

#innovacion
#ayudascdti
#asesoramiento
#internacionalizacion

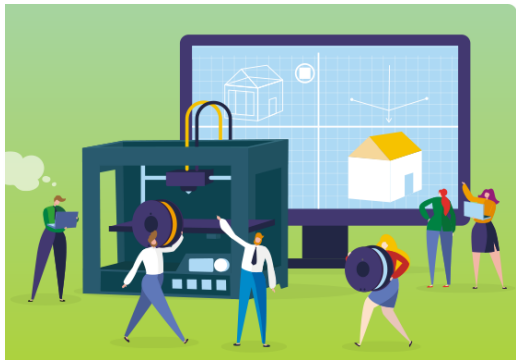


Clúster 4 - Digital

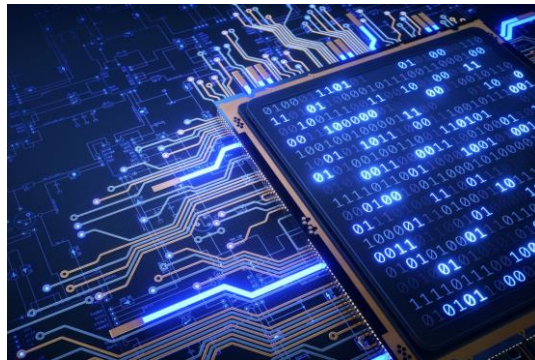
Enrique Pelayo Campillos
NCP – Horizon Europe/Digital



