Horizon 2020 and the Photonics PPP
State of Play and Next Steps

Khalil Rouhana
Director Components and Systems,
DG CONNECT - European Commission

Khalil.Rouhana@ec.europa.eu
Horizon 2020
R&I in the EU: 2014-2020

- Excellent Science (31.7%)
  ERC, Marie Curie actions, FETs, Research infrastructures

- Industrial Leadership (22.1%)
  Leadership in Enabling Technologies (ICT, Nanotechnology materials, Biotechnology, Production Technologies, ...), Access to risk finance, Innovation in SMEs

- Societal challenges (38.5%)
  Health & Ageing, Energy, Transport, Resource Efficiency, Climate Challenge, ...

Implement Photonics in Horizon 2020 through a PPP

- The proposed Horizon 2020 legal text foresees a potential PPP for Photonics
- ~1.4 B€ foreseen for both photonics and micro- and nano-electronics
Roadmap Photonics PPP

- **March 2012 – Feb 2013**
  - Photonics Multiannual Strategic R&I Agenda (SRIA)
  - **Open consultation** on PPP objectives, SRIA, governance, ...

- **March – June 2013**
  - R&I priorities for H2020 WP 2014-15
  - The PPP statutes
  - Formal submission of the PPP proposal
  - Drafting of H2020 WP and of the Contractual Arrangement text

- **July – Dec 2013**
  - Evaluation of PPP proposal + submission of final version
  - Establishment of the PPP
  - Signature of the PPP Contractual Agreement + Event

29-30 April
Annual Assembly of Photonics21

Preparation of Horizon 2020 WP 2014-15
Info Days on the photonics PPP

PPP established & running

H2020 Regulation

First Calls
**Basic principle of the PPP**

- Open to All, Representative of the Stakeholders, transparent in decision making
- Private sector partners advise the Commission on R&I priorities of the Horizon 2020 work programmes
- Implementation via 'normal' programme for R&I using H2020 Rules for Participation and with comitology

**The Contractual Arrangement will include:**

- The scope and the general objectives of the PPP
- The specific objectives of the PPP
- The activities, the EU investment (an indicative financial envelope) and the expected outputs
- The Governance (incl. the establishment of the Partnership Board)
- The specific Commitments of the Commission and of the Private Side
- Key performance indicators and the monitoring of PPP performance
- Duration, Review and Means for termination

Proposals for R&I priorities from WG Members
• Description of the topic, objective, (TRL)
• Relevant Research & Innovation present in Europe
• Impact on European economy, employment
• Impact on societal challenges
• EU added value
• EU Funding (justification)

Consolidation of proposals from the WGs

Interactions with EC (clarifications / amendments)

WG Chairs for further prioritisation

Prioritisation in the Board of Stakeholders

Priority List to the EC

WP texts in H2020
## Photonics PPP: Priority Setting and the H2020 Work Programme 2014-15 (2)

### ICT 26 Photonics PPP 2014: 47 M€

| RTD (28 M€) | **Biophotonics** for screening of diseases  
| **Sensing** for safety and security  
| **Disruptive** approaches in **sensing** |
| **Innovation** (8 M€) | **Open system architectures for Solid State Lighting (SSL)** |
| **ERANETs** (6 M€) | Actions with the Member States |
| **Coordination and support actions** (5 M€) | Strategic coordination and networking  
| The wide uptake of SSL technologies  
| EU-wide outreach |

### ICT 27 Photonics PPP 2015: 44 M€

| RTD (30 M€) | **Optical communication** for data centres  
| High-throughput **laser-based manufacturing**  
| Device, circuit and fabrication technology for **Photonic Integrated Circuits (PICs)** |
| **Innovation (PPI)** (5 M€) | Pilot deployment of **software-defined optics in backbone networks** |
| **ERANETs** (6 M€) | Actions with the Member States |
| **Coordination & support actions** (3 M€) | Open access of Researchers and SMEs to advanced facilities; Networking of clusters and national platforms for increasing SME innovation potential |

