# Nanoelectronics Status, vision and perspectives

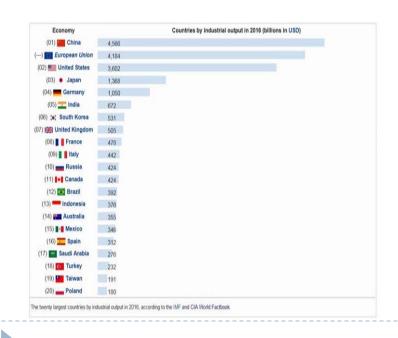
Francisco J. Ibanez, EC NEREID Workshop. Leuven, 11<sup>th</sup> September 2017

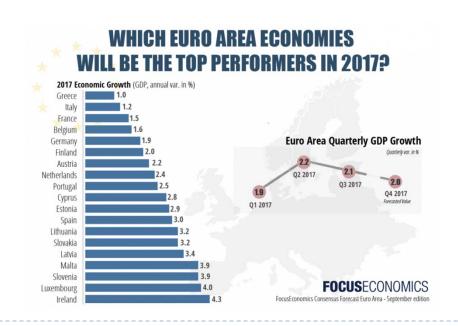
### the context

social, political, economic, industrial, technological

### the answer

education, research, innovation, cooperation, resources





### R&I in Europe. Assessment and directions

- ▶ FP7 JUs evaluation
- ▶ ECSEL interim evaluation
- ▶ H2020 interim evaluation
- HLG report
- Inputs received
- On-going discussions

## High Level Group Report (aka *Lamy report*)



Higher budget for R&I

Innovation Policy (EIC)

Invest in people

R&I designed for a high impact

R&I missions for global challenges

Focus on a few funding schemes

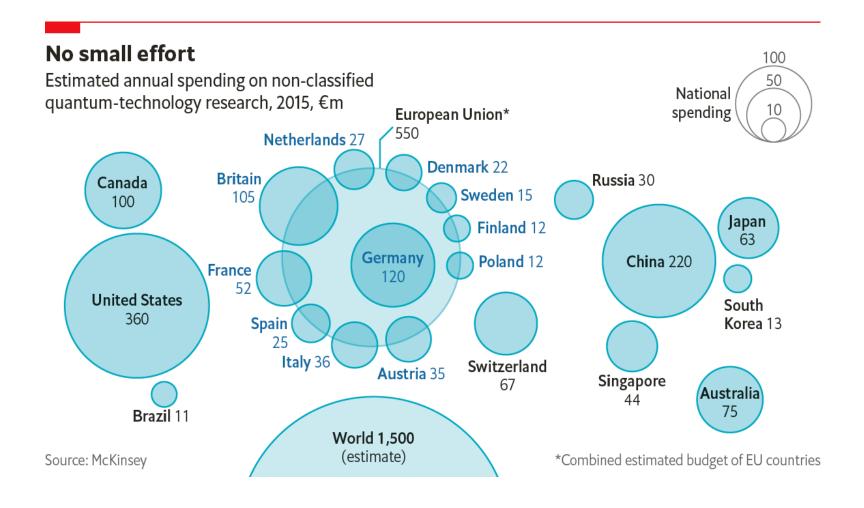
Simplify further

Involve citizens

Align EU and national investments

Open the programme to international cooperation

Capture and communicate impact



### Nanoelectronics ELG strategy

European Electronics companies set to invest €100 billion; create 250,000 jobs; and double European computer chip production by 2020

- Act on supply and demand
- Focus on investment
- Critical role of RTOs
- Promote a tri-partite model for R&D

### NEREID





NanoElectronics Roadmap for Europe: Identification and Dissemination

Draft of the Roadmap at M18

### ABSTRACT:

The Nereid Nanolectronic Roadmap takes into account the specificity of the European industrial and academic landscape, and is very important to better coordinate academic and industrial research for equipment, semiconductors and application developments. It will be used as input for future research programmes at European and National levels in order to join our effort to overcome the main nanoelectronic challenges and put the EU at the forefront of future technological developments.

The project supports the participation of many application and technology experts, coming from leading research actors in industry and academia, to General and Domain (WPs) Workshops by covering workshop organization and travel expenses. These Workshops allow the consortium to better define the technology roadmap in terms of applications requirements (in the fields of Energy, Automotive, Medical/Life science, Security, IoT/Smart connected objects, Mobile convergence, Digital Manufacturing) and technology evolution (Advanced Logic and Connectivity, Functional diversification, Beyond-ChMS, Heterogeneous Integration and System design, Equipments, Materials and Manufacturing Science), and discuss the convergence between applications and technologies.

This common work between technology and application experts is leading to the early identification of the most promising technologies needing additional R&D activities, which could be very useful for the future electronic products of European companies leading to a strong impact on the European economy and society.

- Combined expertise
- Broad base
- Industrial advise
- International input

### **Draft roadmap**

- Fit for purpose
- Credible
- Attractive
- Large consensus

2018-19 Nanoelectronics Roadmap

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