



# General Report Market Consultation

“Specificaties voor ERTMS beveiligingssysteem Infrastructuur (TN216688)”

August 2019

**ProRail**

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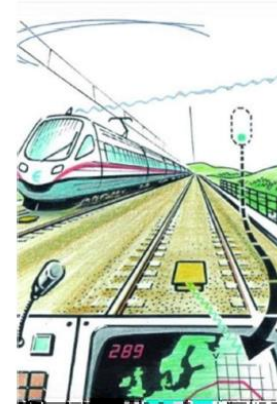
# Introduction

This report represents a summary of the market consultation “*Specificaties voor ERTMS beveiligingssysteem Infrastructuur*”, TenderNed (216688) and TED (120527-2019).

Only general remarks are shared, all market and/or commercial information is confidential.

Marktconsultatie

Specificaties voor ERTMS-  
beveiligingssysteem infrastructuur



Versie	1.0
Datum	12-03-2019
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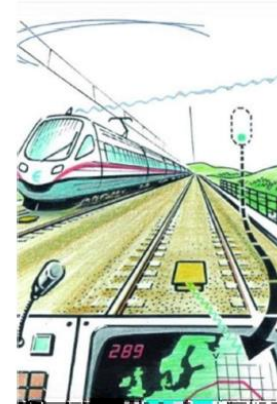
# Introduction

Since the earlier market consultation in 2017, ProRail has further developed the specifications. Changes applied to technical details mainly. The most recent specifications have been shared in the current market consultation.

Additionally, ProRail had management meetings with potential suppliers in April 2019 (please see the other document).

## Marktconsultatie

### Specificaties voor ERTMS-beveiligingssysteem infrastructuur



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# Proceedings

March 2019; Market consultation published.  
4 potential suppliers were selected to receive technical documentation.

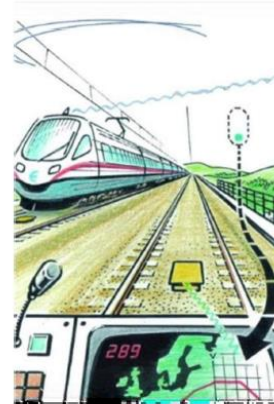
June 2019; written responses received from 4 potential suppliers.

July 2019; meetings with 4 potential suppliers, minutes are confidential.

September 2019; General report published.

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# Summary of output

- This part is structured on the basis of the questions raised in the Market Consultation guidelines (March 2019), chapter 2.

## Summary of output (general questions 1-3)

1. Do you understand what ProRail requests?
2. Do you consider it feasible?
3. Do you have suggestions for improvement?

## Summary of output (general questions 1-3)

- As ProRail explained, system specifications are derived from required functionalities. The system specifications are given in “PvE Central Safety System”. Certain “high level specifications” might require joint development.
- Suppliers considered the technical specifications clear and a good starting point for a tender.
- A clear breakdown of responsibilities and collaboration, however, are considered key for success, both for the tender and the project as a whole.



## Summary of output (general questions 1-3)

- Quality and transfer of data between parties should be very solid, suppliers indicated, particularly as the ERTMS project will be an early user of IMSpoor. Please find additional information on IMSpoor at the end of this report.
- Suppliers considered that the current specifications will need considerable development on their side, also in their generic products, for example for ProRail-specific interfaces.

## Summary of output (general questions 1-3)

- Depending on specific responsibilities, suppliers might want to work together with other (engineering) firms.
- Some suppliers indicated that feasibility of the tender also depends on other simultaneous tenders in the Netherlands.
- The tender should allow for confidential discussion and exchange of information, suppliers advised.
- Being an international market, tender files in English would be appreciated.

## Summary of output (question 4, axle counter)

4. Interface with axle counters and axle counter reset functionality

# Summary of output (question 4, axle counter)

- Suppliers are all experienced with different CSS-axle counter interfaces.
- All suppliers have delivered systems in which the interlocking interfaces with an axle counter system through an IP network.
- Reset functionality is predominantly implemented by a separate user interface to the axle counter system. Commanding reset through interlocking is considered feasible.
- Using the event of axle passing to trigger functionality, as ProRail might require, is considered feasible. However, no such implementation exists already.
- Counting head information can already be used by some suppliers' interlocking systems.
- Testing with axle counters, suppliers indicated, can be done by simulation or using real hardware.

# Summary of output (question 5, release management)

5. Release management during the lifecycle

## Summary of output (question 5, release management)

- Suppliers understand the importance of being able to implement (minor) changes without impact on safety cases and in a cost efficient way. This would ask for clear and clean interfaces, also between generic functionalities and specific application.
- The frequency for updates due to bugfixing or adding functionality tends to be low (once a year). Suppliers expect a limited number of releases.
- Suppliers advice to minimize the number of software versions that are simultaneously being used. Suppliers expect that it will not be cost efficient to update all installations if for one installation a new version is installed.

## Summary of output (question 5, release management)

- Suppliers considered it would be helpful to have top-down release management including some sort of roadmap. Suppliers expect ProRail to be in the lead for the planning of updates.
- Layout changes, suppliers indicated, only affect the installation specific part of the safety case. So, related costs can be limited.
- Some suppliers indicated that cyber security updates (in the near future) can be done without affecting the safety case.

