

**ECORails –  
Energy efficiency and environmental criteria in the awarding of regional rail transport  
vehicles and services**

# **ECORails**

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# Strategy, mid-term innovation, defining the award project

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## Strategic considerations (chapter 2.3.1)

- (1) Overall transport policy including targets
- (2) Clear financial relations between government and TOC; sufficient duration of contracts
- (3) Quality of infrastructure
- (4) Quality of energy supply infrastructure
- (5) Electrification
- (6) Timetable
- (7) Integrated strategy for noise protection
- (8) Fleet strategy (new/old/modernised)



## Competition as a measure for improvement of energy efficiency and environmental protection

Yes, if ...	No, if ...
<ul style="list-style-type: none"> <li>◆ quality is evaluated substantially.</li> <li>◆ requirements are technologically realisable.</li> <li>◆ innovative projects are promoted by PTAs in the context of awarding.</li> <li>◆ the proposals are promoted by the customer.</li> <li>◆ incentive systems are effective.</li> <li>◆ a necessary timeframe for development of innovative ideas exists.</li> </ul>	<ul style="list-style-type: none"> <li>◆ reduction of costs is the main reason for awarding.</li> <li>◆ the requirements announced in tender documents limit the flexibility of development and realisation of innovative ideas within the awarding procedure</li> <li>◆ available or practised measures for improvement of environmental criteria do not find recognition and do not enter the assessment.</li> </ul>

Source: DB Regio AG, 2011

## Expectations from PTAs in public regional rail transport vehicles and services

Train operating companies have the following essential expectations from the PTAs regarding their requirements within awarding procedures. In specific,

- ◆ That there is enough time and space for innovative development foreseen to prepare a plausible offer.
- ◆ That there is the possibility given to improve the energy and environmental criteria by initiating common projects after awarding the public service contract.
- ◆ That requirements regarding times for travel and turnaround and infrastructural conditions are arranged in a way, that they do not interfere in general with the efforts to improve energy and environmental criteria.

Source: DB Regio AG, 2011

## Expectations of the rail industry

- Tender requirements
  - Tenders must allow flexible and functional solutions
  - The technical and environmental criteria have to be fixed in the tender and have to follow applicable standards and norms/TSIs, be transparent and comprehensible
  - The control of the adherence to the specifications must also follow standardized procedures
  - Delivery schedules have to be realistic
- Political requirements
  - Develop the long-term framework for environmental and other criteria (safety, etc...)
  - Ensure long-term planning
  - Define transition periods for the introduction of new standards
- Industry
  - Offers products
    - Based on Platforms
    - With a catalog of options
    - Including environmental and energy-saving technologies

Source: Bombardier Transportation, 2011

Training module • Part 3 – Issue 03 IEE/08/690, 06.05.2009 – 05.07.2011

## Key demands of Rolling Stock Manufacturers towards: The Public Transport Administrations (PTA)

- Informal clarification meetings with manufacturers
  - well before the tender phase;
  - in order to identify and discuss the available economic and ecologic solutions with the best efficiency;
  - To provide the best value for money within the frame of a limited budget;
- Overall targets (i.e. **Ecorails principles, international CO<sub>2</sub> reduction commitments**) have to be taken into consideration by the Public Transport Administrations. Amongst others, the following issues should be addressed:
  - Long-term incentives for the TOCs to invest in energy-saving technologies;
  - Evaluation schemes for the TOC selection have to be comprehensive and sustainable considering all relevant factors during the vehicle lifetime (or, at least, for the duration of the transportation contract);
  - Evaluation scheme for tenders that do not exclude used vehicles must take into consideration all ecologic aspects that are or might be relevant for their deployment at least for the duration of the transportation contract.

Source: Siemens AG, 2011

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## How to trigger the innovation process

The timeframe of tendering is often too short for making substantial steps forward in innovation. It should be embedded in a more comprehensive innovation strategy (chapter 2.3.2):

- (1) Clear environmental strategy
- (2) Coordinated action with other PTAs
- (3) Stimulation instead of binding requirements
- (4) „Postponed“ requirements
- (5) Incentives for later modernisation
- (6) Modernisation paths



## Issues when defining a concrete award project (chapter 4.1)

- Identification of lines or networks; definition of lots
- Timetable and service concepts
- Identification of main environmental problems
- Analysis of energy prices, charging and supply system
- Analysis of the actual situation in terms of energy consumption and CO<sub>2</sub> emissions



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## Issues when defining a concrete award project (chapter 4.1)

- Draft definition of targets in terms of energy efficiency
- (pollutants, noise)
- New, refurbished or existing rolling stock?
- Vehicle concept and comfort for passengers
- Locations for parked trains and maintenance facilities



## Basic decisions of PTAs which could influence energy efficiency and environmental performance of rail passenger services (chapter 2.3 GL)

- Quality of infrastructure (tracks, level crossings, management of operations)
- Integral Regular Timetable
- Buffer time in the timetable (eco-driving)
- Stops on request
- Weakening and strengthening of trains
- Avoiding of empty running trains
- Vehicle concept
- Electrification
- Diesel under wire



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