

The REPID project

"Rail sector framework and tools for standardising and improving usability of Environmental Performance Indicators and Data formats"



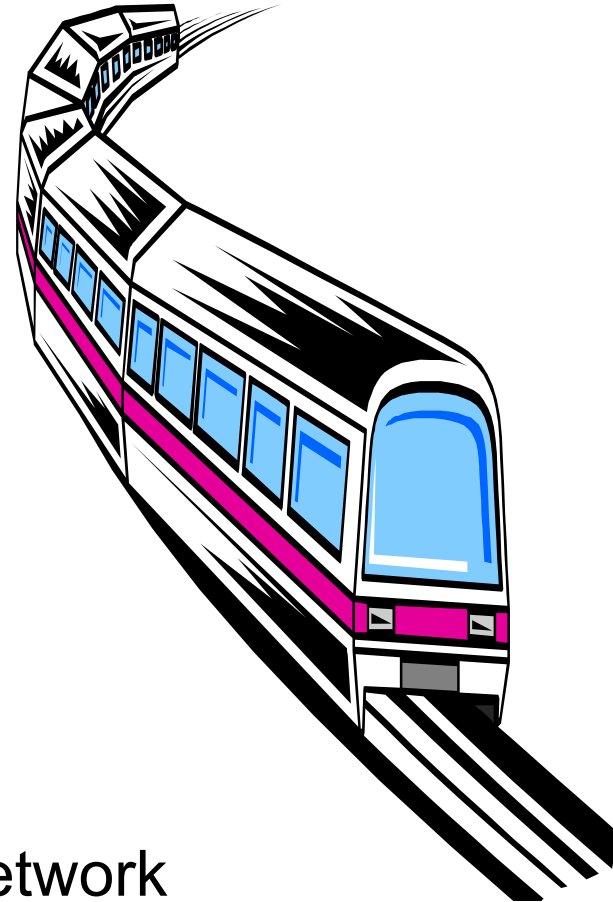
First Eco-procurement Network Meeting, Paris 2-3 April 2003



Shaping the railway of the 21st century

Agenda

- Need for the project
- REPID Objectives
 - The Methodology
 - The network
- Status of the project
- Future for REPID and the network



The need for the REPID project

- ▶ Need for continuous environmental improvements in the rail sector
- ▶ Need for cost-cutting solutions and integrated business processes
- ▶ Need for a common language to handle the environmental information

Objectives of the REPID project

Establishment of a Common Environmental Language:

- To ensure the use within the rail sector of a standardised environmental terminology (including indicators and materials) and data communication formats
- To set up a system for maintaining and making the results available to the international rail sector
- To set up a forum for making agreements on elements that need to be standardised
- After the two-year set-up phase the system should be self-sustained and self-financing



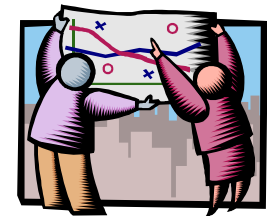
What does REPID offer you?

- REPID enables efficient environmental communication
- REPID provides you comprehensive, structured environmental information for design, tender, and project management phases by delivering:
 - ① Standardised Environmental Performance Indicators (EPI's) and data formats
 - ② A software tool platform for Invitation to Tender (ITT) and Design for Environment (DFE) processes
 - ③ An expert network to exchange knowledge

The need for you in REPID

To have a common environmental language we need:

- The language elements (methodology etc.)
- Specialists to work with exact definitions
- Agreements on how to communicate it in a structured way
- People and organisations to speak it, use it and develop it



... This environmental language we start today!

Background - the RAVEL project

The REPID language is coming from the RAVEL project:

- Successful development project 1998-2001
- Budget of 3.3 million Euro (50% funded by EU)
- The scope of the project *“to develop a workbench consisting of a set of tools that enables the designer to improve the eco-efficiency during their entire life cycle by at least 25% (compared to older comparable products)”*
- Partners: Bombardier Transportation, SJ Swedish Railways, DSB Danish Railways, ABB (Sweden), Woodville Polymer Engineering (UK), Chalmers University (Sweden) and KU Leuven University (Belgium) and GEP Consulting (Germany)

