



Research School for Operations
Management and Logistics

An information system design for a secure platform fostering and facilitating Industrial Symbiosis

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This PhD proposal is part of a larger research taking place in the overarching European Horizon2020 project named Sharebox. The research will be conducted in the field of information systems and information technology regarding decision making. In particular, a focus is given on the IS/IT design and implementation of a secure platform facilitating the industrial symbiosis creation and the development of symbiotic networks. Four sub-topics of interest are suggested as research themes. The first theme is a study on the foundations of waste supply-demand matching. We identify and review issues in waste matching from an information perspective which may contribute to the design of a waste ontology, data components and a matching technique. In the second theme we will simulate organizational behavior to learn the system requirements for the information exchange in order to build a cooperative industrial network with sustainable linkages. The third theme focuses on the decision support for coalition formations from a data driven, practical perspective. The system design will focus on the system functionality and user interaction implementation to establish the needed decision support for plant managers and coordination mechanisms necessary for platform control. In the last theme we will study the system learning design concerning the construction of learning ability in order to improve the symbiotic network development.