



Opportunities for the Photonics Industry under the New ECSEL JU

Dr. Andreas Wild
Executive Director, ENIAC JU

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Content

- 1. KETs, Cross-cutting/Multi-KETs**
- 2. From ENIAC JU...**
- 3. Towards ECSEL JU**
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Nanoelectronics: the “Smart” of Everything

Smartphone

Smart Card

Smart Grid

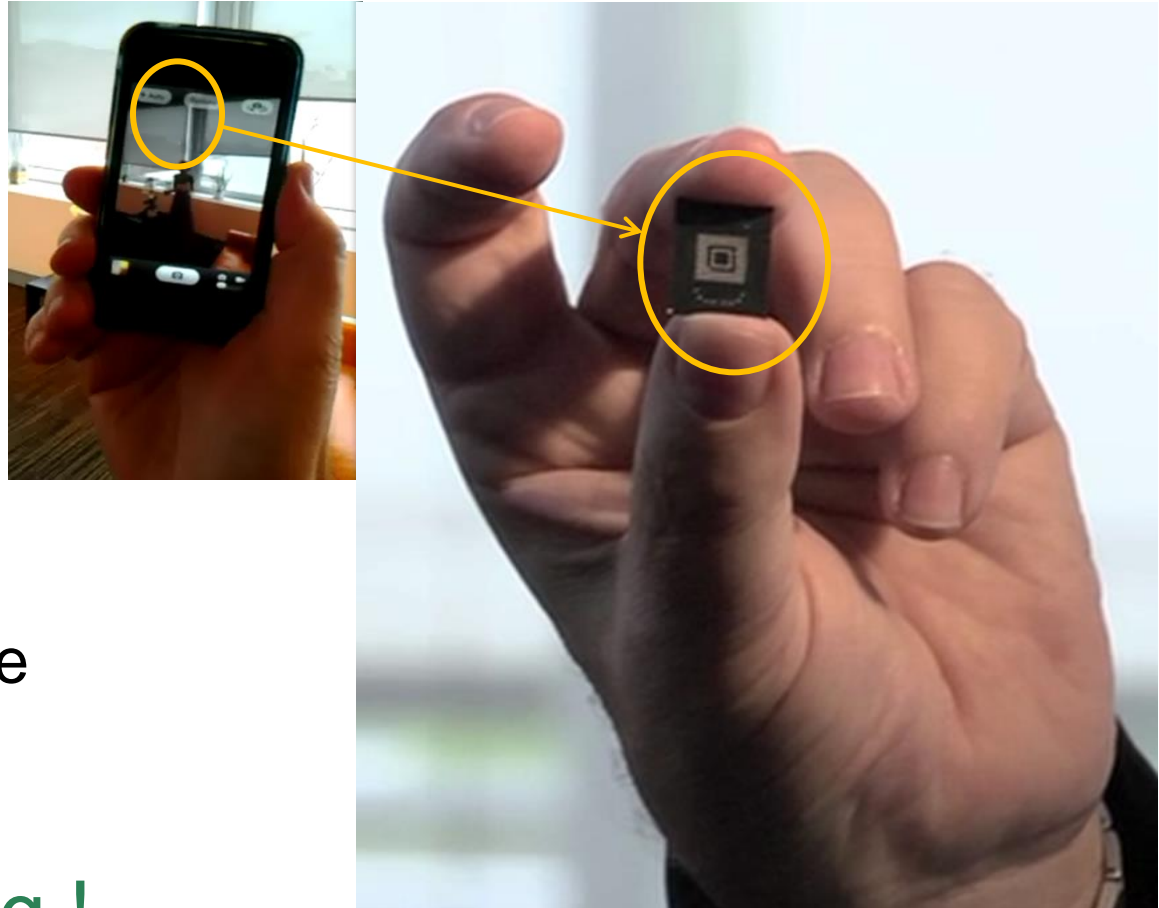
Smart Cities

Smart Mobility

Smart Governance

....

