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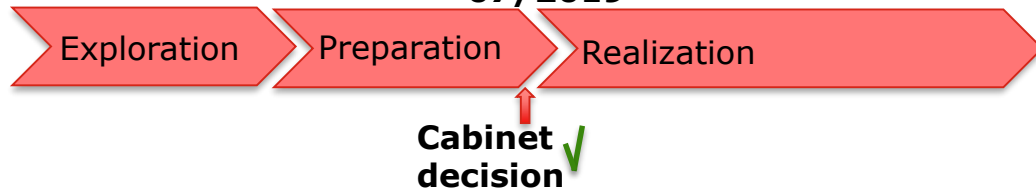
How to organise the B3 upgrade of loco's for the corridor Rhine-Alpine

CCRCC 2019 ERTMS conference



Status NL ERTMS program

07/2019



Milestones	Period
Start learning Amsterdam - Utrecht	2022 - 2023
Start learning Hanzelijn	2022 - 2023
BL3 Lelystad - Hanzelijn	2026 - 2026
BL3 Kijfhoek - Roosendaal	2026 - 2028
BL3 Hoofddorp - Duivendrecht	2028 - 2029
BL3 Roosendaal – Den Bosch	2028 - 2030
BL3 OV SAAL Oost	2027 - 2029
Utrecht - Meteren	2028 - 2029
Meteren - Eindhoven	2030 - 2031
Eindhoven - Venlo	2029 - 2031



