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Title

Improved Compliance by BPM-Driven Workflow Automation (Holzmüller-Laue et al. (2014))

Abstract

Using methods and technologies of business process management (BPM) for the laboratory automation has important benefits (i.e., the agility of high-level automation processes, rapid interdisciplinary prototyping and implementation of laboratory tasks and procedures, and efficient real-time process documentation). A principal goal of the model-driven development is the improved transparency of processes and the alignment of process diagrams and technical code. First experiences of using the business process model and notation (BPMN) show that easy-to-read graphical process models can achieve and provide standardization of laboratory workflows. The model-based development allows one to change processes quickly and an easy adaption to changing requirements. The process models are able to host work procedures and their scheduling in compliance with predefined guidelines and policies. Finally, the process-controlled documentation of complex workflow results addresses modern laboratory needs of quality assurance. BPMN 2.0 as an automation language to control every kind of activity or subprocess is directed to complete workflows in end-to-end relationships. BPMN is applicable as a system-independent and cross-disciplinary graphical language to document all methods in laboratories (i.e., screening procedures or analytical processes). That means, with the BPM standard, a communication method of sharing process knowledge of laboratories is also available.

Keywords

BPMN, end-to-end workflow, laboratory automation, model-based application development, systems integration

Reference

Holzmüller-Laue, Silke, Bernd Göde, Heidi Fleischer, and Kerstin Thurow. 2014. "Improved Compliance by BPM-Driven Workflow Automation." *SLAS Technology* 19 (6): 528–45. https://doi.org/10.1177/2211068214549626.