

**ERTMS** \_ \_ \_

# Technology versus Human Factors

## Dutch ERTMS Program



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Director ERTMS Program



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Projectmanager  
chain management

## Overall update – 1 of 3

In collaboration with our partners in the Dutch railway sector, the following progress has been made:

### **Regional Transport Company's:**

- Arriva ordered 36 ETCS-equipped trains from Stadler;

### **Main Railway Network**

- Tender to retrofit 173 NS trains with ETCS is in progress;

### **Freight sector**

- 147 ETCS-equipped freight locomotives have been ordered from Siemens, Alstom and Bombardier



## Overall update – 2 of 3

### Infrastructure

- Tender for ProRail for the ETCS Central Safety System is in progress
- ASAP: the tender for innovative solutions to speed up the implementation of ETCS in The Netherlands
  - resulted in 15 ideas from 15 parties
- Kennisalliantie ('Knowledge alliance'):
  - innovative collaboration between engineering firms Arcadis, Movares, Royal HaskoningDHV and Sweco
  - open engineering of the ETCS L2 section between Kijfhoek and the Dutch/Belgian border



## Overall update – 3 of 3

### STM ATBEG

- Certified Specific Transportation Module which enables trains with a ERTMS-system to run on ATB.

### On schedule, despite corona

- First milestone, 'Organizing Chain management' according to schedule (January 2021).

### Forecast

- 2024-2027: upgrade of trains to BL3 R2
- 2027-2031: 7 corridors will be equipped with ETCS level 2 only, BL3 R2





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Chain management ERTMS**

Hella van Veen

Railtech 31 March 2021



# The 7 sections of the ERTMS program

## 7 baanvakken Programma ERTMS

### Legenda

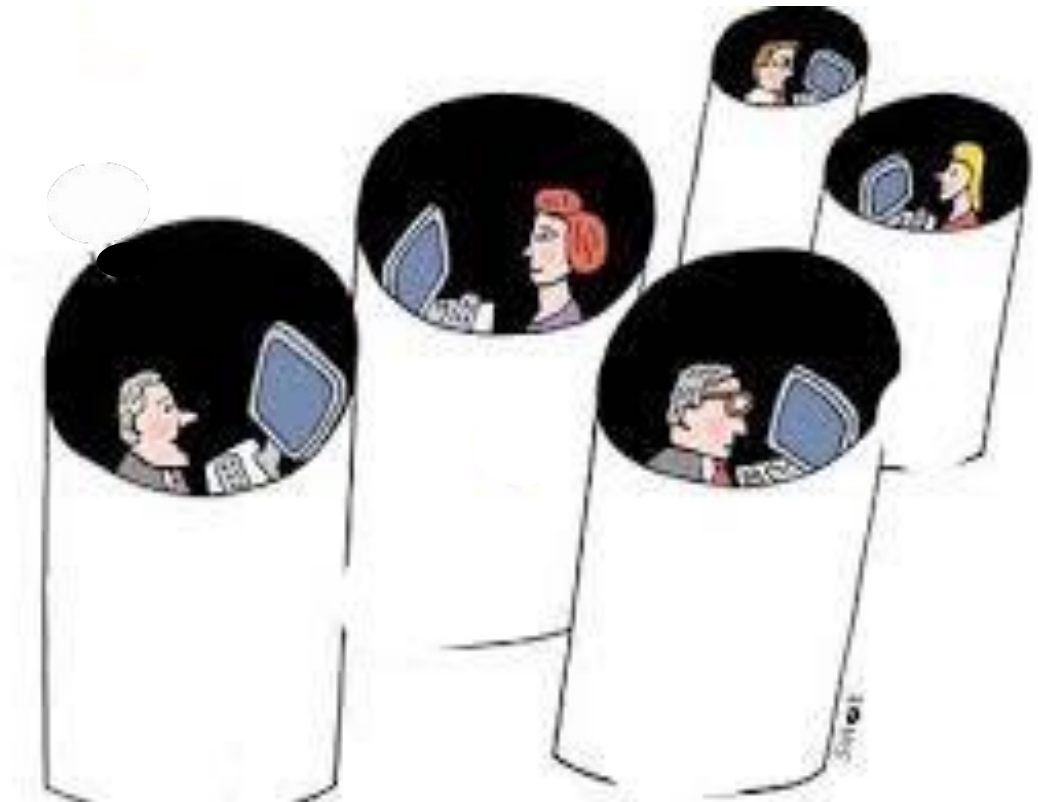
- Reeds voorzien van ERTMS
- Uitrol ERTMS-only door programma
- Baanvak voor ervaringsleren door programma
- Proefbaanvak/opwaardering voor ervaringsleren door programma



**Many  
disruptions**



- Each party tried to cope with these disruptions, focussing on each specific part of the chain.
- Blaming one another didn't help





**ERTMS is a  
digital  
system.**



**“We have to change our way of working: let’s put our  
knowledge together.”**

***System specialists realized:  $1+1=3$***

# Chain management ERTMS: the Why

The system is like  
a jigsaw that we  
have to make  
together



# Chain management ERTMS

- a **major mindshift** in the Dutch Railway sector
- This means a **completely new way of working**