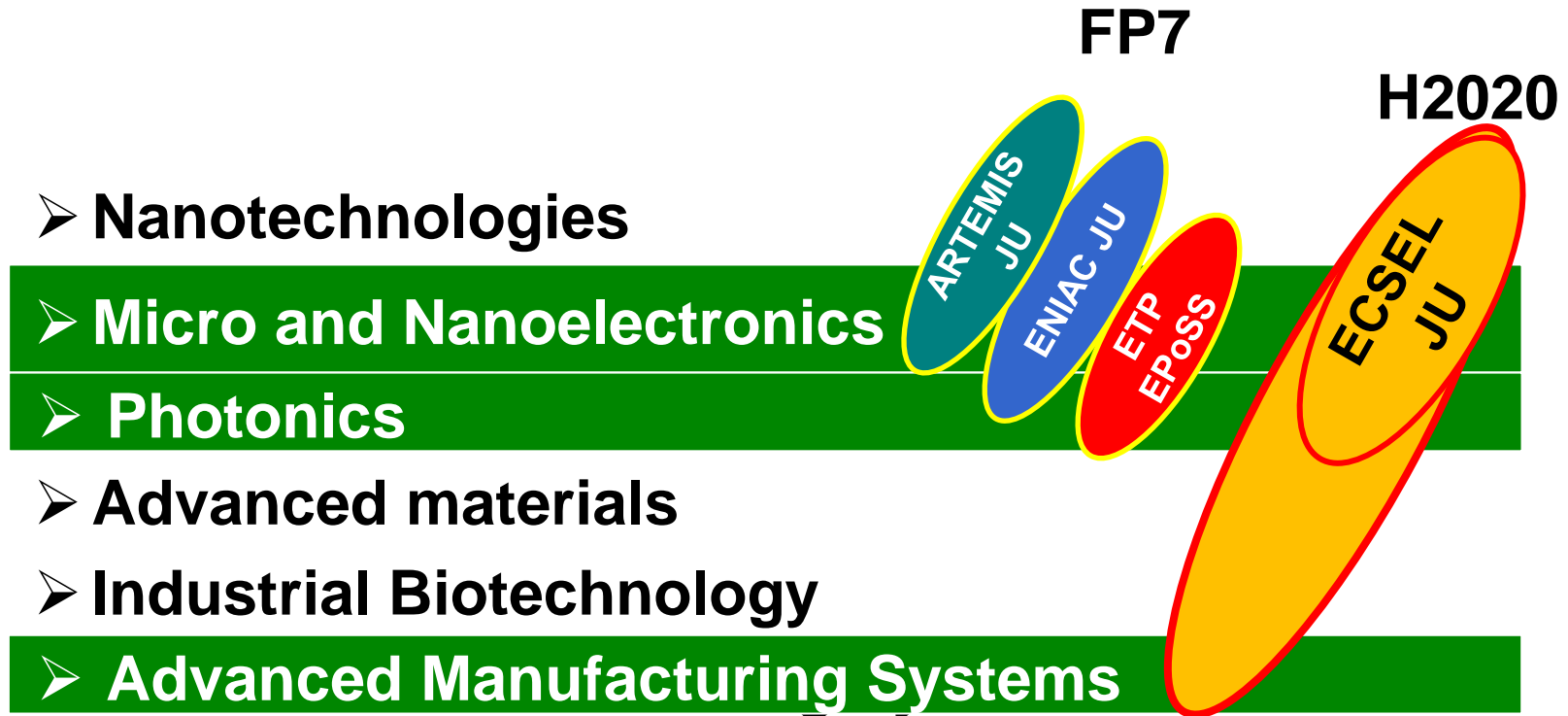
Smartanything !



Cross-cutting KETs, Multi-KETs...



Going to Horizon 2020



Cross-cutting-/Multi – KETs !