<http://www.ravel-project.de>



Status at the end of RAVEL

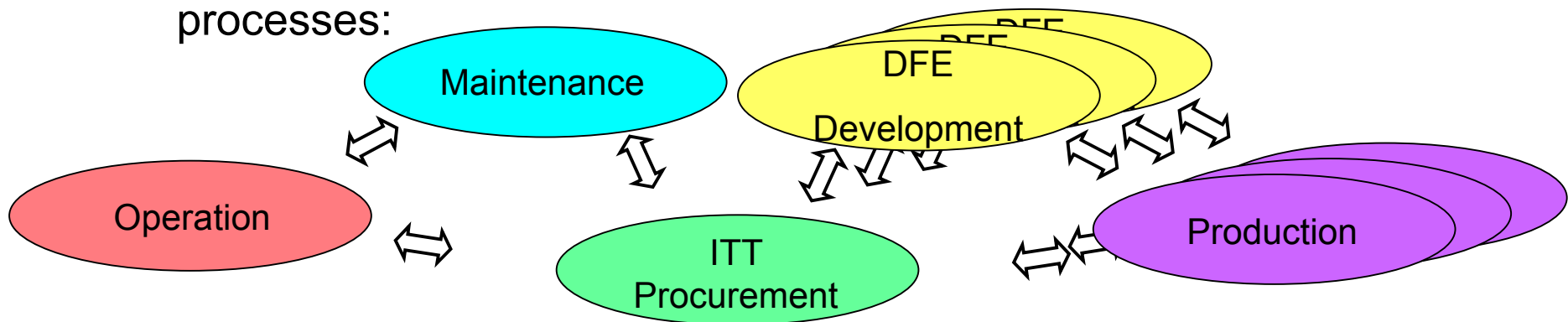
- To retain a **competitive sustainability advantage** the rail sector needs to join forces and efficiently integrate environmental aspects when developing trains and operating railways.
- To achieve maximum value for all parties within the rail sector **standardisation and wide spread usage** of an agreed set of indicators and common data formats is needed.
- **Easy access** to an always updated version of the model and accompanying environmental data is needed.
- For easy accessibility and efficient usage the methodology need to be implemented in **software**.

The REPID Methodology

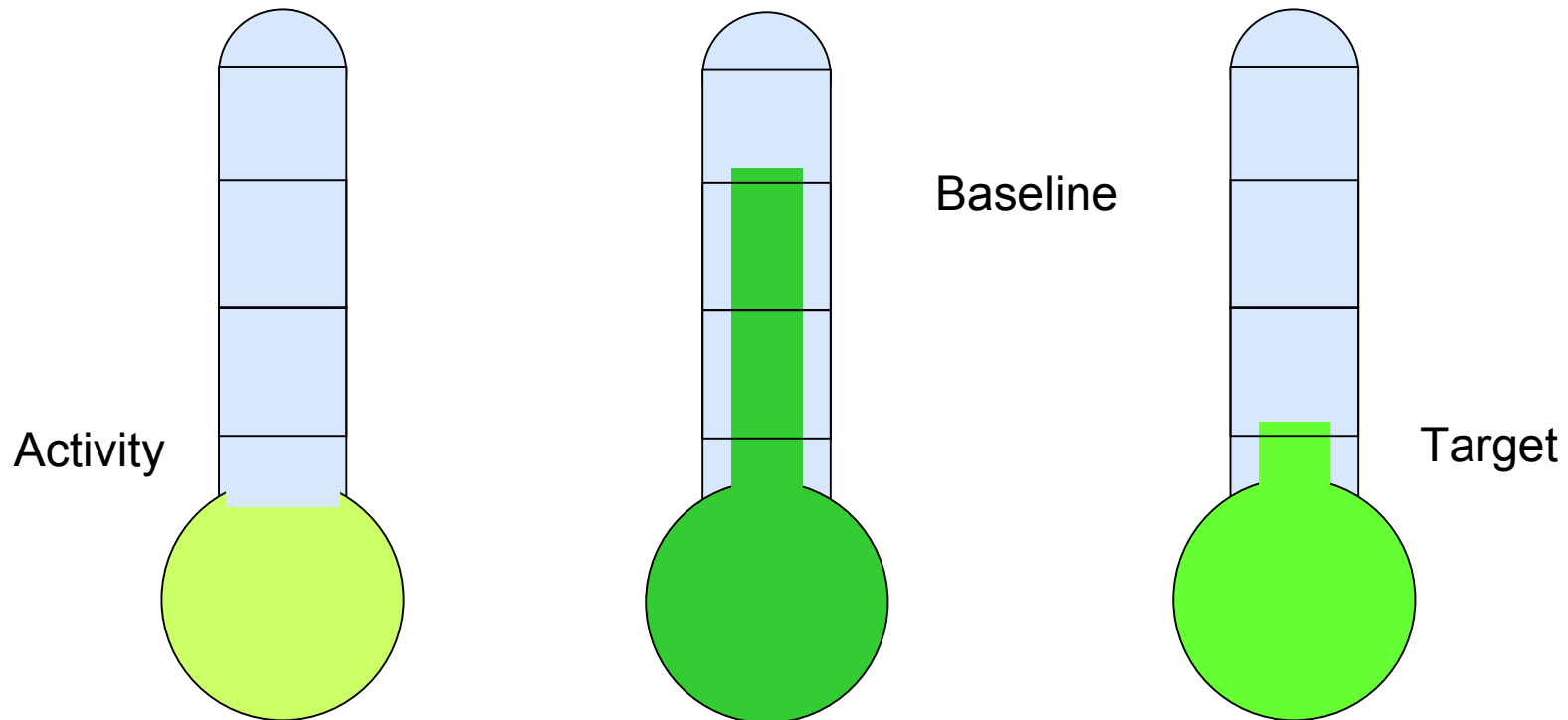
A methodology intended to support all functions/ persons involved in DFE (Design for Environment) of rail vehicles/systems

