



REGIONE
PIEMONTE



CENTRO SERVIZI INDUSTRIE

7 Novembre 2017

GDL FoF – Analisi Tematiche e Call 2018

MESAP

Innovation Cluster for Smart
Products and Manufacturing

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Agenda

Gruppo di Lavoro FoF (Fabbrica del Futuro) — 7 novembre 2017 - 15:00 - 17:30

- **Analisi delle call 2018 NMPB, ICT relativi alle tematiche della fabbrica del futuro**

DT – FOF – 01 Skills needed for new manufacturing jobs (CSA)

DT – FOF – 02 Effective Industrial Human – Robot collaboration (RIA)

DT – FOF – 03 Innovative manufacturing of opto – electrical parts (RIA)

DT – FOF – 04 Pilot lines for Metal Additive Manufacturing (IA 50%)

DT-NMBP-20 A digital 'plug & produce' online equipment platform for manufacturing (IA)

DT-ICT-07 Digital Manufacturing Platforms for Connected Smart Factories (IA)

ICT-03 Photonics Manufacturing Pilot Lines for Photonic Components & Devices(IA)

ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (RIA + IA)

- **Presentati i documenti** disponibili degli Info Days del 3-4 Ottobre per FoF (escluse tematiche in corsivo)

- **Comunicare manifestazioni di interesse** da parte di imprese europee che cercano partner per la costruzione di idee progettuali H2020

- **Raccolte idee progettuali** da parte dei nostri associati che necessitano di partnership internazionali



Obiettivi

- MESAP intende costituire un gruppo di lavoro che coinvolga gli associati sulle tematiche relative alla fabbrica del futuro per i futuri Bandi H2020.
- Il Polo è infatti associato ad EFFRA (European Factory of the Future Research Association), l'associazione di riferimento a livello europeo. L'intento è di coinvolgere imprese ed organismi di ricerca sulle tematiche oggetto degli Info Days del 3-4/10 u.s. e del prossimo ICT Proposer Day del 9-10/11, ai quali MESAP parteciperà.



Call e Tematiche

Work Programme 2018 - 2020

Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing

1. Call Foundations of tomorrow industry
2. Call Transforming European Industry
3. Call Industrial Sustainability



2 - Call Transforming European Industry

2.1 Factories of the Future (FoF)

Valutazione: single stage

2.2 Biotechnology

Valutazione: single stage + two stage

2.3 Medical Technology Innovations

Valutazione: two stage



2.1 Factories of the Future (FoF) - 2018

DT – FOF – 01 Skills needed for new manufacturing jobs (CSA)

DT – FOF – 02 Effective Industrial Human – Robot collaboration (RIA)

DT – FOF – 03 Innovative manufacturing of opto – electrical parts (RIA)

DT – FOF – 04 Pilot lines for Metal Additive Manufacturing (IA 50%)

Valutazione: Call aperta - Deadline **22/02/18** Budget: **79 M€**

DT-NMBP-20 A digital 'plug & produce' online equipment platform for manufacturing (IA)

Valutazione: Apertura call 28/11/17 - Deadline **08/03/18** Budget: **15 M€**



Work Programme 2018 - 2020

Information and Communication Technologies

1. Call Information & Communication Technologies
2. Call Digitising & transforming European industry & services: digital innovation hubs & platforms
3. Call Cybersecurity



1 - Call Information & Communication Technologies

1.1 Technologies for Digitising European Industry

1.2 European Data Infrastructure: HPC, Big Data and Cloud technologies

1.3 5G

1.4 Next Generation Internet

1.5 Cross-cutting activities

Valutazione: Call aperta - Deadline **17/04/18**



1.1 Technologies for Digitising European Industry – 2018

ICT-02 Flexible and Wearable Electronics (RIA)

ICT-03 Photonics Manufacturing Pilot Lines for Photonic Components & Devices(IA)

Budget: **30 M€**

ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (RIA + IA)

Budget: **30 + 25 M€**

ICT-07 Electronic Smart Systems (ESS) (CSA + RIA +IA)

Valutazione: Call aperta - Deadline **17/04/18**



ICT-03 Photonics Manufacturing Pilot Lines for Photonic Components & Devices (IA)

The aim is to accelerate the design, development and uptake of photonics technology, by a wide range of industrial players, in particular SMEs by providing low-barrier access to volume production of advanced photonics components available to a wide range of industrial players, in particular SMEs which would otherwise not have easy access.

