

# Research Objective: ICT 2 – 2016: TOLAE

## 1. What are you looking for?

### **Thin Organic and Large Area Electronics (TOLAE):**

An emerging technology with high growth potential, well suited for applications that need *large area and/or flexibility/stretchability*

➤ Suitable for large market sectors such as automotive, health, ...

### **The Specific Challenge**

Develop and demonstrate prototypes of innovative TOLAE-enabled solutions :

- Improvements on reliability, manufacturability and performance
- Hybrid integration – traditional electronics on flexible substrates including thin silicon on flexible substrates
- Improve readiness of TOLAE technologies for use in dedicated applications

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## 1. What are you looking for?

### **ICT2.a Research & Innovation** *Advancing the readiness of TOLAE technologies and/or*

#### *Hybrid integration for use in applications*

***Focus is on:***

Conformable / flexible or stretchable substrates

Advanced materials, technologies and scalable manufacturing processes

Hybrid integration of electronics and photonics components

→ *Demonstrate strong industrial and user commitment and include validation*

**12 M€**

### **ICT2.b Innovation**

*Set-up and validation of pilot line for Hybrid Systems*

*Demonstration of TOLAE-enabled product prototypes*

***Aim is on*** *providing design and development services in particular for SMEs, prototype development and demonstration in automotive, healthcare, smart packaging and buildings*

*Should describe business cases and exploitation strategies for the industrialization of the pilot line or for the targeted products*

**8 M€**

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## 2. Is this new or has it been called before?

TOLAE has been called in call 1 (topic ICT3)

New is Pilot line for hybrid solutions (Innovation Action).

## 3. Current project portfolio

Relevant H2020 projects are HAPPINESS, LOMID, LUMENTILE, PING and TransFlexTeg (application driven projects), ALABO and ROLL-OUT (on manufacturing) and LORIX and Optintegral (demonstration projects in sensing and advertisement).

## 4. What do you NOT want?

- Proposals on competence centres offering access services on TOLAE are encouraged to submit under ICT4-2017 (Smart Anything Everywhere Initiative - Area 4). Aim is to build ecosystems in TOLAE and provide access to design, technology and prototyping.
- Proposals on wearables are encouraged to submit under IoT1 (Large Scale Pilot 3).
- Prototype development and demonstration (IA) projects in other applications such as advertisement , lighting or sensing (which were called in 2014).

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5. Who are the leading players?

6. Is there a key group of actors or ETP driving this?

Key groups of actors are the technology platform Photonics21, Photonics Public Private Partnership and the OE-A association. Leading players are members of these groups. There are several Research and Technology Organizations and industrial companies (from material providers, application users, textile and equipment providers).

7. Are there any additional / background documents?

Strategic Research Agenda of Photonics21, OE-A roadmap