A practical Definition of Eco Efficiency:

- A set of defined Environmental Performance Indicators (EPI's)
- Standardised material lists and data formats
- A software tool to support efficient integration into the business processes:



Environmental Performance Indicators

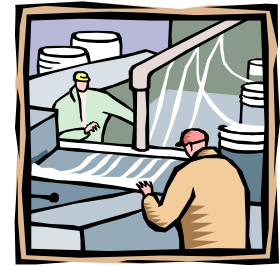


Example: Energy Consumption of the Rolling Stock

REPID EPI Key Areas - related to PROSPER

- **Production:**

Materials
Assembly



- **Operation:**

Energy Consumption
Air pollution and noise
Emissions from wear
Maintenance



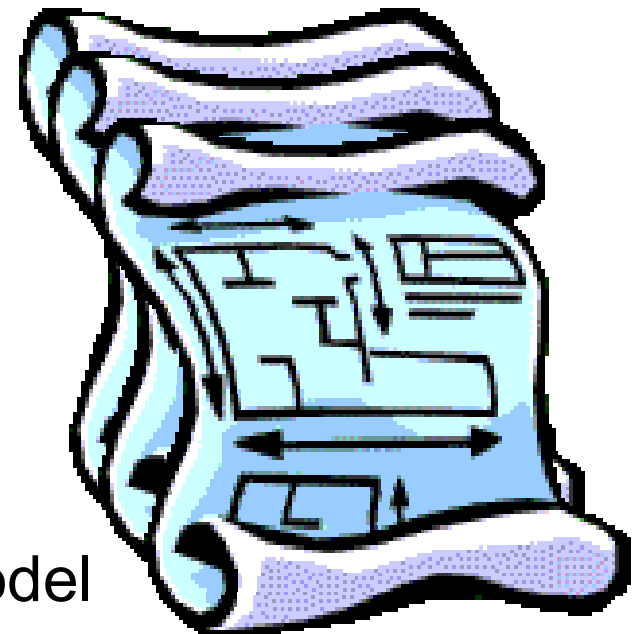
- **End of life:**

Disassembly
Recycling
Deposit

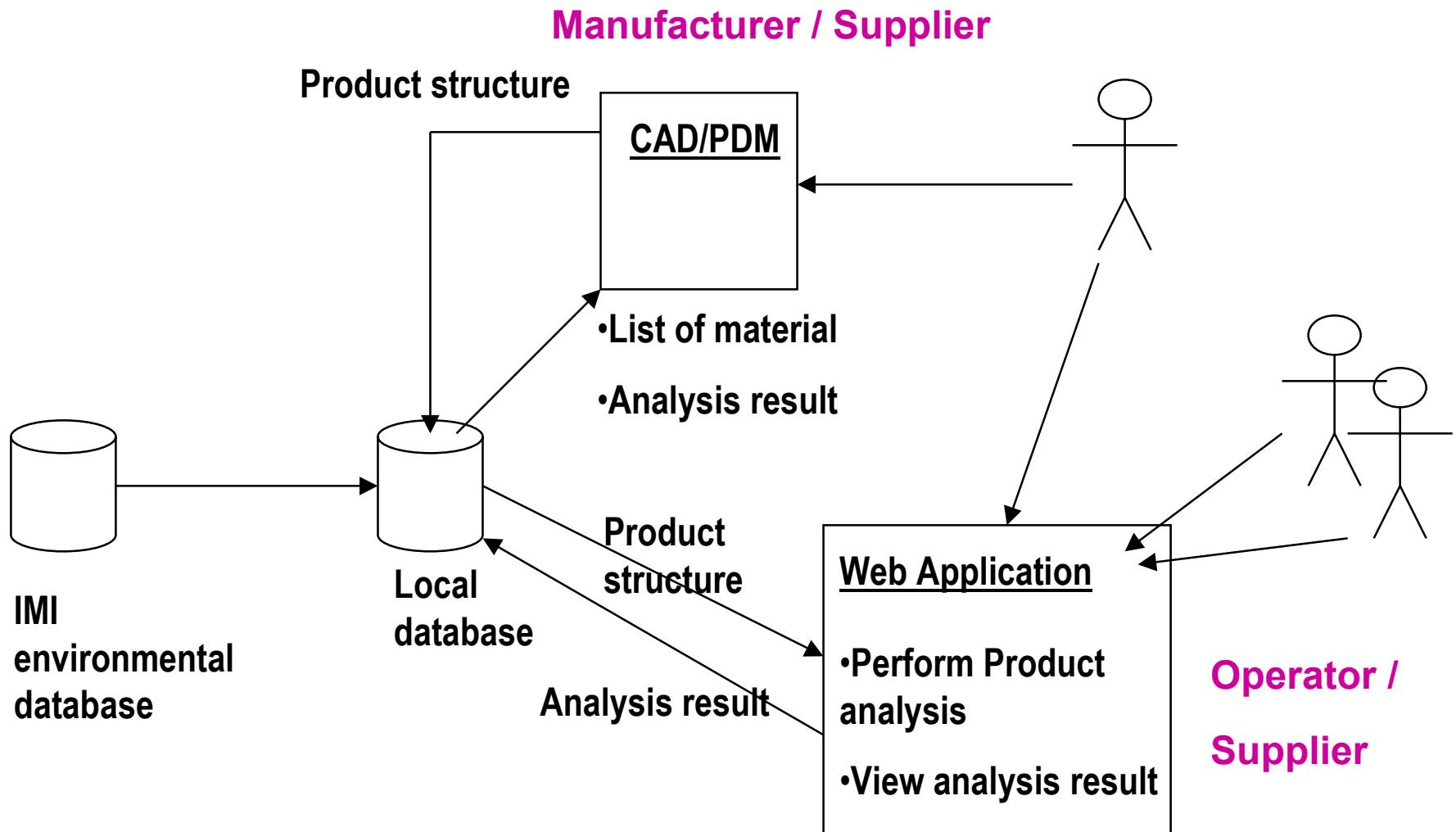


Standardised material lists and data formats

- ▶ One standardised material list
- ▶ List of restricted materials
- ▶ List of forbidden materials
- ▶ Open format (XML) for the data model

