Work Programme 2014/15
(LEIT-ICT for Factories of the Future)

New funding opportunities in ICT for Manufacturing in 2015
Milan—June 30, 2014

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European Commission - DG CONNECT – A3
ICT support to FoF cPPP in 2015 – Call Planning

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<th>LEIT - FOF</th>
<th>2015</th>
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<td>ICT-enabled modelling, simulation, analytics and forecasting technologies</td>
<td>FoF8 31</td>
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<td>ICT Innovation for Manufacturing SMEs (I4MS)</td>
<td>FoF9 35</td>
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<td>Overall tentative budget:</td>
<td>EUR 68 million from the year 2015 budget</td>
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<td>Instruments:</td>
<td>CP100: 100% of eligible costs CP70: 70% of eligible costs CSAs</td>
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Modelling, simulation, analytics & forecasting

CAx

Digital Factory

Product Planning ➔ Product Design ➔ Production Planning ➔ Ramp-up ➔ Production ➔ Use of Product ➔ Service

CAD

CAE (CFD, FEA, ...)

CAPP

CAM

DMU

Virtual Training

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What we ask for: Research and Innovation Actions - main themes

1. Innovative modelling, simulation, analytics and forecasting tools for manufacturing at large, building on advances in ICT.

   - driven by industrial use-cases
   - including proof-of-concept/demo for validation on real process chains.

   - including pre-normative/standardisation activities
   - reference implementations and demonstration and validation in min two industrial use cases

2. Integrated modelling, simulation and information management systems benefiting from recent advances in ICT.

   *the budget is intended to be tentative
What we ask for: Research and Innovation Actions (1)

Obj. FoF8 a) Innovative modelling, simulation, analytics and forecasting tools for manufacturing

**Small projects (2-4 M€)**

**100% funding**

i. **Modelling and simulation methods for multiple phenomena** (physical, mechanical, energetic, chemical, energy, material characteristics, cost, …) which include multi-scale and integrated discrete/continuous models, multidisciplinary and multi-objective design optimisation tools taking a holistic approach;

New developed methods can integrate virtual and physical experiments building on the combination of simulated, experimental, and real world data in real time.
ii. Development of **integrated knowledge-based systems** covering the full product life-cycle which are based on advanced analytics, smart decision support systems and self-learning capabilities exploiting "big data" coming from smart sensors, historical process files, or human-authored data;

Important aspects to be addressed are interactivity, real-time, data-fusion, imprecise computing, compressed sensing, advanced visualisation, security and privacy.
Obj. FoF8 b) Integrated modelling, simulation and information management systems

What we ask for: Research and Innovation Actions (3)

I. Integrated information management systems for product-process-production systems that are well embedded into their social, environmental and economic context.

II. Advanced computer aided technologies (CAx), modelling, simulation and decision support toolboxes tailored for novel manufacturing processes, e.g. laser-based and additive manufacturing.

- including pre-normative/standardisation activities
- reference implementations and demonstration and validation in min two industrial use cases
What we ask for: Support Action (CSA)

Main tasks include:

- Roadmapping activities and constituency building for novel concepts in manufacturing enabled by ICT on
  - wider adoption of virtual, integrated, scalable, semantic factory models
  - merging design and production models
  - integrating novel ICT for creativity

- Stimulating EU-US cooperation on research and innovation related to modelling and simulation

*the budget is intended to be tentative
Expected impact:

- **Increased productivity** for higher mass customization capacity for big enterprises as well as SMEs
- **Improved cost efficiency, accuracy, reliability and speed** of simulation for manufacturing processes and products
- **Reduced time to production** enabled by tool interoperability and data integration
- **Enhanced interoperability** of integrated product and production systems enabling new type of services (e.g. data analysis, simulations and visualization techniques)
Obj. FoF9 I4MS – Phase II
I4MS: ICT Innovation for Manufacturing SMEs

Innovation action: Large projects (5-8 M€) - 70% funding

Tentative budget 35 M€
What we ask for: Innovation Actions in the following areas of technologies

- Highly flexible and near-autonomous **Robotics** systems
- **HPC Cloud**-based modelling, simulation and analytics services for modelling multiple interconnected phenomena
- Integration of **CPS modules** in manufacturing processes and process chain

**Large projects (5-8 M€)**

**70% funding**

**Application experiments**

**Application/Assessment experiments**

Tentative deadline: Feb 2015
Expected impact:

• **Attract new users** of advanced ICT in the manufacturing sector

• **Innovative technology suppliers** to provide with new equipment, components, and tools for improved manufacturing and engineering operations

• **More competitive European service providers** provisioning new types of services

• Exploration of **new application areas for advanced ICT in manufacturing** at large
Next events

- ICT Proposers day – 9-10 October 2014 – Florence (Italy)

- FoF Infoday – 21 October 2014 – Brussels
  [link](http://ec.europa.eu/research/industrial_technologies/information-day-for-ppp-2014_en.html)
THANK YOU

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DG CONNECT (FoF on DAE Web):

Horizon 2020 on the web:
http://ec.europa.eu/research/horizon2020/index_en.cfm

LEIT ICT-FoF-8 call on the web: