

54th CIRP Conference on Manufacturing Systems

Ontology-based data management for adaptable safety functions in cyber-physical production systems

Christian Brecher^a, Melanie Buchsbaum^{*,a}, Frances Ziegler^a, Simon Storms^a

^aLaboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University, Chair of Machine Tools, Campus-Boulevard 30, 52074 Aachen, Germany

* Corresponding author. Tel.: +49-241-80-28236; E-mail address: m.buchsbaum@wzl.rwth-aachen.de

Abstract

Through the evolving usage of cloud and edge computing technologies in cyber-physical production systems (CPPS), distributed databases and a variety of data sources can be found in the production environment. For integrating adaptable safety functions in CPPS, the traceability and overall availability of engineering data and current process data from different production modules must be guaranteed at any time. Therefore, a concept as well as an implementation approach for an ontology-based data management system for accessing distributed and various data sources in CPPS is presented and discussed based on adaptable safety functions, which are implemented in a show case scenario.

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Peer-review under responsibility of the scientific committee of the 54th CIRP Conference on Manufacturing System

Keywords: ontology; safety; cyber-physical production system; data management