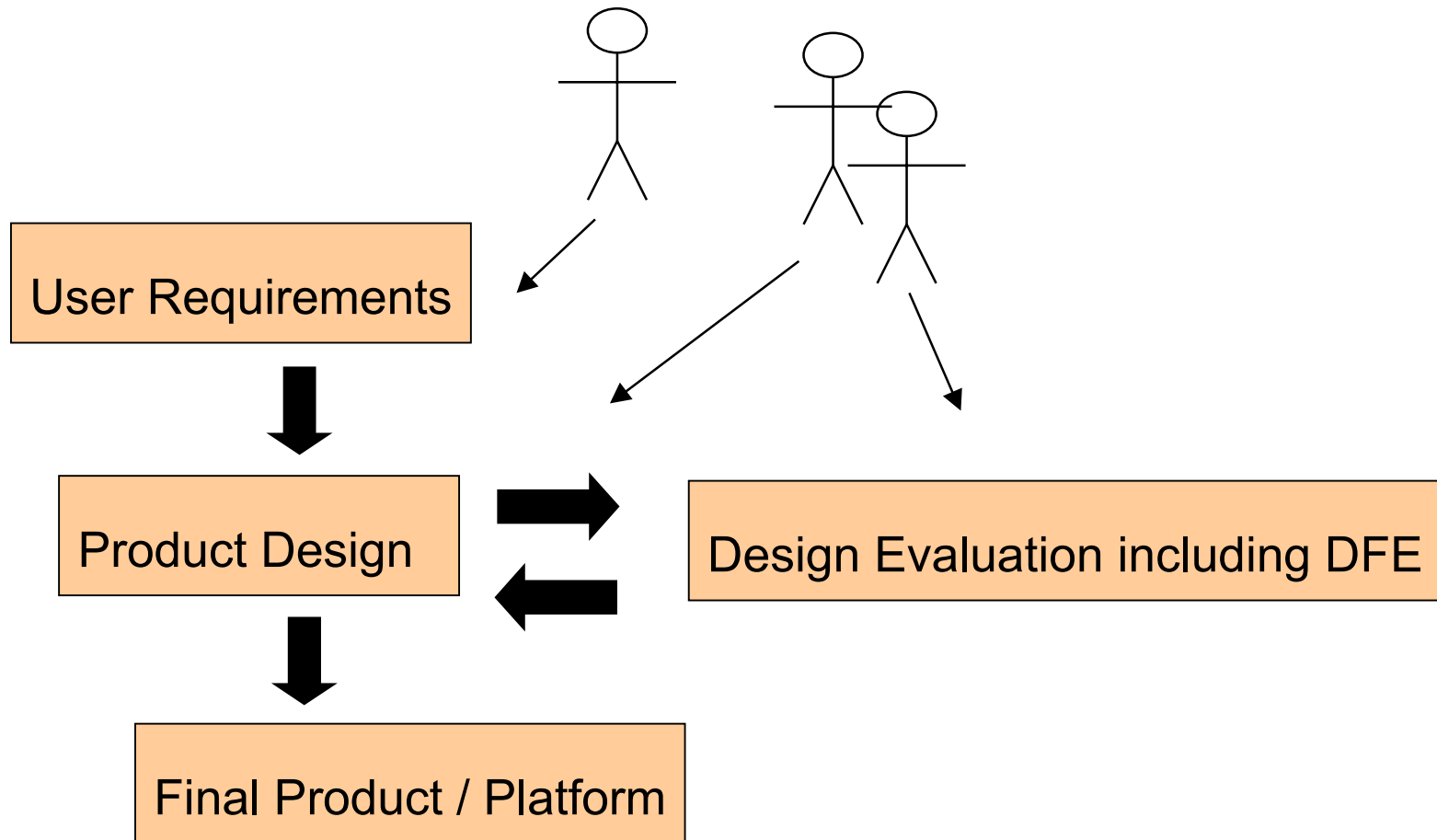


REPID software solution



