



Rail4Future

Projekttitel:	Resilient Digital Railway Systems to enhance performance
Projektnummer:	882504
Deliverable:	D1.3.1 OnePage - Report Simulation Reliability Assessment Indices

Simulations can only be helpful if appropriate processes and metrics are available to assess their quality and determine their significance. If possible, these evaluations should be automated to seamlessly integrate the evaluation into processes so as not to create additional hurdles for developers, but still create value and support the evaluation of the available simulation results and data. These criteria are therefore also necessary to enable virtual certification. Therefore, standardized processes are needed to facilitate a proper culture and criteria for evaluating results of simulations. In this work we will have a look at established processes from related sectors and their core ideas and methodologies which can be adapted for the creation of a proper standard in the railway industry.

In this report, an ISO standardized sector-independent process (M+S Spice) is discussed that can also be adapted and used analogously for the evaluation of simulations in the context of R4F and the rail domain in general. Furthermore, some common methods for the evaluation of simulation were listed and discussed. It should also be noted that in future iterations of Automotive Spice, the credibility assessment will be an integral part of the process, thus, there is experience from a related field (vehicle construction) available to build suitable processes for the railway industry in the near future.

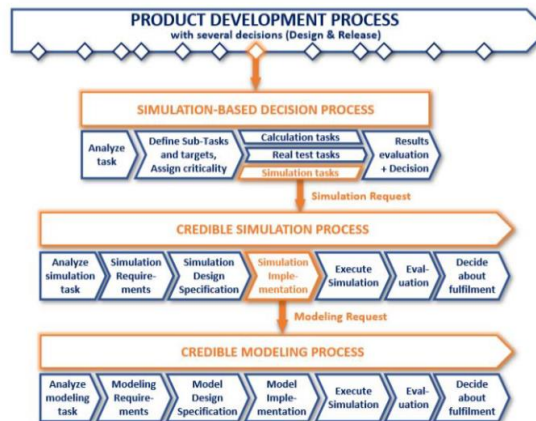


Figure from Ahmann, Maurizio, et al. "Towards Continuous Simulation Credibility Assessment." *Modelica Conferences*. 2022.