

# Grant Catalog

**Le catalogue de financement présente l'ensemble des enveloppes de financement d'intérêt cyber.**

**Pour une meilleure compréhension de la structuration des financements européens, nous vous invitons à vous référer à la page dédiée du wiki du Campus Cyber :**

**<https://wiki.campuscyber.fr/Financement>**

**The grant catalog presents all the funding envelopes of cyber interest.**

**For a better understanding of European fundings structure, we invite you to refer to the dedicated page of the Campus Cyber's Wiki:**

**<https://wiki.campuscyber.fr/Financement>**

# 01. CALL FOR EUROPEAN PROJECT, ALL DESKS.

January – December 2023

Cluster	Number of desks		Destination	Deadline
	Total	Per destination		
HORIZON EUROPE 2 / CLUSTER 3 SECURITY	12	3	Cybersecurity	23/11/2023
		4	Effective management of EU external borders	23/11/2023
		2	Resilient Infrastructure	23/11/2023
		1	Disaster-Resilient Society for Europe	23/11/2023
		2	Better protect the EU and its citizens against Crime and Terrorism	23/11/2023
HORIZON EUROPE 2 / CLUSTER 4 DIGITAL, INDUSTRY AND SPACE	31	2	World leading data and computing technologies	29/03/2023
		5	Digital and emerging technologies for competitiveness and fit for the Green Deal	29/03/2023
		15	A human-centred and ethical development of digital and industrial technologies	29/03/2023
		1	Increased autonomy in key strategic value chains for resilient industry	20/04/2023
		3	Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data	28/03/2023
		5	Climate neutral, circular and digitised production	20/04/2023
HORIZON EUROPE PILLAR 2 / CLUSTER 5 CLIMATE, ENERGY AND MOBILITY	13	1	Resilient Infrastructure	24/11/2023
		1	Sustainable, secure and competitive energy supply	06/01/2023
		3	Efficient, sustainable and inclusive energy use	24/01/2023
		1	Cross-sectoral solutions for the climate transition	04/05/2023
		5	Sustainable, secure and competitive energy supply	March, Sept, Oct. 2023
		2	Clean and competitive solutions for all transport modes	20/04/2023

## 02. CALL FOR EUROPEAN PROJECTS, ALL DESKS.

January – December 2023

Cluster	Number of desks		Destination	Deadline
	Total	Per destination		
HORIZON EUROPE 2 / CLUSTER 6	2	1	Fisheries control	12/04/2023
		1	Digitalisation in agriculture and forestry	23/03/2023
HORIZON EUROPE 2 / AUTRES CLUSTERS	7	4	Health	13/04/2023
		1	Research Ethics	9/03/2023
		2	EOSC	9/03/2023
Tender	1	1	Cybersecurity education maturity assessment	12/01/2023
Digital Europe Programme (DIGITAL)	10	7	Cybersecurity	15/02/2023
		3	Cloud	24/01/2023
Creative Europe Programme	2	1	Innovation Lab	20/04/2023
		1	Innovation Tools	24/01/2023
INTERNAL SECURITY FUND	Not published yet			
DG FOR COMMUNICATIONS NETWORK, CONTENT & TECHNOLOGY	Not published yet			
EUROPEAN DEFENSE FUND	Not published yet			

### 03. CALL FOR EUROPEAN PROJECTS, ALL DESKS.

January – December 2023

Type of action	Number of desks
RIA (Research and Innovation Actions)	32
IA (Innovation Actions)	25
CSA (Coordination and Support Actions)	13
Simple Grants	9
Tender	1