### Up to 180 M€

### PPP Factory of the Future 2014-15: 10-15 M€

| RTD | Towards **zero-failure laser-based manufacturing**  
| **Support Action** | Concept and roadmap building in relation to smart and safe workspaces for laser-based manufacturing |

### ICT 28 Cross-Cutting ICT KETs 2014: 18 M€

| RTD | Development of **novel materials and systems for OLED lighting or displays** |

### ICT 29 Cross-Cutting ICT KETs 2014: 18 M€

| **ICT-KET integrated platforms for the healthcare and food sectors:** (13 M€)  
| Coordination of stakeholders in the health sector (bio-photonics and micro-nano-bio solutions): **CSA (1 M€)** |
| **Pilot Lines (3x14 M€)** | Pilot line for **OLEDs on flexible substrates**  
| Pilot line for **analytical mid-infrared (MIR) micro-sensors**  
| Pilot line for **PIC fabrication on III-V and/or dielectric based platforms** |
Photonics PPP: Budget Issues

Total Intended Budget: 700 M€ (TBC)

- FP7: 2007-2013
  - 165 Million €

  - +8% per year
Photonics and the other areas of Horizon 2020

- **Industrial Leadership (22.1%)**
  Leadership in Enabling Technologies (ICT, Nanotechnology materials, Biotechnology, Production Technologies, ...), Access to risk finance, Innovation in SMEs
  - ECSEL JTI (silicon photonics, SSL lighting, sensing, etc.)
  - ICT 6 (Smart optical and wireless network technologies)
  - Open Disruptive Innovation in LEIT ICT (SME instrument)
  - Advanced Materials
  - Access to Risk Finance

- **Excellent Science (31.7%)**
  ERC, Marie Curie actions, FETs, Research infrastructures
  - ERC – FET Open
  - Graphene FET Flagship initiative
  - HPC PPP (optical interconnects)

- **Societal challenges (38.5%)**
  Health & Ageing, Energy, Transport, Resource Efficiency, Climate Challenge, ...
  - Energy Challenge [Smart Cities and Lighting; Low Carbon Energy and (O)PVs; Energy Efficient Buildings PPP]
  - Other opportunities in SC1 [Health], SC5 [Climate Change] or SC7 [Security]
Photonics PPP
A Strategy for R&I in Horizon 2020

- An ambitious Strategic R&I Roadmap for the next 7 years together with a value chain approach, incl. end-users

- A well-coordinated approach: Photonics21 - National Technology Platforms – Regional Innovation Clusters

- Support to innovative SMEs
  - Clusters and SMEs
  - An EU-wide SoA Service infrastructure for SMEs
  - Open pilot production lines

- Links to National Funding Programmes and to Regional Smart Specialisation Strategies

- Access to risk finance (equity + debt)

PPP is at the core of an industrial strategy for Europe

IMPACT?
- Knowledge creation
- Competitiveness
- Growth & Jobs
<table>
<thead>
<tr>
<th>When?</th>
<th>What?</th>
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<tbody>
<tr>
<td>Autumn 2013</td>
<td>Adoption of the legislative acts on Horizon 2020</td>
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<td>Finalisation of the first Workprogrammes of Horizon 2020</td>
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<td>6-8/Nov/2013</td>
<td>ICT Conference, Vilnius, Lithuania</td>
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<td><strong>11/Dec/2013</strong></td>
<td>Launch of first LEIT ICT calls for budget 2014</td>
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<td>1/Jan/2014</td>
<td>Start of Horizon 2020, Photonics PPP</td>
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<td>23/April/2014</td>
<td>Closing of first LEIT ICT call</td>
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Call dates are tentative
ICT event 2013 in Vilnius
06-08 November

- Horizon 2020: http://ec.europa.eu/research/horizon2020
- Launch events at every Member State

Launch event ICT PPPs
Date to be announced ASAP
THANK YOU!