Commission communication “Preparing for our future: Developing a common strategy for key enabling technologies in the EU, Brussels, 30.09.2009”, COM(2009) 512

Three-Way Funding Joint Undertaking

Key Success Factor: Respecting Subsidiarity

The ENIAC JU three-way funding mechanism is **not**:

1. A programme belonging to a centralized European institution:

- The Industry defines the content
- The ENIAC member States control budget and grant allocation

2. A competitor for resources:

- National funding goes entirely, exclusively and directly to national beneficiaries
- The ENIAC JU tops-up the national grants with EU grants

3. A line in the budget of a particular national Ministry:

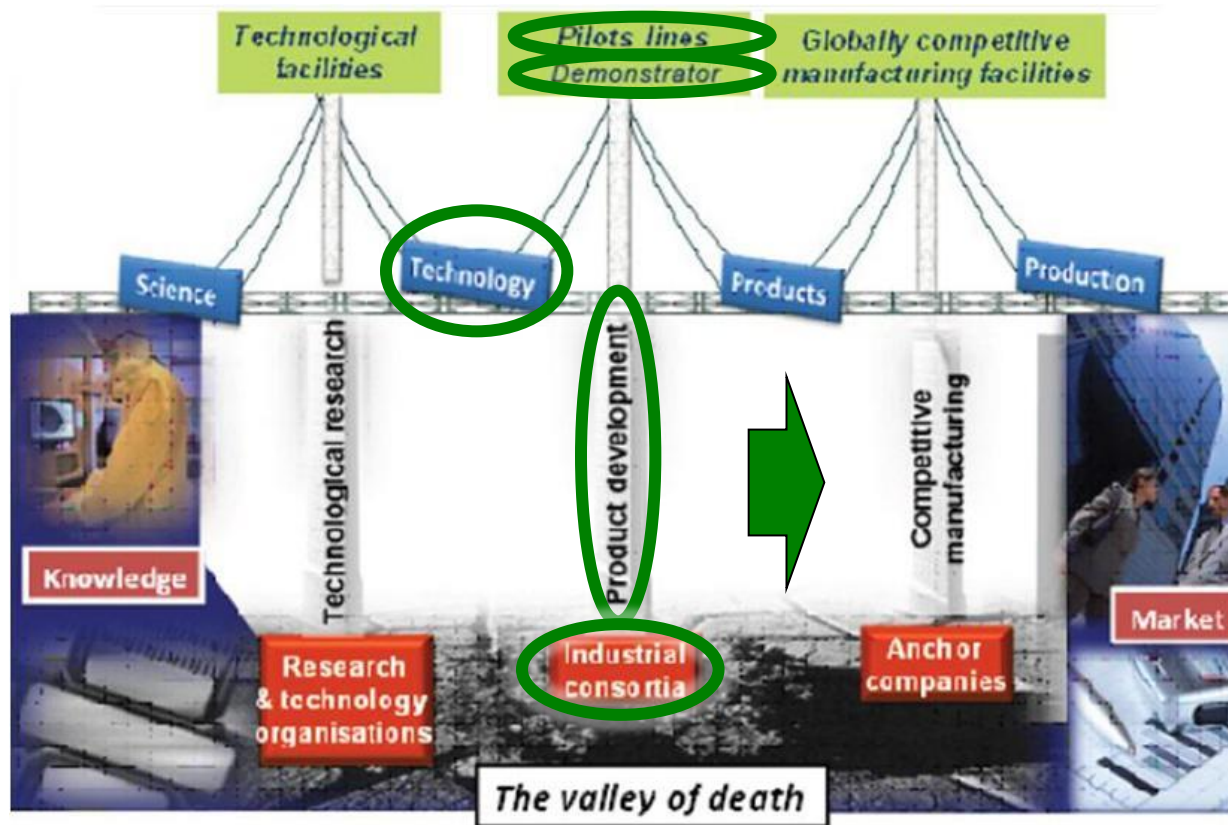
- The ENIAC JU can augment any project receiving grants from any budget line in any national or regional institution

➤ **The JU is a mechanism to increase investments in any priority project funded through any national or regional sources that will be stronger if expanded at European level**

