

## **DeSIRE tenure track position #11: Resilient Business Information Systems**

University:	Eindhoven University of Technology
Faculty:	Faculty of Industrial Engineering and Innovation Sciences
Department:	Department of Information Systems
Responsible Professor:	Dr. Remco Dijkman
Expected to open:	This position is expected to open around June 2018

### **Description:**

The assistant professor specializes in techniques and software tools for the real-time analysis and (re-) engineering of operational processes in supply chains. There is a special focus on techniques, and software tools from areas such as data and process mining, machine learning and computational/artificial intelligence that help to develop insight into the resilience of business processes and their performance. Such techniques can be used, for example, to analyze whether cases that are being executed have problems or are predicted to have problems in the future, due to unexpected internal or external events. In addition the techniques can help to propose and enact solutions to these problems. The research challenges that need to be addressed are determination of the principles upon which resilient business processes and business information systems can be designed, methods for quantifying the reliance of an information system (from business perspective), predicting the influence of disturbances on the system and methods for diminishing such disturbance. With the availability of the large quantities of data, appropriate method for data-driven modeling using techniques from machine learning, data mining and the like need to be developed.

The assistant professor is expected to contribute to the development of the theory of resilient business information systems, and knows how to integrate insights from theory and industrial practice. He or she has a strong engineering approach to problem solving. The assistant professor will initiate, perform, and supervise high-quality research in the area of Business Information Systems with a specific focus on assessing and improving the resilience of such systems; teach and co-develop courses in Bachelor and Master Programmes of the School of Industrial Engineering; initiate and contribute to externally funded research projects; assist in the supervision of Ph.D. students and contribute to the management of the group and the department.

### **Position in framework of the programme:**

- Approaches/discipline: Resilient supply chains
- Scale/application area: Urban - Infra

### **Synergy with other tenure track position(s):**

- Electromagnetic energy conversion for a more resilient society (TU/e, Electrical Engineering)
- Cyber-physical energy system resilience (DUT, Electrical Engineering, Mathematics and Computer Science)
- Flood resilience (DUT, Civil Engineering and Geosciences)
- Modeling and governance for the response to large-scale disruptions (DUT, Technology Policy Management)
- Monitoring the resilience of artificial and natural infrastructure in cities and urbanized deltas (UT, Engineering Technology)