The focus is on **Manufacturing Pilot Lines**:

- actions should provide **open access to manufacturing of advanced photonics components and systems** and offer related services including design and characterization
 - should cover **all stages of manufacturing** through to **testing**, provide a low entry barrier access to low and medium production volumes and the processes used should be scalable to high production volumes
 - should include a **validation of the pilot line offer** with involvement of **externals users** in pre-commercial production runs
 - Activities should aim at **long-term sustainability**, including development of or integration into **photonics innovation hubs**
 - should make use of **existing infrastructure** and develop close links with **on-going European and national initiatives** in order to maximise impact
 - Proposals must present industrially **relevant business cases** for the manufacturing pilot line, a **plan for long-term sustainability** and a **credible strategy for future high volume production in Europe at competitive cost**
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ICT-03 Photonics Manufacturing Pilot Lines for Photonic Components & Devices (IA)

Actions must address one or more of the following technologies.

- **Indium Phosphide** (2018 call): providing open access to photonics integrated circuits based on Indium Phosphide, going beyond multi-project wafers and offering generic solutions for a wide class of applications.
 - **Silicon Photonics** (2018 call): providing open access to photonics integrated circuits based on Silicon Photonics, going beyond multi-project wafers and offering generic solutions for a wide class of applications.
- At least **one proposal will be selected** to cover each of these technologies.
- **contribution from the EU between EUR 8 and 15 millions**

Impact:

- Improve significantly the uptake of photonics technology by end-user industry, in particular SMEs, enabling a demonstrably more competitive European industry.
- Greatly accelerate the time to market.
- Create sustainable manufacturing capability in Europe.

Valutazione: Call aperta - Deadline **17/04/18**

Budget: **30 M€**



ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (RIA + IA)

The challenge is to reinforce the innovation ecosystem by providing access to advanced photonics technology to researchers and thereby accelerating the deployment of the next generation of disruptive photonics technologies

The challenge is to build capabilities for automated mass manufacturing of datacom photonics in Europe.

LED/OLED lighting is now becoming the dominant lighting technology and the market focus is shifting from energy efficiency to additional smart features. The challenge is the integration of lighting with the Internet of Things, offering new functionalities beyond illumination.

The development and application of innovative photonics based manufacturing solutions will open new ways of producing more goods with fewer raw materials, less energy and less waste.

The challenge is to develop systems which deliver improved accuracy, power and control and which will enable the next generation of manufacturing in a range of industrial sectors.

Valutazione: Call aperta - Deadline **17/04/18**

Budget: **30+25 M€**



ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (RIA)

Research and Innovation Actions

i. Highly Productive Ultra-Short Laser Systems for Fast Materials Processing: the development of ultra-short pulse laser systems with pulse durations in the nanosecond regime down to the femtosecond regime and with average beam power levels of at least 1kW enabling fast materials processing with minimal heat impact on the work piece. Pulse energies and wavelengths must be appropriate for the intended application. Proposals may include also the related monitoring and closed loop control aspects. The developed system should be demonstrated with a relevant industrial application.

ii. Tailored Laser Beams for Laser-based Manufacturing: new methods and schemes of beam shaping providing the optimal energy delivery on the work piece with a high spatial and temporal resolution. Proposals may include also the related monitoring and closed loop control aspects. The developed system should be demonstrated with a relevant industrial application.

Expected Impact

i. Strengthening industrial manufacturing based on **ultra-short pulse lasers and extending its field of applications by simultaneous improvement of precision and productivity**; significant contribution to the digitization of European industry.

ii. Substantial **contribution to digital photonic production** with increased **productivity, flexibility and customized products** ("first time right") at significantly reduced costs.

contribution from the EU between EUR 3 and 6 million

Valutazione: Call aperta - Deadline 17/04/18

Budget: 30 M€



ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (IA)

Innovation Actions

i. Access to advanced photonics for researchers: The objective is provide photonics and non-photonics researchers with a one-stop-shop access to a wide range of existing cutting edge technology platforms as well as services needed to facilitate their use (such as design, measurement and packaging).

ii. Enabling automated mass-manufacturing of datacom photonics products: Actions should demonstrate automated manufacturing of optical transceivers with transfer rates above 1Tb/s at competitive costs according to the interconnection distance. Actions should cover all manufacturing steps of proven designs from chip manufacturing to photonic/electronic integration through to packaging and testing, and final demonstration in a real environment. Standardisation should be addressed.

iii. Connected Lighting: The action should focus on integrating lighting infrastructure with the Internet of Things and demonstrating new functionalities such as visible light communication for indoor positioning and broadband data communication. Development and integration of new technologies as security and multicast communication into open architectures must be demonstrated in real environments. Standardisation of a reference architecture must be one of the main goals of the action.



ICT-04 Photonics based manufacturing, access to photonics, datacom photonics and connected lighting (IA)

Expected Impact:

Proposals should describe how the proposed work will contribute to the listed corresponding expected impacts and include baseline, targets and metrics to measure impact.

a) Innovation Actions

- i. A strengthening European innovation ecosystem and improved **cross fertilisation** between photonics and other technology areas.
- ii. **Reduced manufacturing cost** of PIC-based optical transceivers with transfer rates above 1Tb/s enabling massive deployment in datacenter environments (<1€/Gbps between racks and <0.1€/Gbps inside racks).
- iii. European industrial leadership in a wide range of photonic applications and technologies enabling **penetration of new markets** as well as for established telecom and datacom applications.
Demonstrable performance advantages in terms of sensitivity, speed, energy efficiency and robustness.

Maximum **one proposal will be selected to cover each of the themes i and iii.**
contribution from the EU **between EUR 3 and 6 million**

Valutazione: Call aperta - Deadline **17/04/18**

Budget: **25 M€**



1.2 European Data Infrastructure: HPC, Big Data and Cloud technologies - 2018

ICT-11 HPC and Big Data enabled Large-scale Test-beds and Applications (IA)

ICT-12 Big Data technologies and extreme-scale analytics (CSA + RIA)

ICT-13 Supporting the emergence of data markets and the data economy (CSA + RIA)

ICT-16 Software Technologies (CSA + RIA + IA)

1.3 5G – 2018

ICT-17 5G End to End Facility (RIA)

ICT-18 5G for cooperative, connected and automated mobility (CCAM) (IA)

ICT-21 EU-US Collaboration for advanced wireless platforms (CSA)

ICT-22 EU-China 5G Collaboration (RIA)



1.4 Next Generation Internet - 2018

ICT-24 Next Generation Internet - An Open Internet Initiative (CSA)

ICT-25 Interactive Technologies (CSA)

ICT-26 Artificial Intelligence (RIA)

ICT-27 Internet of Things (CSA)

ICT-28 Future Hyper-connected Sociality (CSA+RIA+IA)

ICT-29 multilingual Next Generation Internet (RIA+IA)

1.5 Cross Cutting Activities - 2018

ICT-32 STARTS – The Arts stimulating innovation (CSA+RIA)

ICT-34 Pre-Commercial Procurement open (PCP)

ICT-35 Fintech: Support to experimentation frameworks & regulatory compliance (CSA)



2 - Call Digitising & transforming European industry & services: digital innovation hubs & platforms

2.1 Support to Hubs – 2018

DT-ICT-02 Robotics - Digital Innovation Hubs (DIH) (CSA+IA)

DT-ICT-06 Coordination and Support Activities for Digital Innovation Hub network (CSA)

2.2 Platforms and Pilots - 2018

DT-ICT-07 Digital Manufacturing Platforms for Connected Smart Factories (IA)

DT-ICT-10 Interoperable and smart homes and grids (IA)

3 - Call Cybersecurity - 2018

SU-ICT-01 Dynamic countering of cyber-attacks (IA)

