## 1. Schedule Outline

<table>
<thead>
<tr>
<th>Day 0: Tuesday 15 May 2018</th>
<th>18:00</th>
<th>Registration and Welcome Reception (Level 2)</th>
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<tr>
<td>Day 1: Wednesday 16 May 2018</td>
<td>All day</td>
<td>Registration (Level 2)</td>
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<td>08:30 - xx</td>
<td>Opening (Room A2 is on Level 6)</td>
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<td>09:00 - xx</td>
<td>Keynote Speeches (Room A2 is on Level 6)</td>
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<td>10:30 - 11:00</td>
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<td>11:00 - 12:30</td>
<td>Human Robot Collaboration Workshop (Room A2 is on Level 6)</td>
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<td>Parallel Sessions (Room A2 on Level 6, and others are on Level 2)</td>
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<td>12:30-13:30</td>
<td>Lunch (Level 2)</td>
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<td>13:30-15:00</td>
<td>Parallel Sessions (Room A2 on Level 6, and others are on Level 2)</td>
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<td>Day 2: Thursday 17 May 2018</td>
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<td>Day 3: Friday 18 May 2018</td>
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<td>Parallel Sessions (Level 2)</td>
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<td>19:00</td>
<td>Conference Banquet, Nobel Dinner (@Stockholm City Hall)</td>
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2. Session Details

Naming rule in this section

**CMS**: Paper ID – Corresponding author. Paper title

**SPS**: Paper ID – The first three authors (if any). Paper title

**CMS Special sessions**

1. **Human Robot Collaboration Workshop** (without paper presentation)
   Chair/Co-Chairs:
   
   **Time**: 11:00 - 12:30, 13:30 – 15:00, and 15:30 – 17:00 on Wednesday 16 May 2018

   **Room**: A2 on Level 6

2. **Resilient Remanufacturing for Circular Economy** (with paper presentation)
   Chair/Co-Chairs:
   
   **Time**: 13:30 - 15:00 and 15:30 - 17:30 on Wednesday 16 May 2018

   **Room**: 27 on Level 2

3. **Smart and Evolvable Production Systems** (with paper presentation)
   Chair/Co-Chairs:
   
   **Time**: 15:30 -18:00 on Thursday 17 May 2018

   **Room**: 27 on Level 2

**SPS Special sessions**

1. **International Production in Japan** (without paper presentation)
   Chair/Co-Chairs: Bengt-Göran Rosén
   
   **Time**: 11:00 -12:30 on Thursday 17 May 2018

   **Room**: C1 on Level 2

2. **Production Innovation as a Way to Future Production** (without paper presentation)
   Chair/Co-Chairs: Anna Öhrwall Rönnbäck, Lisa Larsson, and Kerstin Johansen
   
   **Time**: 13:30 -15:00 on Thursday 17 May 2018

   **Room**: C1 on Level 2
### CMS Special Workshop: Human-Robot Collaboration – 1 (3) (Session Chair: XXX)

**PROCIR-D-17-00943R2** – Hongyi Liu. Deep Learning-based Multimodal Control Interface for Human-Robot Collaboration

**PROCIR-D-17-01226R2** – Arne Muxfeldt. Recovering from Assembly Errors by Exploiting Human Demonstrations

**PROCIR-D-17-00921R2** – Silke Hartleif. The Digital Shadow of Production - A concept for the effective and efficient information supply in dynamic industrial environments

### CMS: Human-robot collaborative assembly – 1 (6)

**PROCIR-D-17-00072R1** – Weidong Li. A multi-sensor based online tool condition monitoring system for milling process

**PROCIR-D-17-00551R2** – Susann Kärcher. Sensor-driven Analysis of Manual Assembly Systems

**PROCIR-D-17-00996R2** – Tae Hun Lee. Thermally induced volumetric error compensation by means of structure-integrated deformation sensors

### CMS: Smart sensor networks – 1 (1) (Session Chair: XXX)

**PROCIR-D-18-000705R2** – Gary Linmeussen. Relating strategic time horizons and proactiveness in equipment maintenance: a simulation-based optimization study

**PROCIR-D-17-00928R2** – Mathieu Ritou. Monitoring of trimming operation for lightweight composite structure

**PROCIR-D-17-00721R2** – Camilla Lundgren. Quantify the Effects of Maintenance – a Literature Review of Maintenance Models

### CMS: Condition monitoring and maintenance – 1 (2) (Session Chair: XXX)

**PROCIR-D-17-00805R2** – Mattias Bennulf. Verification and deployment of automatically generated robot programs used in prefabrication of house walls


**PROCIR-D-17-00776R2** – Philipp Agethen. Interactive Simulation for Walk Paths Planning within the Automotive Industry

### CMS: Robotics and automation in manufacturing – 1 (3) (Session Chair: XXX)

**PROCIR-D-17-00944R2** – Alejandro Gabriel Villanueva Zacarias. A framework to guide the selection and configuration of machine-learning-based data analytics solutions in manufacturing

**PROCIR-D-17-00874R2** – Behrang Ashtiani Talkheostani. Consistency Check to Synchronize the Digital Twin of Manufacturing Automation Based on Anchor Points

**PROCIR-D-17-00859R2** – Rok Vrabic. Identification of the CIRP expertise network based on public data

### CMS: Big data analytics in manufacturing – 1 (6) (Session Chair: XXX)

**PROCIR-D-17-00944R2** – Alejando Gabriel Villanueva Zacarias. A framework to guide the selection and configuration of machine-learning-based data analytics solutions in manufacturing

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### SPS: Robot – 1 (2) (Session Chair: XXX)

1. S. Landscheidt, M. Kans, M. Winroth et al. The future of industrial robot business: Product or performance oriented?
2. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots
4. – S. Landscheidt, M. Kans, M. Winroth et al. The future of industrial robot business: Product or performance oriented?
5. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots

### SPS: Production System Performance – 1 (2) (Session Chair: XXX)

1. S. Landscheidt, M. Kans, M. Winroth et al. The future of industrial robot business: Product or performance oriented?
2. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots
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5. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots

### SPS: Management – 1 (2) (Session Chair: XXX)

1. S. Landscheidt, M. Kans, M. Winroth et al. The future of industrial robot business: Product or performance oriented?
2. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots
4. – S. Landscheidt, M. Kans, M. Winroth et al. The future of industrial robot business: Product or performance oriented?
5. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots

### SPS: Production Performance – 1 (2) (SPS)

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5. V. Gopinath, K. Johansen, S. Grahn et al. Safety-Focussed Design of Collaborative Assembly Station with Large Industrial Robots

### CMS: Diagnosis and prognosis – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-00800R2** – Bernard Schmidt. Diagnosis of machine tools: assessment based on double ball-bar measurements from a population of similar machines

**PROCIR-D-17-01204R2** – Vitali Hirsch. Analytical Approach to Support Fault Diagnosis and Quality Control in End-Of-Line Testing

**PROCIR-D-17-01315R2** – Nandini Chakravorti. Validation of PERFoRM reference architecture demonstrating an application of data mining for predicting machine failure

### CMS: Laser – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-00771R2** – Daniel Náfors. Supporting Discrete Event Simulation with 3D Laser Scanning and Value Stream Mapping: Benefits and Drawbacks

**PROCIR-D-17-01008R3** – Panagiota Stavropoulos. A cognitive approach for quality assessment in laser welding

**PROCIR-D-17-00217R3** – Mohamadreza Afrasiabi. A Particle Strength Exchange Method for Metal Removal in Laser Drilling
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Room</th>
<th>CMS: Special Workshop: Human-Robot Collaboration – 2 (3) (Session Chair: xxx)</th>
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<td><strong>CMS: Human-robot collaborative assembly – 2 (6)</strong></td>
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<td>PROCIR-D-17-00946R2 – Yuquan Wang. Realtime collaborating with an industrial manipulator using a constraint-based programming approach</td>
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<td>PROCIR-D-17-01135R2 – Julia Christine Bendul. Understanding the Meaning of Human Perception and Cognitive Biases for Production Planning and Control</td>
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<td><strong>CMS: Robotics and automation in manufacturing – 2 (3) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-01319R1 – Richard Meyers. <em>Continuous Motion Planning for Industrial Robots based on Direct Sensory Input</em></td>
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<td>PROCIR-D-17-00847R2 – Kevin Subrin. Mobile robot stability for complex tasks in naval industries</td>
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<td>PROCIR-D-17-01308R1 – Markus Keller. Optimized Robot Systems for Future Aseptic Personalized Mass Production</td>
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<td><strong>CMS: Internet of manufacturing things – 2 (2) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-00603R2 - Ray Y. Zhong. A Survey on Internet of Things-enabled Real-time Machine Management System in New Zealand</td>
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<td>PROCIR-D-17-01345R1 – Tobias Jung. Dynamic Co-Simulation of Internet-of-Things-Components using a Multi-Agent-System</td>
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<td>PROCIR-D-17-00929R2 - Dimitris Mourtzis. Architecture and development of an Industrial Internet of Things framework for realizing services in Industrial Product Service Systems</td>
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<td><strong>CMS: Material machining – 1 (5) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-00890R2 – Dominik Brenner. Total Tool Cost of Ownership Indicator for Holistical Evaluations of Improvement Measures within the Cutting Tool Life Cycle</td>
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<td>PROCIR-D-17-01352R2 – Chandrakant Kumar nirala. Drilling and Milling µEDM – A Comprehensive and Comparative Evaluation</td>
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<td>PROCIR-D-17-01242R2 – Arunachalam Narayanan. A Study on CVD Diamond Coated Cutting Tools Wear Performance using Vibration and Acoustic Emission Signals</td>
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<td><strong>CMS: Big data analytics in manufacturing – 2 (6) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-00568R2 – Frederick Sauermann. Determination of order specific transition times for improving the adherence to delivery dates by using data mining algorithms</td>
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<td>PROCIR-D-17-00578R3 – Felix Kretschmer. Persistent data backend for OPC UA namespaces in IT infrastructures</td>
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<td>PROCIR-D-17-00858R2 – Johannes Stoldt. Planning for Digitalisation in SMEs using Tools of the Digital Factory</td>
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<td><strong>SPS: Robot – 1 (2) (Session Chair: XXX)</strong></td>
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<td>53 – S. Grahn, K. Johansen, X. Wang et al. Exploring a Model for Production System Design Adapted for Utilization of Human-Robot Collaborative Assembly Cells</td>
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<td><strong>SPS: Production System Performance – 2 (2) (Session Chair: XXX)</strong></td>
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<td>113 – R. Casper, E. Sundin. Reverse Logistic Transportation Systems in Automotive Remanufacturing</td>
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<td>102 – A. Fritzsch. Increasing the acceptability of plans in manufacturing by transparent search</td>
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<td>37 – E. Svenman. Modelling of inductive coil geometry for gap position measurement</td>
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<td><strong>CMS: Human-machine Interaction – 1 (2) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-00907R2 – Patrik Gustavsson. <em>Human-robot collaboration – towards new metrics for selection of communication technologies</em></td>
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<td>PROCIR-D-17-00961R2 – Wei Ji. <em>Interface architecture design for minimum programming in human-robot collaboration</em></td>
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<td><strong>CMS Special Session: Resilient Remanufacturing for Circular Economy – 1 (2) (Session Chair: XXX)</strong></td>
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<td>PROCIR-D-17-01221R3 – Xuhui Xia. <em>Improved BABC Algorithm for Matching of Remanufacturing Service Resource Module</em></td>
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<td>PROCIR-D-17-01225R3 – Qingshan Gong. <em>Methodology for steel plate remanufacturing cleaning with flexible cable impact contact and friction</em></td>
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### CMS Special Workshop: Human-Robot Collaboration – 3 (Session Chair: XXX)

