Industry 4.0 - Digitalisation and co-operation in process automation

Andres Kostiv
User experience designer
ITL Industry 4.0 cluster
Hyrles Estonia

Urmo Sisask
CEO Hyrles Estonia
Company profile – Hyrles Estonia

- Sheet metal processing and assembly
- CAD/CAM production
- 2016 Net Sales 5 M EUR
- 80 employees, 4300 m² facility
- Established 2008
Pain points of Hyrles Estonia
Low efficiency of production planning

• Aim is +40% in volumes and higher profitability with current resources
• Currently only 48 hours forecast
• Hard to make decisions as information is spread in dozen softwares
Finding and keeping qualified workforce

• Motivate best employees by using real information about their performance
• Reduce overtime work with better planning
• Reduce overtime extra costs for salary, heating, electricity, etc
Digitalisation is Hyrles’s choice to solve pain points

“Eventually every company becomes software company”

Andersen, 2002
Estonian iNDustry 4.0 solution

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IT companies need to cooperate in industry 4.0 solution

- ITL: ESTONIAN ASSOCIATION OF INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS
- HYRLES: Pilot factory
- Tieto: Real Time Factory and Ganttplan
- PROEKSPERT: Operator interface
- FUTJITSU: Persona
- Columbus: CadLink
Estonian iNndustry 4.0 solution

- Real Time Factory
- CadLink
- ERP
- Persona
- Operator interface
- Ganttplan
Pain relief with CadLink

- Reduces manual BOM* and routing input time and avoids mistakes
- Accelerates production preparation
- Accelerates creation of manufacturing programs and equipment set-up

*BOM - Bill of material, assembly pieces
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<th>Item Number</th>
<th>Display Name</th>
<th>Units Type</th>
<th>Quantity</th>
<th>Classification</th>
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Pain relief with Ganttplan

- Improves production planning accuracy
- Longer than 48 hours view to future
- Better utilization of resources by Automatic production planning
Pain relief with Real Time Factory

- Measures OEE* to have situation awareness on equipment utilization
- Real time situation who does where and what
- Production planning at equipment level

*OEE - Overall equipment efficiency
Estonian iNdustry 4.0 Solution
Material Journey video

- CadLink
- Ganttplan
- ERP
- Real Time Factory
Pain relief with Operator interface

• Increases efficiency and reduces work time losses
• Makes work time counting more transparent
• Enables to build dream teams
Article no. 3P1E24S-T Simplex Paneel toork B

Operation: Bending
Amada HFBO_14-3-

Batch norm time: 02:46:40

01 : 31 : 35

MANUAL  CONTINUE  PAUSE  DONE

TOOL ERROR  BENDING ERROR  MECHANICAL DEFECT  MACHINE ERROR  OTHER ERROR
Pain relief with Persona

- Work schedules view and administration for manufacturing
- Easy salary and performance payment calculations
- Self service for employees
###Persona

####Schedule

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<tr>
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<th>S3</th>
<th>S4</th>
<th>M5</th>
<th>T6</th>
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####Positions

- Linda Moorits: 168/497, 168/496, 1
- Margus Kuusik: 243/81, 245/245, -14
- Alise Vinogradov: 491/165, 493/165, -2
- Meelis Lipp: 81, 81, 0
- Peter Sali: 245, 245, 0
- Merike Hõrak: 496/160, 496/168, 3
- Vilvi Kaasik: 456/168, 456/168, 2
- Saimo Märd: 493/165, 493/165, 0

###Employee Details

- Linda Moorits: 168/497, 168/496, 1
- Margus Kuusik: 243/81, 245/245, -14
- Alise Vinogradov: 491/165, 493/165, -2
- Meelis Lipp: 81, 81, 0
- Peter Sali: 245, 245, 0
- Merike Hõrak: 496/160, 496/168, 3
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###Contact Information

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- 62 72 371

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*PERSONA V3
Inimesete ja organisatsioonide*

*Fujitsu*
Estonian iNdustry 4.0 solution Human journey video

Operator interface

Persona

Ganttplan

Real Time Factory
Conclusions
Business value of integrated systems

- Increased customer loyalty
- Production volume and efficiency growth
- Reduction of waste and time losses
- Return of investment
iIndustry 4.0 powered by Estonia
Estonia, the innovation and test hub of iIndustry 4.0 revolution

Questions ?

www.itl.ee/industry