

Yongkuk Jeong, PhD

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Profile

Assistant Professor in Sustainable Production Logistics at KTH Royal Institute of Technology (since 2021) and, concurrently, Affiliate Faculty at POSTECH, South Korea (2026–2027). My work brings digital twins, simulation, and AI into production logistics, with a focus on human-centred, data-driven decision-making in manufacturing and logistics. I have led and contributed to several Swedish national research projects funded by Vinnova and the Eureka SMART programme, alongside EU and Korean collaborations.

Work Experience

KTH Royal Institute of Technology, Sweden Assistant Professor, Department of Production Engineering	Jan 2021 – Present
Pohang University of Science and Technology (POSTECH), South Korea Affiliate Faculty, Department of Industrial & Management Engineering (concurrent appointment)	Jan 2026 – Dec 2027
KTH Royal Institute of Technology, Sweden Postdoc, Department of Sustainable Production Development	Jan 2019 – Jan 2021
Inha Technical College, South Korea Lecturer, Department of Naval Architecture and Marine Engineering	Mar 2018 – Dec 2018
Seoul National University, South Korea Postdoc, Research Institute of Marine Systems Engineering	Mar 2018 – Jan 2019

Education

Seoul National University, South Korea Doctor of Philosophy in Naval Architecture and Ocean Engineering - Thesis title: <i>A shipyard logistics simulation system considering shipbuilding process, spatial arrangement, and logistics flow</i>	Sep 2011 – Feb 2018
Seoul National University, South Korea Bachelor of Science in Naval Architecture and Ocean Engineering - Graduated as valedictorian in the program	Mar 2007 – Feb 2011

Selected Publications

- [1] Enabling Industrial Internet of Things-based Digital Servitization in Smart Production Logistics.**
 - Erik Flores-García, [Yongkuk Jeong](#), Sichao Liu, Magnus Wiktorsson, and Lihui Wang (2022).
 - International Journal of Production Research, 61 (12).
- [2] Spatial Arrangement using Deep Reinforcement Learning to Minimise Rearrangement in Ship Block Stockyards.**
 - Byeongseop Kim, [Yongkuk Jeong](#), and Jong Gye Shin (2020).

- International Journal of Production Research, 58 (16).

[3] A Simulation-based Decision Support Tool for Circular Manufacturing Systems in the Automotive Industry using Electric Machines as a Remanufacturing Case Study.

- Mayarí Pérez, Michael Lieder, [Yongkuk Jeong](#), and Farazee M. A. Asif (2025).
- International Journal of Production Research.

[4] Machine Learning in Smart Production Logistics: A Review of Technological Capabilities.

- Erik Flores-García, Dong Hoon Kwak, [Yongkuk Jeong](#), and Magnus Wiktorsson (2025).
- International Journal of Production Research, 63 (5).

[5] A Framework and System Architecture for Value-oriented Digital Services in Data-driven Production Logistics.

- Masoud Zafarzadeh, Erik Flores-García, [Yongkuk Jeong](#), and Magnus Wiktorsson (2025).
- International Journal of Production Research.

[6] A Review on Digital Twin Application in Integrated Ship Design and Production for Decarbonisation.

- Chao Ye, Abbas Dashtimanesh, [Yongkuk Jeong](#), and Hauwa Yunusa (2026).
- Ocean Engineering, 359.

[7] AI-enabled Vision Systems for Human-centered Order Picking.

- Erik Flores-García, Enrique Ruiz Zúñiga, [Yongkuk Jeong](#), and Magnus Wiktorsson (2026).
- International Journal of Production Research, 64 (5).

