Abstract:
Industrial production systems and industrially manufactured products are constantly evolving due to technical innovations and customers’ demands. Therefore, ensuring an optimized co-evolution of both becomes an important yet challenging task. Approaches for model-based systems engineering have been widely investigated and have already had significant impact on industrial practice. However, existing model-based approaches mostly are focusing on particular aspects of a production system and do not provide a holistic approach for optimizing automated Production Systems (aPS), their deployment, and their co-evolution with the product. As a first step towards this direction, this contribution proposes the combination of an engineering approach for aPS based on Systems Modeling Language with models and techniques for deployment of software and hardware to Cyber-Physical System (CPS) architectures, which have been investigated in the field of computer science, and motivates the possibilities of a combined approach.