#### CMS: Human-robot collaborative assembly – 3 (6)

- PROCIR-D-17-01116R2 – Sotiris Makris. Dynamic scheduling of shared human – robot manufacturing operations
- PROCIR-D-17-00917R2 – Manuel Fechter. Integrated Process Planning and Resource Allocation for Collaborative Robot Workplace Design
- PROCIR-D-17-01227R2 – Csaba Kardos. Context-dependent multimodal communication in human-robot collaboration

#### CMS: Manufacturing system design – 1 (2) (Session Chair: XXX)

- PROCIR-D-17-01018R2 – Dimitri Petrik. Application of a software ecosystem framework for connected vacuum gripping systems
- PROCIR-D-17-01249R3 – Haibo Hong. An intelligent conceptual design framework for complex machines
- PROCIR-D-17-01229R3 – Farazee M. A. Asif. A practical ICT framework for transition to circular manufacturing systems

#### CMS: AR and VR in manufacturing – 1 (1) (Session Chair: XXX)

- PROCIR-D-17-00903R2 – Oscar Danielsson. Operators perspective on augmented reality as a support tool in engine assembly
- PROCIR-D-17-00935R2 – Dominik Herr. Immersive Modular Factory Layout Planning using Augmented Reality
- PROCIR-D-17-00813R2 – Alexander Neb. Generation of AR-enhanced Assembly Instructions based on Assembly Features
- PROCIR-D-17-00677R2 – Günther Flexinger. Mixed Reality for On-Site Self-Instruction and Self-Inspection with Building Information Models
- PROCIR-D-17-01332R1 – Moritz Quadt. General Requirements for Industrial Augmented Reality Applications

#### CMS: Big data analytics in manufacturing – 3 (6) (Session Chair: XXX)

- PROCIR-D-17-01367R1 – Hasan Tercan. Transfer-Learning: Bridging the Gap between Real and Simulation Data for Machine Learning in Injection Molding
- PROCIR-D-17-00709R2 – Eduardo Colangelo. Substitution and Complementation of Production Management Functions with Data Analytics
- PROCIR-D-17-01258R2 – Daniel Johansson. Selecting Cutting Data Tests for Cutting Data Modeling Using the Colding Tool Life Model
- PROCIR-D-17-00964R3 – Dominik Flick. Ascertainment of Energy Consumption Information in the Age of Industrial Big Data

#### CMS: Additive Manufacturing – 1 (1) (Session Chair: XXX)

- PROCIR-D-17-00656R2 – Anja Elser. On achieving accuracy and efficiency in Additive Manufacturing: Requirements on a hybrid CAM system
- PROCIR-D-17-00812R2 – Werner Kritzinger. Impacts of Additive Manufacturing to the Value Creation System
- PROCIR-D-17-00963R2 – Martin Manns. Modelling of Production Processes: A Theoretical Approach to Additive Manufacturing
- PROCIR-D-17-01338R1 – M oses Oyesola. Sustainability of Additive Manufacturing for the South African aerospace industry: A business model for laser technology production, commercialization and market prospects

#### CMS: Smart manufacturing – 1 (1) (Session Chair: XXX)

- PROCIR-D-17-00710R2 – Andreas Bildstein. Information Flow-based Capability Matching Service for Smart Manufacturing
- PROCIR-D-17-00557R2 – Dirk Schaefer. Smart Packaging: Opportunities and Challenges
- PROCIR-D-17-01334R1 – Jan Terhoeven. User expectations on smart glasses as work assistance in electronics manufacturing

#### CMS: Material machining – 2 (5) (Session Chair: XXX)

- PROCIR-D-17-00762R2 – Andreas Karacas. FEM simulation and acoustic emission based characterization of chip segmentation frequency in machining of Ti-6Al-4V
- PROCIR-D-17-00891R3 – Mike Olsson. FEM simulation and experimental verification of side-flour and burr formation in machining of oxygen-free copper
- PROCIR-D-17-00886R2 – Kateryna Slipchenko. Investigation of the mechanical properties and cutting performance of cBN based cutting tools with Cr3C2 binder phase
- PROCIR-D-17-01241R2 – Arunachalam Narayanan. Grinding wheel redress life estimation using force and ground surface texture analysis

#### SPS: Production Performance – 2 (2) (SPS)

- 117 – J. Lindholm and K. Johansen. Is Design Automation a Feasible Tool for Improving Efficiency in Production Preparation?
- 106 – C. Burchardt, B. Maisch. Advanced agile approaches to improve engineering activities

#### SPS: Material machining – 1 (3) (Session Chair: XXX)

- 27 – C. Schmidt. Sustainability of cutting frozen wood – an analysis of buzz saw blades cutting performance depending on wood temperature
- 5 – V. Krzychińska, O. Shupikov, V. Bushlya. An inverse problem for retrieving time dependency of heat flux in metal cutting via linear programming

#### SPS: Special Session: Resilient Remanufacturing for Circular Economy – 2 (2) (Session Chair: XXX)

- PROCIR-D-17-01342R1 – Yongjing Wang. Exploring the effect of un-deformed chip parameters on energy consumption for energy efficiency improvement in the milling
- PROCIR-D-17-01344R2 – Congbo Li. A framework for energy monitoring of machining workshops based on IoT
- PROCIR-D-17-01327R2 – Shixuan Wang. Reliability Analysis for Automobile Engines: Conditional Inference Trees
**Day 2: Thursday 17 May 2018**

