

TRACK 2



Organizer ATV

Time 23 November 2015 3:00 pm to 5:00 pm.

Venue Mogens Dahl Koncertsal, Snorresgade 22, 2300 Copenhagen S

Industrial Production Based on Knowledge: Automation in Connection with Robotization

Knowledge and technology-based production enhance Denmark's possibilities for technology drives, export opportunities, jobs and a strong manufacturing sector. Future manufacturing will to a higher extent be based on new applications of technology. Many Danish companies have automated their manufacturing which has contributed to cost optimizations.

New research points out that automated production processes hold yet more possibilities if it is directly targeted at product and process innovation. In the light hereof, robots can play a major role as they can be more flexible contrary to just one fixed role which is often used. Bang & Olufsen is a manufacturing company which invests in several types of robots in its production; B&O has seen the possibilities but also the challenges.

In this track, you achieve insight into the technologies at hand, possibilities and challenges, and you can take part in the discussion about what it takes for this manufacturing form to gain even more ground in the Danish manufacturing industry. Denmark can achieve competitive advantages by using this potential if Danish companies could get one step ahead of their competitors and thus create more value for Danish production companies.

This session is held in English.

Programme

3:00 Introduction
Professor Hans Nørgaard Hansen, DTU Mechanical Engineering
Moderator of the session.

3:05 Flexible use of robotics
Professor Ole Madsen, Department of Mechanical and Manufacturing Engineering, Aalborg University
Rapid developments in computer technology, mechatronics, sensor technology, artificial intelligence etc. provides a range of new pos-

sibilities to the design of truly flexible robotic systems. This presentation will discuss some of these possibilities and give examples of flexible manufacturing robots, which easily can be adapted to different tasks.

3:20 Automation as a source of Innovation?
Professor MSO Brian Vejrum Wæhrens, Center for Industrial Production, AAU
Industry is investing in automation and smart production, but is it harvesting the full potential? The presentation will discuss the innovation potential related to automation as well as how we may start to open the full potential of these investments.

3:40 Automation as innovation driver at Bang & Olufsen
Senior Manager Henrik Sjøstrand, Process Engineering, and specialist Jørgen Dam, Cost efficient and innovative production, Bang & Olufsen
First part of the presentation will consist of a retrospective insight into how Bang & Olufsen for years have utilized robots and automation in manufacturing in Bang & Olufsen's mechanical factory. Next, it will reflect on the topic of "The dancing robots" and the future perspectives. Bang & Olufsen is implementing a unit with two robots, which work synchronously to solve different parts of a very complex processing task. Bang & Olufsen is also using this unit as a case to test how flexibility in the unit can be used for further innovative opportunities. The vision is that automatization must not become an obstacle for product or process – but a possibility for innovation and efficiency.

4:00 Automation and robots – the road to quality assurance
CEO Morten Kjær Hansen, Siemens Flow Instrument
Siemens Flow Instruments and many other companies often face the dilemma that the cost of major automation is challenged by low volume and high product variance. Automation and use of robot technology is a very profitable business when you take the stabilizing impact on process repeatability and production quality into account. The presentation will consist of insights to how Siemens Flow Instrument has secured a high quality through the use of robots in a situation where the production is low volume and high variety.

4:20 Dialogue
Facilitated by Hans Nørgaard Hansen
Dialogue questions:

- What does it take to develop and implement robotics as an innovative element in manufacturing companies' automated processes?

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- What are the technological possibilities?
 - What are the possibilities for further development?
 - How can industry and academia cooperate more?
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4:50 Summing up
Facilitated by Hans Nørgaard Hansen

5:00 Short break
Please proceed to the large conference room for the last part of the
Technology Day.
