4.0: THE QUALITY REVOLUTION

INTEGRATE  AUTOMATE  CONNECT  COMPLY

INDEPENDENTLY PROVIDING TRUSTED PRODUCTS, SERVICES AND SOLUTIONS

Presented By: THE TWO MICHAELS
UK PRODUCTIVITY
EUROPE & ROW?

Productivity compared
GDP per hour worked compared to UK (=100%) in 2013

Average Hours Actually Worked Per Worker For the Year 2015

Source: ONS International comparisons of productivity 2013 - first estimates

Source: oecd.org
UK ATTITUDES TOWARDS QUALITY
WHERE IS QUALITY?
QUALITY PERCEPTION

- **13% of Companies Surveyed**
  - Only 13% of companies say quality is a priority for top management.

- **37% of Companies Surveyed**
  - Only 37% say that quality is critical for customer satisfaction.

- **26% of Companies Surveyed**
  - Only 26% say that the quality function has a clear and compelling role in delivering corporate strategy.
QUALITY THE CINDERELLA OF INDUSTRY

Cinderella, you shall go to the Ball!
FROM INDUSTRY 1.0 TO INDUSTRY 4.0

FIRST
Industrial Revolution
Through the introduction of mechanical production facilities with the help of water and steam power

SECOND
Industrial Revolution
Through the introduction of a division of labor and mass production with the help of electrical energy

THIRD
Industrial Revolution
Through the use of electronic and IT systems that further automate production

FOURTH
Industrial Revolution
Through the use of cyber-physical systems

First mechanical loom, 1784
First assembly line, Cincinnati slaughter houses, 1870
First programmable logic controller (PLC), Modicon 084, 1969

© DFKI, 2011
QUALITY 4.0 WHAT IS IT?

The Industry 4.0 impact on the world of quality.

Digitalisation of quality management data.

QUALITY 4.0 isn't really a story about technology. It's about how that technology improves CULTURE, COLLABORATION, COMPETENCY, AND LEADERSHIP.
QUALITY IS DATA

Data leads to insight.
Data driven decisions have been at the heart of quality improvements for decades.

In God we trust; all others bring data.
—W. Edwards Deming
QUALITY 4.0 CULTURE

• Previously quality has been regarded more like a policing engine than a vehicle for improvement and performance.

• Quality 4.0 makes a culture of quality more attainable through:
  • Better connectivity
  • Visibility
  • Insights
  • Collaboration
  • Connected data
  • Processes
  • Analytics
  • Apps
QUALITY 4.0 INTEGRATE

• Integrate all quality to one unified process EQMS.
• Collaboration - Integrate your process within the supply chain
QUALITY 4.0 AUTOMATE

• Use your programmable systems, with robotics, to make your processes less laborious, more efficient and traceable.
• Improve productivity
• 100% automated data collection
• Improved accuracy in recording of data
QUALITY 4.0 CONNECT

See how you can easily create a factory-wide, data collection network for all your inspection needs.
QUALITY 4.0 COMPLY

• Meet your compliance obligations in seconds. With automatically generated reports; FAIRs, ISIRs or PPAPs
• Compliance to standards including AS9100, ISO17025, ISO9000, 21CFR.
THE IACC MODEL

COMPLY

CONNECT

INTEGRATE

AUTOMATE
The Sempre Group

Universal Robot UR3
Micro-Vu Optical CMM
WiFi AndOn Status Lights

Sempre Connect

Database – Prolink / High QA

Monitoring and Trend Detection

Reporting

The IACC IN PRACTICE

AUTOMATE

CONNECT

INTEGRATE

COMPLY

TheSempreGroup.com
**THE IACC IN PRACTICE**

**INTEGRATE**
- Using standard technologies linked together into systems more effective than the sum of the parts.
  - Inspection, Robotics, Digital I/O, Software, SQL Data management, Enterprise Reporting, Automated Reports.

**AUTOMATE**
- Taking the human out of the low value, monotonous work – more effective use of human resource.
- Data is collected and stored automatically – no writing things down!

**CONNECT**
- Bringing the data together into a common location.
- Closed loop manufacturing – tool correction

**COMPLY**
- Monitoring the data allowing data trending detection and proactive actions to decrease scrappage.
- Automatically producing compliance documentation and rapidly progressing from first article to fully production.
QUALITY 4.0 EVENT OBJECTIVE

• Demonstrate new technologies that can be used to improve quality

• Integrate all aspects of Quality 4.0 into a coherent process

• Automate standard measurement systems and show how this could be achieved

• Connect the exhibition into one Big Data process

• Comply by bringing all this data together where it could be shared with your customers
QUESTIONS
THANK YOU
LUNCH SERVED UPSTAIRS
12:45-13:45