DIGITAL TRANSFORMATION
The Pragmatic Approach to Industry 4.0 Implementation - “Productivity Boosts and Quick Wins”
Waterton Technology Centre
Bridgend
25th May 2017

A partnership event:
• Inspiring the next generation of engineers and technicians
• Informing the wider engineering community
• Influencing government and standards to advance society

Here today:
IET Manufacturing Technical and Professional Network
IET Wales South West and Wales South East
IET Manufacturing and Management Specialist Section
IET Electronics and Communications Specialist Section
IET Manufacturing

www.theiet.org/manufacturing

Technical and Professional Network

• Exchange knowledge and information amongst the community
• Develop and extend existing engineering knowledge within Manufacturing
• Network with like-minded individuals to share knowledge and experiences

Technical Community

• Online community >350 members
• Blogs, videos and interviews with Manufacturing professionals
• Regular events

Upcoming events

• Technology Pathway for Implementation
• Bringing Manufacturing Technologies to Life
• Tell us what you want from the network:
  Communities Manager: Gemma Hadley
  ghadley@theiet.org
A Partnership Event:
High impact: learn and grow together
Get involved online!

Please tweet comments and photos of the event using:

@iet_mfg
@walesquality
@smecluster
AGENDA

Stage 1 – Presentations

09:00 – 09:10  Introduction and Formalities – Susan Jones

09:10 – 09:30  Introduction “Identifying day to day challenges round the current environments” how are we going to move from today’s problems to tomorrow’s solutions –

   Paul Davies / Lee Bennett / Neil Wilkins / Kirk Dranfield / Daniel Lilygreen

09:30 – 09:45  Taking the Negative situation and turning it Positive – Gash Bhullar

09:45 – 10:00  Industreweb 4.0 – A Potential Solution for SMEs – Simon Osborne

10:00 – 10:15  Utilising Data – Populating your Management System with Quality Data satisfying QS standards – David Phillips

10:15 – 10:30  Cyber Attacks and Digital Forensics on Industrial Systems – Daniel Lewis

10:30 – 10:40  Astute 2020 Collaboration opportunities – Dr. Jonathan James / Dr. Cinzia Giannetti

10:40 to 11:00 Tea / Coffee Break
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Thursday 25th May 2017 – Waterton Technology Centre, Bridgend. CF31 3WT

Stage 2 – Demonstrations and Clinic (2 hr)

11:00 – 12:10 Rotation of 6 Groups (15 mins each) across the following areas:

- Group 1: TATA Steel – 3D Print Technologies / I4.0 Demo 1
- Group 2: C2K – Affordable Production Monitoring / Alerting
- Group 3: C2K – Asset tracking / Man-Machine interfaces / Smart Devices
- Group 4: BALLUFF – I4.0 Demo
- Group 5: Wolfberry – Cyber-Security Demo
- Group 6: Bosch Rexroth I4.0 Training Kit / Demo

12:10 – 13:00 Round Up and Feedback
  Capture thoughts and ideas / Panel discussion / Feedback
  Moderator – Gash Bhullar

13:00 – Close of Formal Session

Feel free to revisit Demonstrators throughout the afternoon
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- Group 1: TATA 3D / I4.0 Demo 1
- Group 2: C2K ANDON / Work Instructions
- Group 3: C2K 2 Asset Tracking / Monitoring
- Group 4: BALLUFF I4.0 Demo 2
- Group 5: WOLFBERRY Cyber Security
- Group 6: Bosch Rexroth I4.0 Demo 3
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When you hear the Whistle every 15 mins – Rotate Anti-Clockwise as below

PLEASE ADHERE TO STRICT TIMING RULES

Group 1
TATA
3D / I4.0 Demo 1

Observers
Group 1

Group 2
C2K
1
ANDON / Work Instructions

Group 3
C2K
2
Asset Tracking / Monitoring

Group 4
BALLUFF
I4.0 Demo 2

Observers
Group 4

Group 5
WOLFBERRY
Cyber Security

Observers
Group 5

Group 6
Bosch Rexroth
I4.0 Demo 3

Observers
Group 6

Observers
Group 3

TEA / COFFEE AREA
BREAKFAST ROLLS and PASTRY

Group 1
TATA
3D / I4.0 Demo 1
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Gash Bhullar
Control 2K Limited
Member of TANet and EFFRA

Featuring: SMECluster Event 4 – Pragmatically Stepping into the Twinned Digital World of 4IR - Thurs 16th November 2017
TANet / Control 2K / Sematronix EU Projects

CREMA

http://www.crema-project.eu/

Flexible Net Services
Intelligent Systems
Configuration
Services for Flexible
Dynamic Global
Production Networks

http://www.flexinet-fof.eu/Pages/FlexHome.aspx

DIGICOR

http://www.digicor-project.eu/

http://www.fp7-adventure.eu/project/
HEADING TOWARDS THE 4th REVOLUTION

- Configuration Services for Flexible Dynamic Production Networks
- Software as a Service “SaaS”
- Platform as a Service “PaaS”