## 04. CLUSTER 3 - SECURITY.

Topic	Title	Type	Budget per project	# of projects
<a href="#">HORIZON-CL3-2023-BM-01-01</a>	Capabilities for border surveillance and situational awareness	IA	7	1
<a href="#">HORIZON-CL3-2023-BM-01-02</a>	Identify, inspect, neutralise Unexploded Ordnance (UXO) at sea	RIA	4,9	4
<a href="#">HORIZON-CL3-2023-BM-01-03</a>	Beyond the state-of-the-art “biometrics on the move” for border checks	RIA	3	2
<a href="#">HORIZON-CL3-2023-BM-01-04</a>	Interoperability of systems and equipment at tactical level; between equipment and databases; and/or between databases of threats and materials	IA	6	1
<a href="#">HORIZON-CL3-2023-CS-01-01</a>	Secure Computing Continuum (IoT, Edge, Cloud, Dataspaces)	IA	4 – 6	4
<a href="#">HORIZON-CL3-2023-CS-01-02</a>	Privacy-preserving and identity management technologies	IA	2 – 4	4
<a href="#">HORIZON-CL3-2023-CS-01-03</a>	Security of robust AI systems	RIA	4 - 6	2
<a href="#">HORIZON-CL3-2023-DRS-01-04</a>	Robotics: Autonomous or semi-autonomous UGV systems to supplement skills for use in hazardous environments	RIA	6	1
<a href="#">HORIZON-CL3-2023-FCT-01-05</a>	Crime as a service	RIA	4	4
<a href="#">HORIZON-CL3-2023-FCT-01-06</a>	Enhancing tools and capabilities to fight advanced forms of cyber threats and cyber-dependent crimes	RIA	4	2
<a href="#">HORIZON-CL3-2023-INFRA-01-01</a>	Facilitating strategic cooperation to ensure the provision of essential services	IA	5	1
<a href="#">HORIZON-CL3-2023-INFRA-01-02</a>	Supporting operators against cyber and non-cyber threats to reinforce the resilience of critical infrastructures	IA	4,7	2

## 05. CLUSTER 3 - SECURITY.

### Destination – Effective management of EU external borders



#### BM 01 - 01 Capabilities for border surveillance and situational awareness

+ **BUDGET:** 7 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Increased **border surveillance** capabilities, better performing and more cost-efficient, with data and fundamental rights protection by design;
- Better surveillance of border areas, supporting **fight against illegal activities** across external borders, as well as safety of people and operators in the border areas, including favouring border crossings through border crossing points;
- **More efficient and more flexible solutions** (including for relocation, reconfiguration and rapid deployment capabilities) than physical barriers to deter and monitor irregular border crossings outside border crossing points.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

## 06. CLUSTER 3 - SECURITY.

Destination – Effective management of EU external borders



BM 01 - 02 Identify, inspect, neutralise Unexploded Ordnance (UXO) at sea

+ **BUDGET:** 4,9 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Increased **capabilities** to detect, classify, inspect, assess and neutralise **UXO at sea**;
- Improved safety and security for maritime economic operators and for EU citizens.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring



## 07. CLUSTER 3 - SECURITY.

Destination – Effective management of EU external borders



BM 01 - 03 Beyond the state-of-the-art “biometrics on the move” for border checks

+ **BUDGET:** 3 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Updated, European-based, knowledge and development on **robust biometrics technologies** that could be used for recognition (identification and verification) of people crossing external EU borders, demonstrating a clear advancement beyond the current state-of-the-art;
- Maximisation of travellers’ experience and of **security reassurances**, minimising handling of personal data and maximising accuracy, reliability and throughput of the **recognition process**;
- Contribution to improving the operational response capacity of the EBCG at border crossing points and to capabilities that strengthen the Schengen area, by providing **security at its external borders** that also reassure on maintaining the free movement within its borders.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

## 08. CLUSTER 3 - SECURITY.

Destination – Effective management of EU external borders



BM 01 - 04 Interoperability of systems and equipment at tactical level; between equipment and databases; and/or between databases of threats and materials

+ **BUDGET:** 6 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Increased interoperability of existing (and foreseeable upcoming) **customs control equipment** at tactical level, multi-supplier, multi-authority and cross-border;
- More efficient and quicker availability, for EU customs practitioners, of **reference data** (such as spectra) on threats and dangerous and/or illicit materials;
- Building capabilities for a more harmonised European application of customs controls based on risk management and trade facilitation.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

## 09. CLUSTER 3 - SECURITY.

### Destination – Cybersecurity



#### CSS 01-01 Secure Computing Continuum (IoT, Edge, Cloud, Dataspaces)

+ **BUDGET:** 4 à 6 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Tools to support **cybersecurity resilience**, preparedness, awareness, and detection within critical infrastructures and across supply chains;
- **Cloud infrastructures** vulnerabilities mitigation;
- Secure integration of untrusted IoT in trusted environments;
- Use of **Zero-Trust architectures**;
- Trust & Security for massive connected IoT ecosystems & lifecycle management;
- Secure interoperability and integration of systems;
- AI-based automation tools for **cyber threat intelligence**;
- **Secure infrastructure, secure Identities** and usability for a security chain covering communication, data collection, data transport, and data processing.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 10. CLUSTER 3 - SECURITY.