Índice



HE - Clúster 4



C4 - Digital



Apoyo

#HorizonEU

HORIZON EUROPE

THE EU RESEARCH &
INNOVATION PROGRAMME

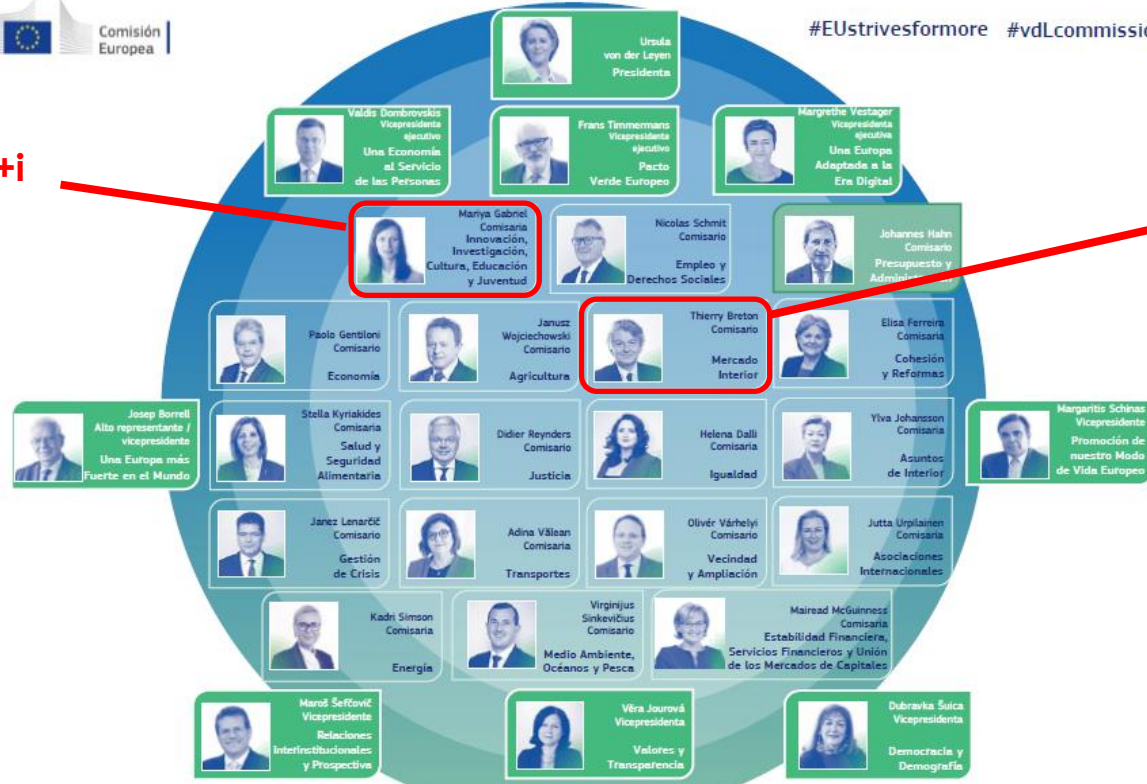
European Commission



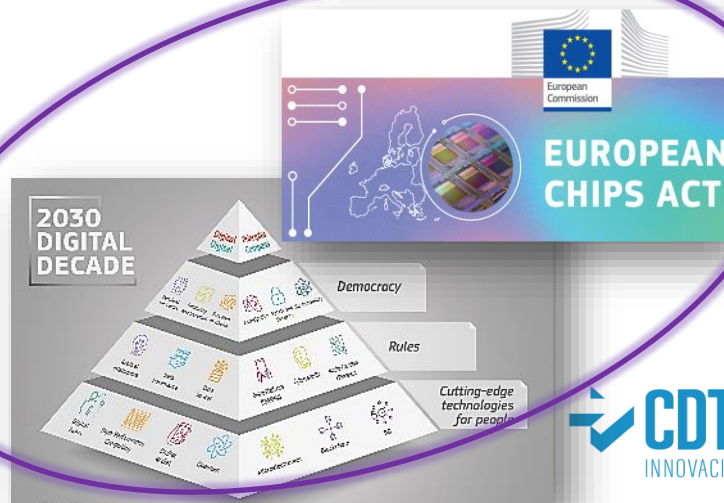
#EUstrivesformore #vdLcommission

R+D+i

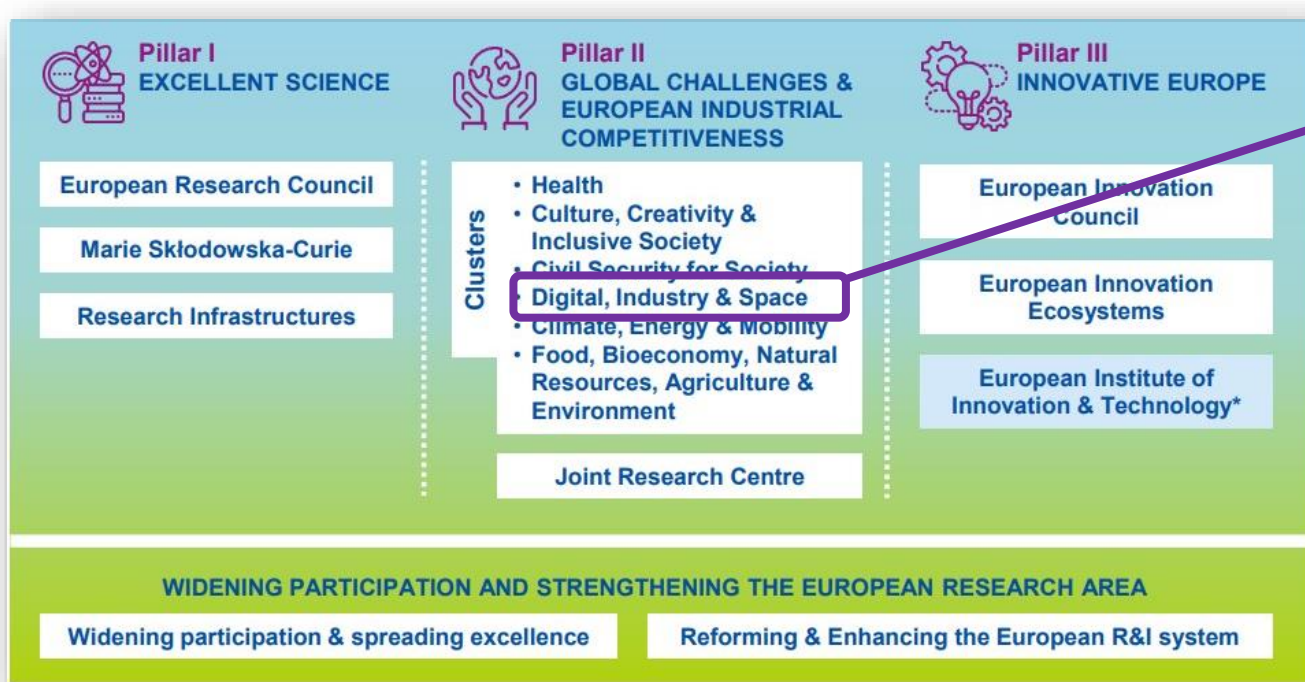
Clúster 4



Political Strategy



Horizonte Europa / Clúster 4



~ 15.000 M€

Partnerships



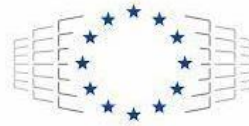
Processes4Planet

METROLOGY
PARTNERSHIP



European Partnership for
Globally competitive
Space Systems

6G SNS



EuroHPC
Joint Undertaking

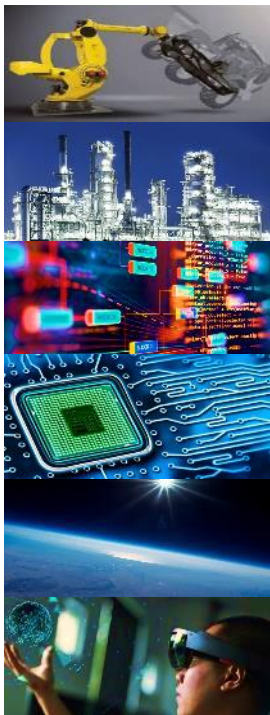
Chips JU



PHOTONICS²¹



Cluster 4 - Destinations



CLIMATE NEUTRAL, CIRCULAR AND DIGITISED **PRODUCTION**

INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR **RESILIENT** INDUSTRY

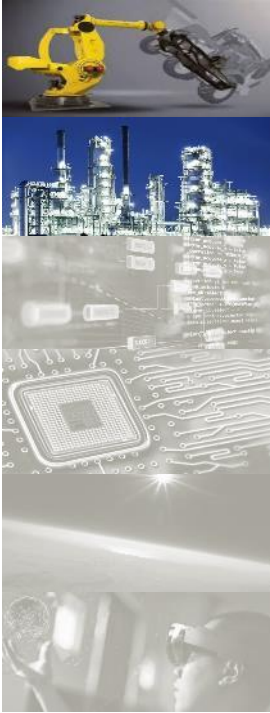
WORLD LEADING **DATA** AND COMPUTING TECHNOLOGIES

DIGITAL AND **EMERGING** TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

OPEN STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL **SPACE-BASED** INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA

A **HUMAN-CENTRED** AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES

Cluster 4 - Industry



CLIMATE NEUTRAL, CIRCULAR AND DIGITISED **PRODUCTION**

INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR **RESILIENT** INDUSTRY

WORLD LEADING **DATA** AND COMPUTING TECHNOLOGIES

DIGITAL AND **EMERGING** TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

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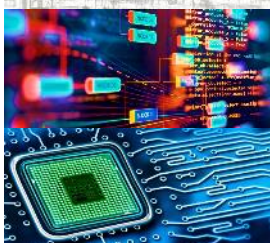
Cluster 4 - Digital



CLIMATE NEUTRAL, CIRCULAR AND DIGITISED **PRODUCTION**



INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR **RESILIENT** INDUSTRY



WORLD LEADING **DATA** AND COMPUTING TECHNOLOGIES

DIGITAL AND **EMERGING** TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

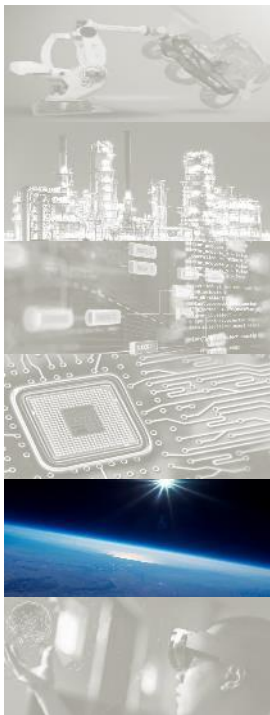


OPEN STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL **SPACE-BASED** INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA



A **HUMAN-CENTRED** AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES

Cluster 4 - Space



CLIMATE NEUTRAL, CIRCULAR AND DIGITISED **PRODUCTION**

INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR **RESILIENT** INDUSTRY

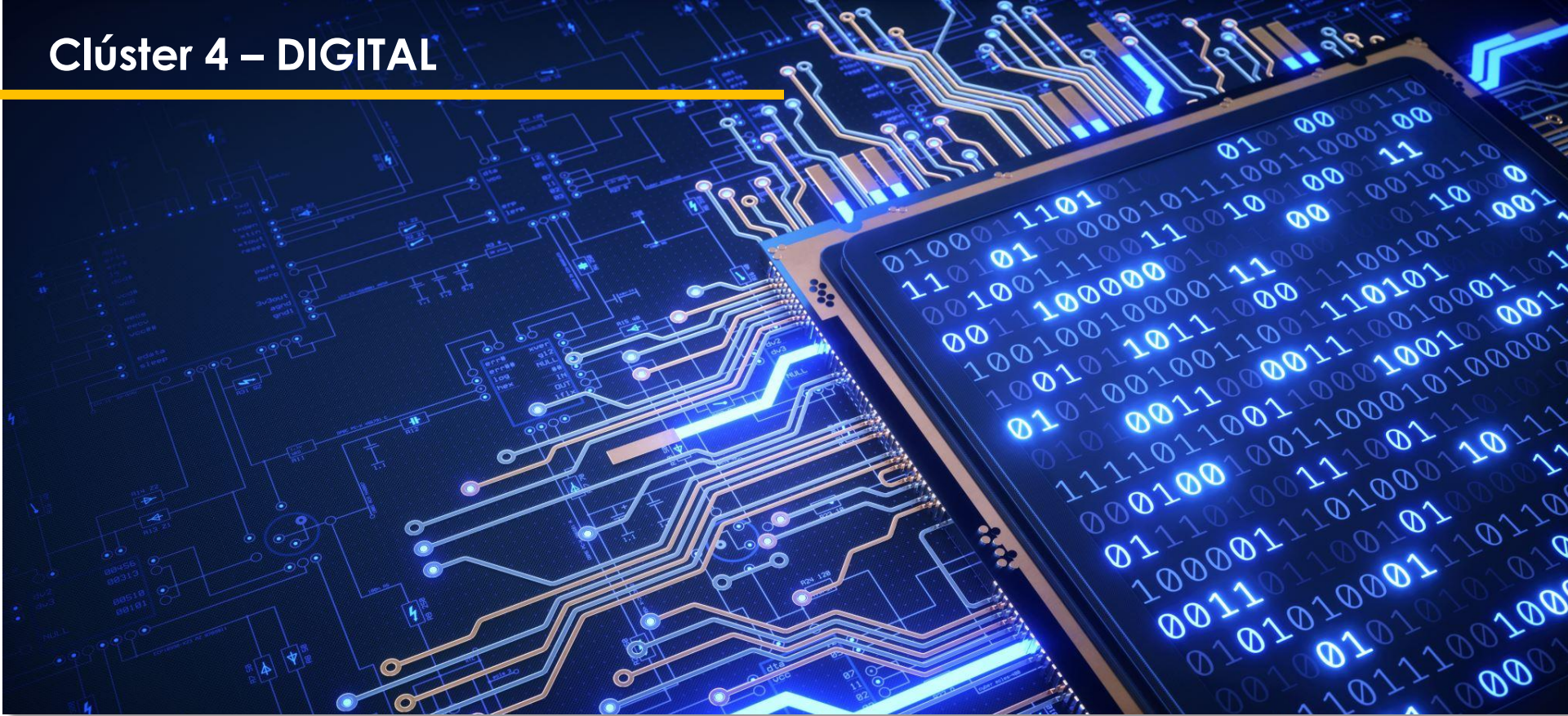
WORLD LEADING **DATA** AND COMPUTING TECHNOLOGIES

DIGITAL AND **EMERGING** TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

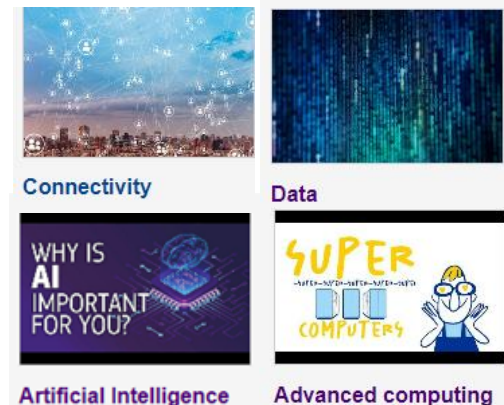
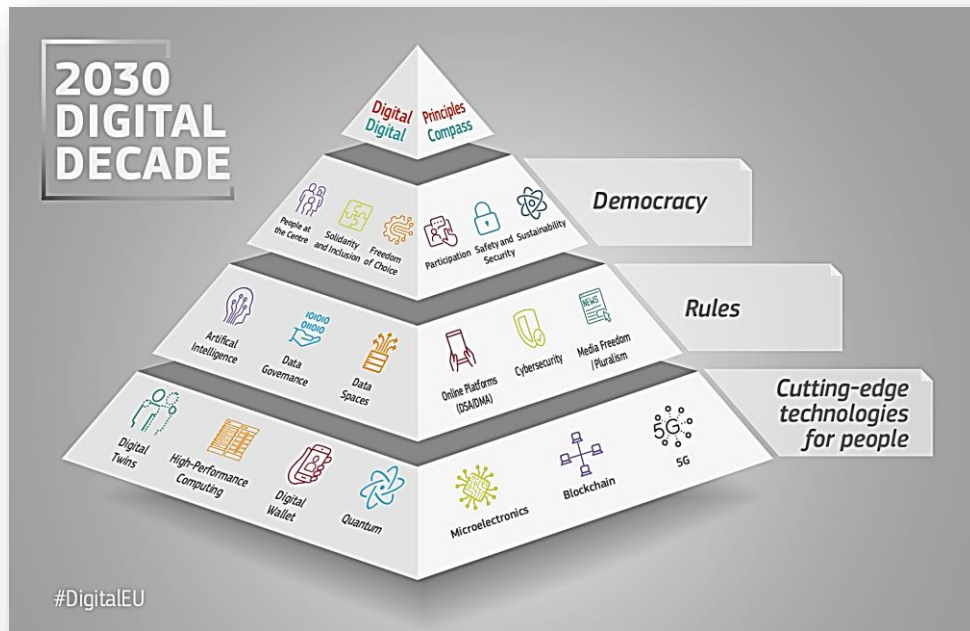
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A **HUMAN-CENTRED** AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES

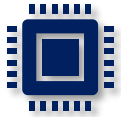
Clúster 4 – DIGITAL



Estrategia Política “DIGITAL”



Political Strategy – Chips Act



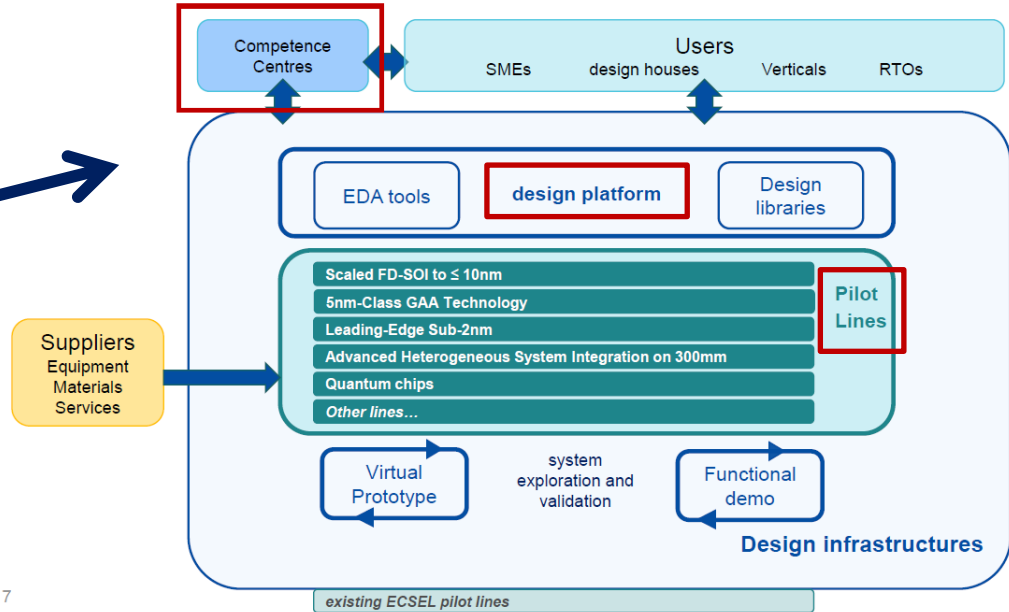
Chips for Europe Initiative



Security of Supply



Crisis response



7

C4 - Digital / Partenariados ¡¡PROVISIONAL!!

Institucionalizados



- High Performance Computing (**JTI EuroHPC**)



- **JTI Chips** (<< JTI KDT)



- Smart Networks and Services (**JTI SNS**)

Co-programmados



- AI / Data / Robotics



- Photonics

- ¿¿??



Virtual Worlds



Innovative Materials





- Analytics

Coprogramado

C4 - Digital / “Data” 2024



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DATA-01-01	15-11-23	19-3-24	AI-driven data operations and compliance technologies (AI, data and robotics partnership) (IA)	Compliance, Data Governance, Artificial Intelligence, Environmental Footprint, Common European Data Spaces, Privacy Preservation, Bias Detection	IA	4	38		

LS = LUMP SUM, 22.5 = Article 22.5

C4 - Digital / “Data” 2024



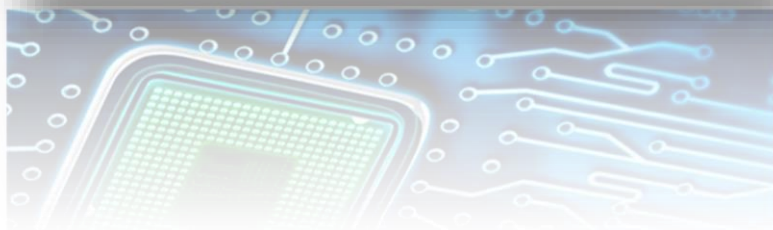
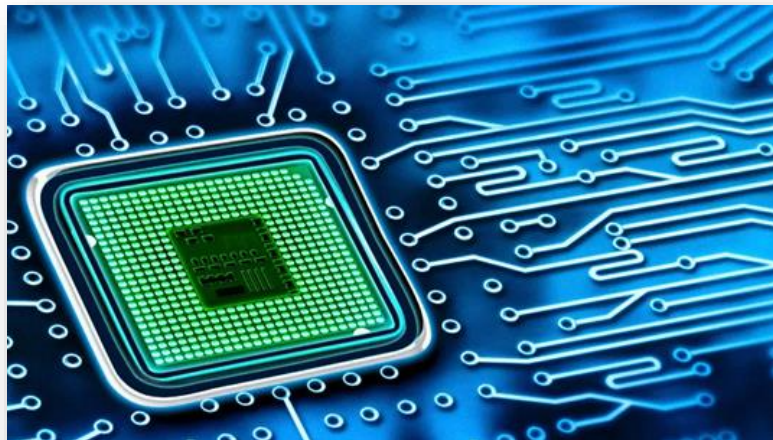
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DATA-01-01	15-11-23	19-3-24	AI-driven data operations and compliance technologies (AI, data and robotics partnership) (IA)	Compliance, Data Governance, Artificial Intelligence, Environmental Footprint, Common European Data Spaces, Privacy Preservation, Bias Detection	IA	4	38		



