



Matilda Watz



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SUMMARY

Matilda is a PhD student at the Department of Strategic Sustainable Development at Blekinge Institute of Technology, Karlskrona, Sweden. She holds a MSc in Industrial Ecology (Environmental Engineering) from The Royal Institute of Technology, Stockholm, Sweden with focus on Systems analysis and Environmental economics. Since June 2017, she has been researching sustainability integration in the product development process, and in a cross-case analysis study explored current practices of requirements management and sustainability within product developing companies. In parallel, she has developed and conducted pilot tests of a systems analysis method to increase sustainability awareness in early phase requirements management in a product development organization. She is also a teacher in sustainability product development tools and methods for engineers at BTH.

WORK EXPERIENCE

- 2017 – *present* PhD Candidate
Blekinge Institute of Technology
Department of Strategic Sustainable Development
- 2014 - 2016 Production Engineering Summer Internship
Scania CV AB
Scania Chassis Assembly, Södertälje, Sweden
- 2013 Supplemental Instruction facilitator
The Royal Institute of Technology
School of Engineering and Industrial Management
- 2011 - 2012 Truck assembly
Scania CV AB
Scania Chassis Assembly, Södertälje, Sweden

EDUCATION

- 2017 - *present* Admission to Third-Cycle Studies
Blekinge Institute of Technology, Karlskrona, Sweden
- 2015 - 2017 M.Sc. in Industrial Ecology (Environmental Engineering)
The Royal Institute of Technology, Stockholm, Sweden
- 2012 - 2015 B.Eng. in Mechanical Engineering
The Royal Institute of Technology, Stockholm, Sweden

AREAS OF EXPERTISE

Sustainable Product Development

Requirements Management

Systems Analysis

AWARDS

2018:

Rewarded paper at the International Design Conference - Outstanding contribution

LANGUAGES

Swedish

English

ADDITIONAL EDUCATION

PhD courses
Strategic Sustainable Development
System Dynamics
Higher Education Pedagogy
Modelling, Simulation and Optimization in Product Development
University courses
Industrial Ecology
Waste Management
Material- and Energy Flow Accounting
Cleaner Production
Ecological Economics
CAD

PROJECTS

- 2018 – present Sustainability implementation in the product innovation process: SIP – a toolkit and methodology (<https://bth.se/sip>)
For companies to support and accelerate a transition towards more climate and resource-efficient materials and products, novel approaches and methods are needed in the product innovation process. This project has the aim to create an implementation package with methodology and interconnected methods and tools to systematically integrate and implement sustainability in product development companies. Matilda is responsible for the exploration of current practices of sustainability requirements management within the industry, and the development of a methodology for early phase modelling of relationships between key sustainability criteria and target requirements. She also takes part in planning, preparation and facilitation of workshops where state of the art research is presented for, and tested by, academic and industrial research partners and external industrial participants. The research project is thus conducted in collaboration with industrial partners, and Matilda's research study is based on a qualitative research design.
- 2017 – 2018 Strategic, Tactical, and Operational Implementation of Sustainability into the Innovation Process (STOSIP) (<https://www.bth.se/eng/stosip/>)
The project's main purpose is to support product development and manufacturing companies in integrating and implementing a strategic sustainability perspective in the product innovation process. Within the project, Matilda was responsible for the research track of sustainability integration into product requirements and guidance for down-selection of emerging technologies. She is applying a research design composed of both qualitative and quantitative methods, including literature reviews, interviews, questionnaires, case studies, workshops etc. This work builds on close relationships with industrial partners to maximize the benefit for companies and society.

PUBLICATIONS

- Siiskonen, M., Watz, M., Malmqvist, J., and Folestad, S. 2019. *Decision Support for Re-designed Medicinal Products - Assessing consequences of a customizable product design on the value chain from a sustainability perspective*, submitted to ICED19 22nd International Conference on Engineering Design, August 2019, Delft, The Netherlands
- Watz, M. 2019. *Sustainability in Requirements Management Processes – a cross-case analysis of seven product manufacturers*. Research Report. Department of Strategic Sustainable Development, Blekinge Institute of Technology.
- Watz, M. and Hallstedt, S.I. 2018. *Addressing Sustainability in Product Requirements – a systems perspective*, Proceedings of NordDesign 2018 conference, August 14-17 2018, Linköping, Sweden.
- Watz, M. and Hallstedt, S.I. 2018. *Integrating Sustainability in Product Requirements*. Proceedings of the DESIGN 2018 15th International Design Conference, May 21-24 2018, Dubrovnik, Croatia
- Watz, M. 2017. *Integrating Sustainability Criteria in Product Requirements – an exploratory review*. Research Report. Department of Strategic Sustainable Development, Blekinge Institute of Technology.
- Watz, M. 2017. *Residential wood combustion, cancer risk frequency and costs in Sweden: A review of instruments using the MCA methodology*. Master Thesis. The Royal Institute of Technology.
- Eriksson, H. and Watz, M. 2015. *Safety management* (Originaltitel: Säkerhetsfrämjande arbete). Bachelor Thesis. The Royal Institute of Technology