### Destination – Cybersecurity



#### CSS 01-02 Privacy-preserving and identity management technologies

+ **BUDGET:** 2 à 4 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOME :**

- Improved scalable and reliable **privacy-preserving** and identity management technologies for federated and secure sharing and for processing of personal and industrial data and their integration in real-world systems;
- Improving **privacy-preserving technologies** for cyber threat intelligence and data sharing solutions;
- **Privacy** by design;
- Contribution to promotion of **GDPR compliant European data spaces** for digital services and research
- Research and development of self-sovereign identity management technologies and solutions;
- Provide resource efficient and secure digital identity solutions for Small and medium sized enterprises (SME);
- Strengthened European ecosystem of open-source developers and researchers of **privacy-preserving solutions**;
- Usability of privacy-preserving and identity management technologies.

+ **PROFILES:**

- **SMEs** (encouraged) / **Industry** / **RTOs**
- **System providers:** Operating systems, Application Programming Interfaces (APIs)
- **Hardware & software providers:** device manufacturers, backend clouds and virtualisation, service functionality software, virtualisation environments, accountability tools for audit

# 11. CLUSTER 3 - SECURITY.

Destination – Cybersecurity



CSS 01-03 Security of robust AI systems

+ **BUDGET:** 4 à 6 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **TYPE OF ACTION:** Research and Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOME :**

- **Security-by-design** concept and resilience to adversarial attacks;
- Inclusion of context awareness in machine learning in order to boost resiliency.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **System providers:** Operating systems, Application Programming Interfaces (APIs)
- **Hardware & software providers:** device manufacturers, backend clouds and virtualisation, service functionality software, virtualisation environments, accountability tools for audit

## 12. CLUSTER 3 - SECURITY.

Destination – Disaster-Resilient Society for Europe



DRS 01- 04 Robotics: Autonomous or semi-autonomous UGV systems to supplement skills for use in hazardous environments

+ **BUDGET:** 6 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Broad acceptance of **autonomous systems** by first responders and affected people in civil protection;
- Higher **safety and security standards** for operational forces working in hazardous environments;
- Get ahead of future shortcomings of trained first responder personnel by increasing first responder efficiency (less personnel do more work in shorter time);
- Increased ability to conduct **on-scene operations remotely** without endangering first responders;
- European robotics industry is strengthened through engagement in the civil protection research as well as an economic and political advantage through building up know-how for innovative technologies;
- Reduction of false positive redouts from various sensors carried by robots.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 13. CLUSTER 3 - SECURITY.

Destination – Better protect the EU and its citizens against Crime and Terrorism



FTC-01-05 Crime as a service

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- European Police Authorities and policy makers are provided with a robust analysis of the evolution of the contemporary organised crime, its structure, role of hierarchy, membership in the organisation and subcontracting of specialised criminal services.
- Policy makers benefit from an analysis of the legal framework utilised for **countering organised crime**, in terms of the validity of the legal definitions and penal provisions adopted and their impact on the effectiveness of judicial verdicts;
- **Methodology for the identification of the means** of advertising, communication, marketing and money flows used for offering criminal services on the underground market is developed, as well as the set of respective prevention, investigative and policy countermeasures;
- Improved knowledge within European security institutions regarding developments in the field of organised crime and prospects for the future.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 14. CLUSTER 3 - SECURITY.

Destination – Better protect the EU and its citizens against Crime and Terrorism



FCT 01 – 06 Enhancing tools and capabilities to fight advanced forms of cyber threats and cyber-dependent crimes

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Development of **modular toolbox** for Police Authorities, facilitating gathering and processing of data relevant for cybercrime and cyber - enabled crime investigations;
- Detection of **crypto-jacking**, compromised registration forms, **malware attacks** and other **cybercrimes** perpetrated using cryptocurrencies;
- **Development of training curricula**, for Police Authorities, prosecutors, as well as judicial actors on major contemporary cybercriminal activities;
- Recommendations on **public cybercrime awareness** actions contributing to early detection and prevention;
- Identification of best practices of international law enforcement and judicial cooperation networks; and
- Development of multi-stakeholders strategies, including novel investigation schemes and information sharing mechanisms.

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States



## 15. CLUSTER 3 - SECURITY.

### Destination – Resilient Infrastructure



#### INFRA 01-01 Facilitating strategic cooperation to ensure the provision of essential services

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Tools for EU Member State authorities and operators for the assessment and anticipation of relevant risks to the provisions of essential services are identified;
- The cooperation between authorities of EU Member States is facilitated by providing **solutions for data exchange and joint cross-border risk assessments**;
- Simulation tools are developed for large-scale exercises to test the resilience of operators and of specific sectors, and related training courses are designed;
- Measures by Member State authorities to **facilitate risk assessments** by operators are identified, including the assessment of dependencies on different sectors and cross-border interdependencies;

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 16. CLUSTER 3 - SECURITY.

