

ICT-31-2017

Micro and Nanoelectronics technologies

Challenge

Develop advanced industry-relevant technologies to prepare the longer-term future of the sector (design and manufacturing) in Europe.

Complementary to the shorter-term micro-nanotechnologies and their manufacturing supported by ECSEL¹

¹ "Electronics Components and Systems for European Leadership" Joint Undertaking

ICT-31-2017 - Micro and Nanoelectronics **Research and Innovation Actions**

Scope

- *Ultra-low power, high performance state of the art technologies. From materials to manufacturability*
- *3D sequential integration (transistor level) and/or parallel integration (circuit level)*

TRL: 2-3

19M€

Open to international cooperation

Expected impact

- *Contribution to the value of components production in Europe (ELG strategy)*
- *Provide TRL progress and business perspectives*

ICT-31-2017 - Micro and Nanoelectronics **Innovation Actions**

Scope

'Equipment Assessment Experiments'
*Innovative high-tech equipment including installation,
assessment and validation*

TRL: 6-7

3M€

Expected Impact

*Demonstrate the route for equipment from assessment to
first use*
Ambitious targets on capability, precision, efficiency, etc.

ICT-31-2017 - Micro and Nanoelectronics **Coordination and Support Actions**

Scope

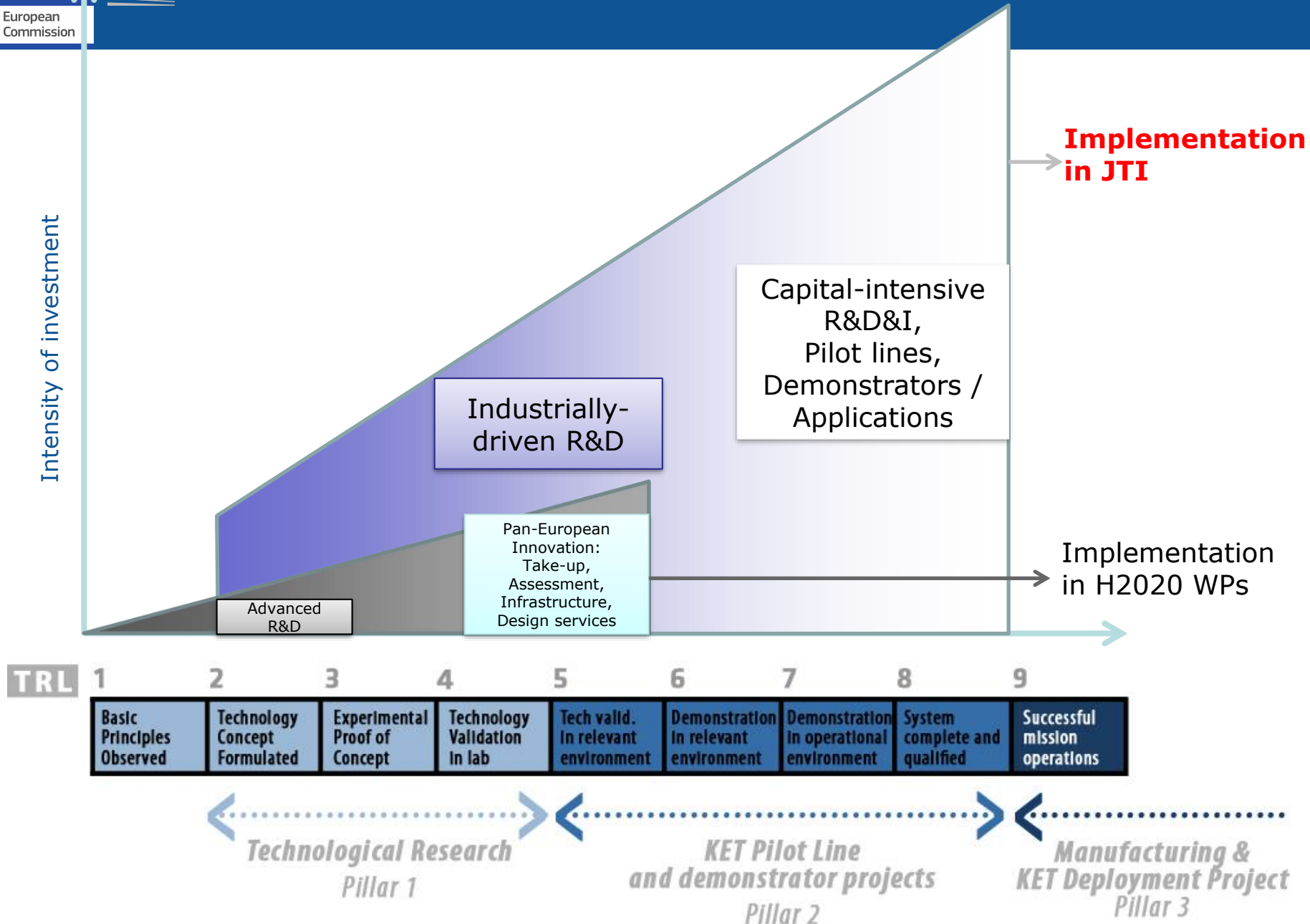
Promote attractiveness of careers in micro/nanoelectronics towards young people