**8: 30 – 10: 30**

**CMS: Cyber-physical systems in manufacturing – 1 (3) (Session Chair: XXX)**
- PROCIR-D-17-01044R2 – Alffa Rahatulain. Viewpoints and views for the architecture description of cyber-physical manufacturing systems
- PROCIR-D-17-01029R2 – Sascha Julian Oks. Engineering industrial cyber-physical systems: An application map based method
- PROCIR-D-17-01257R2 – Kousay Samir. Key Performance Indicators in Cyber-Physical Production Systems

**CMS: Logistics and supply chain – 1 (4) (Session Chair: XXX)**
- PROCIR-D-17-01259R3 – Tatsuhi Nishi. Dynamic Reconfiguration of Leadership in Multi-Period Supply Chain Planning
- PROCIR-D-17-01149R3 – Zijian Wu. Dynamic resource strategies with multiple resource suppliers based on game theory
- PROCIR-D-17-01027R4 – Mathias Cardoso Pires. Towards a simulation-based optimization approach to integrate supply chain planning and control

**CMS: Modelling, simulation and optimisation – 2 (5) (Session Chair: XXX)**
- PROCIR-D-17-00531R2 – Christoph Bauerdiick. An automated procedure for workplace quality monitoring based on machine drive-based signals in machine tools
- PROCIR-D-17-01069R2 – Marco Molitor. Process model for generative assembly planning in the highly iterative product development
- PROCIR-D-17-01033R2 – Albrecht Fritzsch. Optimizing heuristic solution strategies for customer-oriented manufacturing – A case study from the automotive industry

**CMS: Big data analytics in manufacturing – 4 (6) (Session Chair: XXX)**
- PROCIR-D-17-00854R2 – Dominik Kozlak. Big data analytics for operations management in engineer-to-order manufacturing
- PROCIR-D-17-01365R1 – Matthias Bartelt. Digital Twin: Applying emulation for machine reconditioning
- PROCIR-D-17-00920R2 – Darya Botkina. Digital twin of a cutting tool
- PROCIR-D-17-01015R2 – Thomas Hans-Joachim Uhlemann. Lean Data in Manufacturing Systems: Using Artificial Intelligence for Decentralized Data Reduction and Information Extraction

**CMS: Manufacturing system design – 1 (2) (Session Chair: XXX)**
- PROCIR-D-17-00863R2 – Kashif Mahmood. A Performance Evaluation Concept for Production Systems in an SME Network
- PROCIR-D-17-01106R2 – Daniel G.H. Sørensen. A Classification Scheme for Production System Processes
- PROCIR-D-17-00552R2 – Christian Sommerfeld. Three-dimensional dynamic contact analysis of abrasive filaments with a multi-body system
- PROCIR-D-17-01032R2 – Andreas Mayr. Lean 4.0 – A conceptual conjunction of lean management and Industry 4.0

**CMS: Manufacturing system engineering – 1 (2) (Session Chair: XXX)**
- PROCIR-D-17-00749R3 – Ahmad Issa. Open innovation in the workplace: Future Work Lab as a living lab
- PROCIR-D-17-00889R2 – Florian Eger. Correlation analysis methods in multi-stage production systems for reaching zero-defect manufacturing
- PROCIR-D-17-01337R1 – Niklas Burger. Combining PLM and BPMN for evaluating complex manufacturing systems: Transforming a BOP to executable BPMN process model
- PROCIR-D-17-01112R2 – Sofie Bech. Changeability of the manufacturing systems in the food industry – A Case study

**CMS: Internet of manufacturing things – 1 (2) (Session Chair: XXX)**
- PROCIR-D-17-01349R1 – Fabio Gregori. Improving a production site from a social point of view: an IoT infrastructure to monitor workers condition
- PROCIR-D-17-00932R2 – Dimitris Mourtzis. An IoT-based Platform for Automated Customized Shopping in Distributed Environments
- PROCIR-D-17-00962R2 – Stefan Treber. Transparency in Global Production Networks: Improving Disruption Management by Increased Information Exchange
- PROCIR-D-17-00676R2 – Kathrin Pfähler. Tailoring IT-Architectures – Increasing Transparency for Companies in the Mechanical Engineering Industry

**SFS: Forming – 2 (2) (Session Chair: XXX)**
- 107 – L. Kirkhorn, O. Gutnicenko, S. Bihagen et al. Minimum quantity lubrication (MQL) with carbon nanostructured additives in sheet metal forming
- 86 – V.V Reddy, O. Flüx, A. Chaparala, et al. Study on surface texture of Fused Deposition Modeling

**SFS: Material machining – 2 (3) (Session Chair: XXX)**
- 14 – A. Hrechuk, V. Bushlya, R. M’saoubi, et al. Experimental investigations into tool wear when drilling CFRP

**CMS: Assembly – 1 (3) (Session Chair: XXX)**
- PROCIR-D-17-01138R3 – Yaoguang Hu. Research on assembly module partition for flexible production in mass customization
- PROCIR-D-17-00767R3 – Weijiang Liu. Structural vulnerability modeling and evaluation of manufacturing system based on state entropy
- PROCIR-D-18-00025R1 – Kathrin Pfähler. Master Assembly Network Generation
- PROCIR-D-17-01114R2 – Dmitry Arkhipov. Work planning in low-volume assembly lines under ergonomic constraints
### Day 2: Thursday 17 May 2018

