

The logo consists of the words "DIGI" and "RAIL" stacked vertically in a bold, green, sans-serif font. The text is centered within a white circle. The background of the slide is dark green with decorative light green horizontal lines and dots.

**DIGI
RAIL**

**Building efficient
future for Finnish
railways**

17.2.2022

Joint project for all rail traffic stakeholders!

Matkassa mukana

Näiden tekijöiden lisäksi Digirataa on hahmottelemassa myös muita yhteistyö-organisaatioita ja asiantuntijoita sekä tukitoimintoja toteuttavia kumppaneita.



Traffic
management
company



Infra
manager



NSA



Ministry of
transportation
and comm's



Railway undertakings and
other responsible parties

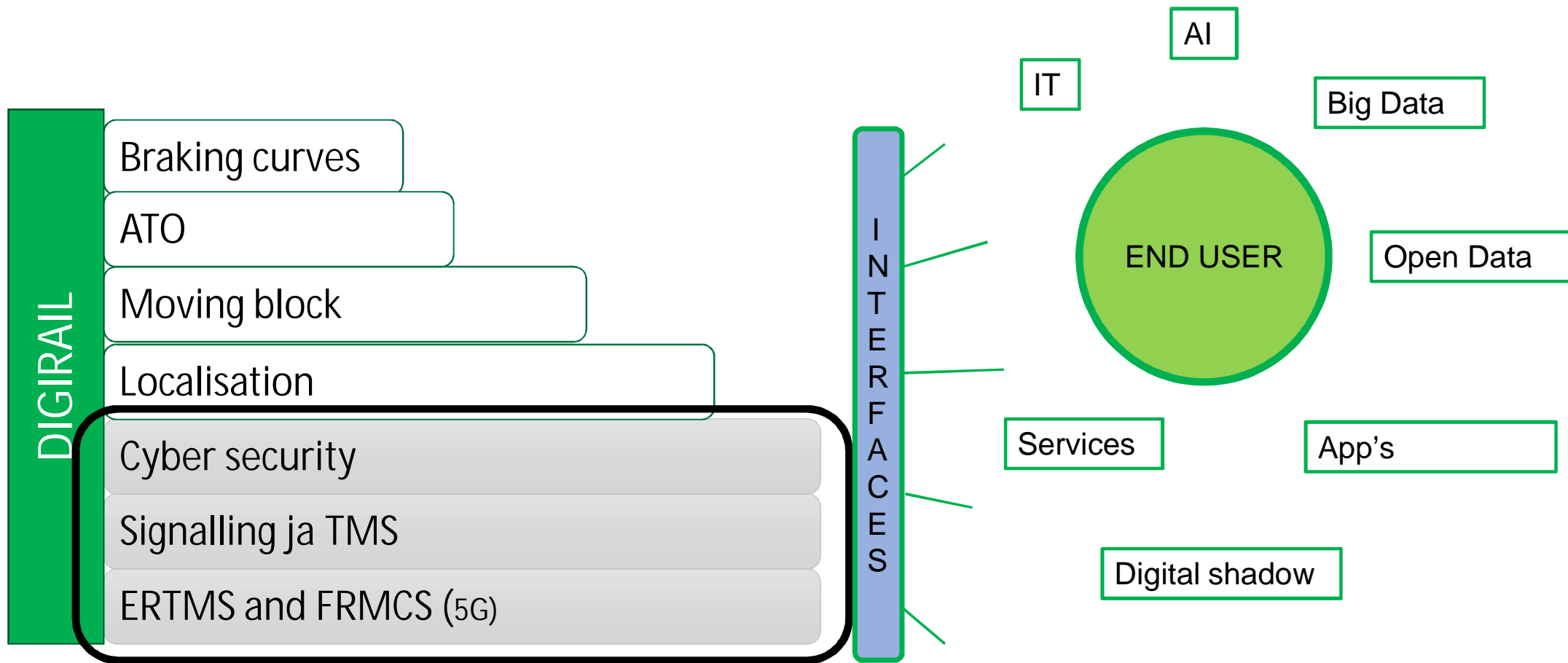


Main Objectives of the Project

Aiming for a new train control system with good:

- Availability and service level (Capacity, reliability and punctuality)
- Financial sustainability (cost-effective investment and lifecycle costs)
- Safety of the transport system (Railway safety, security of supply (including cyber security, preparedness), technologies)
- Ecological sustainability (Technological solutions e.g. long life cycle, ecological driving ATO, ease of maintenance)
- Social sustainability (comes through availability)
- Political perspective (Possible to fill the EU regulatory framework, decision-making, financing organization)

