Digitising European Industry Roundtable

Mainstreaming Digital Innovation across all Sectors

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#DigitiseEU

What is the problem?

- For close to two thirds of managers in industry:
  - The *Return on Investment* in digital innovations is difficult to assess upfront.
  - Have problems with trusting the technology
  - Are not sure about the maturity of latest technologies (Big data, AI, robotics,..)
  - Are not clear about compatibility/interoperability with legacy systems.
  - Are afraid of being locked in with one vendor
- Percentage is higher for SMEs
- Clear need to "test and experiment before engaging in digital innovation"

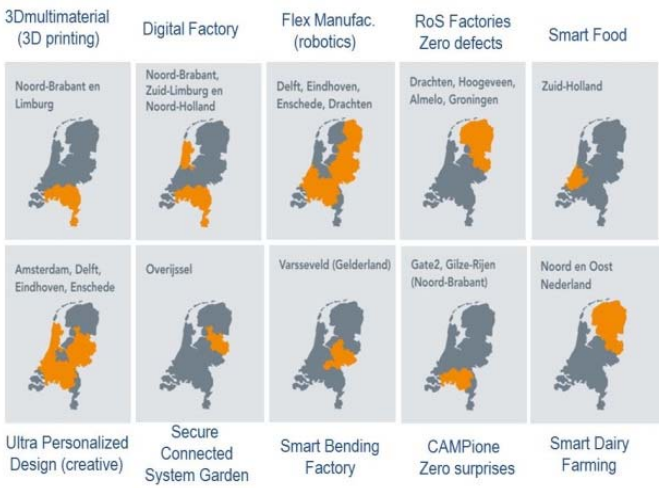
The approach

- Make latest digital technologies available for all industry anywhere in Europe
  - Test, experiment products, processes, business models
- Through networks of "digital innovation hubs"
  - Based on "Competence centres" (RTOs*, University labs,…)
  - Complementary expertise to offer one stop shop
- Targeting notably SMEs, start-ups, non-tech industry,...
- Stimulating a wave of bottom-up digital innovations
  - across regions and in all industrial sectors

*RTO: Research & Technology Organisation

Digital Innovation Hubs: Building on successful experiences, e.g.

Netherlands Field Labs



Mittelstand-Digital

La FRENCH TECH

.....

