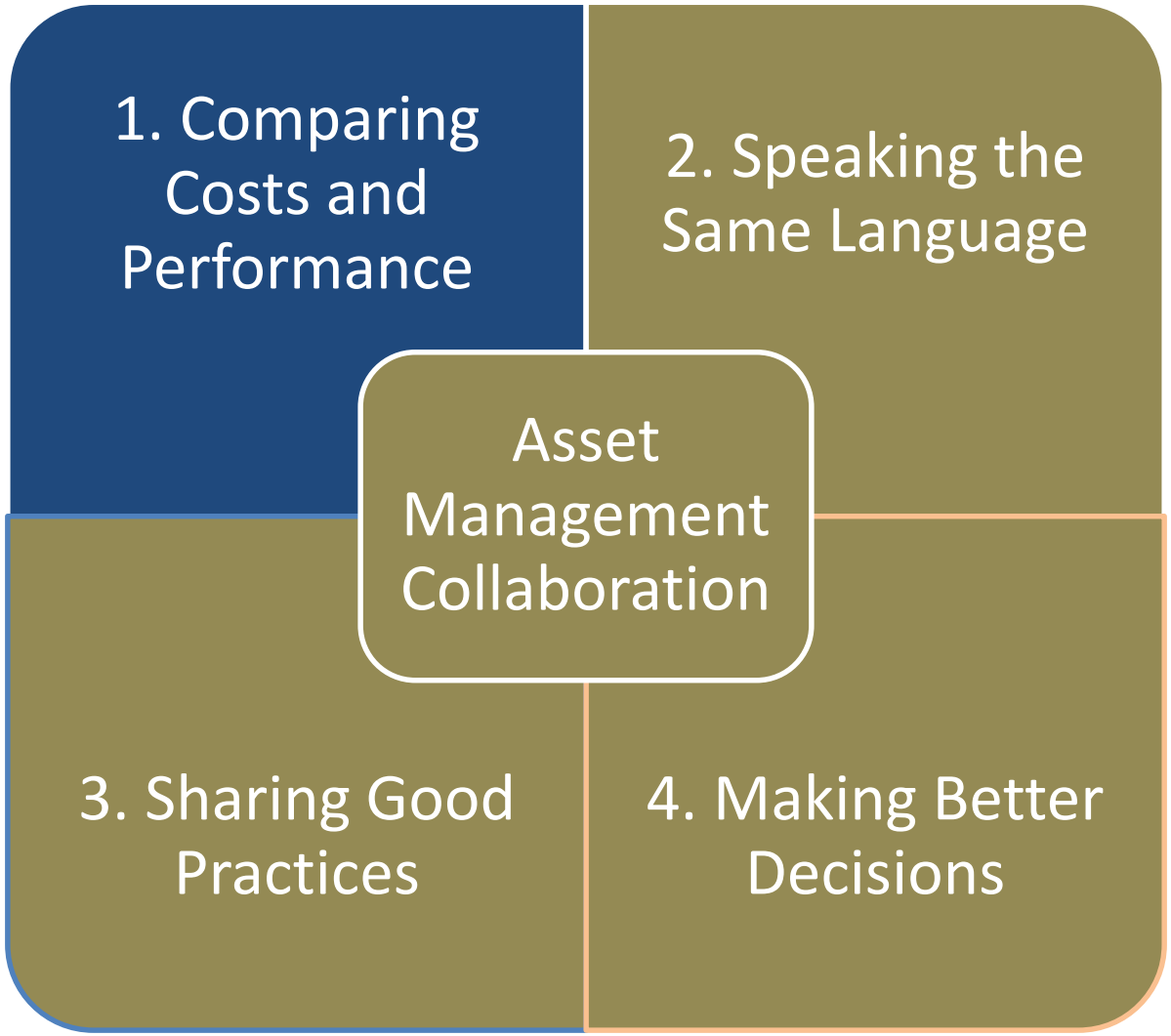
- Austria (OBB)
- Belgium (InfraBel)
- Finland (FTA)
- France (SNCF)
- Ireland (Irish Rail)
- Italy (RFI)
- Russia (NIIAS)
- Norway (JBV)
- Spain (ADIF)
- Sweden (Trafikverket)
- UK (Network Rail)
- UIC

European Railways: One of the most dynamic sectors for Asset Management collabaration?