## Summary of output (question 6, testing and integration)

6. Testing and integration: supply of testing facilities and participating in integration tests with third parties



## Summary of output (question 6, testing and integration)

- ProRail described their integration test approach, for which an integration test lab in Amersfoort will be equipped. Suppliers are willing to deliver their systems including their testing interfaces and testtools.
- Suppliers indicated the test environment can be a real copy of a corridor, including similar hard- and software.
- Suppliers have experience in using test scripts and test scenarios, however not all can be foreseen and tested in a test lab. Suppliers have different views on the remaining need for on-site testing.

## Summary of output (question 6, testing and integration)

- A clear breakdown of responsibilities is considered key for the success of testing. ProRail explained their view of shared responsibilities: supplier being responsible for system integration compliant to interface specifications, ProRail being responsible for integration with real-life systems.
- ProRail explained it is considering a standardized “ProRail-TCL” (Test Control and Logging). Suppliers considered this is feasible and this can be supported by their tooling.

## Summary of output (question 7, open engineering)

7. Open engineering: how can engineering firms be facilitated to be able to independently perform data preparation and commissioning activities

## Summary of output (question 7, open engineering)

- ProRail explained that installation specific engineering activities are considered to be also executable by engineering firms.
- A clear breakdown of responsibilities is considered key for the success of open engineering.
- ProRail's current ambition with regard to (the timeline of) open engineering sounds ambitious to some suppliers, although they do understand the underlying rationale.

## Summary of output (question 7, open engineering)

- Some suppliers indicated that, to be able to supply tooling for third parties (i.e. engineering firms), this tooling will need some development.
- This tooling will be developed parallel to the safety case process.

## Summary of output (question 8, system specification)

8. How can the system specification phase be organized, including further developing high level requirements

## Summary of output (question 8, system specification)

- Suppliers indicated that the development process should in their view be incremental (with multiple releases). Allowing for a growing number of functionalities as the project continues, evolving from a test release for integration activities to the functionalities needed for each corridor.
- Some sort of requirement classification (f.e. MOSCOW) might be helpful for this.
- Most suppliers are in some way developing for EULYNX and (Hybrid) Level 3, specifics were discussed with each supplier.
- All suppliers considered that joint discussion on the specifications and requirement elaboration, both during the tender (f.e. with regard to high level specifications) and after contract award, is needed.

## Summary of output (question 8, system specification)

- Regarding cyber security, suppliers considered this a very important subject but there is no standardized way of working yet. This might require a joint approach from ProRail and the supplier. Suppliers advised to prevent as much as possible interpretation differences during the tender phase, particularly for this subject.



## Summary of output (question 9, test track)

9. Organization of a test track (“proefbaanvak”) to be able to perform operational tests

## Summary of output (question 9, test track)

- ProRail explained the “ervaringsrijden”, to educate drivers in ERTMS when ERTMS rolling stock is available. For this, Amsterdam-Utrecht and Hanzelijn are planned (both Baseline 2). Ervaringsrijden is a separate contract requiring minor modifications to these tracks, now planned for 2021/2022.
- Also, ProRail foresees a “proefbaanvak” at Hanzelijn at a later moment in time. This will consist of operational use (including test of operational procedures) of the Hanzelijn (+ Lelystad). The system will have to be compliant with the Level 2 Baseline 3 including the correct “Gebruikersprocessen” and able to switch back to a conventional (ATB-only) system. To be fully commissioned and fit for commercial operation in 2026. Suppliers considered this a feasible timeline.

## Summary of output (question 9, test track)

- Suppliers considered the Proefbaanvak can be seen as a first corridor and stressed the importance to maintain a level playing field.
- Some suppliers advised on having a test track, before moving on to a line in operation.

# Summary of output (question 10, online loading)

10. Online loading of configurations

## Summary of output (question 10, online loading)

- The need for having this functionality is explained by ProRail during the meetings.
- Some suppliers indicated that they are developing different solutions for remote online loading, all having a different roadmap to implementation.
- Some suppliers indicated they are working on a system that allows for having updates “stand-by”, reducing the moment of downtime.

# Additional information

- Please find more information on IMSpoor online:
  - IM-Spoor (recent versions): <https://confluence.rigd-loxia.nl/display/IMSP/IMSpoor+Publicatie+Home>
  - For reference documents: <https://confluence.rigd-loxia.nl/display/IMSP/Referentie+Documenten>
  - XSD on: <https://confluence.rigd-loxia.nl/display/IMSP/Downloads+1.3.0>
  - A Dutch-English translation on element names is available at: <https://confluence.rigd-loxia.nl/display/IMSP/IMSpoor+vertaling+NL-EN+1.2.1>

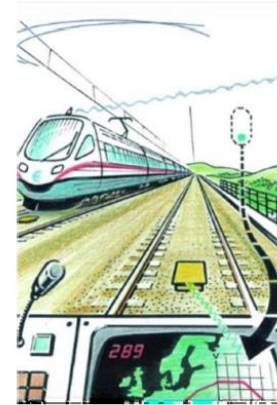
# Disclaimer

*The sole purpose of this report is to inform about the market consultation outputs. With regard to future tenders, the information in this report is preliminary and can be subject to change without prior notification.*

*No rights can be derived from the information in this report.*

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