



Karel van Gils | ASPECT 2019 | 23 October 2019

ProRail



Karel van Gils - Director Innovation

ERTMS a change proces

- Overview of ProRail and Public Transport in the Netherlands
- Challenges in the Dutch rail sector
- Our view on the change process

Our mission

We connect people, cities and companies, now and in the future. We make pleasant travel and sustainable transport possible.



ProRail Connects



ProRail Improves



ProRail makes sustainable

24/7

Passenger transport



1.1 million
passengers per day

8 operators
of passengers



Safety
Reliability
Punctuality
Sustainability

24 hours
per day

7 days
a week

365 days
a year

16.9 million
population

4 million
local residents

Freight transport



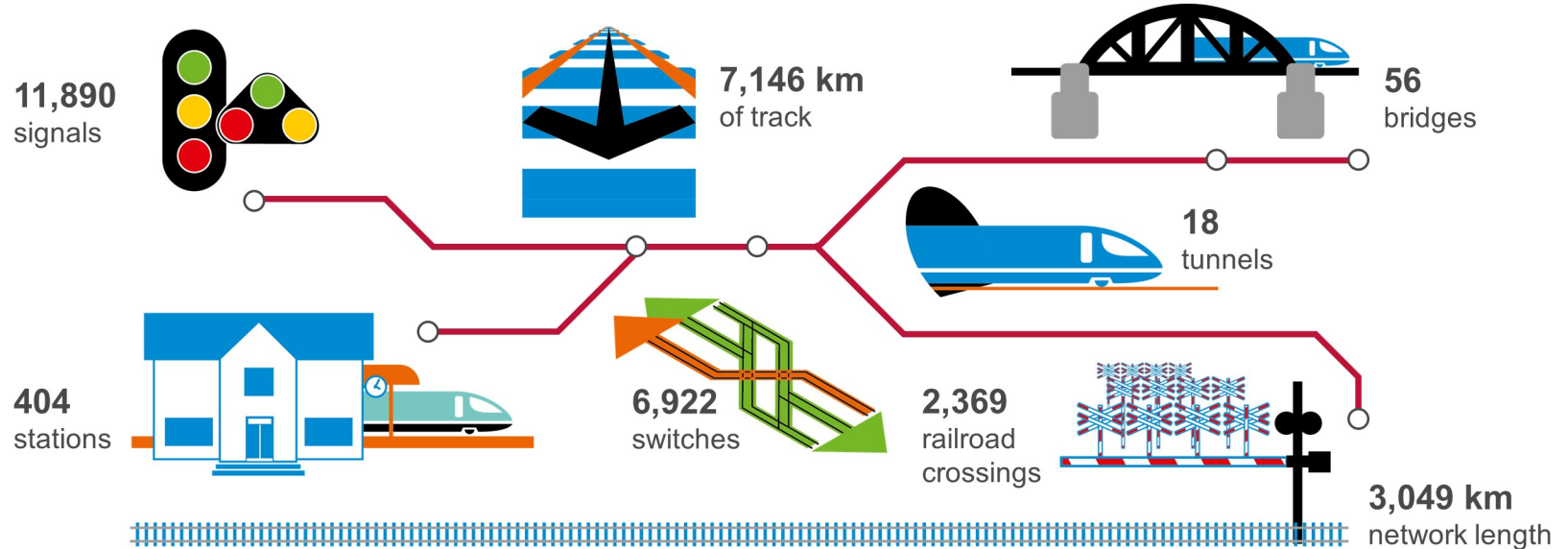
54 milliard
Freight tonne-kilometers
per year



18 railway
undertakings

10 million km.
freight transport per year

Rail infrastructure in the Netherlands



Customers

 ARRIVA a DB company	 DB	 RAIL FORCE ONE	 RheinCargo
 railpromo	 DB BAHN	 connexion	 TXLOGISTIK
 duisport rail	 abellio	 SHUNTER	 KombiRail EUROPE
 RTB CARGO	 Keolis	 RAILTRAX	 BENTHEIMER EISENBAHN AG
 International	 LTE logistics & transport	 LINEAS YOUR FREIGHT VOICE	 PKPCARGO
		 RTT	 CAPTRAIN
		 SBB Cargo International	