Raising to the Challenge: The “Three Pillar Bridge” of the HLG on KETs

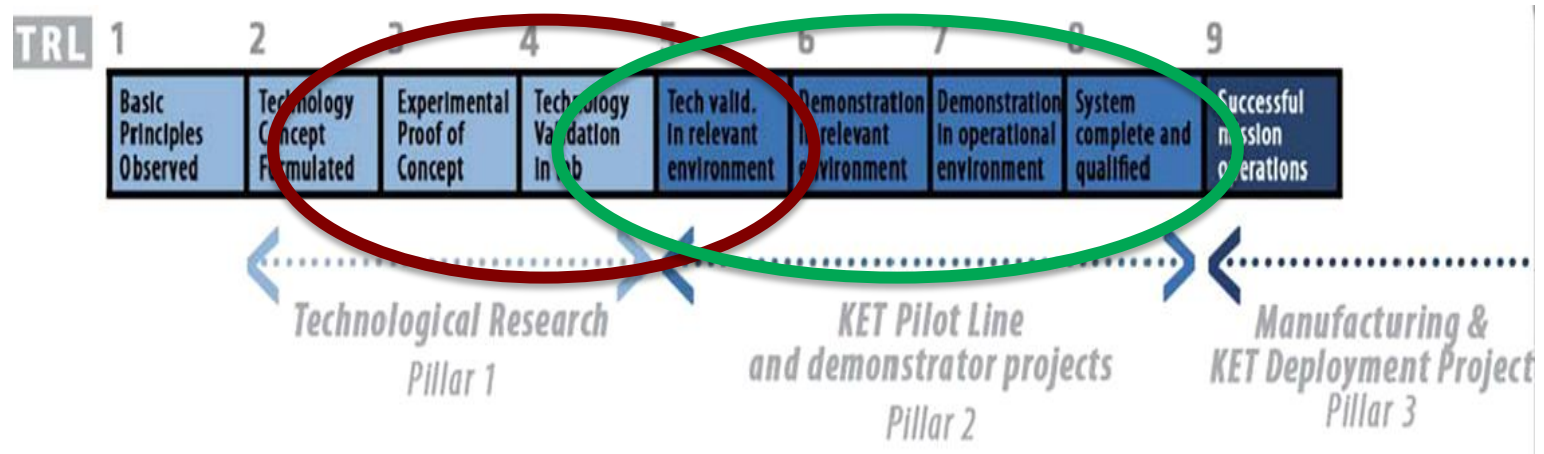
Second Pillar → “Pilot Line Project ”

ENIAC JU
compatibility



- Executed by an industrial consortium ✓
- Using an innovative technology ✓
- Developing an innovative product, meeting a social challenge ✓
- Demonstrating its value and potential ✓
- Establishing a realistic environment, a facility, R&D Part ✓
- Having a deployment plan to a real life European manufacturing site ✓

Moving Towards Innovation



Call 2012-1

**Call 2012-2
PIPLOT LINES**

EPPL



infineon 35 participants from 6 countries
Total eligible costs 75M€

E450EDL



43 participants from 12 countries
Total eligible costs 206M€ **ASML**

AGATE



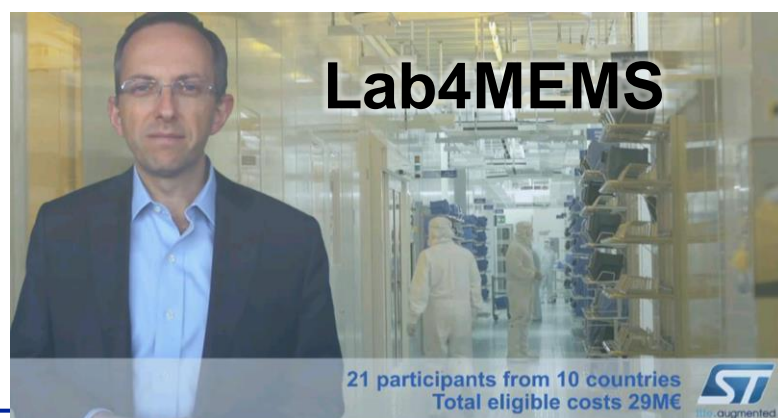
10 participants from 5 countries
Total eligible costs 60M€ **Soitec**

PLACES2BE



23 participants from 7 countries
Total eligible costs 359M€ **ST** life.augmented

Lab4MEMS

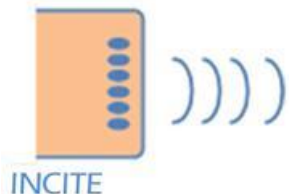


21 participants from 10 countries
Total eligible costs 29M€ **ST** life.augmented

**ENIAC Call 2012-2
KET Pilot Line Projects:**

- 728 M€ (220 M€ grants)
- 128 Participations (28% SME)
- 20 European Countries

Projects with Photonic Content in Negotiation Arising from the ENIAC 2013 Calls



INCITE

Compact imaging, sensing, tracking and steering technologies for advanced cardio/vascular catheter applications



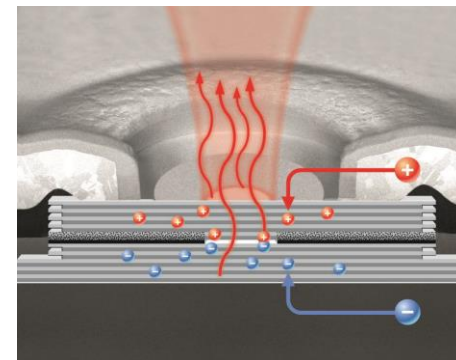
- 3D Packaging Technology
- Thermal Infrared Sensing Technology
- SPAD Technology for TOF & FLIM
- SPAD Technology for Gamma and X Rays
- OLED-on-Si Micro-Displays Technology



POLIS

Pilot Optical Line for Imaging and Sensing

Disruptive technologies in photonics.



