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A MODEL BASED APPROACH FOR CONCEPTUAL DEVELOPMENT OF INDUSTRIAL PRODUCT-SERVICE SYSTEMS

Proceedings of the INTERNATIONAL CONFERENCE ON ENGINEERING DESIGN, ICED'09, STANFORD UNIVERSITY, STANFORD, CA, USA. -2009-

Abstract

Industrial Product-Service Systems (IPS²) are characterised by the integration of investment goods (technical products) and industrial services along their entire lifecycle. Against the background of sustainable value creation, while providing a performance is set above the purchase of pure technical products, an IPS² constitutes a suitable solution. It can comprise any combination of product and service shares. Once such an offer has been planned, the IPS² concept development is responsible for generating principle solutions that meet customer-specific requirements. This paper presents a model-based approach to support an IPS² designer generating heterogeneous IPS² concept models in the early phase of IPS² development. The proposed modelling approach allows the combination of multidisciplinary solution elements on arbitrary levels of abstraction from different development perspectives. The heterogeneous IPS² concept modelling approach has been implemented as a software demonstrator and has been evaluated solving a typical IPS² issue.