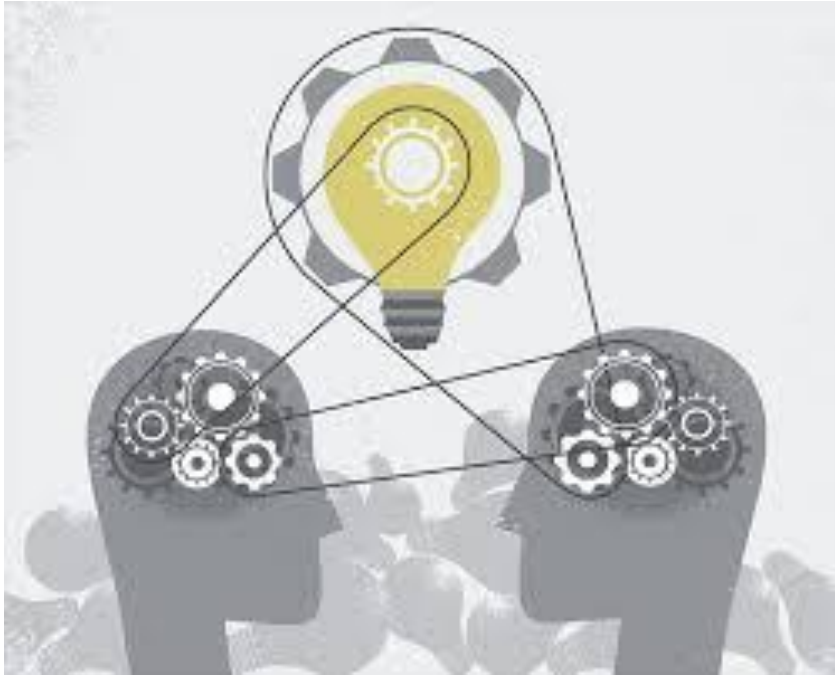


**Contracts** will have a different character: **permanent maintenance** and bug-fixing will be part of the contract.

**Maintenance** engineers will have to cope with complex IT-systems.



# Information



- **Sharing information is not self-evident,**
- Parties want 'to protect' information and privacy.

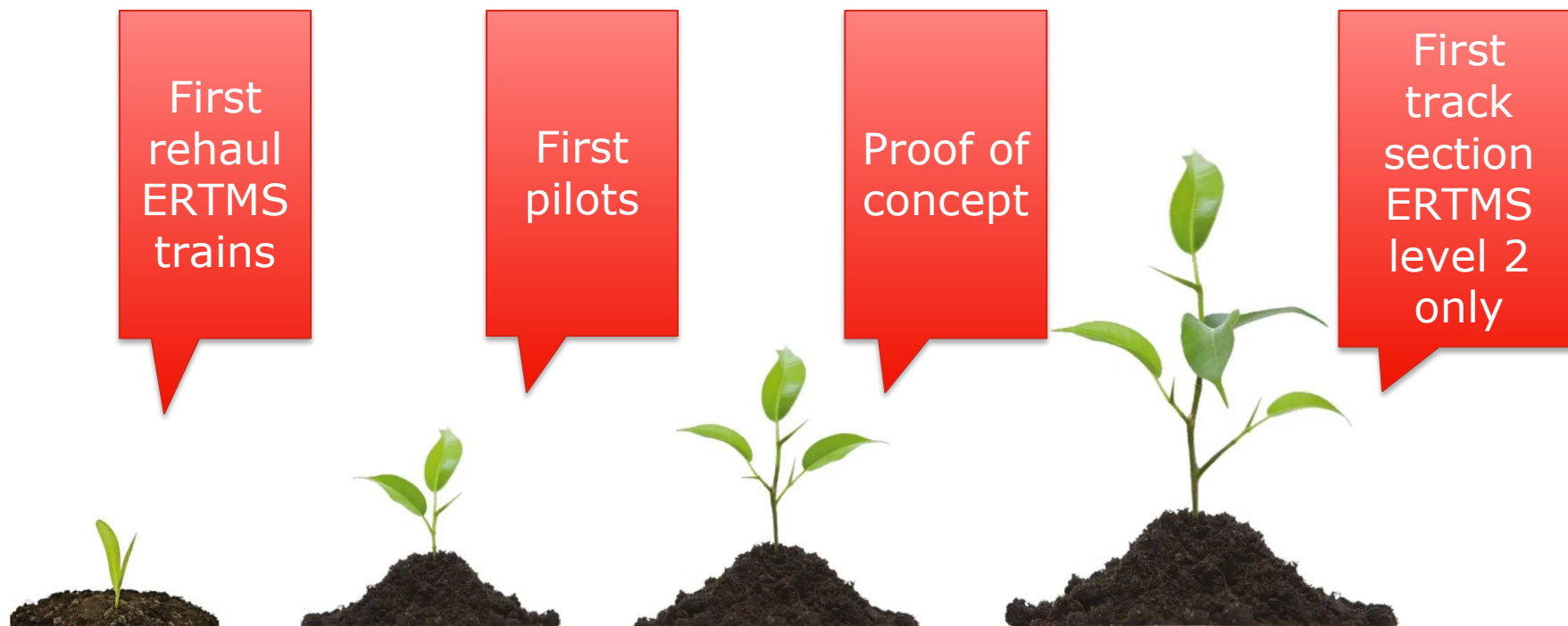
Implementation of chain management will take place step by step

together with all parties:  
infrastructure-managers and about 50 carriers.





# Chain management ERTMS: the How



Chain management will 'grow' through the years: next steps in roll out of ERTMS will lead to extending the chain management proces.

*"If you want to  
go fast, go  
alone. If you  
want to go far,  
go together".*