- We can directly compare costs and performance
- Our railways are in close geographical proximity
- Multiple forums for collaboration: EU, UIC, EIM
- Major EU investment in R&D (Shift2Rail, €967m) bringing together railway companies and suppliers

The ways in which we collaborate




1. Comparing Costs and Performance
2. Speaking the Same Language
Asset Management Collaboration
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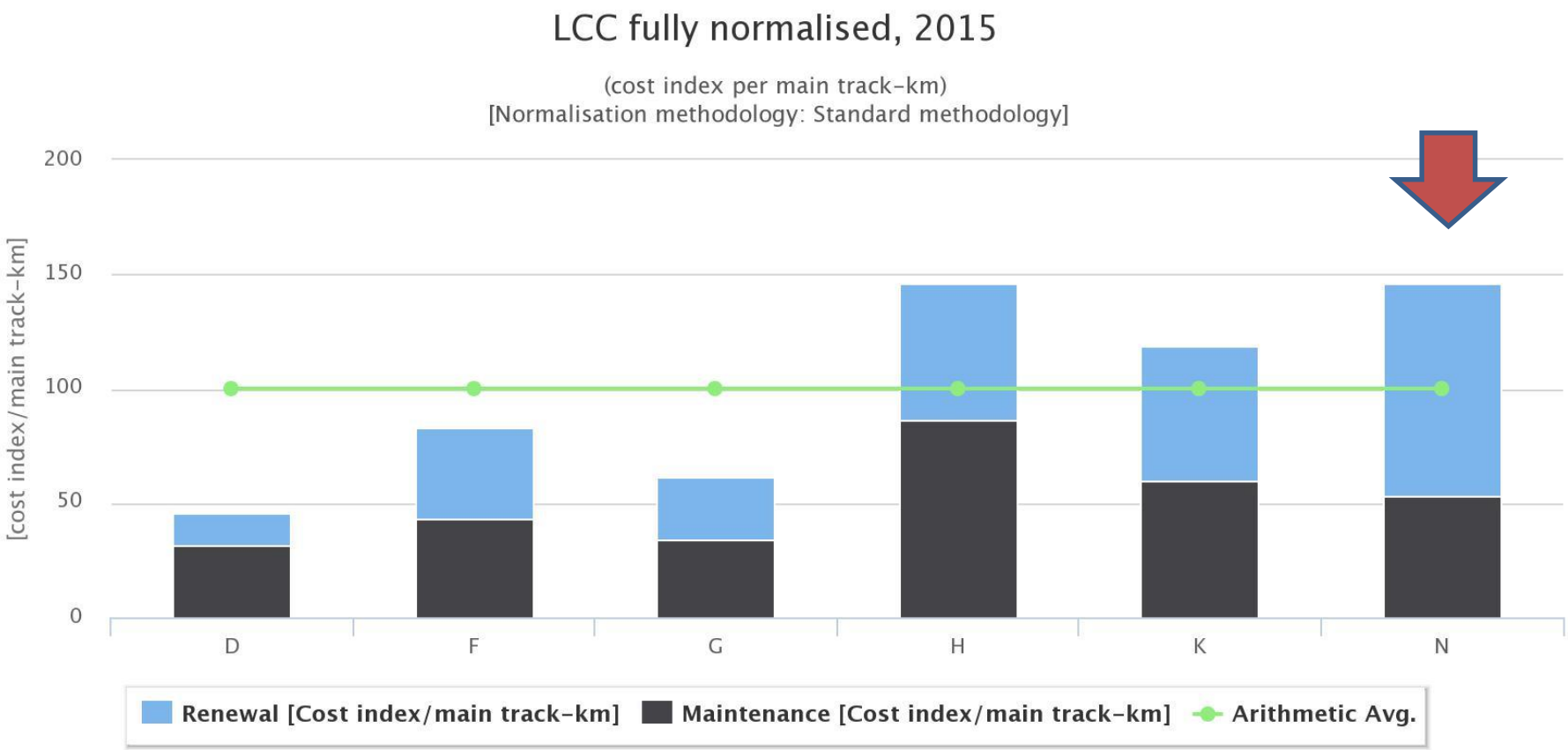
Comparing costs and performance

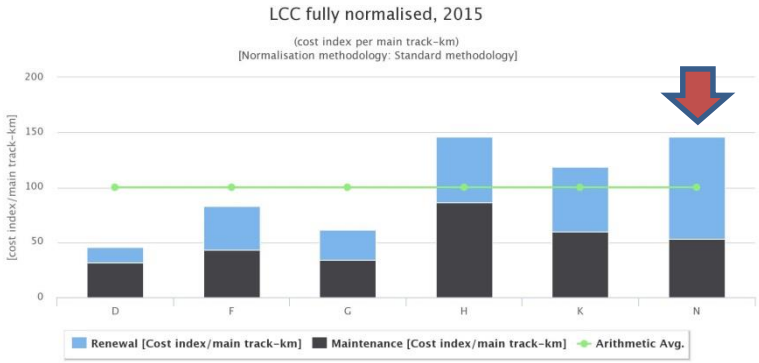
- Lasting Infrastructure Cost Benchmarking (LICB) is a UIC group linked to the AMWG
- LICB has been comparing long run M&R costs for 20 years (see Klaus Wittmeier's presentation)
  - Comparisons take account of key differences between railways e.g. degree of electrification, ratio of single / double track
  - Comparisons recently extended to performance
- The comparisons have had a significant impact on government policy, particularly in the UK

Comparison of normalised M&R costs

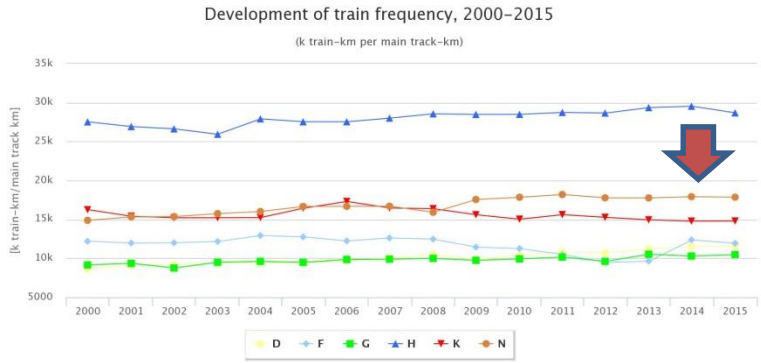


Extra information helps the comparison

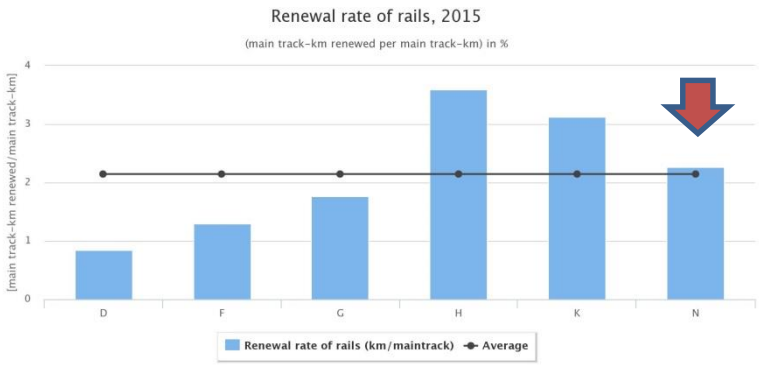
Maintenance & renewal expenditures



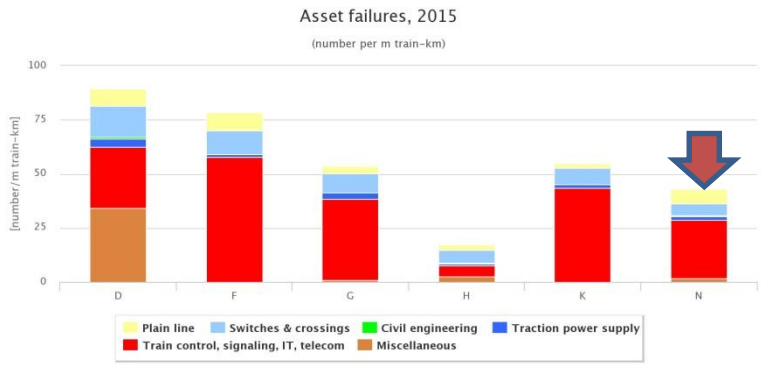
Network utilisation

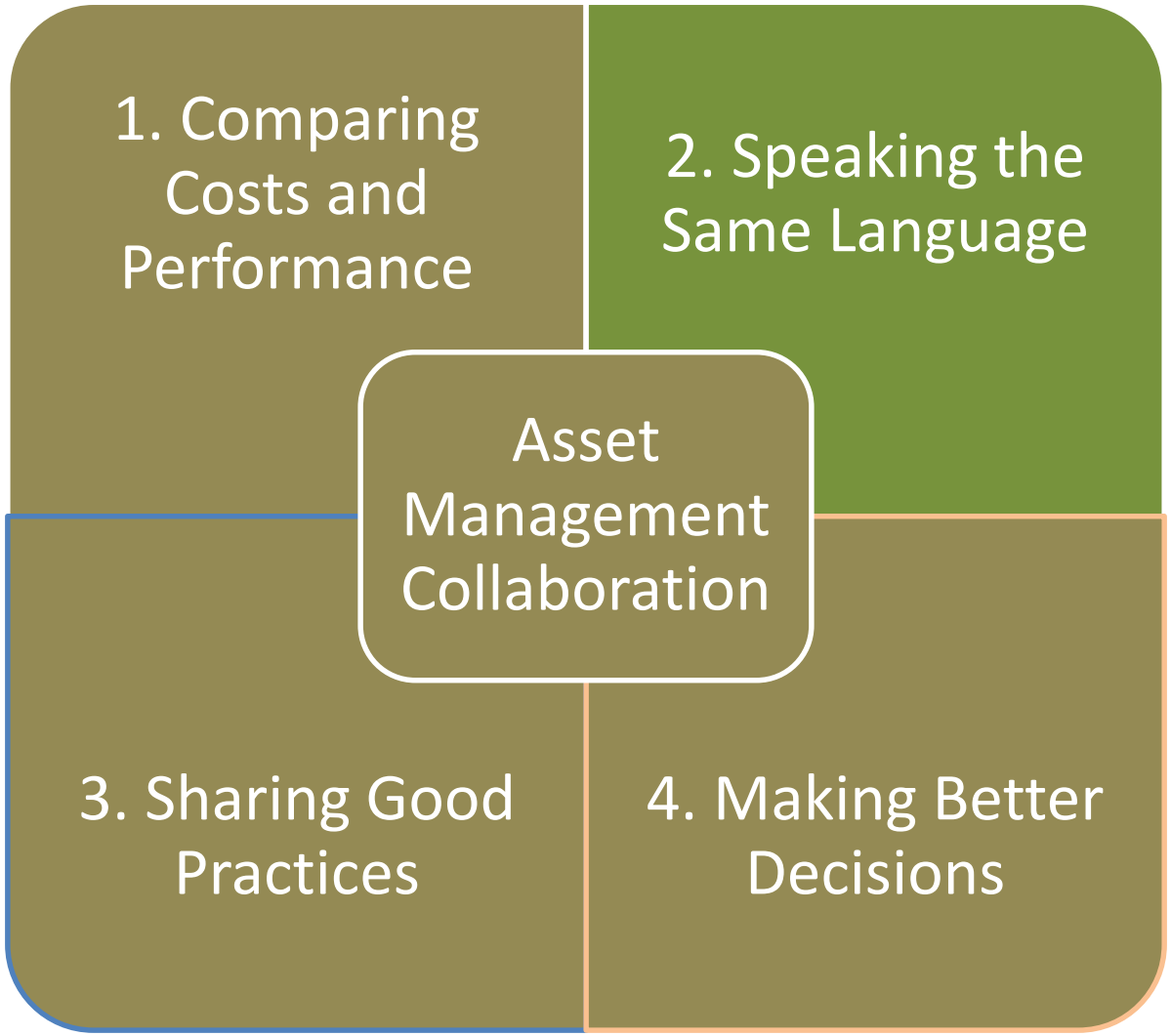


Key work activities



Asset performance

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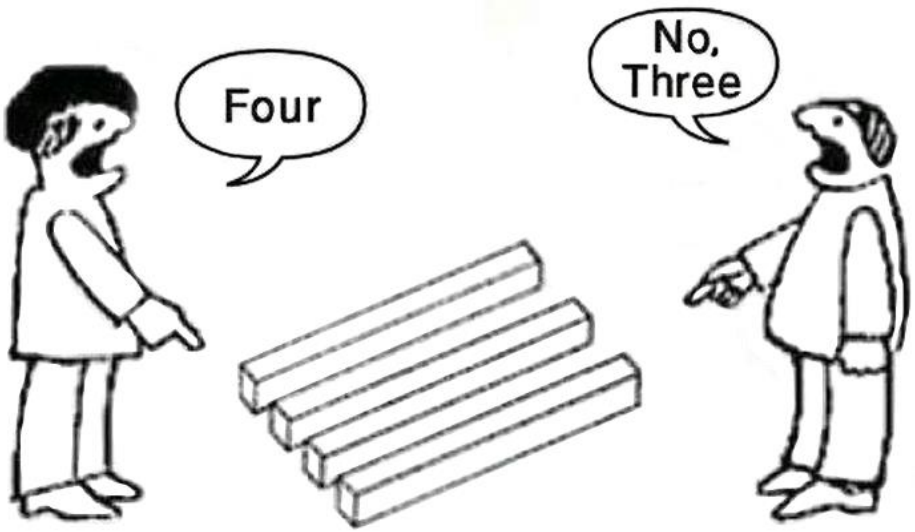
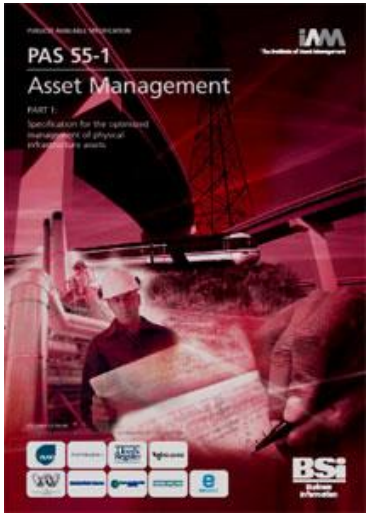
Speaking a common language

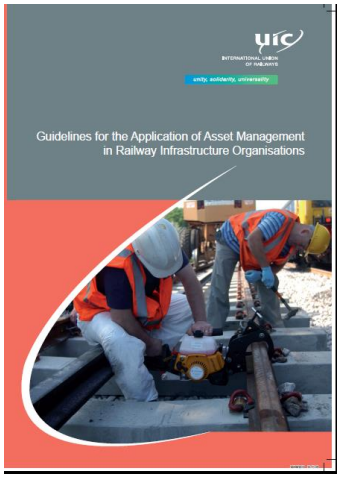
- How we describe and segment our networks: routes, corridors, delivery units
- How we describe our assets e.g. asset hierarchies, functional breakdown structure etc.
- How we define quantifiable parameters: failures, delays, safety
- How we interpret Asset Management: AM System, SAMP, Asset Strategies



Development of AM Guidelines

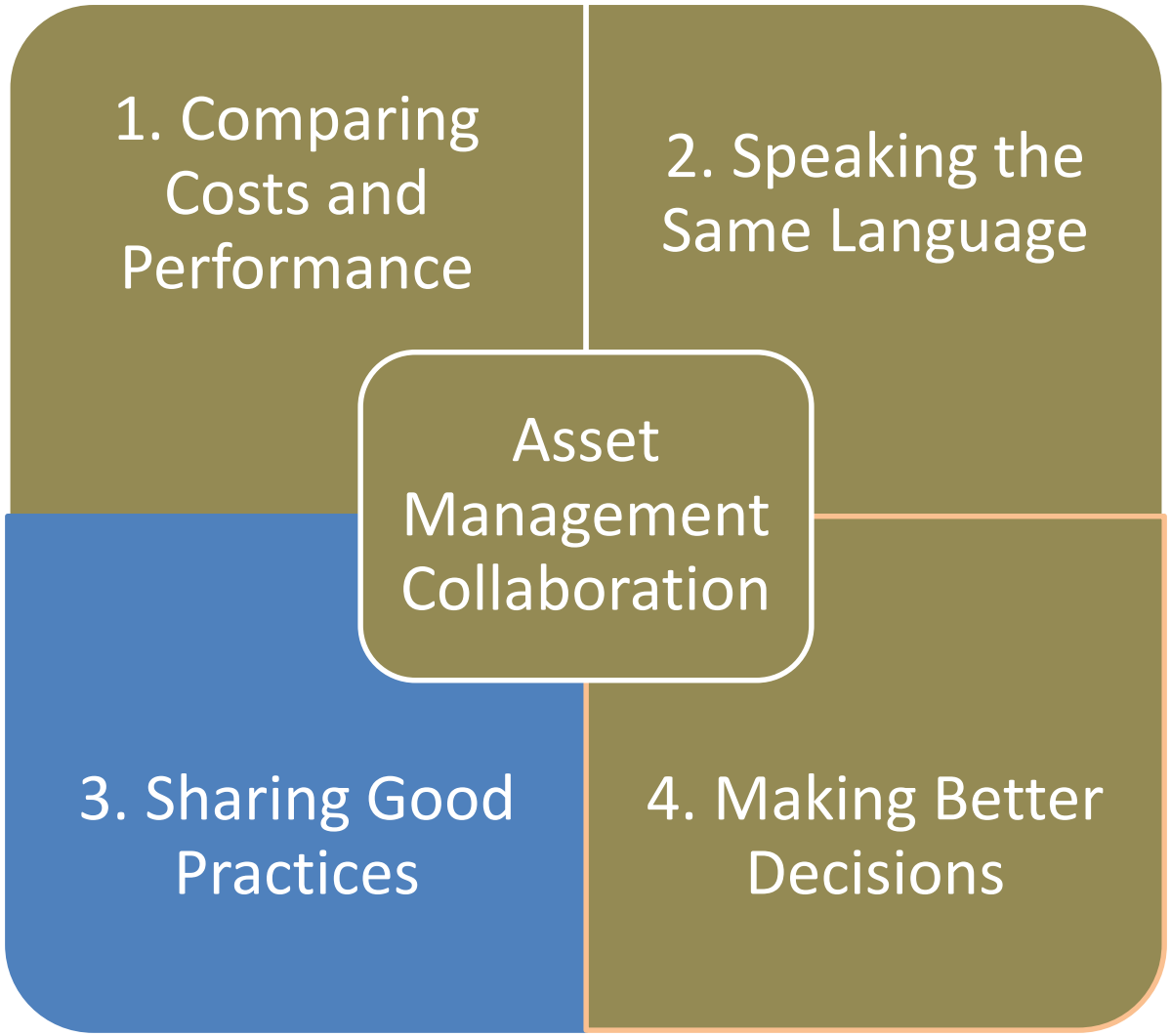


2010



2017

- General requirements in PAS 55 and ISO 55001 applicable to any asset intensive organisation
- Implementation guidelines need to be sector specific
- Target audience for the guidelines
  - Individual railways
  - Benchmarking groups
  - Research programmes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Sharing good practices

- Objective is to capture the learning so that it's available to our organisations and other railway stakeholders
- Intention is to cover broad range of asset management issues
- Case studies explicitly linked to evidence specification in Railway Application Guide for ISO 55001
- Case studies will be publicly available (2018)

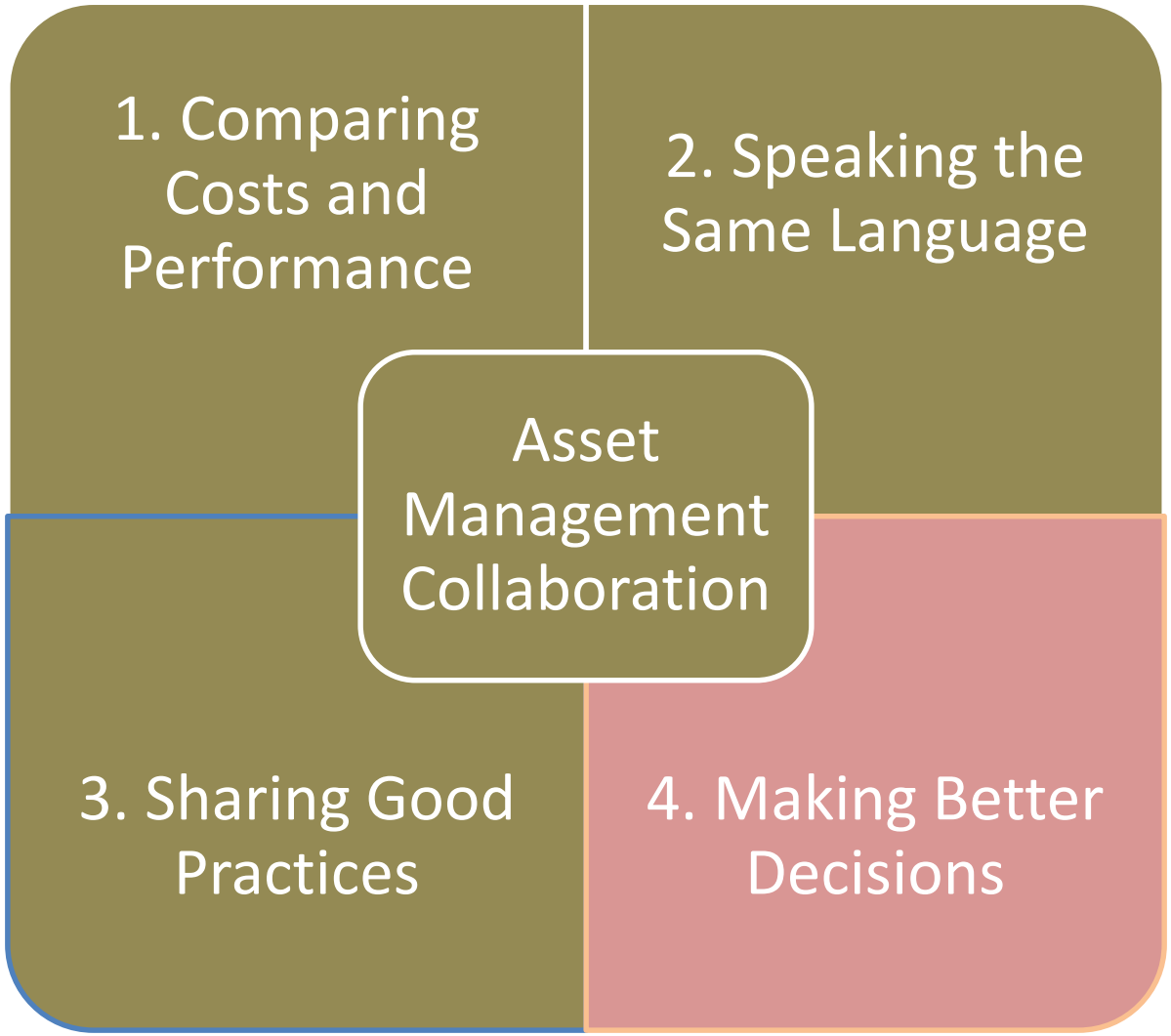
AMWG good practice examples

AM Maturity	RFI RETE FERROVIARIA ITALIANA GRUPPO FERROVIE DELLO STATO
Maintenance Management	Jernbaneverket
Asset Management Objectives	ÖBB
Application of LEAN	Iarnród Éireann Irish Rail
Asset Degradation Models	SNCF

Lifecycle Costing	adif Abrimos caminos
Stakeholder Requirements	Liikennevirasto Finnish Transport Agency
Asset Strategies	Network Rail
Outsourcing	TRAFIKVERKET
Risk Based Decision Making	PKP

Example: Procurement Strategies

- Project underway to develop good practice guidelines covering e.g.
  - Criteria for what should be outsourced and what should remain in-house
  - Specifying and awarding contracts
  - Identifying and controlling risks
  - Information required to monitor the performance of the contractor
- Good practice guide due for publication early 2018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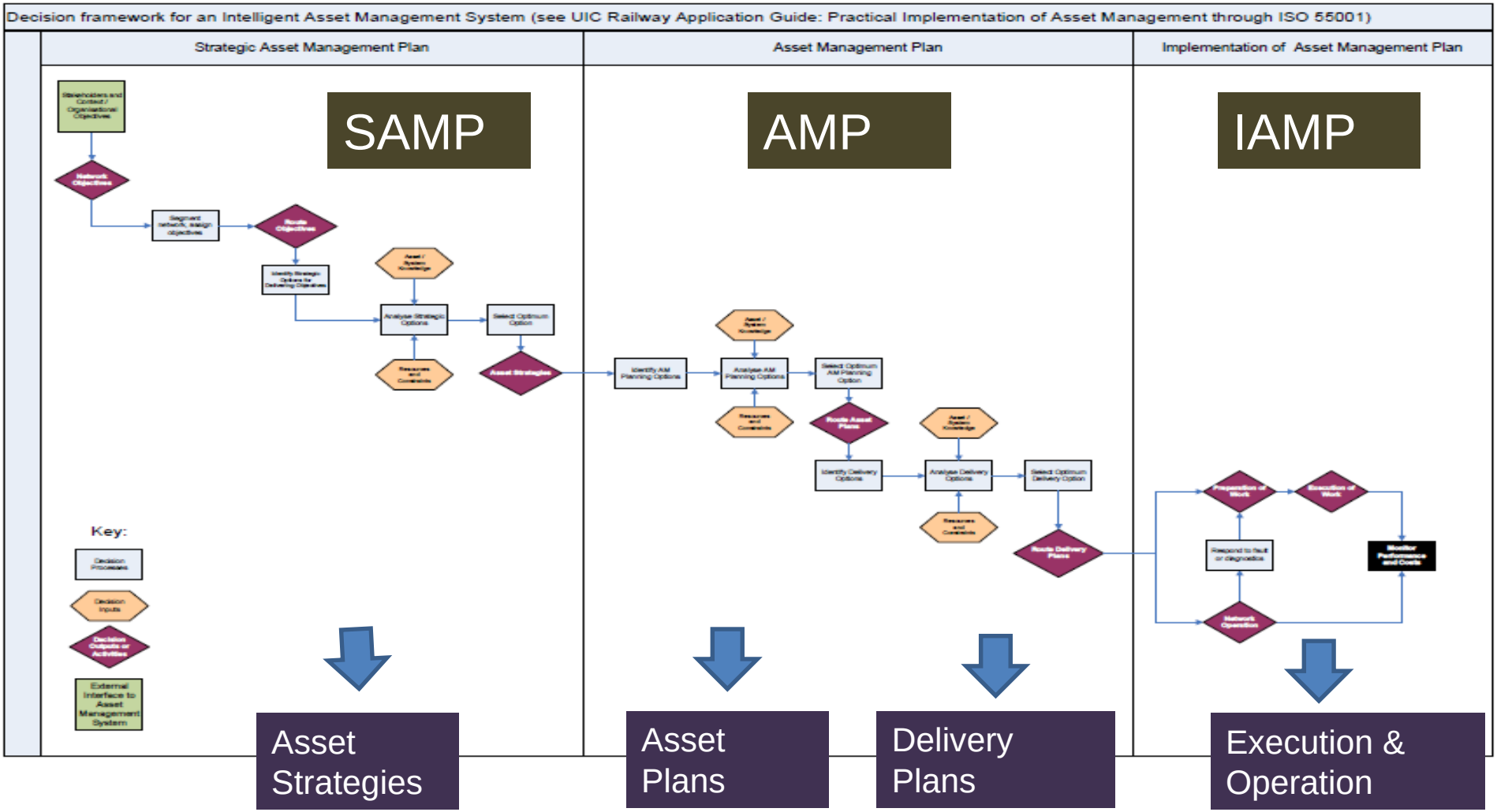
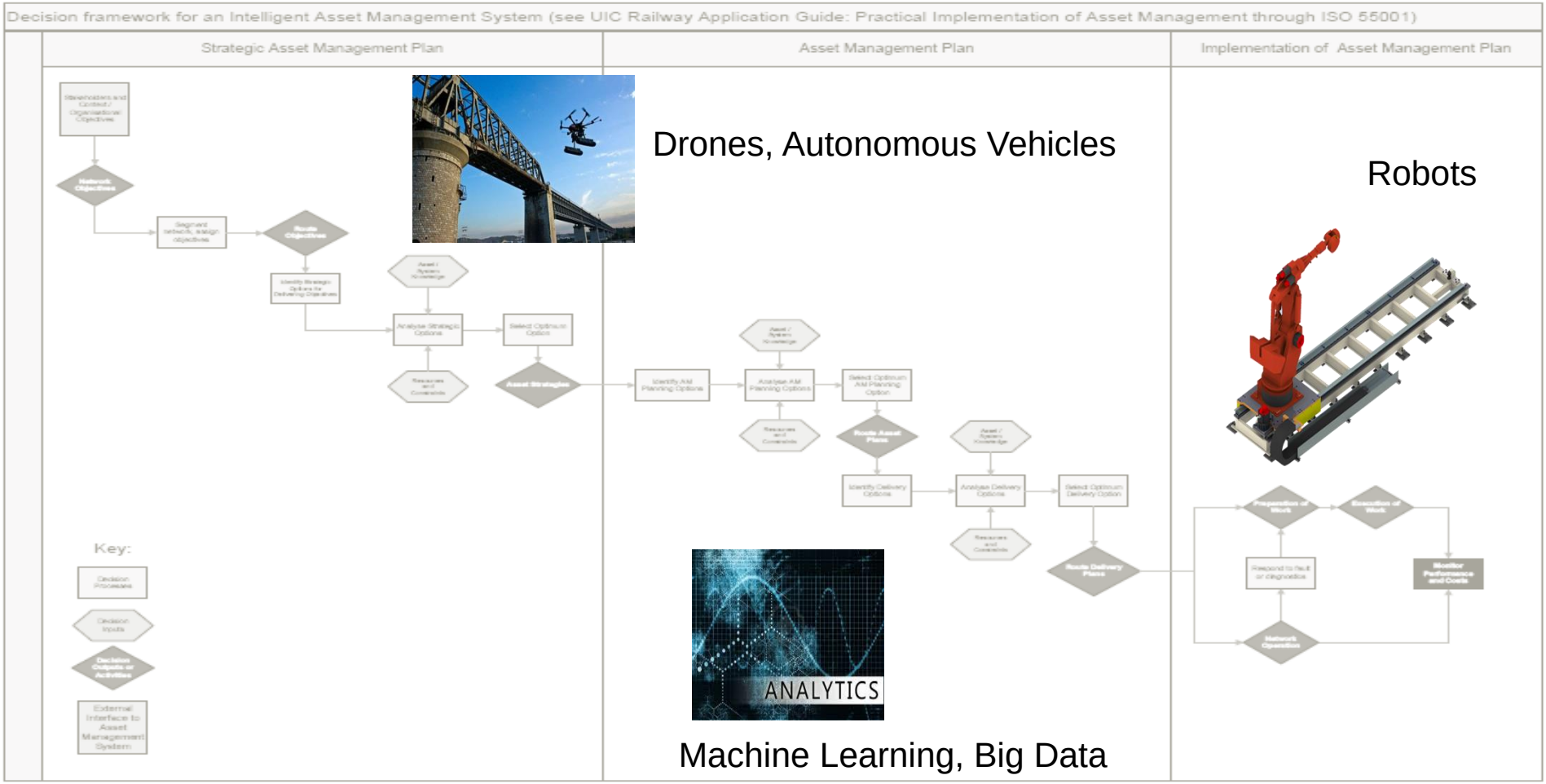
Prerequisites for good decision making

- Understanding the asset lifecycle
  - Design, installation, operation, decommissioning
  - Degradation, Failures, Interventions, Costs
- Understanding how decisions are taken (in practice!)
  - From strategy to implementation
  - Maintenance, Renewal, Operations, Enhancements
- Innovation coming from a Shift2Rail research programme known as In2Smart
  - Focus on better data, better analytics, better decision support
  - Circa €16m in first phase (2016-2019)

Mapping AM Decisions

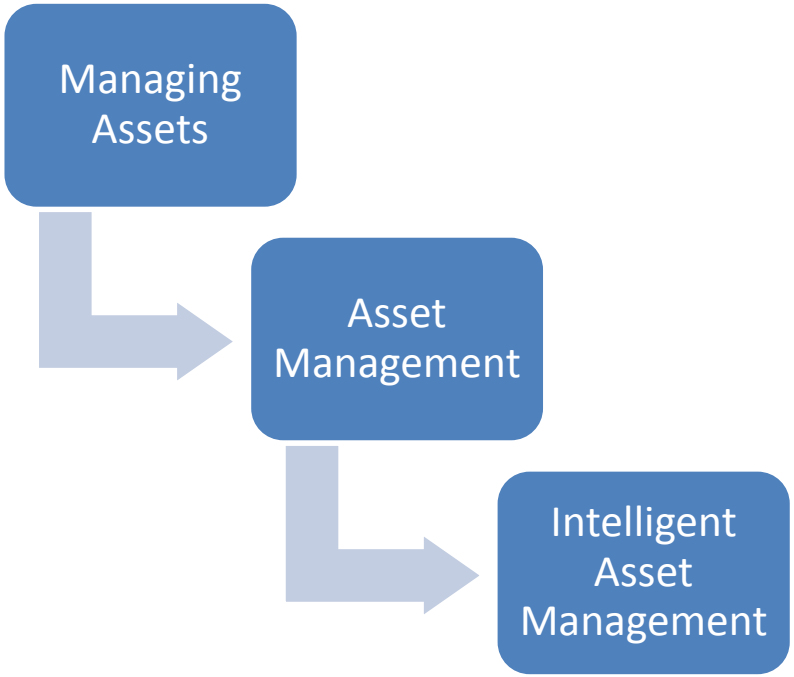


Applying the decision framework



Final thoughts

- The UIC AMWG has created a good foundation for asset management in railways
- Majority of our members are implementing asset management regimes in their own organisations
- The outputs from the AMWG work are also providing a framework for research and innovation e.g. Shift2Rail



Thank you