DATA-01-03	15-11-23	19-3-24	Piloting emerging Smart IoT Platforms and decentralized intelligence (IA)	Edge Computing, Internet of Things (IoT), Open Platforms, Standardisation, Cross-domain Interfaces	IA	2	45		
DATA-01-05	15-11-23	19-3-24	Platform Building, standardisation and Up-scaling of the 'Cloud-Edge-IoT' Solutions (CSA)	Innovation Eco-system, Open Edge Ecosystem, Edge Technology, Interoperability, International Collaboration.	CSA	1	2		

LS = LUMP SUM, 22.5 = Article 22.5

C4-DIGITAL / “Digital and Emerging”



▪ Electronics (Chips-JU)

Institucionalizado



▪ Photonics

Coprogramado



▪ 6G (SNS-JU)

Institucionalizado



▪ AI/Data/Robotics

Coprogramado



▪ Emerging technologies



▪ Quantum



▪ Graphene/2D materials

C4-DIGITAL / “Digital and Emerging”



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DE-01-03	15-11-23	19-03-24	Novel paradigms and approaches, towards AI-powered robots- step change in functionality (AI, data and robotics partnership) (RIA)	Robotics, Functional Performance, Multidisciplinary Research, Navigation, Manipulation, Human-Robot Interaction.	RIA	4	30		
DE-01-04	15-11-23	19-03-24	Industrial leadership in AI, Data and Robotics boosting competitiveness and the green transition (AI Data and Robotics Partnership) (IA)	Green Deal Objectives, Resource Optimization, Large-scale Challenges, AI, Data, Robotics Integration, Deployment Solutions, Financial Support to Third Parties.	IA	5	60		

LS = LUMP SUM, 22.5 = Article 22.5

C4-DIGITAL / “Digital and Emerging”



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
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DE-01-54	15-11-23	19-03-24	Smart photonics for joint communication & sensing and access everywhere (Photonics Partnership) (RIA)	Sensors/Probes, Communication Network, Photonic Signals, Foundational Optical Technologies, Access Infrastructure, Light-based Solutions	RIA	4	18		LS
DE-01-55	15-11-23	19-03-24	Photonics Innovation Factory for Europe (Photonics Partnership) (IA)	Photonics Technologies, Innovation Ecosystem, Virtual Factory, Cross-Border Collaboration, Innovation Support.	IA	2	15		

LS = LUMP SUM, 22.5 = Article 22.5

C4-DIGITAL / “Digital and Emerging”



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DE-01-03	15-11-23	19-03-24	Novel paradigms and approaches, towards AI-powered robots- step change in functionality (AI, data and robotics partnership) (RIA)	Robotics, Functional Performance, Multidisciplinary Research, Navigation, Manipulation, Human-Robot Interaction.	RIA	4	30		
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DE-01-55	15-11-23	19-03-24	Photonics Innovation Factory for Europe (Photonics Partnership) (IA)	Photonics Technologies, Innovation Ecosystem, Virtual Factory, Cross-Border Collaboration, Innovation Support.	IA	2	15		



DE-01-22	15-11-23	19-03-24	Fundamentals of Software Engineering (RIA)	Responsible Software Engineering, AI & Data Technologies, Agile Modeling, Verification, Validation, Vulnerability Assessment, Multi-Architecture Systems, Use-Cases, Energy Optimization	RIA	4	13,5		LS
DE-01-21	15-11-23	19-03-24	Open Source for Cloud/Edge to support European Digital Autonomy (RIA)	Open Cloud and Edge Computing, European Processor Technology, Open Computing Architecture, Standards, Emerging Processor Architectures, Synergies.	RIA	4	20		LS
DE-01-23	15-11-23	19-03-24	Public recognition scheme for Open Source (CSA)	European Annual Awards, Open Source Software / Hardware, Exploitation, Social Sciences and Humanities, Skills Development.	CSA	1	2		LS

LS = LUMP SUM, 22.5 = Article 22.5

C4-DIGITAL / “Digital and Emerging”



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DE-01-03	15-11-23	19-03-24	Novel paradigms and approaches, towards AI-powered robots- step change in functionality (AI, data and robotics partnership) (RIA)	Robotics, Functional Performance, Multidisciplinary Research, Navigation, Manipulation, Human-Robot Interaction.	RIA	4	30		
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DE-01-54	15-11-23	19-03-24	Smart photonics for joint communication & sensing and access everywhere (Photonics Partnership) (RIA)	Sensors/Probes, Communication Network, Photonic Signals, Foundational Optical Technologies, Access Infrastructure, Light-based Solutions	RIA	4	18		LS
DE-01-55	15-11-23	19-03-24	Photonics Innovation Factory for Europe (Photonics Partnership) (IA)	Photonics Technologies, Innovation Ecosystem, Virtual Factory, Cross-Border Collaboration, Innovation Support.	IA	2	15		



DE-01-22	15-11-23	19-03-24	Fundamentals of Software Engineering (RIA)	Responsible Software Engineering, AI & Data Technologies, Agile Modeling, Verification, Validation, Vulnerability Assessment, Multi-Architecture Systems, Use-Cases, Energy Optimization	RIA	4	13,5		LS
DE-01-21	15-11-23	19-03-24	Open Source for Cloud/Edge to support European Digital Autonomy (RIA)	Open Cloud and Edge Computing, European Processor Technology, Open Computing Architecture, Standards, Emerging Processor Architectures, Synergies.	RIA	4	20		LS
DE-01-23	15-11-23	19-03-24	Public recognition scheme for Open Source (CSA)	European Annual Awards, Open Source Software / Hardware, Exploitation, Social Sciences and Humanities, Skills Development.	CSA	1	2		LS

C4-DIGITAL / “Digital and Emerging” **¡¡PROVISIONAL!!**



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DE-01-31	15-11-23	19-03-24	Pilot line(s) for 2D materials-based devices (RIA)	Two-Dimensional Materials, Pilot Line, (Co-)Integration, Silicon, Semiconductor, CMOS, Photonics, Multidisciplinary.	RIA	1	33		LS
DE-01-34	15-11-23	19-03-24	Synergy with national and regional initiatives in Europe (CSA)	-	CSA	1	3	-	LS

LS = LUMP SUM, 22.5 = Article 22.5

C4-DIGITAL / “Digital and Emerging” **¡¡PROVISIONAL!!**



Topic	Apertura	Cierre	Titulo	Keywords	Tipo	Num	Ppto	Art	LS
DE-01-31	15-11-23	19-03-24	Pilot line(s) for 2D materials-based devices (RIA)	Two-Dimensional Materials, Pilot Line, (Co-)Integration, Silicon, Semiconductor, CMOS, Photonics, Multidisciplinary.	RIA	1	33		LS
DE-01-34	15-11-23	19-03-24	Synergy with national and regional initiatives in Europe (CSA)	-	CSA	1	3	-	LS



DE-01-42	15-11-23	19-03-24	Stimulating transnational research and development of next generation quantum technologies, including basic theories and components—(Cascading grant with FSTP)	-	RIA	1	15	22.5	-
DE-01-45	15-11-23	19-03-24	Quantum sensing and metrology for market uptake (IA)	Quantum Sensing, Standardisation, Application Sectors, Advanced Prototypes, Industrialisation, Value Chain, Metrology, Governance.	IA	3	15	22.5	LS
XX	XX	XX	New topic on quantum gravimeters ???		XX	XX	XX	XX	XX

LS = LUMP SUM, 22.5 = Article 22.5

C4 - Digital / “Digital and Emerging” 2024 **¡¡PROVISIONAL!!**

	DE-01-03	15/11/2023	19/03/2024	Novel paradigms and approaches, towards AI-powered robots– step change in functionality (AI, data and robotics partnership) (RIA)	RIA	4	30		
	DE-01-04	15/11/2023	19/03/2024	Industrial leadership in AI, Data and Robotics boosting competitiveness and the green transition (AI Data and Robotics Partnership) (IA)	IA	5	60		
	DE-01-54	15/11/2023	19/03/2024	Smart photonics for joint communication & sensing and access everywhere (Photonics Partnership) (RIA)	RIA	4	18		LS
	DE-01-55	15/11/2023	19/03/2024	Photonics Innovation Factory for Europe (Photonics Partnership) (IA)	IA	2	15		
	DE-01-22	15/11/2023	19/03/2024	Fundamentals of Software Engineering (RIA)	RIA	4	13,5		LS
	DE-01-21	15/11/2023	19/03/2024	Open Source for Cloud/Edge to support European Digital Autonomy (RIA)	RIA	4	20		LS
	DE-01-23	15/11/2023	19/03/2024	Public recognition scheme for Open Source (CSA)	CSA	1	2		LS
	DE-01-31	15/11/2023	19/03/2024	Pilot line(s) for 2D materials-based devices (RIA)	RIA	1	33		LS
	DE-01-34	15/11/2023	19/03/2024	Synergy with national and regional initiatives in Europe (CSA)	CSA	1	3	-	LS
	DE-01-42	15/11/2023	19/03/2024	Stimulating transnational research and development of next generation quantum technologies, including basic theories and components –(Cascading grant with FSTP)	RIA	1	15	22.5	-
	DE-01-45	15/11/2023	19/03/2024	Quantum sensing and metrology for market uptake (IA)	IA	3	15	22.5	LS
	XX	XX	XX	New topic on quantum gravimeters ???	XX	XX	XX	XX	XX

C4-DIGITAL / “Human”



- AI based on trust

Coprogramado



- Internet of trust / NGI







- eXtended Reality (XR)



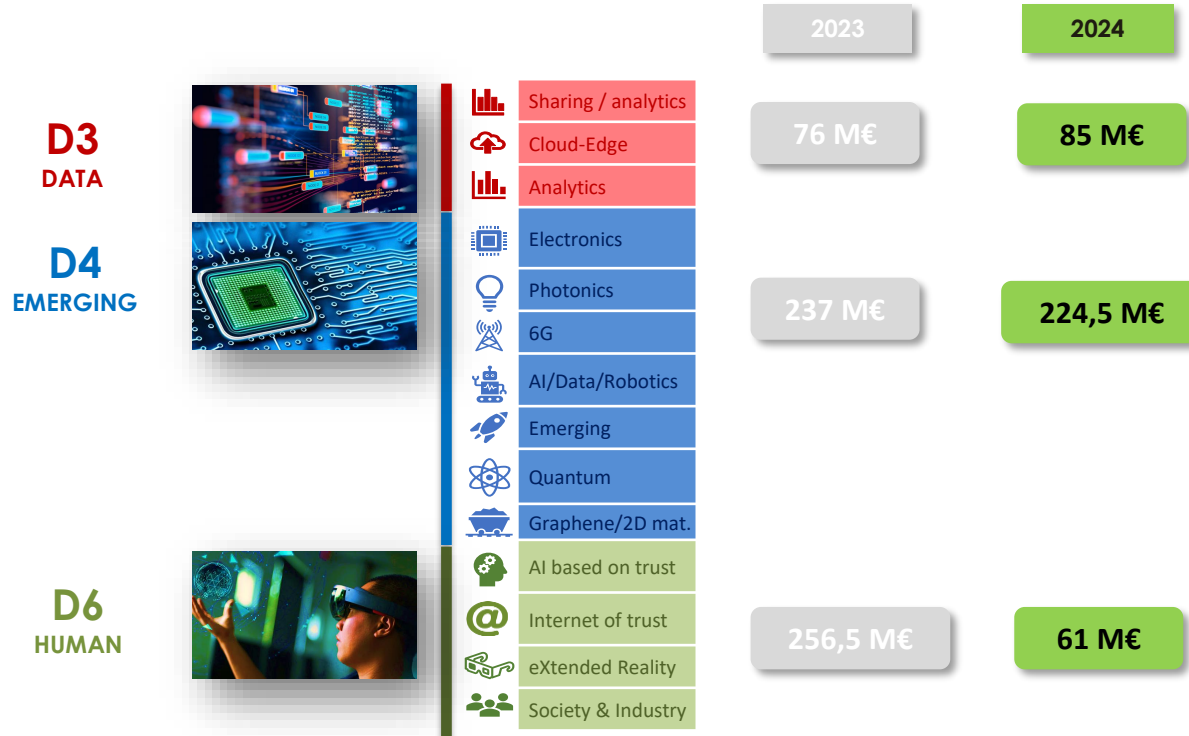
- Society & Industry

C4 - Digital / “Human” 2024 **!!!PROVISIONAL!!!!**

	XX	XX	XX	Explainable and Robust AI (AI Data and Robotics Partnership) (RIA)	XXX	XX	XXX		
	HUMAN-01-07	15/11/2023	19/03/2024	Collaborative intelligence — combining the best of machine and human (AI Data and Robotics Partnership) (RIA)	RIA	4	20	-	-
	XX	XX	XX	New topic on large/generative AI models???	XX	XX	XX	XX	XX
	HUMAN-01-61	15/11/2023	19/03/2024	Facilitate the engagement in global ICT standardisation development (CSA)	CSA	1	6	-	LS
	HUMAN-02-34	03/04/2024	10/09/2024	Support for transnational activities of National Contact Points in the thematic areas of Digital, Industry and Space (CSA)	CSA	3	5		
	XX	XX	XX	Reintroducing topic on digital humanism?????	XX	XX	XX	XX	XX

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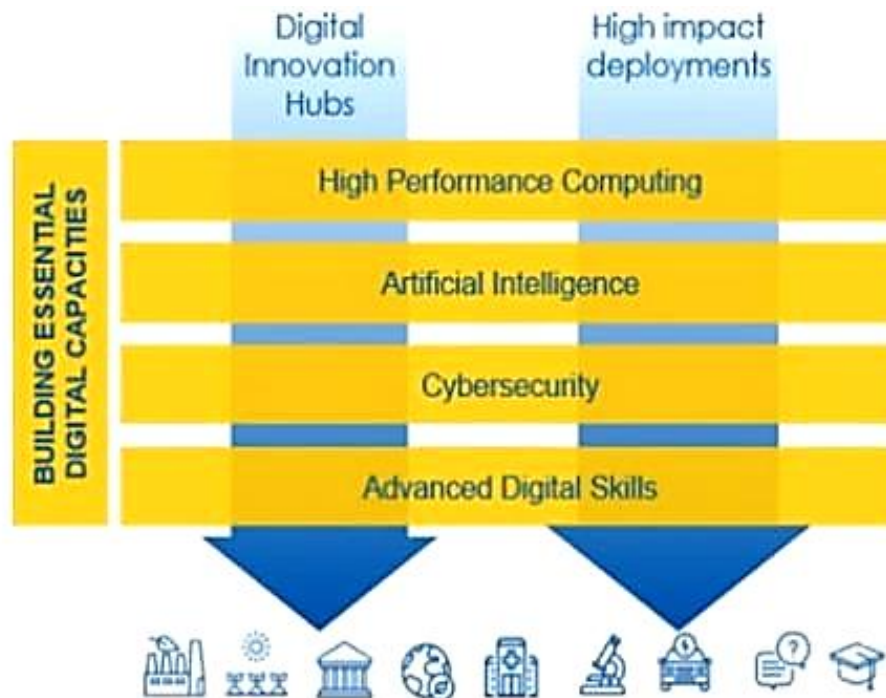
C4-DIGITAL / Presupuesto



Otros programas digitales europeos



DIGITAL EUROPE PROGRAM



Soporte a participación



Resultados ICT-H2020: Resumen

Subvención obtenida por España: 580,6 M€

666 actividades I+D+I con
participantes españoles

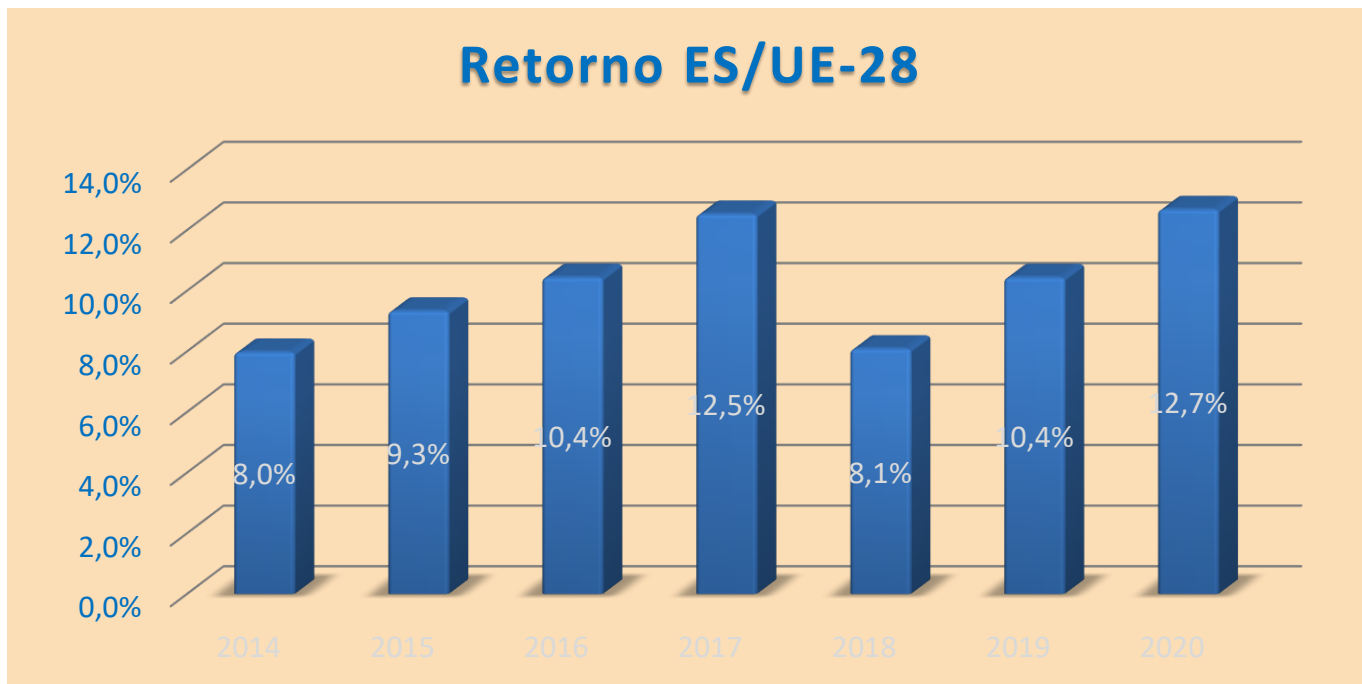
175 coordinadas

España 2º país en:

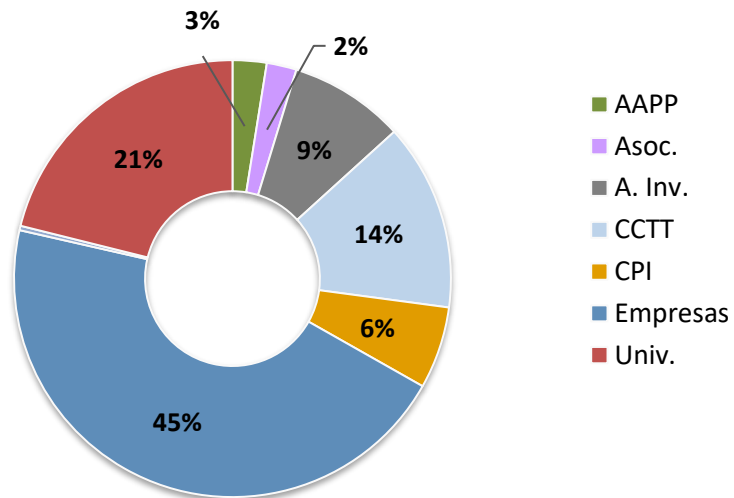
- *Big data* (15,3% UE-28);
- IoT - Internet de las cosas (14,9% UE-28);
- PPP 5G (14,9 %UE-28)

En conjunto España 3^{er}. país por retorno (10,1% UE-28) –
Incluye resultados de la JTI ECSEL (47,8 M€ - 4,4% UE-28 y 7ª posición)

Resultados ICT-H2020: Retorno



Resultados ICT-H2020: Tipo de entidad



Entidades con mayor retorno:
Atos Spain, BSC, UPV, Tecnalia,
Telefónica I+D, UPM, UC3M,
I2CAT, CTTC y UPC

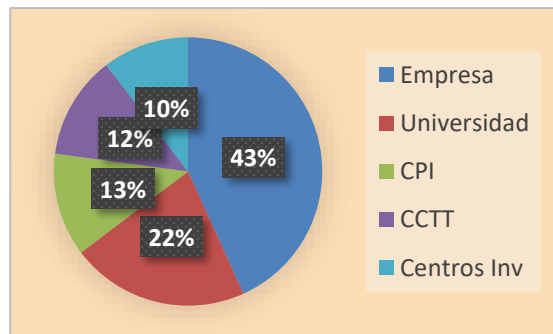
Resultados HE-C4-Digital



Proyectos	Líderes	Participaciones	Financiación	Éxito
216	41	434	200,4 M€	20%
de 1.080	de 209	de 1.869	de 1.060,0 M€	



7	1	7	2,7 M€	11,7%
de 60	de 8	de 75	de 29,5 M€	



CCAA

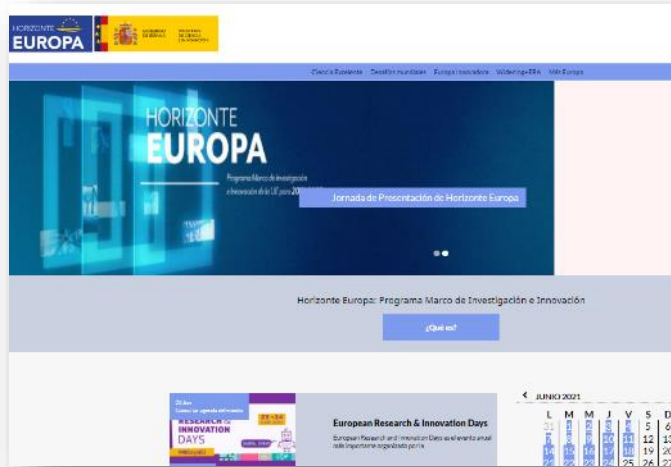
38,4% Cataluña
 28,4% Madrid
 11,5% País Vasco
 10,23% Com. Valenciana
 3,64% Andalucía

Participantes

- BARCELONA SUPERCOMPUTING CENTER
- ATOS IT SOLUTIONS AND SERVICES IBERIA SL
- INSTITUT DE CIENCIES FOTONIQUES
- UNIVERSIDAD POLITECNICA DE VALENCIA
- UNIVERSIDAD POMPEU FABRA
- ATOS SPAIN SA
- FUNDACIO EURECAT
- UNIVERSIDAD CARLOS III DE MADRID
- UNIVERSIDAD POLITECNICA DE CATALUÑA
- UNIVERSIDAD ROVIRA I VIRGILI

Webs/links

Horizonteeuropa.es



<https://www.horizonteeuropa.es/>

Infodays (11/12-Oct-2023)



<https://www.horizonteeuropa.es/horizon-europe-info-days-cluster-4>

Participation: Support



Puntos Nacionales de Contacto (NCP) – C4-DIGITAL



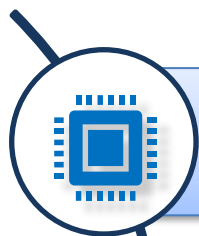
enrique.pelayo@cdti

fernando.rico@cdti



fernando.martin@cdti.es

Conclusiones



Desarrollo de tecnología



Partenariados



NCP



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



@HorizonteEuropa - @CDTI_innovacion