B3 cargolocs on the corridor Rhine-Alpine



Siemens BR189/F4



EMD Class 66



Vossloh



Bombardier TRAXX



MaK 6400



Vossloh G1206



Alstom BR203

CEF I: 8 proto's, 292 serial

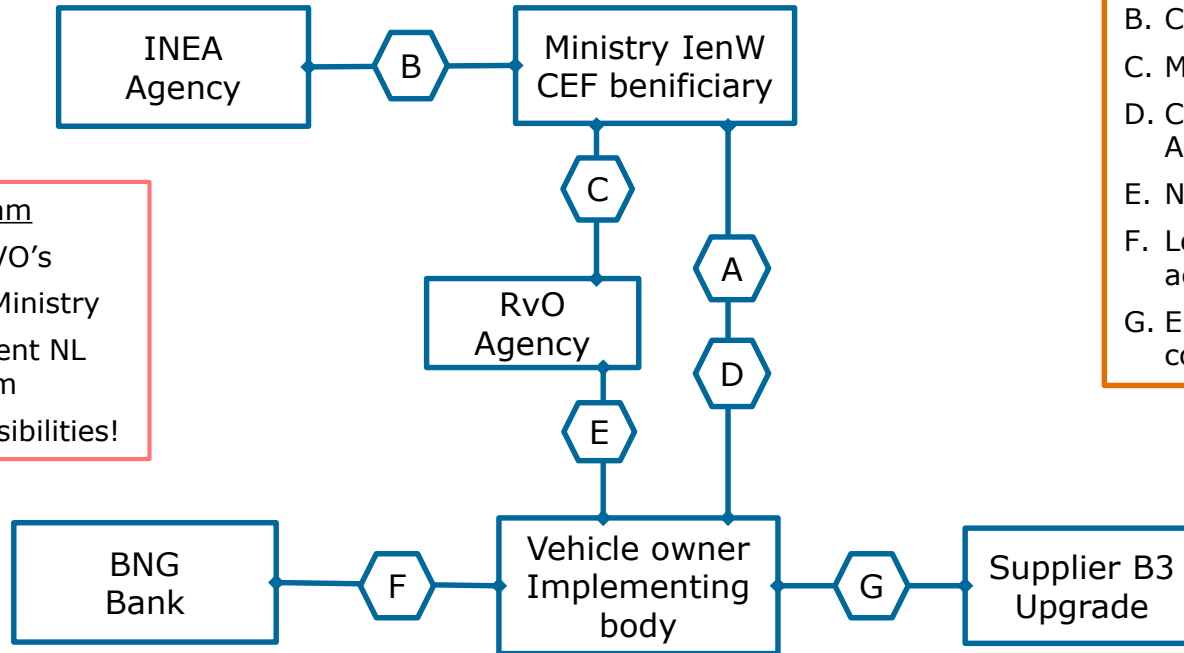
CEF II: 3 proto's, 52 serial

Project objectives

- To facilitate RS Owners in upgrading their fleet of cargo locomotives so that it can operate on RFC RA including ERTMS B3 tracks in NL (>2024)
- Secure smooth integration in national ERTMS programme: assure that upgrading of this fleet is done in time, i.e. is ready before putting in operation NL tracks with ERTMS L2 B3 only
- Positive example of cooperation between EIM's, ERA and national programs to achieve effective ERTMS implementation

Project works overview

ERTMS B3 Upgrade project: finance structure



Project team

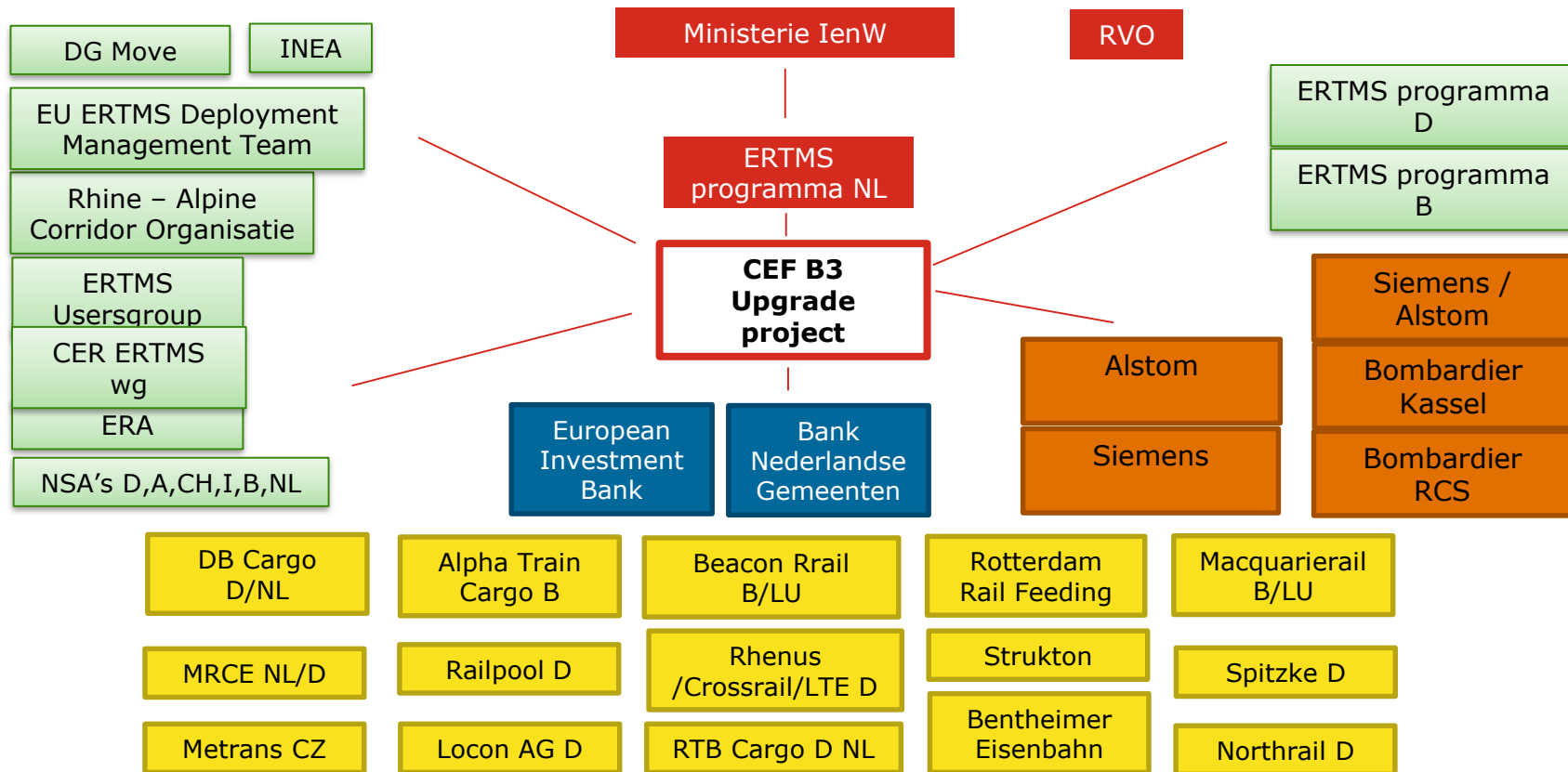
- Assist VO's
- Assist Ministry
- Represent NL Program