DIGICOR – Decentralised Agile Coordination Across Supply Chains

STASIS - Enterprise Integration

InterOP - VLab

VLAB GLOBAL HUMAN RESOURCE

KNOWLEDGE REPOSITORY

PRODUCTS

SERVICES

SMECLUSTER


14th April 2016

Impact of the Factories of the Future PPP
Focus Area for Manufacturing

Living on the Edge of the Cloud

Middleware
Cloud Based Rapid Elastic Manufacturing Industry 4.0 - Everything as a Service

Living on the Edge of the Cloud

Virtualize manufacturing assets in Cloud
Connect virtual assets to real world systems
Design & Execute processes using assets in Cloud
Pay-per use, on-demand leasing on Marketplace
Add Collaboration Tools
Real-time Big Data Analysis

CREMA – Developing a system in the context of Industry 4.0, which enables manufacturing processes to establish, manage and automate work processes in a cloud environment. Aims in making processes more elastic and more flexible by using the XaaS and Cloud model.
Industrial Use Cases
Airbus / Hanse Aerospace

Use case problem description

- Call for tenders
- Production / Supply Chain planning & control
- Service (Market place)
- Service (Planning)
- Service (Scheduling)
- Service (Analytics)
- Basic Services (Security, etc.)
- Legacy (SCM, ERP)
- Setup the ad-hoc supplier network
- Local planning, network coordination
- Local rescheduling, network level rescheduling
- Optimization

Collaboration platform

SME cluster (Hamburg Aviation Supplier)
Platform provider

Governance rules

12.09.2017
FoF-11-2016 Digital Automation
SMECluster – Welsh Cluster Support Portal

- Use case problem description

Various OEM’s

SMECluster
Provides the forums with business tools to enhance OEM-Supplier connectivity and increase business opportunities

Suppliers

Legacy (SCM, ERP)

Call for tenders
Production / Supply Chain planning & control

Collaboration platform

Platform provider

Governance rules
SMECluster is a commercial platform owned by Sematronix and supported by Control 2K which can offer a range of services built on successive EU Projects.
Welsh Cluster – 4IR

- Looking for new business
- Opportunities to learn best practice
- Reduce overheads and share resource
- Need to connect to value chain
- Governance Models for working in the new economy
- Collaboration across sectors
- Learn about new technology such as wearables

MARKETING OPPORTUNITY AND SERVICE DELIVERY VIA TENDERING PLATFORM
Industreweb 4.0

Cloud

Fog

Industrial Internet of Things
Clearing up what is or is not I4.0 / 4IR

What it is:

• The Virtualisation of Assets
• The Twinning of Real life processes
• Disruptive
• Challenging and requiring a vast array of skills

What it is not:

• The complete IT solution to plant problems
• The replacement of good engineering skills and technics
• A simple plug and play solution – Although the marketing world would tell you otherwise.
Taking the Negative situation and turning it Positive

The Negative Side to I4.0:
• Difficult to know where to start deployment
• No real cost of final deployment
• Who fixes it when it goes wrong
• Where do all these skills come from

The Positive:
• Clear deployment of I4.0 would completely transform the business
• New markets open up
• Brexit will bring the focus of manufacturing back to the UK
Open call process Digital Innovation Hubs successfully completed

In the two phases of the open call process, a total number of 41 consortia submitted proposals to prepare feasibility studies to establish Digital Innovation Hubs (DIH) in their regions. The evaluation process resulted in the selection of 29 proposals which will receive financial support as well as mentoring and coaching services. Contracts will be established between relevant I4MS projects and the DIH consortia. The mentoring and coaching will start at a summer school which will also serve as the kickoff meeting and which is to be held in September.

For more information please contact the XS2I4MS coordinators Maurits Butter (maurits.butter@tno.nl) and Govert Gijsbers (govert.gijsbers@tno.nl)
Digital Manufacturing Innovation Hub Wales
DMIW – Waterton, Bridgend UK
www.dmiw.co.uk

Facilities for Demonstration of Industry 4.0 (4IR) Methodologies and Technology

Industrial Workshop for CREMA / DIGICOR / C2NET

16th November 2017

See www.smecluster.com for details and registration (Opening soon)

• See also: www.linkedin.com for an article on:

• “A Pragmatic Approach to the Fourth Industrial Revolution (4IR / I4.0)”
Panel Discussion

1. What advice would you give to a company looking to deploy I4.0?
2. How will we address the increasingly skills base required to embrace I4.0?
3. What are the next steps to create a critical mass for Wales to deploy I4.0 and reap the benefits?
4. How will Brexit shape the manufacturing future of UK?

Paul Havbro – Welsh Government
Paul Davies – Industry Wales
Mark Thomas – Ford Motor Company
Sara Nicholls – Siemens
Lee Bennett – TATA
David Stirling – Bosch Rexroth
Russel Smith - Balluff
THANK YOU

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www.smecluster.com