European Factories of the Future PPP

I4MS

ECHORD++

SAE

ACT PHAST

FIWARE iHubs

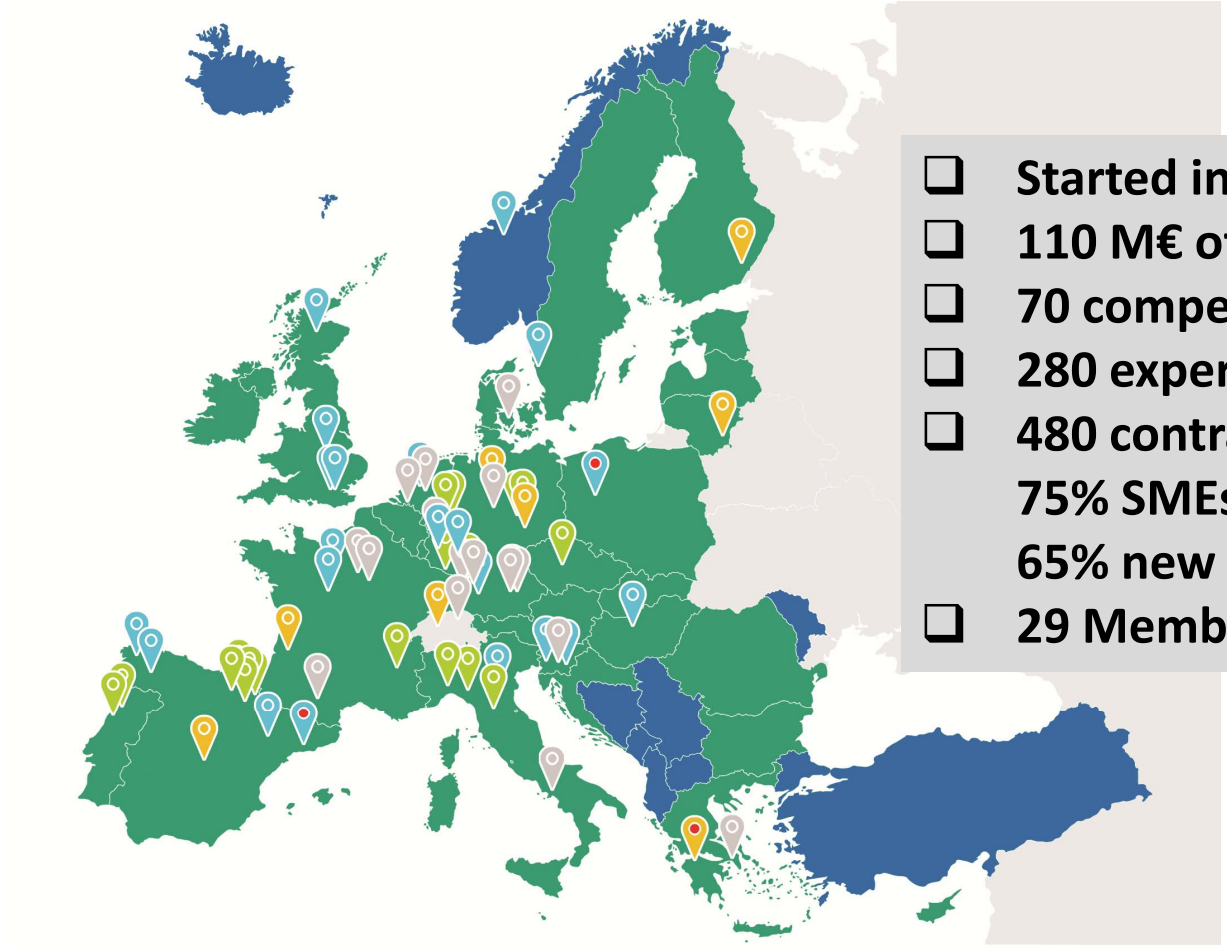
eit Knowledge & Innovation Community
EIT ICT Labs

VANGUARD INITIATIVE

Building on and expanding successful actions
Example: ICT Innovation for Manufacturing SMEs

European Commission

I4MS
Factories of the Future PPP

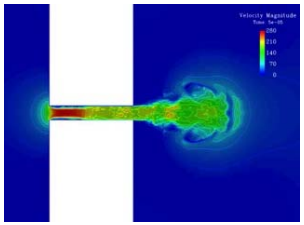


- ❑ **Started in 2014**
- ❑ **110 M€ of EU funding - 11 networks**
- ❑ **70 competence centres**
- ❑ **280 experiments: 75% cross-border**
- ❑ **480 contractors/340 industrial: 75% SMEs and mid-caps, 50% users, 65% new in EU R&I Programmes**
- ❑ **29 Members States + Ass. Countries**

Example: FORTISSIMO

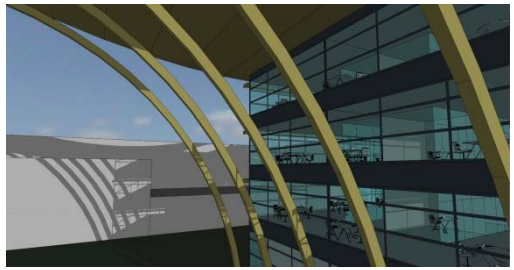
- **Goal:** Provide SMEs with easy and cost-effective access to **advanced simulation, visualisation and data analytics**

- **How:** provide expertise, tools and means to tap into a European Cloud of HPC resources & software applications