0.5M€ - 1M€

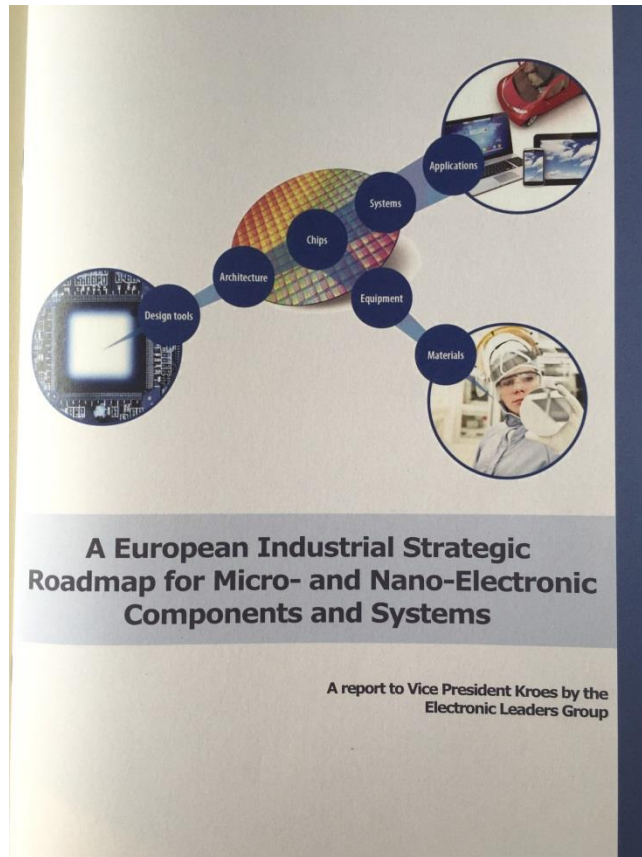
Expected impact

Raise awareness and attract more students to the field
Ambitious targets in terms of participants and scope of activities

Nanoelectronics in ICT and ECSEL



ELG Strategy: European Leaders Group



Strategic Roadmap

<https://ec.europa.eu/digital-agenda/en/electronics-roadmap-europe>

Implementation Plan

<https://ec.europa.eu/digital-agenda/en/news/european-industrial-strategic-roadmap-micro-and-nano-electronic-components-and-systems-0>

ICT-31-2017 Micro and Nanoelectronics **Final recommendations**

- *H2020 vs ECSEL: <http://www.ecsel-ju.eu/web/index.php>*
- *Proposals in scope (no partial, no marginal)*
- *Research on Graphene material is covered in the FET-Flagship*
- *Access actions (e.g. Europractice) covered in ICT-04 'Smart Anything Everywhere'*
- *ELG strategy. Impact*
- *International Cooperation. Third countries adding value to the consortium are encouraged. In particular from countries with well-established nanoelectronics research and industry: Japan, Taiwan, Korea, USA*