



Rail4Future

Projekttitel:	Resilient Digital Railway Systems to enhance performance
Projektnummer:	882504
Deliverable:	Deliverable 1.1.4 Interface and Adapter Specifications

This deliverable aims to show and describe interfaces and adapters, which are implemented into the multi domain model, mentioned in the previous Deliverable 1.1.3, to improve and optimize the asset integration process in the Rail4Future (R4F) platform. These interfaces and adapters are shown and addressed in the demonstrated integration process in Figure 1. First, the free standard FMI and its simulation unit FMU are selected to make different railway submodels more tool-independent, easy-to-use and platform-adaptive. Second, the SSP standard is used to connect all the FMUs of the submodels to each other in one file, describe their parameters and also protect the intellectual property of the parameters. Third, the SQL queries are foreseen to write inputs and outputs of the submodels to and from a relational DBMS and web servers for their demo visualization. Otherwise, there is a visualization prototype under development, where the human- and machine-readable JSON format is preferred. Additionally, the FMU, OWL, XML and DLL formats are used to semantically describe and annotate all the submodels and data. Lastly, the essential adapters consisting of server- and UI-based software tools are shown and described, which are to be used to build the conceptual virtual environment of the R4F platform. Meanwhile, the SCM and Push are discovered to ensure the interaction between the version control system with a software repository, and the Jenkins server containing the simulation pipeline.

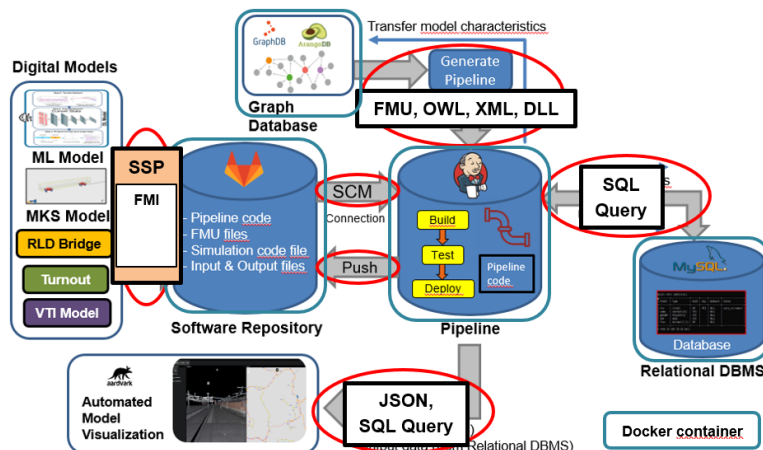


Figure 1: Interfaces and adapters as marked with red circles in the demonstrated integration process. (© TU Wien MIVP)