Challenges in the Dutch railsector



Growth of mobility

Freight +25-50%
Passengers +34%
Especially in urbanized area



New technology

Digitalisation
Robotics
ERTMS
ATO
Power supply system



Sustainability

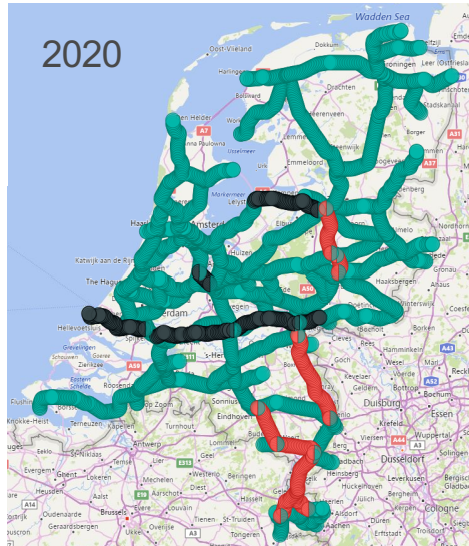
Modal shift
Climate goals
Circularity in materials



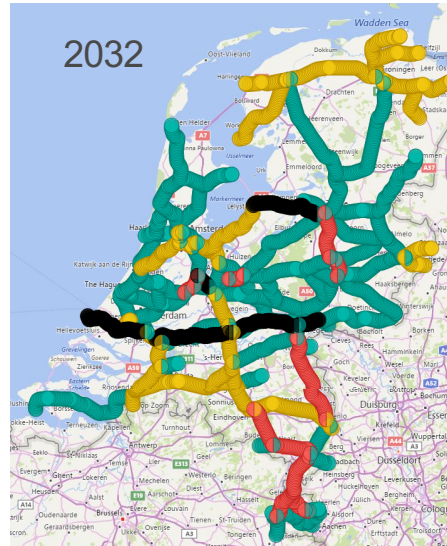
ERTMS is a major change process

1. From track based roll-out to national implementation

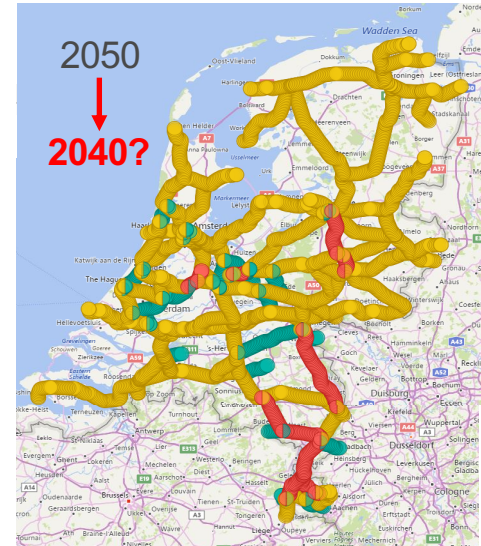
National implementation ERTMS, minimal investments in “old-for-old”



- 8% ERTMS (now)
- ATP (Program PVT)
- ATP (now)



- 8% ERTMS (now)
- 25% ERTMS (new)
- ATP (Program PVT)
- ATP (now)



- 95% ERTMS
- ATP (Program PVT)
- ATP (now)



Standardisation Interlocking – EULYNX

2. From operational technology to IT





From connecting analogue to connecting digital



Railcenter in Amersfoort, for testing and training facilities

The background of the slide is a photograph showing several hands of different skin tones stacked on top of each other in a circle, symbolizing teamwork and partnership. The hands are positioned in the center of the frame, with fingers pointing towards the center. The background is slightly blurred, showing what appears to be an office or meeting environment with blue and white elements.

3. From customer-supplier approach to partnership

4. From separate contributions to joint performance

A wide-angle photograph of a railway construction site under a clear blue sky. In the foreground, several parallel tracks are laid out on concrete sleepers. In the middle ground, several red cranes are positioned, with one crane's arm extending over the tracks. Numerous construction workers wearing high-visibility yellow vests and white hard hats are scattered across the site. In the background, there are piles of gravel and some trees. The overall scene depicts an active and large-scale infrastructure project.

The ERTMS development and management value chain affects all



**CHANGE
IS
NOW**

The ERTMS program is beyond a technical project,
it's a major change process.



ProRail

Connects. Improves. Makes sustainable.