In the Netherlands, the travel density by railway is one of the highest in the world, leading to significant safety and efficiency requirements throughout the country. Therefore, ProRail always looks for innovative projects to improve these aspects. This project is part of ProRail's research in the EULYNX project about the benefit of model-based system engineering in the field of railway signaling.

This project's main focus is to analyze SysML models from EULYNX and ProRail's contexts in order to answer questions and to give recommendations to ProRail from the modeling perspective. The project developed three methodologies to serve the analysis: the methodology for comparing the ProRail and EULYNX subsystems, the methodology for implementing traceability, and the methodology for implementing simulation. Based on the current status of ProRail, the project suggested a model based approach in the future for ProRail.

This project has enabled ProRail to come up with well-founded reasons to support its conclusion about EULYNX that although EULYNX potentially shows its benefit in modeling to ProRail, it is still too soon to decide whether or not EULYNX is mature. Before that, ProRail needs to make sure that its interface requirements are aligned with EULYNX specifications. The active involvement of ProRail in the verification and validation process of EULYNX is one of the factors. The traceability to its requirements is also crucial.