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## Publications

### **Demonstration and evaluation of a digital twin-based virtual factory**

Yildiz, E., Møller, C. & Bilberg, A., Mar 2021, In: International Journal of Advanced Manufacturing Technology. 114, 1-2, p. 185-203

### **Agile Machine Development from Virtual to Real**

Hansen, J. P. D. O., Ribeiro da Silva, E., Bilberg, A. & Bro, C., 2021, (Accepted/In press) *8th Changeable, Agile, Reconfigurable, and Virtual Production Conference*. p. 1-8 8 p.

### **Design and development of Automation Equipment based on Digital Twins and Virtual Commissioning**

Hansen, J. P. D. O., Ribeiro da Silva, E., Bilberg, A. & Bro, C., 2021, (Accepted/In press) In: *Procedia CIRP*. p. 1-6 6 p.

### **Virtual Factory: Digital Twin Based Integrated Factory Simulations for Virtual Prototyping**

Yildiz, E., Møller, C. & Bilberg, A., 2020, (E-pub ahead of print) *8th Changeable, Agile, Reconfigurable and Virtual Production Conference*. Aalborg University

### **Virtual Factory: Competence-Based Adaptive Modelling and Simulation Approach for Manufacturing Enterprise**

Yildiz, E., Møller, C. & Bilberg, A., 2020, *The Practice of Enterprise Modeling - 13th IFIP Working Conference, PoEM 2020, Proceedings: 13th IFIP WG 8.1 working conference on the Practice of Enterprise Modelling - Riga, Latvia*. Grabis, J. & Bork, D. (eds.). Springer Science+Business Media, p. 197-207 (Lecture Notes in Business Information Processing, Vol. 400).

### **Virtual Factory: Digital Twin Based Integrated Factory Simulations**

Yildiz, E., Møller, C. & Bilberg, A., 2020, In: *Procedia CIRP*. 93, p. 216-221

### **Virtual reality in manufacturing: immersive and collaborative artificial-reality in design of human-robot workspace**

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### **Complexity-based task allocation in human-robot collaborative assembly**

Malik, A. A. & Bilberg, A., 17. Jun 2019, In: *Industrial Robot: the international journal of robotics research and application*. 46, 4, p. 471-480

### **Advances in machine vision for flexible feeding of assembly parts**

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### **Collaborative robots in assembly: A practical approach for tasks distribution**

Malik, A. A. & Bilberg, A., Jun 2019, In: *Procedia CIRP*. 81, p. 665-670

### **Developing a reference model for human-robot interaction**

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#### **Human centered Lean automation in assembly**

Malik, A. A. & Bilberg, A., Jun 2019, In: *Procedia CIRP*. 81, p. 659-664

#### **Improving Maintenance of Offshore Wind Farms through Modularization: A Supply Chain Innovation Perspective**

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#### **Digital twin driven human-robot collaborative assembly**

Bilberg, A. & Malik, A. A., Apr 2019, In: *CIRP Annals : Manufacturing Technology*. 68, 1, p. 499-502

#### **Exploring Smart Factory for New Product Development**

Malik, A. A. & Bilberg, A., 2019, (Accepted/In press) *Smart Factory for Lean Product Development*. 6 p. (Elsevier IFAC Publications / IFAC Proceedings series).

#### **Low-Cost 3D Scanning in a Smart Learning Factory**

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#### **SMEs can touch Industry 4.0 in the Smart Learning Factory**

Grube Hansen, D., Malik, A. A. & Bilberg, A., 2019, In: *Procedia Manufacturing*. 31, p. 219-224

#### **Digital twins of human robot collaboration in a production setting**

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#### **Phygital workspace as a Digital Twin for design & planning of smart factories**

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#### **The digital twin of a smart learning-factory**

Grube Hansen, D., Malik, A. A. & Bilberg, A., 2018.

#### **Framework to Implement Collaborative Robots in Manual Assembly: A Lean Automation Approach**

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#### **Generic Challenges and Automation Solutions in Manufacturing SMEs**

Grube Hansen, D., Malik, A. A. & Bilberg, A., 9. Nov 2017, *Proceedings of the 28th DAAAM International Symposium*. Katalinic, B. (ed.). DAAAM International, p. 1161-1169 (Annals of D A A A M & Proceedings).