No responsibilities!

Sequence of Contracts

- Declaration of cooperation
- CEF Grant Agreement
- Mandate
- Cooperation Agreement
- NL Grant Agreement
- Loan and current account
- ERTMS B3 upgrade contract

Stakeholder overview



Handling additional requirements ERTMS NL

Key objective ERTMS program NL:

For the transition to ERTMS and future operation under ERTMS, the network and traffic performance shall be between stand still and significant improvement

Need for national requirements

Besides safety and interoperability, the RAM performance during operations still needs attention and becomes of more importance on high density networks in national roll outs.

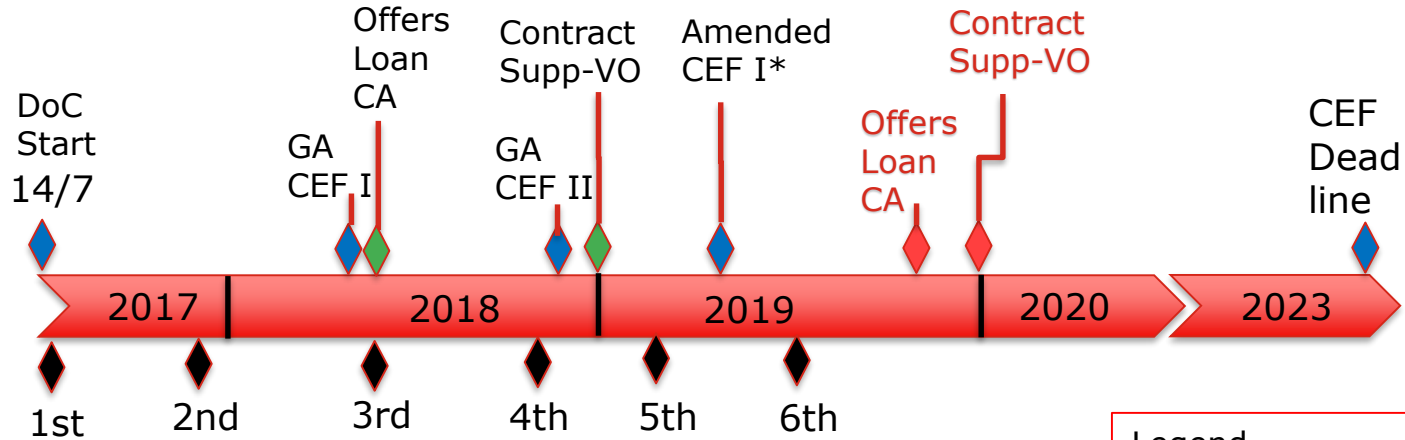
Performance analysis of Betuwe Route operation is the argument for the NL ERTMS program to invite owners to include RAM, Security and ERTMS optional performance requirements in OBU B3 upgrade RfQ's



Requested to quote:

- Interoperability requirements
 - Contracting SP art 10 Technical Opinion
- Performance improvements required by NL ERTMS program
 - ETCS B3 R2 (3.6.0)
 - GSM-R performance and parameters
 - Reliability and accuracy of Odometry
 - Remote monitoring
- TTI proposal and APIS for new NL B3 tracks

Timeline



Participants meetings

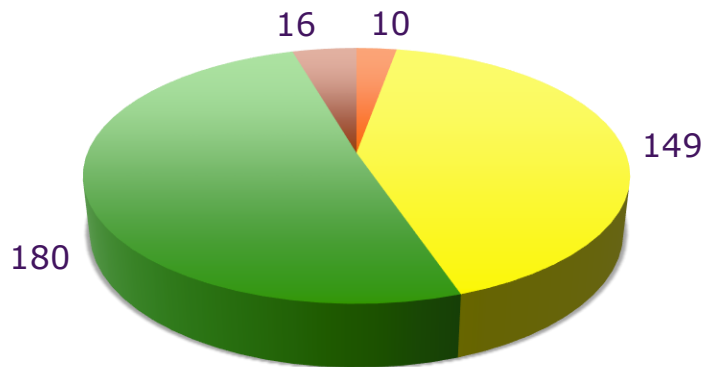
- 1st: Kick off
- 2nd: Start RfP with specs NL
- 3rd: Setback: Risk's / doubts to continue
- 4th: Work out mitigation
- 5th: Change scope CEF I and subsidy schedule
- 6th: Go/Nogo

Legend

GA: Grant Agreement
CA: Cooperation Agreement
BNG: Bank
RVO: Agency I&W
INEA: Agency EC
Supp: Supplier
VO: Vehicle Owner
I&W: Ministry

Different positions owners in 2018

locomotives



to cancel

to continue but ...

to postpone

no opinion

To postpone:

- B3 not needed before 2027
- New TSI in 2022. Should be part of the upgrade
- Suppliers (ETCS integrators) are not able today to deliver 3.6 incl. art. 10 CR's
- Some suppliers are not able to confirm dead line of 2023
- Next upgrade must be the last one for these aged types (>15 yr)

To continue:

- B3 upgrade as turn key project
- Only mandatory requirements (TSI, NTR, CEF)
- Concern for owners risk that offer will not cover future infra configurations in 2023
- Concern for 2nd upgrade in period 2026/2027

Impasse (show stoppers)

3 major risks identified and discussed at 3rd participant meeting

1. Delay NIP NL from 2024 to 2026/27
2. New NTR's and uncertain re-authorisation procedures
3. Non acceptable upgrade offers (time line, higher costs, delays, partial scope of work)

Some owner questions

- ❖ Are there any options to postpone to deliver the serial B3 upgrades from 2023 to 2027? What if some serial upgrades will be completed beyond 2023?
- ❖ Who will take care of the removal of restriction to operate on B3 track in 2026/2027?
- ❖ Are we able to guarantee that this costly B3 upgrade will be the only (and maybe last) upgrade in the period 2020- 2030?

Breakthrough: CEF/I&W co-funding proposal 2018

Focus on prototyping (FIC):

- Project phase with the highest risks
- Enables small fleet owners to get an offer with fixed price
- Enabling only prototyping in the CEF scope (cancellation serial B3 upgrade)
- Important to start development and testing with B3 systems
- To be completed before 2024

2nd serial B3 call in 2022 (IenW and maybe CEF 2022 -2030)

- For those who cancelled serial B3 upgrade in the CEF scope
- To be completed before 2026 (date of commissioning 1st B3 track in the Netherlands)

2nd B3 Authorisation to Place in Service (APIS)

- Removal of restriction B3 track, art. 10 error corrections and parameter corrections

Lessons learned

- CEF and national co-funding are essential to make it work
- Way of working is not aligned with common contracting practices
- Cooperation between all stakeholders is essential; without the assistance of an experienced project team the work can not be done



To be continued