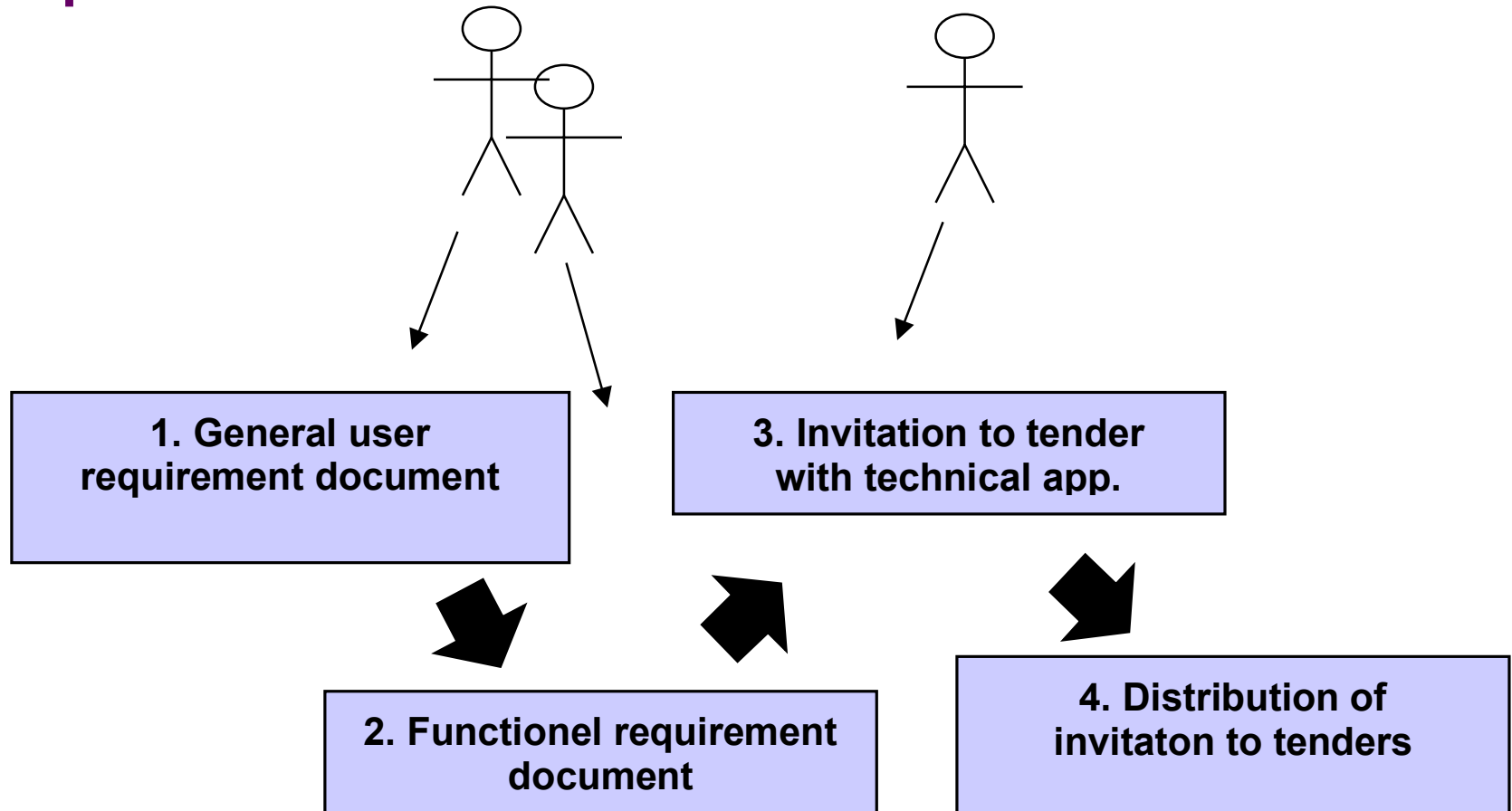
REPID & PROSPER Workflow Support (1)

Example: Manufacturers & suppliers, Product design



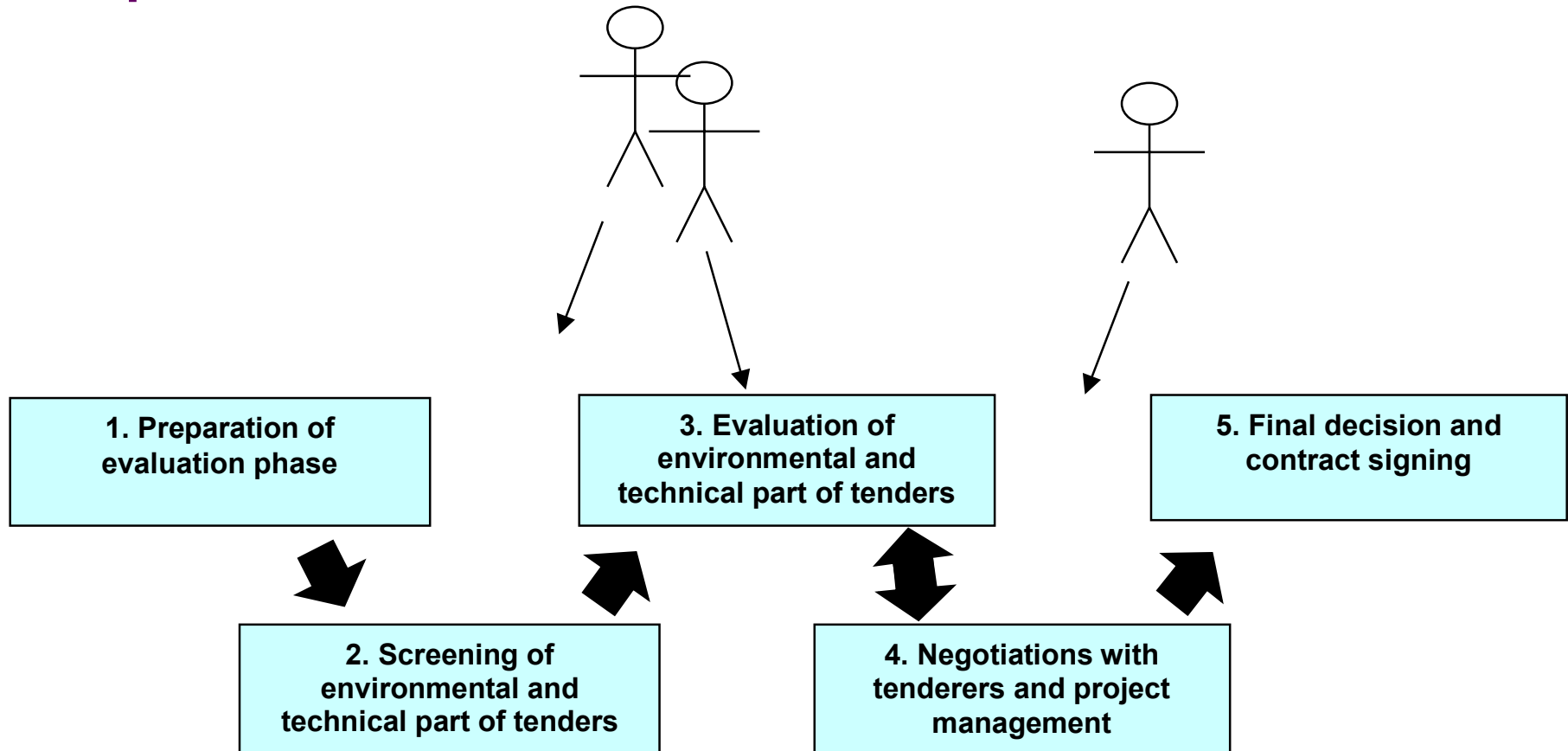
REPID & PROSPER Workflow Support (2)

Operators: Invitation to Tender



REPID & PROSPER Workflow Support (3)

Operators: Evaluation of tenders



The REPID Network

The network incorporates:

- You! - the **network members** (on a voluntary basis)
- A **REPID Board** authorised to approve Eco-procurement related issues
- A **communication platform** via Internet:

<http://www.rail-procurement.org>



The REPID Board

Railway Board for DFE & Environmental Procurement Information

A body within UNIFE and UIC authorised to:

- Approve exact **definitions** of e.g. indicators, material lists and data formats
- Agree on how to **communicate** it in a structured way
- Approve REPID **software specifications** and data suppliers
- Maintain links to other partners, like **standardisation bodies**