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<td>11:00</td>
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<td><strong>SPS Special Session: International Production in Japan – 1 (Chair: Bengt-Göran Rosén)</strong>&lt;br&gt;Report and discussion, no paper presentation</td>
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<td>11:00</td>
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<td><strong>CMS: Human-robot collaborative assembly – 4 (6) (Session Chair: XXX)</strong>&lt;br&gt;PROCIR-D-17-00784R2 – Idria Elsa Aaltonen. Refining levels of collaboration to support the design and evaluation of human-robot interaction in the manufacturing industry&lt;br&gt;PROCIR-D-17-00731R2 – Wenjun Xu. Human-Robot Collaborative Manufacturing using Cooperative Game: Framework and Implementation&lt;br&gt;PROCIR-D-17-00852R2 – Johan Kildal. Factors for the UX design of a collaborative human-robot system</td>
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<td>11:00</td>
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<td><strong>CMS: Big data analytics in manufacturing – 5 (6) (Session Chair: XXX)</strong>&lt;br&gt;PROCIR-D-17-00754R2 – Martin Kunath. Integrating the Digital Twin of the manufacturing system into a decision support system for improving the order management process&lt;br&gt;PROCIR-D-17-00659R2 – Toni Donhauser. Rolling-reactive Optimization of Production Processes in a Calcium Silicate Masonry Unit Plant Using Online Simulation&lt;br&gt;PROCIR-D-17-00850R3 – Fei Tao. Digital Twin Service towards Smart Manufacturing</td>
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<tr>
<td>11:00</td>
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<td><strong>CMS: Cloud-based manufacturing – 1 (3) (Session Chair: XXX)</strong>&lt;br&gt;PROCIR-D-17-00717R2 – Frederick Prinz. Dynamic Real-Time Orchestration of 4.0 Components based on Time-Sensitive Networking&lt;br&gt;PROCIR-D-17-00953R2 – Shiqiang Yu. Cloud-based approach for smart product personalization&lt;br&gt;PROCIR-D-17-00740R2 – Lin Zhang. Modelling and simulation of logistics service selection in cloud manufacturing</td>
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<td>11:00</td>
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<td><strong>CMS: Human-machine interaction – 2 (2) (Session Chair: XXX)</strong>&lt;br&gt;PROCIR-D-17-00998R1 – Harley Oliff. A Framework of Integrating Knowledge of Human Factors to Facilitate HMI and Collaboration in Intelligent Manufacturing&lt;br&gt;PROCIR-D-17-01347R2 – Attique Bashir. Worker centered cognitive assistance for dynamically created repairing jobs in rework area&lt;br&gt;PROCIR-D-17-00773R2 – David Straub. Visualization of the operating state of vacuum gripping systems in human-robot-collaboration applications</td>
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<td>11:00</td>
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<td><strong>CMS: Process planning and scheduling – 1 (3) (Session Chair: XXX)</strong>&lt;br&gt;PROCIR-D-17-01101R2 – Karoly Szipka. Integration of machining system capability information into a Cax software environment for complex tool trajectory prediction&lt;br&gt;PROCIR-D-17-01353R1 – Boyang Meng. Open architecture CNC system based on soft-integrated communication&lt;br&gt;PROCIR-D-17-00916R2 – Sven Jung. Highly modular and generic control software for adaptive cell processing on automated production platforms</td>
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### Day 2: Thursday 17 May 2018

**13:30 – 15:00**

**SPS Special Session: Production Innovation as a Way to Future Production – 1 (1) (Co-Chairs: Anna Öhrwall Rönnbäck, Lisa Larsson, and Kerstin Johansen)**

Report and discussion, no paper presentation

**CMS: Logistics and supply chain – 3 (4) (Session Chair: XXX)**

- PROCIR-D-17-00796R2 – Thorben Funke. Stochastic Block Models as a Modeling Approach for Dynamic Material Flow Networks in Manufacturing and Logistics
- PROCIR-D-17-00912R2 – Peter Mårdberg. A novel tool for optimization of layout and human logistics in digital factories
- PROCIR-D-17-00867R2 – Ingo Labbus. Automated production data integration for energy-oriented process chain design

**CMS: Human-robot collaborative assembly – 5 (6) (Session Chair: XXX)**

- PROCIR-D-17-01117R3 – Sotiris Makris. An outlook on future assembly systems introducing robotic mobile dual arm workers
- PROCIR-D-17-00987R2 – Minna Lanz. Review of vision based safety systems for human-robot collaboration

**CMS: Biology-inspired manufacturing systems – 1 (4) (Session Chair: XXX)**

- PROCIR-D-17-00357R3 – Daniel Tesfamariam Semere. Skin Model Based Tolerance and Variations Analysis
- PROCIR-D-17-00983R2 – Mandy Hermann. Elaboration and analysis of key figure-based approaches for the efficiency assessment of traditional and bio-inspired factory layouts
- PROCIR-D-17-00703R2 – Robert Miehe. The biological transformation of the manufacturing industry – envisioning biointelligent value adding

**CMS: Challenges in factory of the future – 1 (2) (Session Chair: XXX)**

- PROCIR-D-18-00085 – Sajedeh Haghi. Existing Challenges and the Corresponding Approach Towards a Smart Complaint and Failure Management Process
- PROCIR-D-17-00838R2 – Jan Ole Hansen. Methodology for flexibility in the future automobile body shop: results of a comprehensive cross-industry study
- PROCIR-D-18-00075R1 – Tobias Andreas Wagner. Identifying target oriented Industrie 4.0 potentials in lean automotive electronics value streams

**CMS: Work Performance – 1 (1) (Session Chair: XXX)**

- PROCIR-D-17-00843R1 – Jan Eric Stahl. General Cost Performance Ratio in Manufacturing – KPI for judgement of different technologies and development scenarios
- PROCIR-D-17-00822R3 – Sergei Kaganski. Fuzzy AHP as a tool for prioritization of key performance indicators
- PROCIR-D-17-01343R1 – Hendrik Stern. Influence of work design elements on work performance and work perception – an experimental investigation

**CMS: Cloud-based manufacturing – 2 (3) (Session Chair: XXX)**

- PROCIR-D-17-00722R2 – David Albert Breunig. Simultaneously acting network layers in an IEC 61499 modeling system at the example of Eclipse-4DIAC, the cloud-oriented MSB and XML-RPC
- PROCIR-D-17-00723R2 – Martin Schreiber. Integrated Production and Maintenance Planning for Cyber-physical Production Systems
- PROCIR-D-17-01370R1 – Khandi Mubarak. Manufacturing service reliability assessment in cloud manufacturing

**SPS: Production Design – 1 (1) (Session Chair: XXX)**

30 – P. Wislak, K. Säfsten, P. Hilletofff et al. Integration of Suppliers' Workflows in the OEMs' New Product Development Process
124 – A. Jarfors. The route to bring design and production together

**CMS: Resource efficiency and sustainable manufacturing systems – 2 (3) (Session Chairs: XXX)**

- PROCIR-D-17-00772R2 – Ekrem Köse. Reduction of energy costs and grid instability with energy flexible furnaces
- PROCIR-D-17-00888R3 – Matthias Horne. Low-cost and Retrofittable Pose Estimation of Rigid Objects Using Infrared Markers
- PROCIR-D-17-01091R3 – George Chryssolouris. Dematerialization and Environmental Sustainability: Challenges and Rebound Effects

**CMS: Material machining – 3 (5) (Session Chair: XXX)**

- PROCIR-D-17-00857R3 – Nan Xie. Selection of optimum turning parameters based on cooperative optimization of minimum energy consumption and high surface quality
- PROCIR-D-17-01043R3 – Na Cai. Freeform Machining Feature Recognition with Manufacturability Analysis
- PROCIR-D-17-00789R2 – Mats Werke. Geometric distortion analysis using a combination of the contour method and machining simulation
### CMS: Cyber-physical systems in manufacturing – 2 (3) (Session Chair: XXX)

**PROCIR-D-17-00677R2** – Fredrik Edelvik. SelfPaint – a self-programming paint booth

**PROCIR-D-17-01003R3** – Ju Yeon Lee. A real-time cyber modeling approach in MTConnect-based cyber-physical production environment

**PROCIR-D-17-00747R2** – Alexander von Birgelen. Self-Organizing Maps for Anomaly Localization and Predictive Maintenance in Cyber-Physical Production Systems

**PROCIR-D-17-01333R1** – Kun William Xu. MTConnect-based Cyber-Physical Machine Tool: a case study

### CMS: Artificial intelligence in manufacturing – 1 (3) (Session Chair: XXX)

**PROCIR-D-17-00819R3** – Xinyu Li. A Jointed Signal Analysis and Convolutional Neural Network Method for Fault Diagnosis

**PROCIR-D-17-00652R2** – Tanja Nemeth. PriMa-X: A reference model for realizing prescriptive maintenance and assessing its maturity enhanced by machine learning

**PROCIR-D-17-00766R3** – Xinyu Li. A New Ensemble Approach based on Deep Convolutional Neural Networks for Steel Surface Defect Classification

**PROCIR-D-17-00979R3** – Sergei Alexandrov. A Semi-Analytic Solution for Plane Strain Bending Under Tension of a Strain Hardening Sheet Including Ductile Fracture Prediction

### CMS: Human-robot collaborative assembly – 6 (6) (Session Chair: XXX)

**PROCIR-D-17-01223R2** – Gergely Horváth. Assisted assembly process by gesture controlled robots

**PROCIR-D-17-01081R2** – Alberto Tellaeche. A flexible system for gesture based human-robot interaction.

**PROCIR-D-17-01235R2** – Soliris Makris. A cyber-physical context-aware system for coordinating human-robot collaboration

### CMS: Modelling, simulation and optimisation – 3 (5) (Session Chair: XXX)

**PROCIR-D-17-00986R3** – Amir Nourmohammadi. An integrated model for cost-oriented assembly line balancing and parts feeding with supermarkets

**PROCIR-D-17-01358R1** – Giorgio Nicola. Optimal task positioning in multi-robot cells, using nested meta-heuristic swarm algorithms

**PROCIR-D-17-00897R2** – Simon Ingelsten. A virtual framework for simulation of complex viscoelastic flows

**PROCIR-D-17-00778R3** – Felix Gaisbauer. A Motion Reuse Framework for Accelerated Simulation of Manual Assembly Processes

### CMS: Production service and knowledge – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-00546R3** – Andreas Lugert. Dynamization of Value Stream Management by technical and managerial approach

**PROCIR-D-17-00991R2** – Fabian Burzlaff. Towards automating Service Matching for Manufacturing Systems: Exemplifying Knowledge-Driven Architecture Composition

**PROCIR-D-17-00437R2** – Felix Stroeer. Combined development and test of product-service systems in early product development stages for customized, availability-oriented business models in the capital goods industry

**PROCIR-D-17-00973R3** – Ilaria Barletta. The Proposal of an Environmental Break-Even Point as Assessment Method of Product-Service Systems for Circular Economy

### CMS: Design and engineering of manufacturing systems – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-01363R1** – Peter Simon. Approach for a Risk Analysis of Energy Flexible Production Systems

**PROCIR-D-17-00770R2** – Jan Klöber-Koch. Approach for Risk Identification And Assessment In A Manufacturing System

**PROCIR-D-18-00069R1** – Alexander Bader. Order Release for Temporary Paced Sequences in Flexible High Throughput Systems

**PROCIR-D-17-01084R3** – Nicolas Bognar. Assessment of Changeability in Battery Cell Production Systems

### CMS: Total quality control – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-00978R2** – Ulf Sellgren. The effect of manufacturing tolerances on the thermomechanical load of gearbox synchronizers

**PROCIR-D-17-00768R2** – Edward M.H. Lin. Tolerances of Customers’ Requirements: A Review of Current Researches

**PROCIR-D-17-01004R2** – Friedrich Bähr. Correlations between Influencing Parameters and Quality Properties of Components Produced by Fused Deposition Modeling

**PROCIR-D-17-01354R2** – Ann-Louise Andersen. Exploring Requirements and Implementation of Changeability and Reconfigurability in Danish Manufacturing

### CMS Special Session: Smart and Evolvable Production Systems – 1 (1) (Session Chair: XXX)

**PROCIR-D-17-01253R2** – Henry Bioch. State-based control of process services within modular process plants

**PROCIR-D-17-00781R2** – Eva Jarvenpaa. Product Model Ontology and its use in Capability-based Matchmaking

**PROCIR-D-17-01360R1** – Anteneh Yemane. A software platform for supporting the design and reconfiguration of versatile assembly systems

**PROCIR-D-17-01254R2** – Chee Hung Koo. Challenges and requirements for the safety compliant operation of reconfigurable manufacturing systems

**PROCIR-D-17-00904R2** – K. Slipchenko, I. Petrusha, V. Turkevich, et al. Superhard pcBN materials with chromium compounds as a binder

**PROCIR-D-17-00769R2** – O. Gutniichenko, V. Bushlya, S. Bihaagen, et al. Influence of GnP additive to vegetable oil on machining performance when MQL assisted turning Alloy 718


**PROCIR-D-17-01360R1** – R. Lindvall, M. Fröstrom, et al. True Equivalent Chip Thickness and Its Influence on Tool Life

**PROCIR-D-17-01360R1** – Nilo Sillata. Value Proposition of a Resource Description Concept in a Production Automation Domain

### SPS: Material machining – 3 (3) (Session Chair: XXX)

42 – K. Slipchenko, I. Petrusha, V. Turkevich, et al. Superhard pcBN materials with chromium compounds as a binder


### SPS: Production Systems – 4 (4) (Session Chair: XXX)


79 – A.F. Berglund, D. Li and L. Gomis. Testing and validating xR technologies in manufacturing

96 – B. Samet, F. Coufijn, M. Zolghadri, et al. Studying a sub-graph of a Bike Sharing System as a closed queueing network: Application to Velib

104 – E. Sundin and L. Lindkvist. A Structural approach towards Design for Remanufacturing
### CMS: Logistics and supply chain – 4 (4) (Session Chair: XXX)

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**PROCIR-D-17-00802R2** – Wacharawan Intayod. Exploring the Relationship between Business Processes and Contextual Information in Manufacturing and Logistics Based on Event Logs

**PROCIR-D-17-00755R2** – Daniel Sommerfeld. Identification of Sensor Requirements for a Quality Data-based Risk Management in Multimodal Supply Chains


**PROCIR-D-17-00663R3** – Daniel Kupzik. Development and evaluation of separation concepts for the controllable release of tacky prepreg from handling devices

### CMS: Artificial intelligence in manufacturing – 2 (3) (Session Chair: XXX)

**PROCIR-D-17-01191R2** – Andrea Orlandini. Fostering Robust Human-Robot Collaboration through AI Task Planning

**PROCIR-D-17-00902R2** – Mats Jirstrand. Root Cause Analysis of Failures and Quality Deviations in Manufacturing Using Machine Learning


**PROCIR-D-17-00741R2** – Viola Gallina. Lead time prediction using machine learning algorithms: A case study by a semiconductor manufacturer

### CMS: Modelling, simulation and optimisation – 4 (5) (Session Chair: XXX)

**PROCIR-D-17-00905R2** – Thom Wienbruch. Concept for an evolutionary maturity based Industrie 4.0 migration model

**PROCIR-D-17-00885R3** – Chadi Semaan Bejani. Information Modeling for Factory Planning using Flow Charts

**PROCIR-D-17-00896R2** – Magnus Carlsson. Simulation of high-pressure washing of engine blocks

**PROCIR-D-17-01286R1** – Moritz Friedrich Glatt. Combining physical simulation and discrete-event material flow simulation

### CMS: Material machining – 4 (5) (Session Chair: XXX)

**PROCIR-D-17-00548R1** – Alexander Euitz. Influence of ceramic media composition on material removal in vibratory finishing

**PROCIR-D-18-00074R2** – Liu Xianli. Analytical prediction of part dynamics and process damping for machining stability analysis

**PROCIR-D-17-00337R2** – Ahmed Damir. Benchmarking of Patrrow – Recognition Techniques for Online Tool Wear Detection

**PROCIR-D-17-01049R2** – Eva Bosch. Understanding and assessing complexity in cutting tool management

### SPS: Business – 1 (1) (Session Chair: XXX)

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**28** – S. Eirik. Exploring business model innovation for sustainable production: lessons from Swedish manufacturers

**64** – R. Salim and J. Johansson. Automation decisions in investment projects: A study in the Swedish wood products industry

### CMS: Product management – 1 (2) (Session Chair: XXX)

**PROCIR-D-17-01001R2** – Felix Brandl. A Hybrid Innovation Management Framework for Manufacturing – Enablers for more Agility in Plants

**PROCIR-D-17-00687R2** – Konstantinos Salonitis. A conceptual lean implementation framework based on change management theory

**PROCIR-D-17-00841R2** – Daniel Tesfamariam Semere. Knowledge Platform for Resistance Spot Welding (RSW)

**PROCIR-D-17-00589R2** – Patrick Rosenberger. Context-awareness in industrial applications: definition, classification and use case

### CMS: Challenges in factory of the future – 2 (2) (Session Chair: XXX)

**PROCIR-D-17-00801R3** – Dirk Burkhard. Development of an Intelligent Material Shuttle to Digitize and Connect Production Areas with the Production Process Planning Department

**PROCIR-D-17-00748R2** – Ahmad Issa. Industrie 4.0 roadmap: Framework for digital transformation based on the concepts of capability maturity and alignment

**PROCIR-D-17-00694R2** – Anja-Tatjana Braun. Farming in the Era of Industrie 4.0

**PROCIR-D-17-00673R2** – Rupert Glass. Identifying the barriers to Industrie 4.0

### CMS: Assembly – 2 (5) (Session Chair: XXX)

**PROCIR-D-17-00777R3** – Felix Gaisbauer. Presenting a Modular Framework for a Holistic Simulation of Manual Assembly Tasks

**PROCIR-D-17-00907R2** – Johannes Fisel. Variant flexibility in assembly line balancing under the premise of feasibility robustness

