



Ministerie van Infrastructuur  
en Waterstaat



# ERTMS

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Railtech conference

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Zwijndrecht



Lombardijen

Rotterdam Blaak



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# Content

1. Why does the dutch government want ERTMS?
2. What is the programgoal?
3. What is the current status?
4. What are the main challenges?



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1. Why does the dutch government want ERTMS?



# Why ERTMS?

## > **Renewal**

- Current system end of life.
- No investments in old.



## > **Digitalization**

- Faster and more frequent railtransport.
- Growth: passengers and freight about +50% in 2040
- Platform for innovation: e.g. ATO.



## > **Trans-European Network – Transport**

- single railway area
- core network before 2030, NL for 2050.
- prohibited investments in class B.







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2. What is the programgoal?

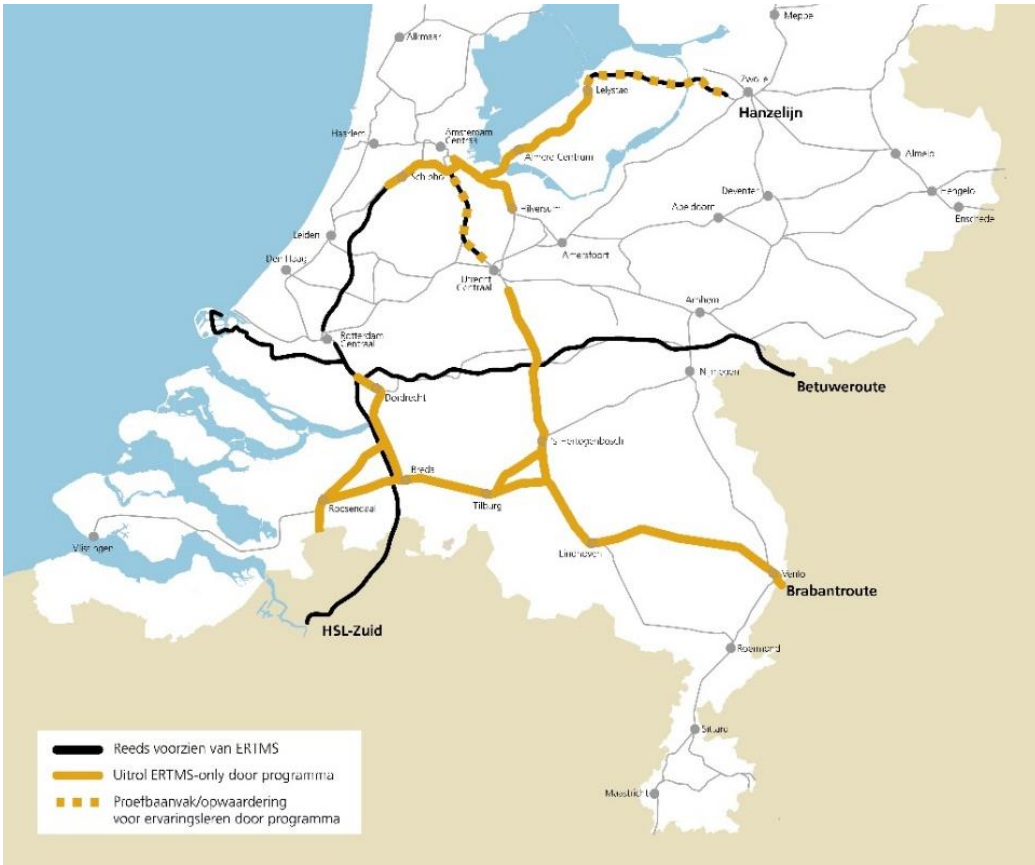


# Programgoal

- > Replace current system by ERTMS
- > Gain on capacity, speed, reliability, safety and interoperability
- > 7 track sections (350 km).
- > Basic investment in rolling stock, ICT, training, etc in perspective of national implementation
- > at wich:
  - minimalization of disruptions
  - efficient and effective
  - within budget and planning
  - adaptive to new technologies
  - balancing with concessions  
passagertransport and competitivness  
freight



# Scope (2030, € 2,4 mld)



7 sections (345 km) + testsection Hanzelijn.  
35% passengerkm and 87% tonkm on ERTMS.

