Three more years of H2020: opportunities for Photonics for AgriFood in ICT

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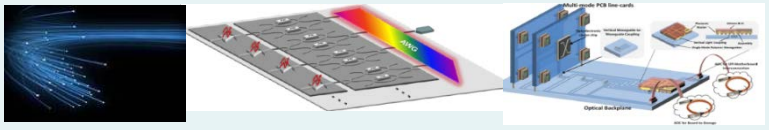
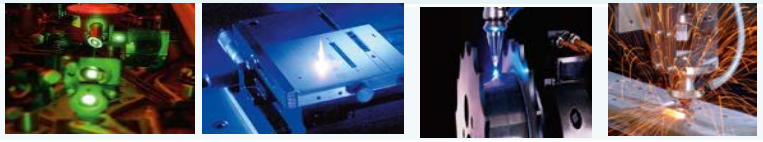
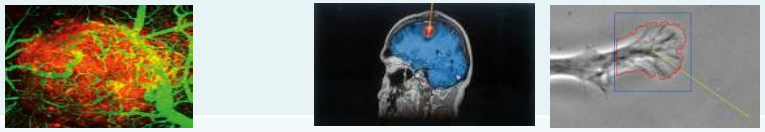
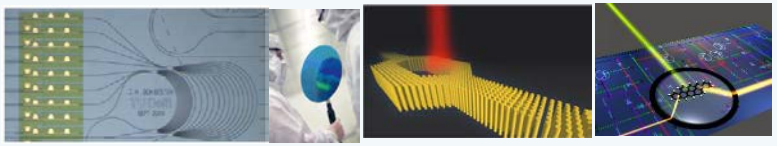
Photonics H2020
Funded grants 2014-2017 = 364M€
Total budget 2014-2020 = 700M€

Areas	2014-17	# projects H2020	
Optical data Communications	30 M€	6	
Lasers and Manufacturing	61.1M€	17	
Biophotonics Health&Food	85.6 M€	19	
SSL Lighting, Displays & OPVs	51.4 M€	9	
Sensors for safety & security	42.7 M€	10	
Integration Platforms & Nanophotonics	66.4 M€	14	
Cross-cutting Support Actions	26.6 M€	11	Education and training, Roadmapping, Coordination between regional/national clusters, Coordination of the Photonics research constituency, Access to advanced technologies, Support to SMEs

NEXT CALLS: OPEN AND FORTHCOMING

Next years WP main headings

- **Digitising European Industry**
- **Digitising and transforming European industry and services: digital innovation hubs and platforms**

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Photonics PPP
ICT 05 – 2019: Application driven Photonics Components

The Specific Challenge

- **Health applications**: to improve or to assess the successes of therapies and to transform low TRL technologies into robust medical devices answering to clinician needs.
- **Sensor technologies**: to deploy photonic sensor technologies for the exact monitoring of process and product parameters so as to optimize those processes, saving resources whilst guaranteeing optimum product quality.
- **Photonics circuits**: to create and develop advanced techniques for intimate integration of sub-systems incorporating multiple technologies enabling application across multiple domains.

ICT 05 – 2019: Application driven Photonics Components

An Overview of the Actions called: 76.5 M€

ICT05.a Innovation Actions

30 M€

- Photonics devices to support monitoring therapeutic progress
- **Sensor-Based Optimization of Production Processes**

ICT05.b Research and Innovation Actions

45 M€

- Photonics System on Chip/ System in Package for optical interconnect applications
- Photonics systems for advanced imaging to support diagnostics driven therapy

ICT05.c Coordination and Support actions

- Fostering careers in photonics

1.5 M€

ICT 05 – 2019: Application driven Photonics Components
ICT 05.a Innovation Actions

ii. Sensor-Based Optimization of Production Processes:

Objective:

actions 3-6 M€, 70% / 100% funding

Actions should address prototyping, demonstration, optimization and validation in real industry settings of highly advanced smart broadband multimodal photonic sensing solutions operating in the spectral range from the ultraviolet to the far infrared, and intended for improving production process through the monitoring of relevant process and product parameters (e.g. physical, chemical, imaging, geometrical and environmental).

Requirements:

- ✓ cost-effective process-integrated solutions that are optimized in terms of speed, quality, and resource efficiency
- ✓ address embedded pre-processing and suitably interpreting the acquired raw data for the optimization of the processes

Expected Impact:

Increased competitiveness of the European production industry and significant contribution to the digitization of European industry

ICT 05 – 2019: Application driven Photonics Components
ICT 05.a Innovation Actions

Requirements: actions should

- address validation and demonstration of photonic-based systems for target applications
- also include standardisation activities
- demonstrate strong industrial commitment
- be driven by user needs and concrete business cases supported by strong exploitation strategies
- cover the whole value/supply chain and the end-user

Photonics for Agri-Food also in Digitising European Industry focus area

CALL: DIGITISING AND TRANSFORMING EUROPEAN INDUSTRY AND SERVICES: DIGITAL INNOVATION HUBS AND PLATFORMS

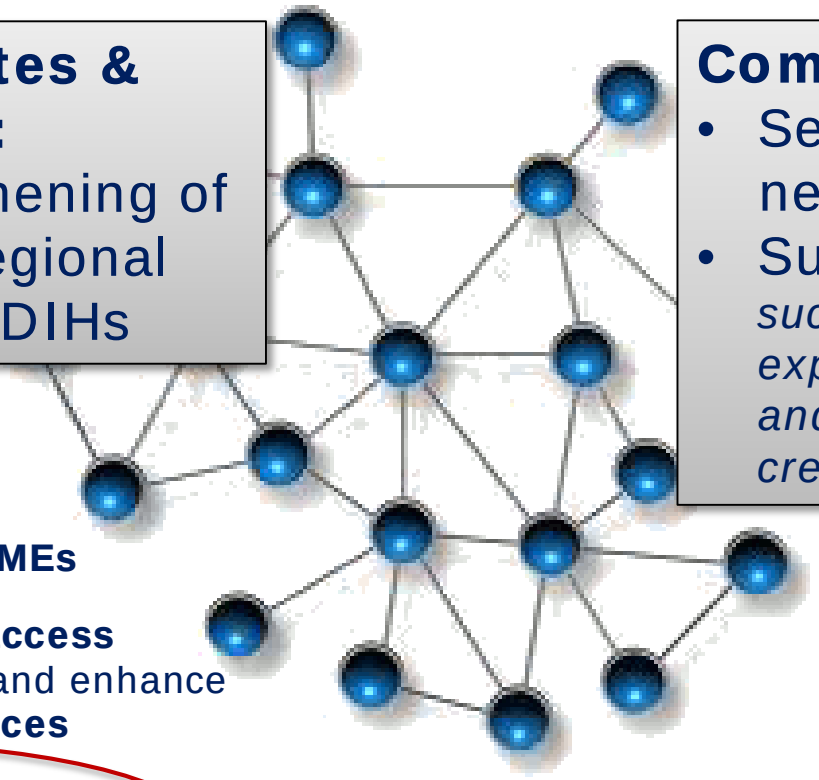
- ***DT-ICT-08-2019: Agricultural digital integration platforms***
- *EUR 15 million*

- *Sharing data and generating knowledge via capturing and translating more and precise information. High precision data capturing and a high degree of data sharing should serve as basis for decision support systems delivering tailored advice at farm level, complementing and/or extending advisory services. The core technical enablers for analysing the amounts of data will be low-maintenance, robust and scalable monitoring and communication systems as well as artificial intelligence and semantics technologies. These services should include direct and detailed feedback to the farmers on appropriate practices and management strategies.*

Digital Innovation Hubs

"Ensure that every business in Europe, whatever its sector of activity, wherever located and whatever its size, can take full advantage of digital innovations and competences"