**PROCIR-D-17-00930R3** – Francesco Pilati. Automatic assessment of the ergonomic risk for manual manufacturing and assembly activities through optical motion capture technology

**PROCIR-D-18-00073R1** – Jerome Annd Kaspars. Concurrent Selection of Material and Joining Technology – Holistically Relevant Aspects and Its Mutual Interrelations in Lightweight Engineering

### CMS: Robotics and automation in manufacturing – 3 (3) (Session Chair: XXX)

**PROCIR-D-17-00926R2** – Eike Schäffer. Configurators as the basis for the transfer of knowledge and standardized communication in the context of robotics

**PROCIR-D-17-00730R3** – Wenjun Xu. Energy-Efficient Multi-Level Collaborative Optimization for Robotic Manufacturing Systems

**PROCIR-D-17-00654R2** – Alexander Schmidt. A generic data structure for the specific domain of robotic arc welding

**PROCIR-D-17-00678R2** – Martin Manns. Additive manufacturing of silicon based PneuNets as soft robotic actuators
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### CMS: Cyber-physical systems in manufacturing – 3 (3) (Session Chair: XXX)
- PROCIR-D-17-01113R2 – Didem Gürdür. Knowledge Representation of Cyber-physical Systems for Monitoring Purpose
- PROCIR-D-18-00013R1 – Vidosav D. Majstorovic. Cyber-Physical Manufacturing Metrology Model (CPM3) - Big Data Analytics Issue
- PROCIR-D-17-00760R3 – Benjamin Illner. Virtual validation of decentrally controlled manufacturing systems with cyber-physical functionalities

### CMS: Process planning and scheduling – 3 (3) (Session Chair: XXX)
- PROCIR-D-17-00732R2 – Marco Lubosch. Industrial scheduling with Monte Carlo tree search and machine learning
- PROCIR-D-17-00969R3 – Liang Gao. An Effective Hybrid Algorithm for Permutation Flow Shop Scheduling Problem with Setup Time

### CMS: Modelling, simulation and optimisation – 5 (5) (Session Chair: XXX)
- PROCIR-D-17-00997R2 – Julius Pfrommer. Optimisation of manufacturing process parameters using deep neural networks as surrogate models
- PROCIR-D-17-00832R2 – Eric Unterberger. Modeling of an energy-flexible production control with SysML
- PROCIR-D-17-00679R2 – Konstantinos Salonis. Modelling manufacturing employees’ performance based on a system dynamics approach
- PROCIR-D-17-00990R3 – Amir Nourmohammadi. A mathematical model for supermarket location problem with stochastic station demands

### CMS: Big data analytics in manufacturing – 6 (6) (Session Chair: XXX)
- PROCIR-D-17-01346R1 – Wolf Toenness. Applying data of historical defects to increase efficiency of rework in assembly
- PROCIR-D-17-00881R3 – Tobias Stürmlinger. Development of a wear model of a manufacturing system based on external smart production data on the example of a spring coiling machine
- PROCIR-D-17-01348R1 – Kanika Gandhe. Towards data mining based decision support in manufacturing maintenance
- PROCIR-D-17-00878R2 – Maja Viktoria Linnea Bärring. SG Enabled Manufacturing Evaluation for Data-Driven Decision-Making

### SPS: Lean and sustainability – 1 (1) (Session Chair: XXX)
- 68 – L. Vin, L. Jacobsson, J. Odhe. Differences and similarities in game-based Lean Production training of students and industrial employees
- 85 – A.G. Uriarte, A. Ng and M.U. Moris. Supporting the Lean journey with simulation and optimization in the context of Industry 4.0
- 89 – M. Kurdve. Design for green lean building module production – Case study

### CMS: Product management – 2 (2) (Session Chair: XXX)
- PROCIR-D-17-00913R1 – Christelle Grandvallet. A Method and Rules to Design Supports for EBM Parts
- PROCIR-D-17-01080R2 – Shota Suginoouchi. A methodology on parts specification management with customer demands for Mass Customization
- PROCIR-D-17-00910R2 – Iman Morshedzadeh. Product lifecycle management with provenance management and virtual models: an industrial use-case study
- PROCIR-D-17-00082R2 – Philipp Krenkel. Strategic Positioning of Production within the Generic Competitive Strategies

### CMS: Manufacturing system engineering – 2 (2) (Session Chair: XXX)
- PROCIR-D-17-01010R2 – Juri Majak. Design and Manufacturing of composite laminates with structural health monitoring capabilities
- PROCIR-D-17-00652R2 – Andreas Zeller. Component based Verification of Distributed Automation Systems based on Model Composition
- PROCIR-D-17-01093R2 – Konstantinos Efthymiou. Evaluating manufacturing systems robustness: an aerospace case study
- PROCIR-D-17-00671R2 – Richard Senington. Using docker for factory system software management: Experience report

### SPS: Assembly – 2 (2) (Session Chair: XXX)
- 36 – J. Volotinen, M. Lohtander. The re-design of the ventilation unit with DFMA aspects: case study in Finnish Industry

### CMS: Assembly – 3 (3) (Session Chair: XXX)
- PROCIR-D-17-00893R2 – Yi Li. On motion planning for narrow-clearance assemblies using virtual manikins
- PROCIR-D-17-00757R2 – Malarvizhi Kaniappan Chinnathai. Pilot To Full-Scale Production: A Battery Module Assembly Case Study
- PROCIR-D-17-01329R1 – Jens Kiefer. Digital assembly planning using graph-based design languages
- PROCIR-D-17-01016R2 – Martin Kurdve. Digital assembly instruction system design with green lean perspective - Case study from building module industry

### SPS: Production System – 3 (3) (Session Chair: XXX)
- 6 – M. Winroth, K. Sälsten. Manufacturing strategy investigation – Using the STRATEGO-tool in student projects