15.000 - 18.000  
training users



600 locomotives



10.000 balises



1.750 signals



~690 OBU's



825  
relay boxes



750  
passengertrains

385km digging  
450km fiber





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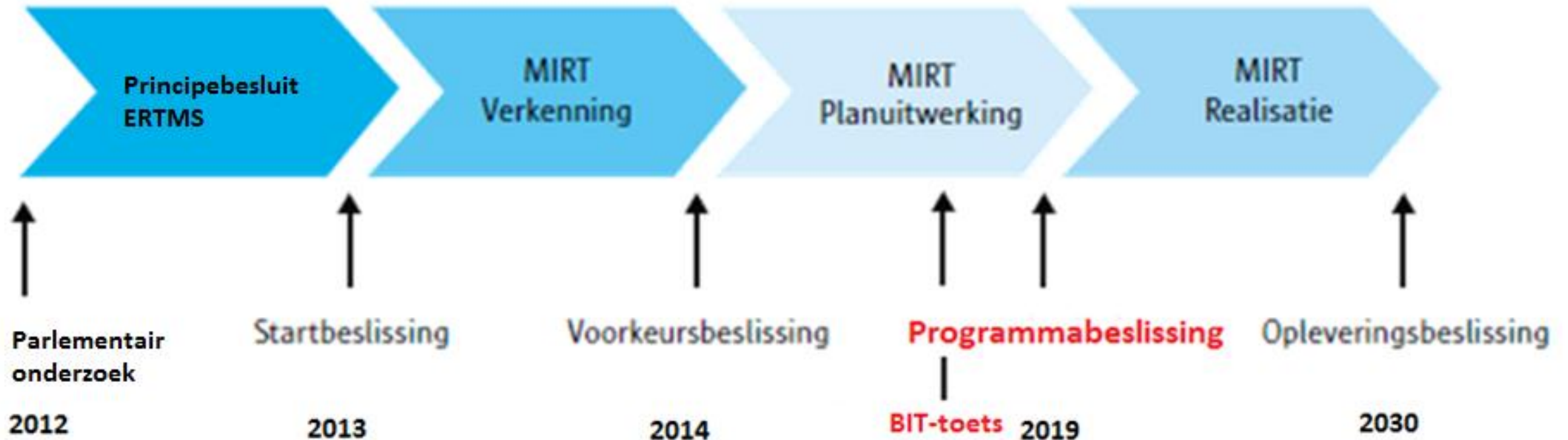
# Content

3. What is the current status?





Start realization phase to be expected this year.





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# Content

4. What are the main challenges?



# Main challenges

- › Technical complexity
- › Operational complexity
- › Institutional complexity



# Technical complexity

- > system integration
- > developing TSI's
- > new technologies
- > national aspects (STM, national values, NTR's).

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**System  
Architecture**

**System Design  
& Development**

**System  
Integration**

Test &  
Evaluati

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# Operational complexity demands a step by step migration

<b>Migration steps</b>	<b>Jaar</b>
<b>Preparation of usersupport and logistic systems for baseline 3</b>	<b>2021-2024</b>
<b>Driving with upgraded trains on current tracks with ATB</b>	<b>2022-2023</b>
<b>On two current baseline 2 - tracks gaining experience with ERTMS level 2</b>	<b>2022-2023</b>
<b>Test track with baseline 3: Hanzelijn and Lelystad station</b>	<b>2025-2027</b>
<b>Implementing ERTMS level 2 Only</b>	<b>2026-2031</b>
Kijfhoek – Roosendaal – Belgische grens	2026-2028
OV SAAL - oost	2027-2029
Hoofddorp – Duivendrecht	2027-2029
Utrecht – Meteren	2028-2029
Roosendaal – Den Bosch	2028-2030
Meteren – Eindhoven	2029-2031
Eindhoven – Venlo – Duitse grens	2029-2031



# Institutional complexity demands a clear governance

- > **Task** deliver on first phase NL-implementation
- > IenW is client
  - Secure programgoal
  - Funding vehicles
  - Policy
- > ProRail is contractor:
  - Program director
  - Decomposing on what and how
  - Implementation team ProRail:
- > Implementation teams at NS and other implementers:

