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Oportunidades para el sector de la Fotónica en las primeras convocatorias de Horizonte Europa

Fernando Martín Galende

HORIZONTE EUROPA

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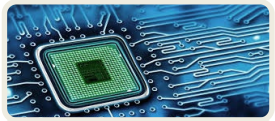
Context – Horizon Europe / Cluster 4

Cluster 4 - Destinations

D1 – Climate neutral, circular and digitised *production* TWIN-TRANSITION

D2 – A digitised, resource-efficient and resilient *industry*

D3 – World leading *data* and *computing* technologies

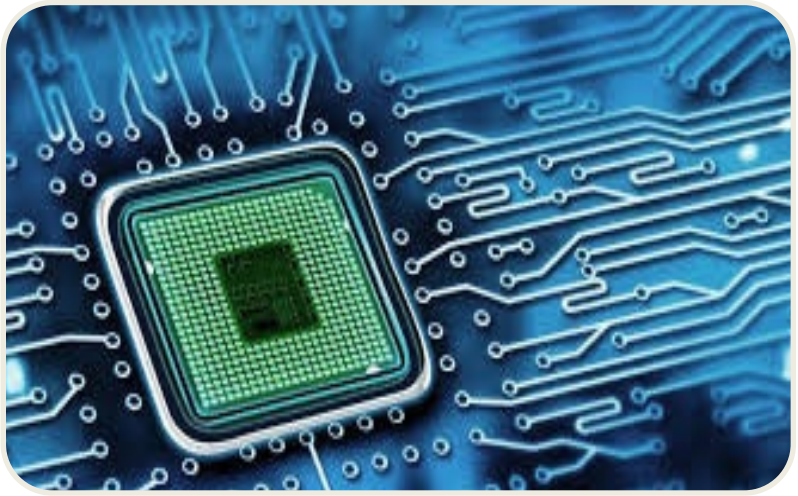


D4 – Digital and emerging *technologies* for competitiveness and fit for the green deal

D5 – Strategic autonomy in developing, deploying and using global *space*-based infrastructures, services, applications and data

D6 – A *human-centred* and ethical development of digital and industrial technologies

C4 / Destination 4 – EMERGING TECHS.



- Electronics (KDT-JU)/ Low power proc.
- Photonics
- 6G (SNS-JU)
- AI/Data/Robotics
- Emerging
- Quantum
- Graphene

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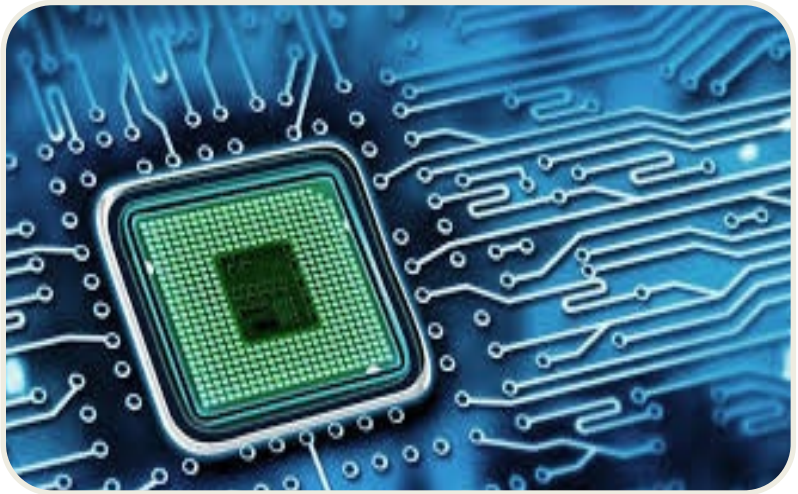
C4 / Destination 4 – EMERGING TECHS.



Electronics (**KDT-JU**)/ Low power proc.

Photonics

6G (**SNS-JU**)

AI/Data/Robotics

Institutionalised

Co-programmed

Emerging

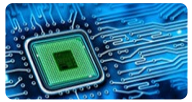
Quantum

Graphene

NEW… well, from FET

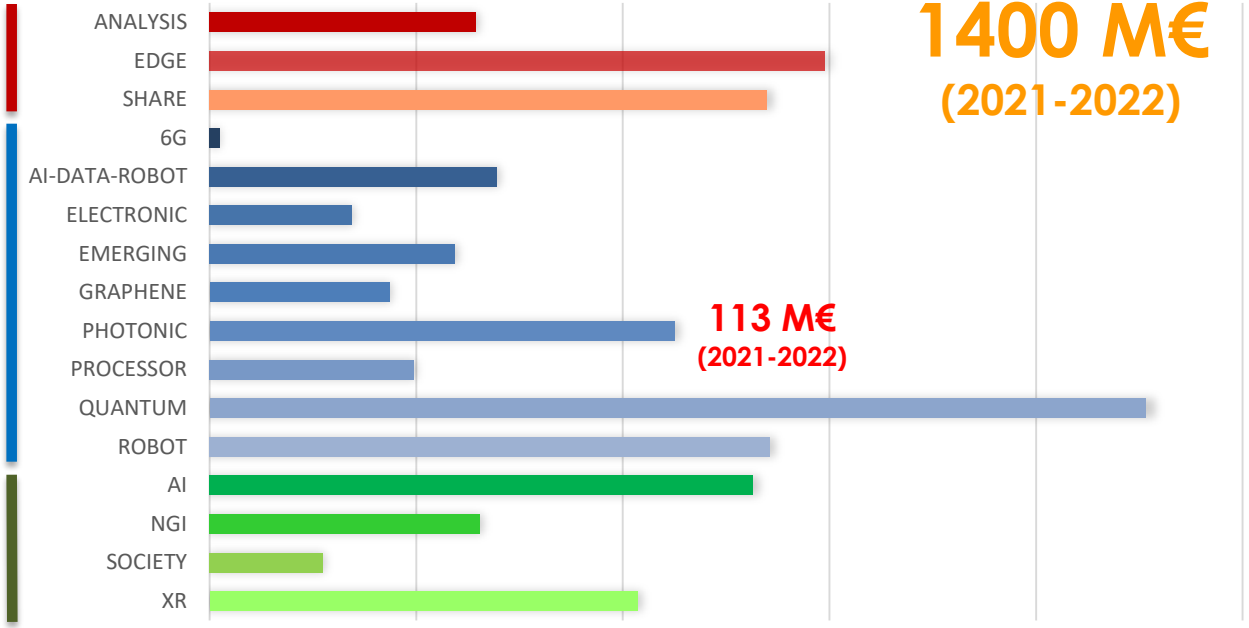
C4 – DIGITAL: Budget 2021/22

DATA
25%



EMERGING
52%

HUMAN
23%



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Topics en C4 – Destination 4

HORIZON-CL4-2021-DIGITAL-EMERGING-01-06: Advanced optical communication components (**Photonics Partnership**) (IA) [**26M€**]

HORIZON-CL4-2021-DIGITAL-EMERGING-01-07: Advanced Photonic Integrated Circuits (**Photonics Partnership**) (RIA) [**39M€**]

Deadline: 21 Oct 2021

HORIZON-CL4-2022-DIGITAL-EMERGING-01-03: Advanced multi-sensing systems (**Photonics Partnership**) (RIA) [**48 M€**]

Deadline: 5 Apr 2022

Topics relacionados en C4 – Destinations 1 & 4

HORIZON-CL4-2021-TWIN-TRANSITION-01-03: Laser-based technologies for green manufacturing (**Photonics** - Made in Europe **Partnerships**) (RIA) [**26M€**]

HORIZON-CL4-2021-TWIN-TRANSITION-01-05: Manufacturing technologies for bio-based materials (Made in Europe Partnership) (RIA) [**20M€**]

Deadline: 23 Sep 2021

HORIZON-CL4-2022-TWIN-TRANSITION-01-06: ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2) (Made in Europe Partnership) (IA) [**30M€**]

AI, CiberSec, IF! + Photonics?

Deadline: 30 Mar 2022

HORIZON-CL4-2021-DIGITAL-EMERGING-01-14: Advanced spintronics: Unleashing spin in the next generation ICs (RIA) [**17M€**]

Deadline: 21 Oct 2021

PRELIMINARY

Topics en el Flagship de Tecnologías Cuánticas

HORIZON-CL4-2021-DIGITAL-EMERGING-01-21: Next generation quantum sensing technologies (RIA) [**13,5 M€**]

Deadline: 21 Oct 2021

HORIZON-CL4-2021-DIGITAL-EMERGING-02-17: Framework Partnership Agreement for developing large scale quantum simulation platform technologies (FPA) [**16M€ in SGA**]

Deadline: 27 Jan 2022

Plus opportunities in other areas of Quantum Technologies and particularly in the EuroQCI initiative (under Digital Europe Programme)

PRELIMINARY

Oportunidades en Key Digital Technologies (KDT JU)

Enlarged scope of KDT compared to predecessor ECSEL

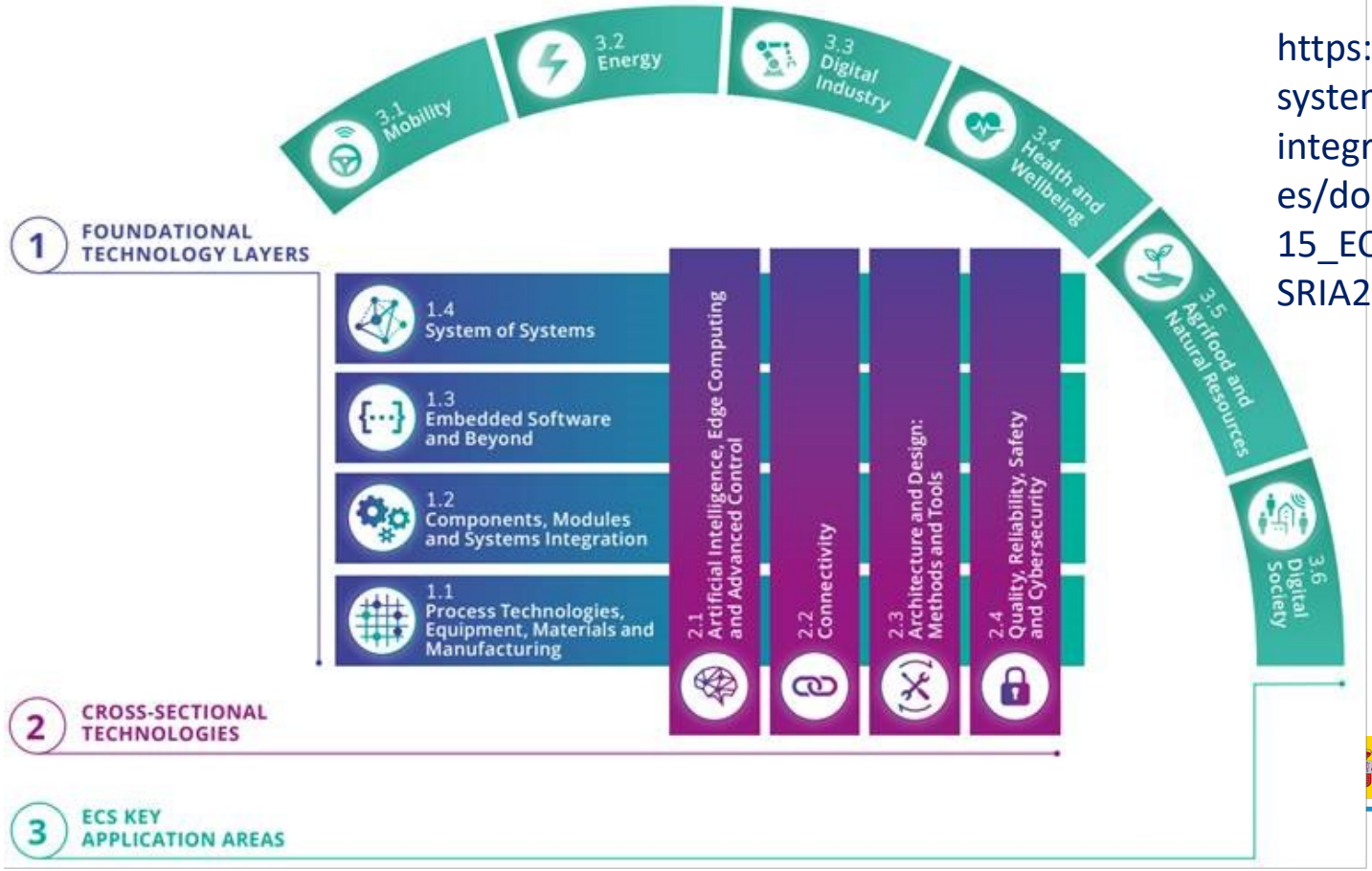
Industry trends and technology developments show a need to cover relevant aspects of **photonics** and software, advanced computing technologies, flexible electronics and bioelectronics. These technologies are more and more relevant for the digital transformation of the economy and society.

The traditional Electronic Components and Systems scope is strengthened in KDT with the following elements:

- **Photonics:** smart systems can be built that combine electronic and photonic functionalities. Potential applications cover a broad field, e.g. telecommunication, sensing, data communication, and LIDAR sensors for autonomous driving. **Silicon photonics will be integrated into the KDT partnership**, based on similarities in fabrication techniques.

PRELIMINARY

Oportunidades en Key Digital Technologies (KDT JU)



https://www.smart-systems-integration.org/system/files/document/2021-01-15_ECS-SRIA2021_final.pdf

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Y como recordatorio de dónde venimos…

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- 573PH3N H4WK1NG

What's the situation after H2020?

- Photonic Technologies defined as a **Key Enabling Technology** during Horizon 2020. Was the impact of being a KET noticeable?
- Interannual **growth rate** of the Photonics sector estimated at **6.5%**.
- Photonics showed a clear **traction effect towards industry** in key sectors like Manufacturing, Health, Communications, Transport…
- Photonics highlighted as a **priority** by several Spanish regions in their **RIS3** agendas.
- At the same time, clearly **under-financed** at **national/regional level** by most of them. Particularly when compared to H2020 funding.

Where in H2020?

- More than **32M€** received by Spanish participants during H2020 (average of **4.6M€ per year** invested in Spain) only in ICT-LEIT projects.
- Participation in 49 projects, 12 of them coordinated.
- Success rate above 20% for Spanish participants.

- Other significant amounts coming from application projects in Societal Challenges or ERA-Nets, ESCEL JU, and specific developments under the Quantum Technologies Flagship.

Who in Spain?

- 55 different entities involved in funded projects (**44%** of them are **private companies**).
- **71%** of these private companies are **SMEs**.
- However, companies “only” receive **33,4% of the budget** corresponding to Spanish participants.
- **Widely distributed** around Spain, as 5 different regions have a share of budget above 10%.

What are the challenges?

- **Scientific actors** are clearly defined and positioned. Great!
- **Industrial actors** are traditionally smaller and widely distributed around the country.
- The importance of these **SMEs in the R&D context** also has the effect of a certain “under-representation” of the Industry in the budget distribution but, at the same time, shows a high potential for improvement, particularly when approaching application areas.
- The real challenge would be to **increase the traction effect** of these scientific developments towards the industry in application areas.

National Contact Points - DIGITAL

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+ info sobre programas y ayudas para la internacionalización de la I+D+I española

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