- 16 innovation hubs – 94 experiments so far

- Fortissimo 1+2: €26m >100 SMEs



Cloud-based CFD simulation for hypercars

- CFD aerodynamics simulation needed - but in house HPC resources not affordable
  Solution: Cloud-based pay-per-use HPC
- Impressive results
  - 30% saving in design costs plus 50% reduction in wind tunnel and physical testing
  - Development savings of €90K per year
  - 30% decrease in time to market
- **250k€ Funding**
  → **4M€ benefit to company over 5 years using cloud-based Pay-per-use HPC and simulation software**

Partners:
End-user SME: KOENIGSEGG – SE
ISV-SME: ICONCFD – UK
HPC centre: CINECA – IT
HPC centre: EPCC - UK

Example

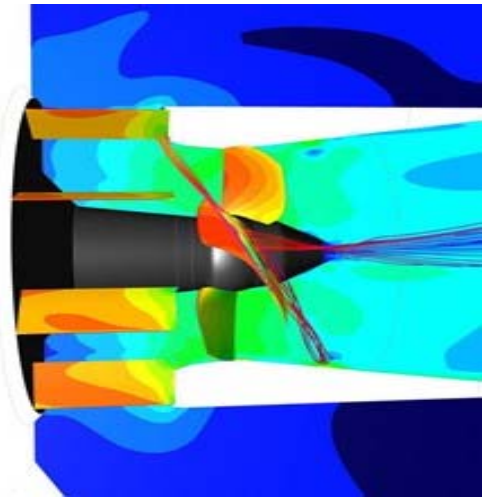
Tailor made shoes for customers with feet anomalies

- 3D insole scan & design is processed on HPC resources via the cloud
  - Paving the way for 3D printing of soles/shoes in the back-shop in Europe
- **Benefits for the shoe industry**:
  - No need for specialised CAD knowledge
  - No hassle with SW licenses
  - Immediate validation and perfect fit
- **Benefits for the customer:**
  - Faster availability of the shoe
  - Lower cost for special shoes
- **250k€ Funding**

Partners:
End-user SME: BASE PROTECTION – IT
End user SME: PODOACTIVA -ES
Technology provider SME: INGECON - ES

→ **Tripling Base Protection's turnover within 3 years**

HPC Cloud Simulation for Green Energy



- CFD simulation on cloud-based HPC
  - reduces the design time by 2/3
  - while increasing accuracy by 10 at **affordable cost**
- Results:
  - Renewable energy becomes more competitive
  - Plant owner gains 200k€/y (40MW turbine)
  - Lower energy cost for the citizens

- **250k€ Funding**
  → **Several jobs created**
  Enormous boost of the competitive position

Partners:
End-user SME: STELLBA – DE
ISV-SME: NUMECA – BE
ISV-SME: JOTNE – NO
HPC centre - SME: ARCTUR - SLO

European Commission

Example from Smart Anything Everywhere

Energy saving drying processes enabled by an **innovative smart sensor system**

- Freeze drying – most gentle method to conserve materials under harsh temperature conditions (-60 degrees)
- 20% energy savings
- Revenue increase of SMEs: 2M€/5 years

Partners:
End-user SME: Martin Christ GmbH – DE
End-User SME: Technolab GmbH – DE
Tech provider: Swerea IVF – SE
Tech provider: Hahn-Schickard – DE
Tech provider: CIS – DE
Tech provider: IPHT – DE
Tech provider SME: IL Metronic - DE

The way forward: "Upscaling" and networking EU-wide digital innovation hubs

- **Member states, regions**: Build-up and strengthen national and regional structures of digital innovation hubs
  - Innovation programmes
  - Structural funds, ESIF: Smart specialisation..
  - Access to finance (e.g. KfW, BPI, EFSI , …)

- **European Commission:** Complementary focused measures
  - Map of competences, best practices, demonstrators,…
  - Pan-European network of Digital Innovation Hubs (DIH)
  - Support for cross-border innovation experiments (I4MS, …)
  - Preparatory measures for DIHs in less developed regions

- **Financing**
  - 500 M€ for network of Innovation Hubs in Horizon 2020
    → 5 B€ regional and national funding including when possible ESIF,..