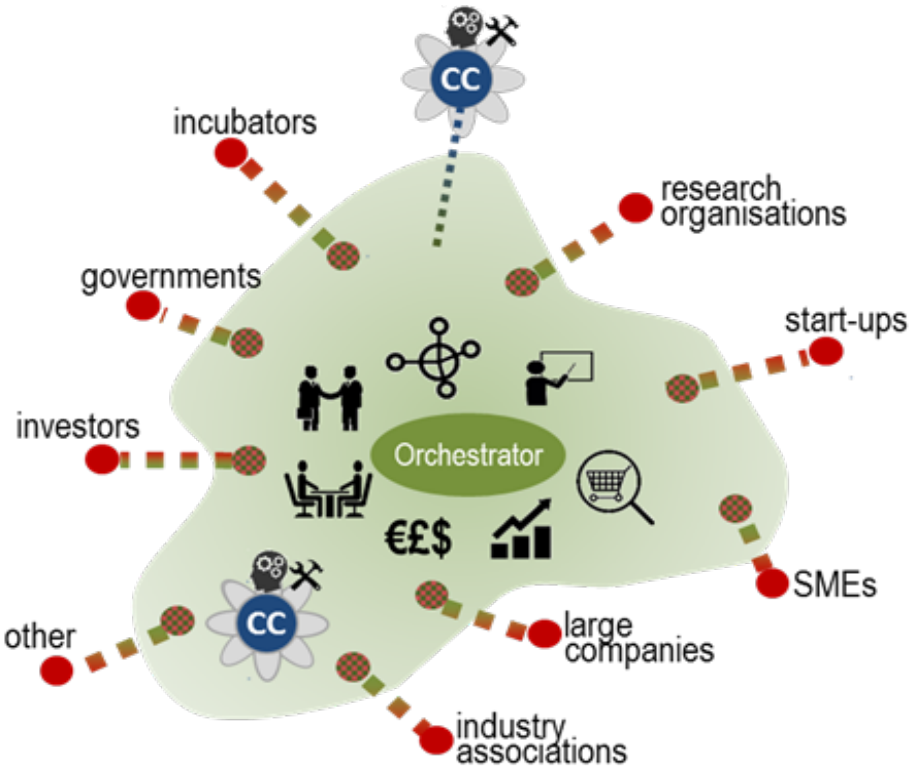
Member States & regions:
build-up/strengthening of national and regional structures of DIHs



Commission:
- Set up a pan-EU network of DIHs
- Support activities *such as cross-border experiments, catalogue and assistance in the creation of hubs*

- particular attention to **SMEs**
- Ensure companies can **access** advanced technologies and enhance their **digital competences**
- **€100 million per year (EU)** of support to the hubs and **10 times more from the Member States and regions**

Digital Innovation Hubs



- Provide support to **existing companies** to manage their **digital transformation**
- Extend **competence centres** and use the **ecosystem approach**
- Have **Variable geometries** concerning
  - technology applications,
  - sectors
  - SME focus
  - service portfolios etc.
- Provide opportunities for both **ICT users** and **ICT suppliers**

Working Group report on DIHs is published:

https://ec.europa.eu/futurium/en/content/report-wg1-digital-innovation-hubs-mainstreaming-digital-innovation-across-all-sectors-final

WP 2018 – 2020 - ICT

Disclaimer: Preliminary information, WP2020 has not been approved yet

- Focus area "Digitising and transforming European industry and services" calls for digital innovation hubs (for 300 M€)
  - DT-ICT-01-2019: Smart Anything Everywhere (SAE) Initiative, with the "widening" part for industrial regions that are currently underrepresented in I4MS and SAE
  - DT-ICT-02-2018: Robotics – Digital Innovation Hubs, with a focus on maintenance and inspection robotics
  - DT-ICT-03-2020: I4MS (phase 4) - uptake of digital game changers and digital manufacturing platforms
  - DT-ICT-04-2020: Photonics Innovation Hubs
  - DT-ICT-05-2020: Big Data Innovation Hubs
- **In SC2: DT-RUR-12-2018: ICT Innovation agriculture – Digital Innovation Hubs for Agriculture**

Conclusions

- ✓ Digital Innovation Hubs will be supported in ICT workprogramme 2020
- ✓ Regional or national funding for DIHs will be a requirement for participating in EU funded Digital Innovation Hubs
- ✓ Work with national initiatives on digitising industry to set up and reinforce DIHs targeting the sectors which are important for your region.
- ✓ European proposals should focus on **cross-border** networking of DIHs in order to:
  - ✓ Promote national/regional excellence elsewhere in Europe
  - ✓ Find missing expertise elsewhere in Europe

Photonics calls in ICT Workprogramme 2020, part I

DRAFT, changes possible!!

ICT-xx-2020 Disruptive photonics technologies

Research & Innovation Actions

i. 3D light field and holographic displays
ii. New concepts for assembly and packaging of photonics components
iii. Light to Fuel
iv. Next generation biophotonics to understand the cellular origin of diseases

ICT-xx-2020 Advancing photonics technologies and application driven photonics components and the innovation ecosystem

Innovation Actions

i. Hyperspectral VIS-NMIR Sensing and Deep Learning

Research & Innovation Actions

i. Flexible Farm-to-Fork Sensing Photonics *** change
ii. New Photonics Integrated Circuit Technology

Coordination and Support

Photonics21 strategic support

For more information

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	https://ec.europa.eu/digital-single-market/en/policies/photonics
	PhotonicsEU
	http://www.photonics21.org

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