



Welcome to the seminar

***Smart Lean – next generation technologies and how they  
can improve Lean practices in manufacturing***

NTNU, Trondheim, 26 June 2019

Smart digital technologies offer new opportunities for Lean operations. You are welcome to join this seminar to get insights about the newest Lean trends from European experts. The seminar will include a visit to Norway's first logistics laboratory that merges digital technologies with traditional production and logistics systems – enabling researchers, practitioners, engineers, pioneers, students, and other enthusiasts to come together and collaborate on common ground.

The seminar is organised in collaboration with Lean Forum Midt-Norge and the Erasmus+ project LEAN 4.0. LEAN 4.0 is the first Knowledge Alliance coordinated by a Norwegian research institution. It is a collaborative initiative between leading European education institutions and industrial enterprise to integrate smart technologies with the proven Lean Manufacturing paradigm. Together, the partners of LEAN 4.0 shall prepare European Manufacturing for the challenges that lie ahead.

# Program

- 08:00 - 08:30 ● Registration and coffee
- 08:30 - 09:00 ● **Welcome and introduction to the Lean 4.0 project**  
Erlend Alfnes, Associate Professor, NTNU
- 09:00 - 09:30 ● **The Logistics 4.0 lab and new opportunities for Lean**  
Fabio Sgarbossa, Professor, NTNU
- 09:30-09:45 ● Coffee break
- 09:45 - 10:15 ● **Lean planning and control in customised manufacturing – history and digital future**  
Jannes Slomp, Professor, HAN University of Applied Sciences, Netherlands
- 10:15 - 10:30 ● **Manufacturing Execution Systems and Digitalization at Rosen GmbH**  
Holger Klus, Software architect, Rosen GmbH, Germany
- 10:30 - 10:45 ● Coffee break
- 10:45 - 11:15 ● **How can smart and Lean improve operations in manufacturing**  
Menno Herkes, Research Fellow, HAN University of Applied Sciences, Netherlands
- 11:15 - 11:45 ● **Lean and digitalisation at Kongsberg Maritime**  
Daryl Powell, Lean Programme Manager, Kongsberg Maritime
- 12:00 - 12:45 ● Lunch
- 12:45 - 14:00 ● **Logistics 4.0 laboratory tour**  
Demonstration of advanced technologies for logistics operations, such as motion capture system, indoor-positioning technologies, augmented and immersive reality and mobile robots.
- 14:00 ● **Closure**

## About SMARTLOG

SMARTLOG is a Norwegian network for manufacturing, logistics, and supply chain management. SMARTLOG's national competence network is an arena for exchange of research, knowledge and experience between industry and academia. The network regularly organises seminars and initiates research projects on topics of interest to the community. SMARTLOG is hosted by the Production Management group at NTNU and supported by the Research Council of Norway.

## Registration

Participation is free of charge and lunch is included.

## Organising committee

Erlend Alfnes, Fabio Sgarbossa, Aili Biriita Bertnum, Giuseppe Fragapane and Luis Fernando Hinojos

## Practical information



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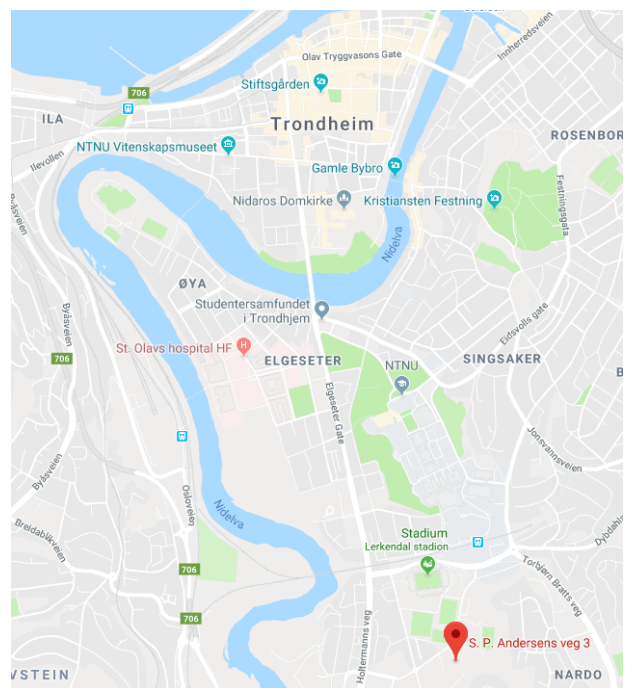
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## Speakers



**Erlend Alfnes** is Associate Professor in Production Management at the Department of Mechanical and Industrial Engineering at NTNU (Norway). His research interests are manufacturing strategy, planning and control, mass customisation, and lean manufacturing. Alfnes has a broad experience as a leader of national and international research projects within production management. He is currently project manager of the Knowledge alliance project Lean 4.0 (Lean European Action-learning Network utilizing Industry 4.0)



**Fabio Sgarbossa** is Professor of Industrial Logistics at the Department of Mechanical and Industrial Engineering at NTNU. He is responsible of the new Logistics 4.0 laboratory at NTNU. He is involved in several European and National Projects. He is author and co-author of about 90 publications in international journals and international research conferences. He has been member of Organizing and Scientific Committees and Session Chairman of several International Conferences and Workshops. He has been guest editor of several Special Issues in relevant International Journals, such as Computers and Industrial Engineering and Omega.



**Jannes Slomp** is Professor in World Class Performance at the HAN University of Applied Sciences. He has written and co-authored 44 papers in academic journals, more than 40 papers for scientific conferences, and numerous chapters in books and professional journals. His interests concern lean and quick response manufacturing, automated technologies and lean product development. He is director of the HAN Lean-QRM Center with more than 60 industrial partners.



**Holger Klus** has been responsible for the digital transformation strategy of the ROSEN Group since April 2018. After studying computer science and subsequently obtaining a doctorate, he moved to the ROSEN Technology and Research Center in 2013 and initially worked as a software architect. He became Lead Architect at the end of 2014, before moving into Corporate Management to his current role as Head of Company Digital Transformation.



**Menno Herkes** is research fellow at the HAN University of Applied science in the Netherlands, research group World Class Performance and the HAN Lean – QRM Centre. His research interest is Human-Centred -Technology development and process improvement in technical companies. He works on various research project concerning lean process improvement and the introduction/development of Smart technology in Dutch technical SME's. He also teaches (socio-technical) Organization Design at the Radboud University in Nijmegen, the Netherlands.



**Daryl Powell** is Lean Programme Manager at Kongsberg Maritime AS in Horten. He is also adjunct professor at the Department of Industrial Economics and Technology Management at NTNU. With over 70 publications in international journals and peer-reviewed conference proceedings, Daryl's main research interests are in lean management, lean leadership and digital lean manufacturing systems. In 2016 Daryl was named amongst Europe's top lean practitioners as one of Imj.com's Lean Top 25, and in 2017 received the Shingo Research Award as co-editor of The Routledge Companion to Lean Management. His most recent book – The Lean Sensei – has just been published by the Lean Enterprise Institute in the USA.