

PERSONAL DETAILS

- Born on Nov. 13th, 1980, in Clusone (Italy).
- Citizenship: Italian and Swedish
- Adress: Ordensgatan 5D, 37138, Karlskrona, Sweden.
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LANGUAGE PROFICIENCY

Italian: native English: C2 Swedish: C1



EDUCATION AND WORK EXPERIENCE

Marco Bertoni has an MSc in Management Engineering from the University of Bergamo (2004) and a Doctoral Degree in Mechanical Engineering from Politecnico of Milano (2008). He boasts over 15 years of academic expertise in product development, design thinking, system engineering, and knowledge management. Currently serving as Professor in Mechanical Engineering at Blekinge Institute of Technology, he is Deputy Head of Department for the Mechanical Engineering subject and co-chair for the 'Design of Product-Service Systems' SIG within the Design Society. Marco describes himself as an ambidextrous thinker who loves to observe situations and people's behaviours, making sense of them to explore opportunities for innovation across boundaries and disciplines. His research focuses on applying modelling and simulation to facilitate cross-functional decision-making in the initial phases of PSS design. Marco lives in the Swedish city of Karlskrona with his family, and in his spare time, he is an active football player and a passionate cyclist.

RESEARCH CAPABILITIES AND TOPICS

- Design thinking and Value-Driven Design for Product Service Systems and servitization approaches in manufacturing.
- Enterprise Collaboration, Knowledge Management and Knowledge Engineering approaches.
- Systems Engineering and requirements elicitation practices.
- Multi Attribute Decision Making models for design concept selection.
- Discrete Event Simulation in engineering and service design.
- Digital Twins, Extended Reality and gamification technologies for system design.
- Monetary assessment models for investment analysis (cost/value models).
- Business Process Reengineering and enterprise modelling techniques.

PROJECT EXPERIENCE (SELECTED)

EU PROJECTS

2023-2027: HORIZON-IA 'RESIST' (G.A. 101093968), project member, BTH coordinator and project member.

2016-2018. ERUF 'Social Inkludering och Tillväx I Blekinge', project member.

2009-2012: FP7-IP 'CRESCENDO' (G.A. 234344), project member, interim WP5.5 leader for Enterprise Collaboration.

2005-2008: FP6-IP 'VIVACE' (G.A. 502917), project member.

2005-2006: FP6-IST 'INTEROP' Network of Excellence (NoE) (G.A. 508011), project member.

VINNOVA (SWEDEN)

2023: FFI 'CONVERGE' Solving the energy distribution in the construction sector, project member.

2022-2025: FFI 'FELD' Framtidens Fossilfria Bergutlastning, project member

2022: SIP-DS 'VaViM' Validation of virtual models used for simulation of autonomous vehicle systems, project member.

2021-2024: FFI 'ASPECT', A System for Electric and Connected Transport Solutions, project member.

2021-2024: FFI 'TRUST-SOS' Site Optimisation Solutions, project member.

2014-2017: NFF 'VITUM' Virtual Turbine Module Demonstrator, project member.

2008-2012: 'FASTE Laboratory', Project leader for 'Lightweight knowledge sharing'.

KNOWLEDGE FUNDATION (SWEDEN)

2021-2023: NU 'Development of distance education in the field of Industry 4.0 and Circular Product Development', project member.

2019-2022: Research Profile 'MD3S+' Model Driven Development and Decision Support +, leader of the Value-Driven Design research track.

2019-2021: 'AVANS' Development of second-cycle MSc programme in Mechanical engineering, project member.

2013-2019: Research Profile 'MD3S' Model Driven Development and Decision Support, leader of the Value-Driven Design research track.

2015-2018: 'STOSIP' Strategic Tactical and Operational Sustainability Implementation in Product Innovation Process, project member.

TRAFIKVERKET (SWEDEN)

2020-2021: 'Elektrifierad Infrastrukturbyggnation', project member.

DISSEMINATION METRICS AND SELECTED PUBLICATIONS

| Updated Nov 24th 2023 | Total documents | Total citations | H-index |
|-----------------------------|-----------------|-----------------|---------|
| Google Scholar ¹ | 100 | 1985 | 26 |
| Scopus ² | 84 | 1136 | 21 |

¹ <https://scholar.google.com/citations?user=hkaTTIUAAAAJ&hl=en>

² <https://www.scopus.com/authid/detail.uri?authorId=7004012641>

Bertoni, M. and Bertoni, A. (2022) Designing solutions with the Product-Service System Digital Twin. What is now and what is next. *Computers in Industry*, Volume 138, 103629, <https://doi.org/10.1016/j.compind.2022.103629>.

Sala, R., **Bertoni, M.**, Pirola, F. and Pezzotta, G. (2021), "Data-based decision-making in maintenance service delivery: the D3M framework", *Journal of Manufacturing Technology Management*, Vol. 32, No. 9, pp. 122-141, <https://doi.org/10.1108/JMTM-08-2020-0301>

Scurati, G. W., **Bertoni, M.**, Graziosi, S., & Ferrise, F. (2021). Exploring the Use of Virtual Reality to Support Environmentally Sustainable Behavior: A Framework to Design Experiences. *Sustainability*, Vol. 13, No. 2, 943, <https://doi.org/10.3390/su13020943>

Bertoni, M. and Bertoni, A. (2020) Measuring Experiential Learning: An Approach Based on Lessons Learned Mapping. *Education Sciences*. Vol. 10, No. 1, 11p. <https://doi.org/10.3390/educsci10010011>

Bertoni A. & **Bertoni M.** (2020) PSS cost engineering: A

model-based approach for concept design. *CIRP Journal of Manufacturing Science and Technology*, Vol. 29, Part B, pp. 176-190, <https://doi.org/10.1016/j.cirpj.2018.08.001>

Bertoni, M. and Bertoni, A. (2019) Iterative value models generation in engineering design: lessons learned from a cross-company study. *Design Science*, Vol. 5, No. 18, 22p, <https://doi.org/10.1017/dsj.2019.13>

Bertoni, M. (2019). Multi-Criteria Decision Making for Sustainability and Value Assessment in Early PSS Design. *Sustainability*, Vol. 11, No. 7, 1952, <https://doi.org/10.3390/su11071952>

Bertoni, M., Bertoni, A., & Isaksson, O. (2018). Evoke: A value-driven concept selection method for early system design. *Journal of Systems Science and Systems Engineering*, Vol. 27, No. 1, pp. 44-77, <https://doi.org/10.1007/s11518-016-5324-2>

Bertoni, M. (2017) Introducing sustainability in value models to support design decision making: a systematic review. *Sustainability*, Vol. 9, No. 6, 994, <https://doi.org/10.3390/su9060994>

OTHER MERITS

- 2023 - Best paper award at the IFIP Advances in Production Management Systems conference.
- 2020 - 10% Reviewers' Favourite – International DESIGN Conference.
- 2017 - 10% Reviewers' Favourite - International Conference on Engineering Design.
- 2016 - Best Reviewer' award - CIRP Industrial Product-Service Systems conference.
- 2013 - Winner of the ForskarGrandPrix (Research Grand Prix) qualifying round in Karlshamn.
- 2011 - The Service Lion Award - 3rd CIRP conference on Industrial Product Service Systems.

TEACHING EXPERIENCE

- At Graduate level (G) and Undergraduate level (U),
- At Politecnico di Milano (POLIMI), Luleå University of Technology (LTU), Blekinge Institute of Technology (BTH).

COURSE COORDINATOR

G (BTH): Value Driven Design (since 2023)

G (BTH): Kunskapsformedlingen P53: Product Service Systems (since 2021)

U (BTH): Design for a Circular Economy (from 2024)

U (BTH): Process Simulation for Industry 4.0 (since 2023)

U (BTH): Innovative and Sustainable Product Development (since 2022)

U (BTH): Knowledge Enabled Engineering (since 2016)

U (BTH): Value Innovation (since 2013)

U (BTH): Product Service Systems Extreme Innovation (2013)

U (BTH): Design Research Methodology (2013)

U (LTU): Product Development processes (2009-2010)

U (LTU): Theory and methodology for engineering product development (2009-2010).

U (POLIMI): Process modelling in product development (2008).

TEACHER

G (BTH): Design Research Methodology (since 2020)

G (BTH): Smart Industry: Human/Machine Collaboration within Industry 4.0 (2021)

G (BTH): Product-Service Systems Design research (2012-2015)

U (BTH): Digital Twins (2022-current)

U (BTH): Innovative and Sustainable Product Development - implementation (2016-2018)

U (BTH): Product-Service Systems Extreme Innovation (2014-2020)

U (BTH): Systems Engineering (since 2013)