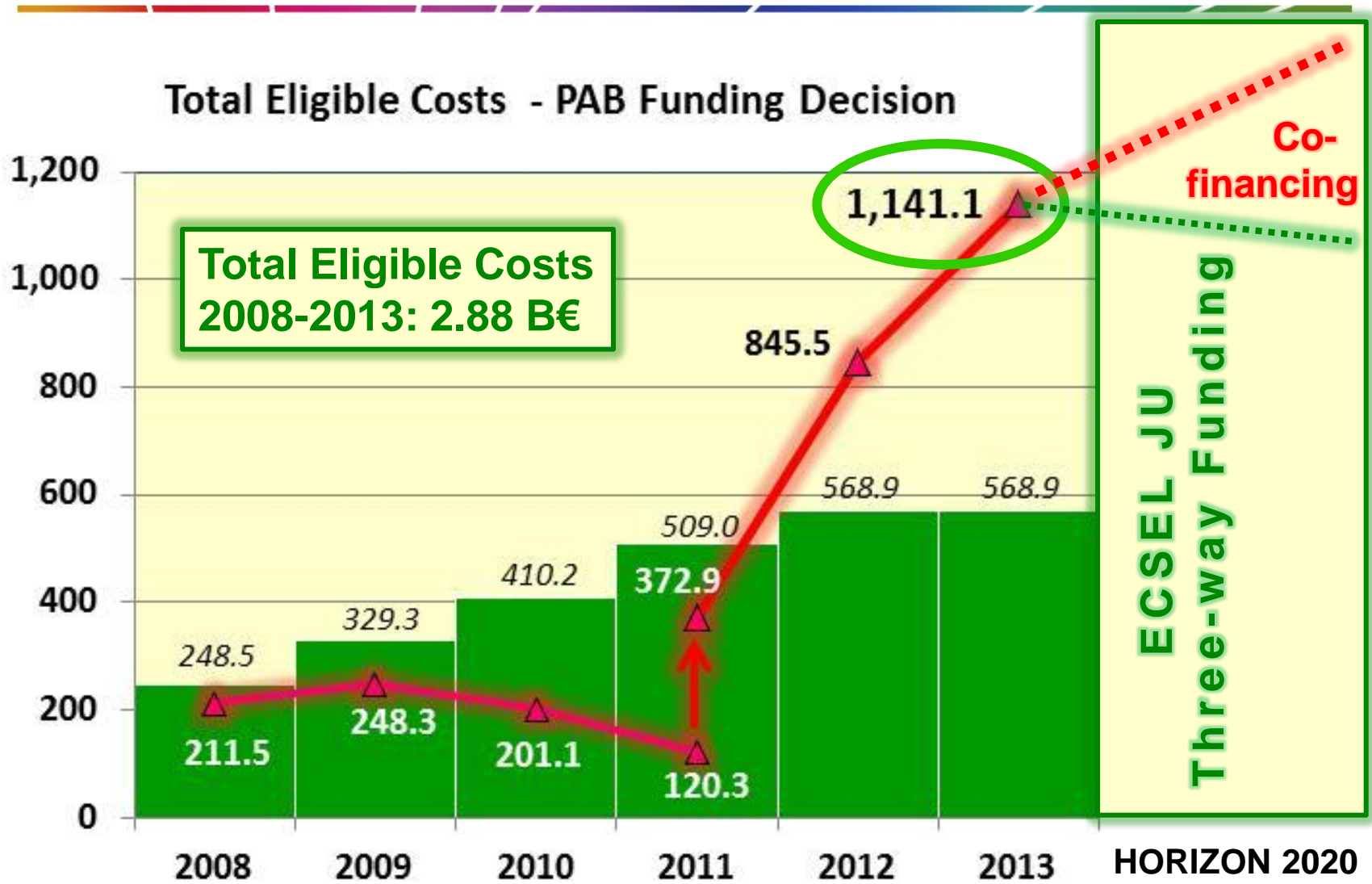
VIDaP

VCSEL Pilot Line for IR Illumination, Datacom and Power Applications

157 M€ Total Eligible Costs
59 participants, 12 countries

ENIAC JU Execution and Horizon 2020 Perspective

Towards ECSEL JU...



Horizon 2020 Perspective

1. The new ECSEL JU will cover the topics addressed in FP7 within the ARTEMIS and the ENIAC JUs and in the ETP EPoSS

2. Total estimated eligible costs: >4.8 Billion Euro

- EU grants through ECSEL JU: 1.2 Billion Euro
- ECSEL Participating States contributions: 1.2 Billion Euro

3. Project co-financing using more than one European mechanism should become possible

- Particularly important: **synergistically using regional and R&D&I funds**

Regions Must Include Micro- and Nanoelectronics in their Smart Specialisation Strategy!

ECSEL JU Ambition

- 1. Progress from “doing what seems affordable” to “doing what is necessary”**
- 2. Build upon the strengths, recognize and act to fill the gaps**
- 3. Leverage public and private investments, including co-funding, to strengthen the value chain encompassing**
 - Semiconductors
 - Embedded systems
 - Smart system integration
- 4. Contribute to positioning Europe in the global competition on this KET commensurate with its global economic position**

(cf. Neelie Kroes, VP of EC, 23 May 2013)

ECSEL Objectives

- a) contribute to the implementation of Horizon 2020
- b) contribute to a strong and globally competitive electronics components and systems industry in the Union
- c) ensure availability of electronic components and systems for key markets and societal challenges, support of innovation, creation of jobs
- d) align strategies, support of SMEs, ease participation
- e) support manufacturing
- f) support innovation in design and systems technologies
- g) provide a world-class infrastructure for design/manufacture of components and embedded/cyber-physical and smart systems
- h) build a dynamic ecosystem involving SMEs, strengthen existing clusters and nurture the creation of new clusters

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EPIC – ECSEL JU Collaboration Perspectives

- 1. The ENIAC JU demonstrated its ability to fund R&I projects of interest for the Photonics Industry**
- 2. The ECSEL JU will strengthen this capability**
 - It will conserve the flexibility
 - It will widen the scope to include chips, embedded software and system integration
- 3. EPIC and its constituencies can consider:**
 - Including relevant topics in the ECSEL strategic agenda
 - Orchestrating consortia on topics of interest for photonics
 - Expanding national photonics projects at European level
- 4. EPIC and its constituencies could explore appropriate representation in the ECSEL JU activities or / and bodies (e.g. Private Members)**

Thank You for Your Attention !