#### **Automation and Digitalization in SMEs**

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#### **Creating and capturing value in a regional innovation ecosystem: a study of how manufacturing SMEs develop collaborative solutions**

Radziwon, A., Bilberg, A. & Bogers, M., 2017, In: *International Journal of Technology Management*. 75, 1-4, p. 73-96

#### **Den Smarte Metalfabrik**

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#### **Flexible automated manufacturing for SMEs**

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**Additive manufacturing for consumer-centric business models: Implications for supply chains in consumer goods manufacturing**

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**First Lean, then modularisation: improving the maintenance of offshore wind turbines**

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**Industry 4.0 and digitalization call for vocational skills, applied industrial engineering, and less for pure academics**

Madsen, E. S., Bilberg, A. & Grube Hansen, D., 2016, *Proceedings of the 5th P&OM World Conference*. P&OM, 10 p.

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**Lifetime Impact Identification for Continuous Improvement of Wind Farm Performance**

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**Design and Development of a Smartphone Application for Cue Exposure Treatment**

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Mellentin, A. I., Wu, Y., Wang, M., Bilberg, A., Stenager, E., Nielsen, B. & Yu, F., 22. Aug 2014.

**Managing Open Innovation Across SMEs: The Case of a Regional Ecosystem**

Radziwon, A., Bogers, M. & Bilberg, A., 1. Aug 2014, *Annual Meeting of the Academy of Management*. Academy of Management

**Glocalized Production: The Evolution of Global Production**

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**Designing Collaborative Manufacturing Solutions for SMEs: A Case Study**

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**Exploring manufacturing solutions for SMEs**

Radziwon, A., Blichfeldt, H., Bilberg, A., Madsen, E. S. & Bogers, M., Jun 2014. 10 p.

**Innovative collaboration in implementation of automation solutions in SMEs**

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**Configuration Method Design for Reconfigurable Manufacturing System with the aid of Plant Simulation**

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**Design and Evaluation of a Reconfigurable Manufacturing System: By the Use of the 2D/3D Computer Simulation**

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**Alcohol Cue Exposure: An investigator-blinded, randomized, controlled study of exposure-based aftercare in alcohol dependent individuals**

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**Den Smarte Fabrik: Udforskning af tilpasningsdygtige og fleksible produktionsløsninger**

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**Design of a flexible tactile sensor for classification of rigid and deformable objects**

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**Reconfigurable Manufacturing System Design and Implementation: An Industrial Application at a Manufacturer of Consumer Goods**

Hadar, R. & Bilberg, A., 2014, *Enabling Manufacturing Competitiveness and Economic Sustainability: Proceedings of the 5th International Conference on Changeable, Agile, Reconfigurable and Virtual Production (CARV 2013), Munich, Germany, October 6th-9th, 2013*. Zaeh, M. F. (ed.). Springer, p. 455-460 6 p.

**The Smart Factory: Exploring adaptive and flexible manufacturing solutions**

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**A study of current maintenance challenges in a large offshore wind farm: A case study**

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**Offshore Wind Power at Rough Sea: The need for new Maintenance Models**

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**Fatigued patients with multiple sclerosis can be discriminated from healthy controls by the recordings of a newly developed measurement system (FAMOS): a pilot study**

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**Project Cue Exposure: A randomized, controlled study of exposure-based aftercare in alcohol dependence individuals**

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**Object texture recognition by dynamic tactile sensing using active exploration**

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**Implementation of Reconfigurable Manufacturing Systems, the Case of The LEGO Group**

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**Responsiveness and flexibility in a Decentralized Supply Chain**

Petersen, K. R., Bilberg, A. & Hadar, R., Jul 2012. 10 p.

**Glocalized Manufacturing – Local Supply Chains on a Global Scale and Changeable Technologies**

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**A smartphone application of alcohol resilience treatment for behavioral self-control training**

Yu, F., Albers, J., Gao, T., Wang, M., Bilberg, A. & Stenager, E., 2012, In: I E E E Engineering in Medicine and Biology Society. Conference Proceedings. 2012, p. 1976-1979

**A Smartphone Application of Alcohol Resilience Treatment for Behavioral Self-Control Training**

Yu, F., Albers, J., Gao, T., Wang, M., Bilberg, A. & Stenager, E., 2012. 4 p.

**A wireless body measurement system to study fatigue in multiple sclerosis**

Yu, F., Rabotti, C., Bilberg, A., Stenager, E., Zhang, B. & Mischi, M., 2012, In: Physiological Measurement. 33, 12, p. 2033–2048

**Adaptable and Reconfigurable LEAN Automation - a competitive solution in the western industry**

Bilberg, A. & Hadar, R., 2012. 8 p.

**Bio-inspired smart sensors for a hexapod robot**

Maibohm, C. (ed.) & Bilberg, A., 10. Nov 2011. 4 p.

**Manufacturing Concepts of the Future – Upcoming Technologies Solving Upcoming Challenges**

Hadar, R. & Bilberg, A., 2. Oct 2011. 6 p.

**Technological Advances of Robot Assisted Polishing**

Lazarev, R., Top, S., Grønbaek, J. & Bilberg, A., 23. Jun 2011.

**Monitoring of Robot Assisted Polishing through parameters of acoustic emission**

Lazarev, R., Top, S. & Bilberg, A., 17. Jun 2011. 6 p.

**Classification of rigid and deformable objects using a novel tactile sensor**

Drimus, A., Kootstra, G., Bilberg, A. & Kragic, D., Jun 2011, *2011 15th International Conference on Advanced Robotics (ICAR 2011)*. Tallinn: IEEE, p. 427 - 434 8 p.

**High Resolution Flexible Tactile Sensors**

Drimus, A. & Bilberg, A., 2011, In: Annals of D A A M & Proceedings. 22, 1, p. 727-728 2 p.

**Novel Approaches for Bio-inspired Mechano-Sensors**

Drimus, A. & Bilberg, A., 2011, In: Lecture Notes in Computer Science. LNAI7102, 1, p. 12-23 12 p.

**A Study of Fatigue in Multiple Sclerosis Using a New Wireless Medical Sensor Measurements System**

Yu, F. & Bilberg, A., 20. Oct 2010, *Annals of DAAAM for 2010 & Proceedings of the 21st International DAAAM Symposium*. 1. ed. Vienna, Austria, Vol. 21. p. 1167-1168

**Development of flexible array tactile sensors**

Drimus, A., Marian, N. & Bilberg, A., 1. Oct 2010. 2 p.

### **Modelling and Experimental Verification of a DEAP based 2-D rotational positioner**

Iskandarani, Y., Bilberg, A. & Sarban, R., 1. Jun 2010. 4 p.

### **Development of a Tactile Sensor Array**

Marian, N., Drimus, A. & Bilberg, A., 2010, In: Solid State Phenomena. 166-167, p. 277-284 8 p.

### **Wireless medical sensor measurements of fatigue in patients with multiple sclerosis**

Yu, F., Bilberg, A. & Stenager, E., 2010, In: I E E E Engineering in Medicine and Biology Society. Conference Proceedings. 1, p. 3763-7

### **TACTILE SENSING FOR OBJECT IDENTIFICATION**

Drimus, A., Marian, N. & Bilberg, A., 2009, *Proceedings: REM 2009. 10<sup>th</sup> International Workshop on Research and Education in Mechatronics (REM2009) 10-11 September 2009 University of Strathclyde, Glasgow, UK.* Yan, X. T., Corney, J. & Moore, P. (eds.). International Workshop on Research and Education in Mechatronics, 7 p.

### **Experience with the behavior-based Robot development**

Marian, N. & Bilberg, A., 2008. 7 p.

### **Sensory grippers: A handyman technology project**

Bilberg, A. & Jones, R., 2008, *Annals of DAAAM for 2007 and Proceeding of the 18th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Creativity, Responsibility and Ethics of Engineers"*. p. 81-82

### **The Development of an Intelligent Electronic Stethoscope**

Yu, F., Bilberg, A. & Voss, F., 2008, *Mechtronic and Embedded Systems and Applications, 2008. MESA 2008. IEEE/ASME International Conference on.* AAAI Press, p. 612-17

### **Flexible Hybrid LEAN Automation**

Bilberg, A., 2006, *Intelligent Manufacturing & Automation: Focus on Mechanics & Robotics.* p. 8-11

### **Flexible and Ergonomic LEAN Production Cells**

Bilberg, A., 2005.

### **LEAN Manufacturing: Part of Business and Manufacturing Strategy**

Bilberg, A., 2005. 8 p.

### **Implementing LEAN in the Supply Chain**

Bilberg, A., 2004. 8 p.

## **Activities**

### **Akademisk Råd (External organisation)**

Arne Bilberg (Member)

1. Jan 2007 → 4. Dec 2008

### **AIssund Gymnasium, Sønderborg (External organisation)**

Arne Bilberg (Member)

7. Feb 2007 → ...

### **ATV Semapp (External organisation)**

Arne Bilberg (Member)

1. Jan 1997 → ...

**ATV Semapp (External organisation)**

Arne Bilberg (Member)

1. Jan 2004 → ...

**Digitalisering: Hvad betyder det for virksomheder og medarbejdere?**

Erik Skov Madsen (Guest lecturer) & Arne Bilberg (Guest lecturer)

14. Mar 2018

**FIST Erhvervsforskerudvalg (External organisation)**

Arne Bilberg (Member)

1. Feb 2006 → 31. Dec 2011

**IDA Automation (External organisation)**

Arne Bilberg (Member)

1. Apr 2011

**Kommision, M censorkorpset (External organisation)**

Arne Bilberg (Member)

1. Feb 1993 → ...