CONFIRM is the Science Foundation Ireland Research Centre for Smart Manufacturing

Transforming Irish industry to become world-leaders in smart manufacturing

A World Leading SFI Research Centre
Why Manufacture in Ireland?

- 4th best country in the world to do business
- Global frontrunner for Manufacturing 4.0 Readiness
- Ireland in top 10 most entrepreneurial countries
- 2nd most productive workforce in the world
Manufacturing sector is critical to Ireland’s economy

- **4,000** manufacturing enterprises in Ireland
- **2nd largest employer**
- **€112 billion** exports
- **€3.4 billion**
  - Manufacturing firms invest over **€3.4 billion** in the economy
- **440,000 Employed** (direct & indirect)
- Manufacturing contributes **24%** of total economic output
20%-50% Faster time to market
30%-50% Reduced machine downtime
20%-40% Increased machine life
45%-55% Increased staff productivity
3%-5% Increased process productivity
10%-20% Increased production quality
20%-50% Reduced inventory costs


Source: PWC 2016
CONFIRM’s Vision – Fundamentally Transform Industry to a Smart Manufacturing Ecosystem
Confirm
Smart Manufacturing

€47 million funding
36 investigators
42 industry partners
8 core research performing organisations
8 national research and technology centres
16 international collaborators
research to develop future smart manufacturing technologies

talent & engaged public to change perception of manufacturing in Ireland

community of practice to embrace the 4th Industrial revolution together
Our Key Research Drivers

- Smart Products
- Smart Machines
- Smart Production Systems
- Smart Supply Chains
Detailed Research Programme

Hub 1: Virtual Industrialisation
- Secure product traceability/ process tracking
- Product - Machine Communication Systems

Hub 2: Cyber Physical Manufacturing Systems
- Cooperative robotic machine systems
- Algorithms for intelligent machines
- VR for Machine Training, Failure Prediction & Repair
- Smart Machines for Evolvable Manufacturing Factory Systems
- Sensor embedded tooling and process optimisation

Hub 3: Self-Aware Manufacturing Systems
- Production KPI Visualisation for factory management
- Reconfigurable Manufacturing Systems (RMS)
- Digital Validation & Production Data Cleaning

Hub 4: Testbeds and Prototype Lines

Spoke 1: Smart Products
- Smart Products

Spoke 2: Smart Machines
- Smart Machines

Spoke 3: Smart Production Systems
- Smart Production Systems

Spoke 4: Smart Supply Chains
- Smart Supply Chains
- Ensuring Manufacturing Supply Chain Trust
- Smart MES Systems
Talent

- Address changing skills requirements for manufacturing

Engaged Public

- Change image and perception of manufacturing
Centre Environment – Community of Practice

Centre Ethos – Inclusive, Equitable, Supportive, Responsive

- Industry Informed Research Programme
- Cross Cutting Projects
- Embedded Commercialisation Partners
- Multidisciplinary Team
Confirm HQ Vision
Confirm National HQ

Tyndall, Cork

Park Point, UL

AIT, Athlone

VR - HQ
The EU Story

FACTORIES of the Future

Adding value to products for environmentally conscious, quality sensitive customers

Manufacturing plays a central role in Europe’s economy

The EU invests in research and innovation for a sustainable, efficient and competitive manufacturing sector. Budget: €1.15 billion

EU manufacturing €7 trillion in turnover

30 million direct jobs

60 million indirect jobs mainly in small or medium-sized enterprises (SMEs)

80% of total EU exports

Investing in Research & Innovation

The EU’s Factories of the Future public-private partnership focuses on investing in research and innovation to help Europe’s industries address several challenges:
Target

- €22m over 6 years & two programmes
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Smart Manufacturing

@Confirm_Centre
Phone +353 61 202662
Email confirm@ul.ie

www.confirm.ie