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Autor(en) des Beitrags: Vathoopan, M.; Walzel, H.; Eisenmenger, W.; Zoitl, A.; Brandenbourger, B.


Abstract: The industrial automation systems are slowly changing from a centralized architecture to a modularized, system of systems architecture nowadays. Subsequently, there are efforts to replace the classical sequential plant engineering by systems engineering, where the distributed automation entities in a plant represent a system. Considering this revamp, we propose AutomationML based mechatronic models as an enabler for automation systems engineering. Aggregating requirements from a motivating example, a prototypical implementation of a mechatronic model in AutomationML and its potentials concerning automation systems engineering are presented. A use case and its evaluation is detailed where these mechatronic models are visualized for model-based automation engineering or re-engineering. Initial results and future directions are presented.

Stichworte: factory automation; mechatronics; production engineering computing; systems engineering; model-based automation engineering; AutomationML mechatronic models; industrial automation systems; systems engineering; Mechatronics; Automation; Data models; Production; Standards


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