Technological "big picture"





Specified goals



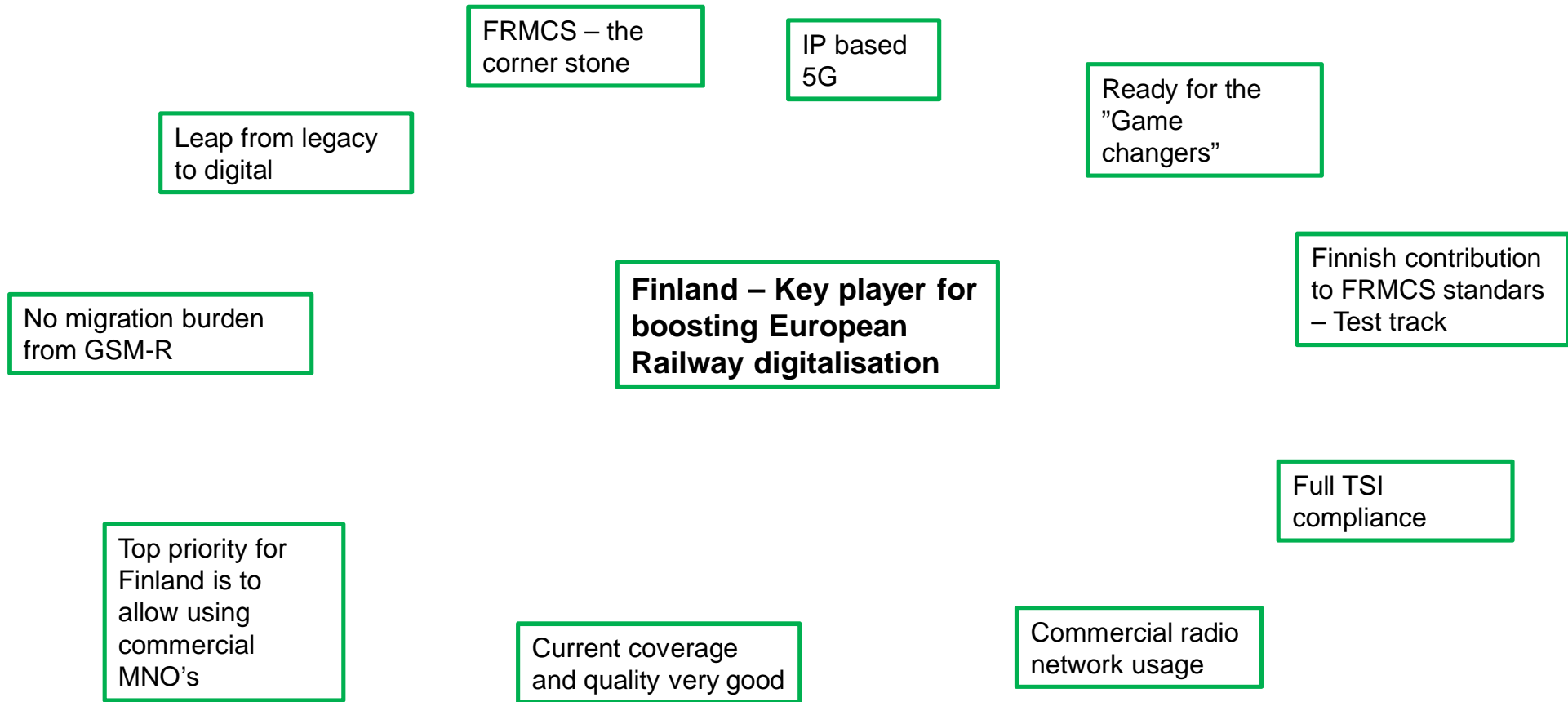
ETCS level 3

Automatic
Train
Operation
(ATO) GOA 2

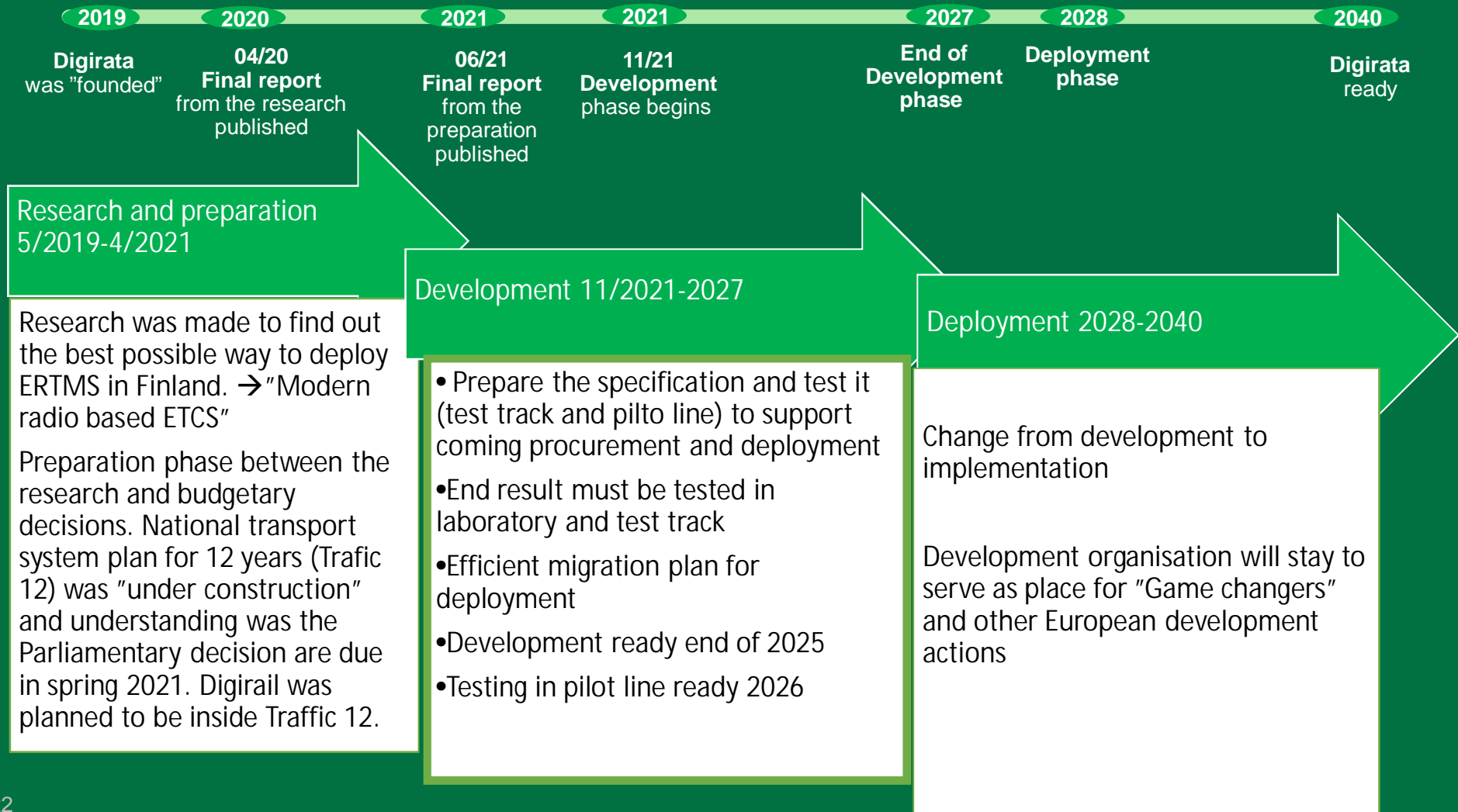
5G based
FRMCS and
commercial
radio network

New
positioning
technology

RADIO NETWORK – THE FUTURE WAY



DIGIRAIL PHASES



FINNISH ERTMS DEPLOYMENT – THE NEW PLAN 1/2

Test Track 2020-2023

- Finland has started implementing a test track for ETCS over FRMCS
 - ETCS test system will be only for testing purposes
- Why a test track?
 - To gain competence in Finland about radio based ETCS.
 - To implement and test ETCS over FRMCS.
 - To implement and proof of concept of FRMCS in public radio network.
 - Radio network to be used will be commercially available LTE/5G

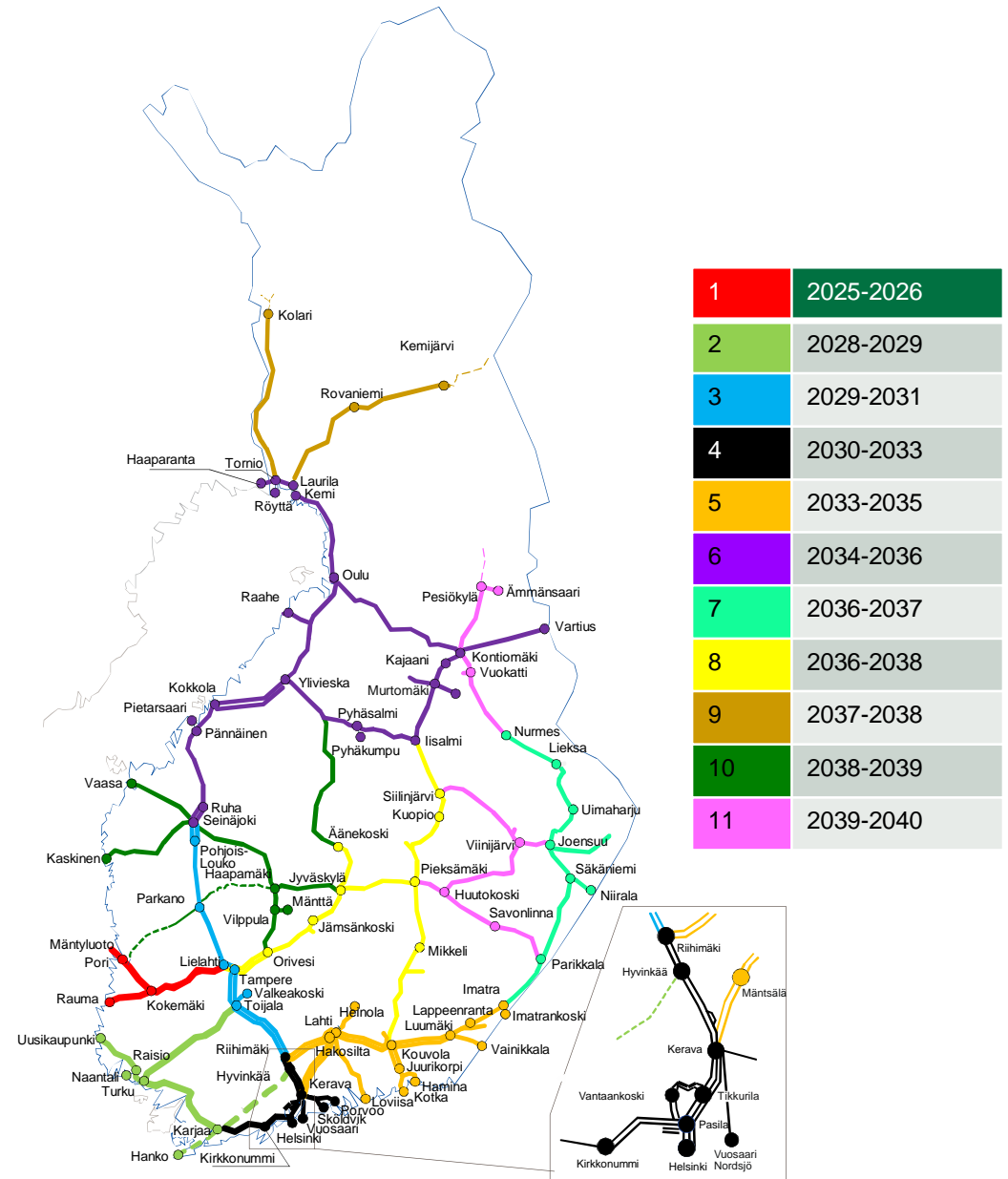


PILOT (1st commercial) LINE 2025-2026

- Fully compiling TSI's with ETCS over FRMCS
- Adjusting Finnish requirements
- Why a pilot line?
 - To be 100% ready for national roll out.
 - Experience the acceptance process.
 - Optimising the success of national roll out
 - Making sure RU's readiness for roll out

FINNISH ERTMS DEPLOYMENT – THE NEW PLAN 2/2

- Totally new infrastructure for the whole country at once.
- Secure the full benefits on digitalisation.
- Create a new ecosystem to optimise railway traffic
- Target is to provide best possible service for railway end users.
- Optimise the maintainability, and operability



Digirail

Foundation for the future railway traffic is formed now

A SOLUTION THAT STANDS THE TEST OF TIME

- AI-based optimisation of traffic management
 - real-time refining of data
 - continuously updated capacity and schedule data
 - dynamic reactions

FOR FINLAND'S RAILWAY NETWORK

- Maximum utilisation of investments
- Proactive maintenance, also by digital methods
- Safety in e.g. railway maintenance and level crossings
- Simplifying the infrastructure, less trackside equipment

FOR PASSENGERS

- Punctual and safe journeys
- More connections and smooth travel chains
- Personalised passenger information

FOR THE ENVIRONMENT

- Reduced CO2 emissions
- Shifting transport volumes to the rails from other modes of transport
- Energy efficiency through capacity optimisation and more economical and energy-saving driving

FOR BUSINESS

- More flexible transport services for industry
- A platform for the growth of new services
- Conditions for more sustainable business