More publications are available in [Google Scholar profile](#) and my [personal website](#)

Selected Research Projects

ALCHEMIST

Jan 2025 – Dec 2029

A human-centric manufacturing multiverse with AI avatars (Smart Manufacturing Multiverse Platform based on Multisensory Fusion Avatar and Interactive AI)

- Funded by the KEIT Industrial Technology Alchemist Programme (South Korea)
- International joint-research PI, designing a human-centric production-logistics digital twin architecture with special attention to privacy, ethics, and AI risk

Data-driven production logistics with AstraZeneca

Aug 2026 – Jan 2027

Exploration phase for digitalizing and automating internal production logistics in pharmaceutical manufacturing

- Funded by Digital Futures (ISPP Mobility Grant), with AstraZeneca, Södertälje
- Applicant and lead, building a digitalisation roadmap for production logistics

SHIFT-DT

Jan 2024 – Dec 2025

Sustainable, Holistic, Integrated Framework for Ship Design and Production Transformation through Digital Twins

- Funded by Digital Futures
- Principal Investigator, designing the digital twin system from requirements to functions using model-based systems engineering (MBSE)

Dynamic SALSA

Apr 2023 – Mar 2026

Dynamic scheduling of assembly and logistics system using AI

- Funded by Vinnova (Eureka SMART)
- Using computer vision to analyse operators in a manufacturing warehouse, feeding scheduling and optimisation

TIMEBLY & TIMEBLY 2

Time data management automation for manual assembly

- Funded by Vinnova
- Leading the KTH work on analysing human operator movement with AI computer vision and generating methods-time measurement (MTM) with LLMs

Nov 2021 – Oct 2024

Sep 2025 – Aug 2028

More projects are available on my [personal website](#)

Teaching Experience

KTH ML2302: Modelling, Simulation and Optimization of Sustainable Production	2020 – Present
Course responsible and teacher	
KTH ML2303: Digitalisation for Sustainable Production	2020 – Present
Course responsible and teacher	
KTH ML2305: Production Logistics and Supply Chains	2022 – Present
Teacher and Examiner (2024 – present)	
KTH ML230X: Degree Project in Sustainable Production Development, Second Cycle	2020 – Present
Supervisor	
KTH ML1503: Industrial Systems II	2020 – Present
Guest lecture in Industry 4.0	
KTH ML1505: Industrial Systems III	2020 – Present
Guest lecture in Operator and Industry 4.0	
KTH ML2307: Theory of Science and Research Methodology in Sustainable Production Development	2022 – 2024
Teacher and course responsible (2022 – 2024)	
Ingenjör4.0 - Upskilling for future manufacturing	2022 – 2024
Course responsible for Autonomous Robots and Cyber-Physical Systems	
EIT Urban Mobility Lifelong Learning in New Trends on Urban Mobility	2022
Teacher	
InhaTech: Ship Production Design	2018
Course responsible and teacher	
InhaTech: Introduction of Ship Production Engineering	2018
Course responsible and teacher	

Skills

- **Project management:** led and successfully delivered various research and development projects
- **Programming skills:** C#, Python, JavaScript, Java, SQL, HTML, and UML
- **Language:** English (fluent), Korean (fluent), Swedish (working knowledge)

Others

- **Winner of the Elmer L. Hann Award** for best paper on Ship Production delivered at a Society of Naval Architects and Marine Engineers (SNAME) event in 2019 for the paper "Model-based Computational Shipyard Dynamics and its Applications"
- **Reviewed papers** for various journals and conferences including:
 - International Journal of Computer Integrated Manufacturing (IJCIM)
 - International Journal of Production Research (IJPR)
 - Ships and Offshore Structures
 - Automation in Construction
 - Journal of Engineering for the Maritime Environment (JEME)
 - International Journal of Naval Architecture and Ocean Engineering (IJNAOE)
 - Journal of Ship Production and Design (JSPD)
 - International Journal of Precision Engineering and Manufacturing-Green Technology (IJPEM-GT)
 - IFIP International Conference on Advances in Production Management Systems (APMS)
 - Winter Simulation Conference (WSC)
 - European Operations Management Association (EurOMA) annual conference
- **Editorial board member** in
 - International Journal of Sustainable Engineering
 - Ships and Offshore Structures
 - International Journal of Precision Engineering and Manufacturing – Smart Technology
- **Life member** of the Society of Naval Architects of Korea