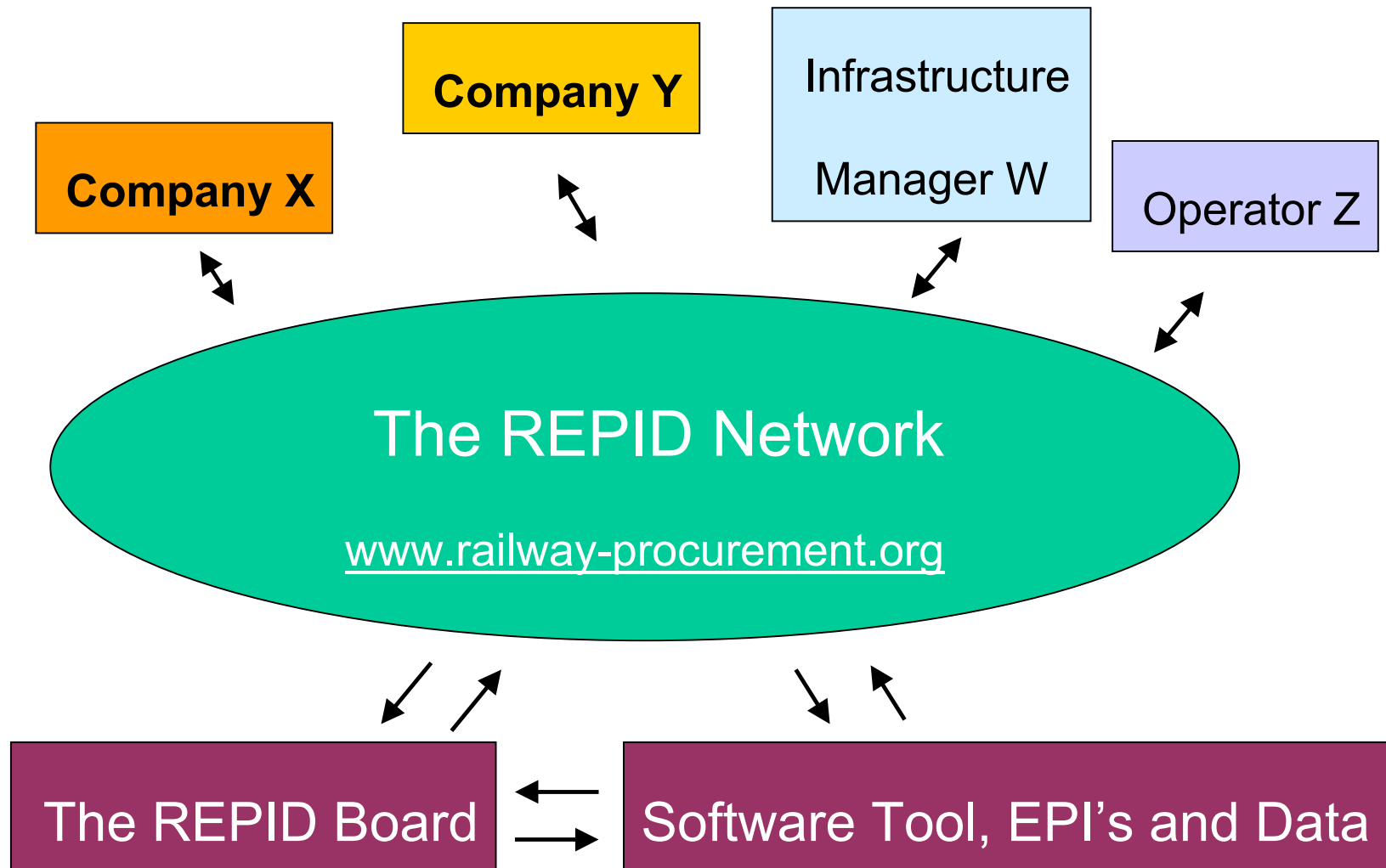
The REPID Board

Constitution of the REPID Board (10-15 members):

- UNIFE members (manufacturers and sub-suppliers)
- UIC members (operators and infrastructure managers)
- UITP representative
- Universities working with Industrial Environmental informatics
- Relation to CEN or ISO



Working out the network... A proposal



Status of the REPID project

Software Part:

- ▶ First software tool (beta) based on CATIA V5 is being tested
- ▶ Material List ready
- ▶ Data model ready

Network Part:

- ▶ First network meeting
- ▶ Website has been started
- ▶ Constitution of the REPID board

Remaining tasks until July 2004

Software Part:

- ▶ New tests on software tool foreseen in May / June
- ▶ Final software solution
- ▶ Final data model and data structure with EPI's
- ▶ Documentation and training programme for REPID

Network Part:

- ▶ Constitution of the REPID board and its links to UIC / UNIFE
- ▶ Finalisation of strategy and business plan for REPID



Future of Eco-procurement in the rail sector