### Destination – Resilient Infrastructure



INFRA 01-02 Supporting operators against cyber and non-cyber threats to reinforce the resilience of critical infrastructures

+ **BUDGET:** 4,7 M€ per project

+ **DEADLINE:** 23 Nov. 2023

+ **OUTCOMES:**

- Support is provided to the **resilience of operators** against cyber and non-cyber threats in specific sectors;
- A reliable state-of-the-art analysis of physical/cyber detection technologies and risk scenarios is created, in the context of an operator in a specific sector in sectors that have not yet been covered by previous research projects;
- Strengthened **cooperation against natural or human-made threats** and subsequent disruptions of infrastructures in Europe, allowing for operational testing in real scenarios or realistic simulations of scenarios with specific regard to disruptions in a specific sector of critical entities;
- Improved **situational awareness, preparedness and governance** by the implementation of effective solutions that enhance detection and anticipated projection of a determined threatening situation, as well as implementation of prevention, preparedness/mitigation, response, and recovery types of intervention

+ **PROFILES:**

- **SMEs / Industry / RTOs**
- **Communications or Network** providers
- **Software / hardware providers** e.g. 5G, IoT, medical devices, SCADA systems
- **Service providers** e.g. cloud-based ICT services
- **Technology providers** e.g. logging, categorisation, and aggregation of data, information extraction, incident analysis, network traffic analysis, machine learning / artificial intelligence to penetrate testing methods
- **End user partners** e.g. to validate intrusion detection & incident monitoring

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 17. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Topic	Title	Type	Budget per project	# of projects
<a href="#">HORIZON-CL4-2023-DATA-01-02</a>	Integration of data life cycle, architectures and standards for complex data cycles and/or human factors, language (AI, data and robotics partnership) (RIA)	RIA	9	5
<a href="#">HORIZON-CL4-2023-DATA-01-04</a>	Cognitive Computing Continuum: Intelligence and automation for more efficient data processing (AI, data and robotics partnership) (RIA)	RIA	4-6	6
<a href="#">HORIZON-CL4-2023-DIGITAL-EMERGING-01-01</a>	Novel paradigms and approaches, towards AI-driven autonomous robots (AI, data and robotics partnership) (RIA)	RIA	8	4
<a href="#">HORIZON-CL4-2023-DIGITAL-EMERGING-01-02</a>	Industrial leadership in AI, Data and Robotics – advanced human robot interaction (AI Data and Robotics Partnership) (IA)	IA	10	3
<a href="#">HORIZON-CL4-2023-DIGITAL-EMERGING-01-40</a>	Quantum Photonic Integrated Circuit technologies (RIA)	RIA	4-6	2
<a href="#">HORIZON-CL4-2023-DIGITAL-EMERGING-01-41</a>	Investing in alternative quantum computation and simulation platform technologies (RIA)	RIA	7-12	2
<a href="#">HORIZON-CL4-2023-DIGITAL-EMERGING-01-50</a>	Next generation quantum sensing and metrology technologies (RIA)	RIA	2-3	3
<a href="#">HORIZON-CL4-2023-HUMAN-01-01</a>	Efficient trustworthy AI - making the best of data (AI, Data and Robotics Partnership) (RIA)	RIA	7-9	5
<a href="#">HORIZON-CL4-2023-HUMAN-01-02</a>	Large Scale pilots on trustworthy AI data and robotics addressing key societal challenges (AI Data and Robotics Partnership) (IA)	IA	8	3
<a href="#">HORIZON-CL4-2023-HUMAN-01-03</a>	Natural Language Understanding and Interaction in Advanced Language Technologies (AI Data and Robotics Partnership) (RIA)	RIA	6-8	3
<a href="#">HORIZON-CL4-2023-HUMAN-01-04</a>	Open innovation: Addressing Grand challenges in AI (AI Data and Robotics Partnership) (CSA)	CSA	4	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-05</a>	Through AI from Disinformation to Trust (IA)	IA	5	2

## 18. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Topic	Title	Type	Budget per project	# of projects
<a href="#">HORIZON-CL4-2023-HUMAN-01-11</a>	Next Generation Internet Fund (RIA)	RIA	27	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-13</a>	Next Generation Internet International Collaboration - USA (RIA)	RIA	4	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-21</a>	Next Generation eXtended Reality (RIA)	RIA	5-8	4
<a href="#">HORIZON-CL4-2023-HUMAN-01-22</a>	eXtended Reality for Industry 5.0 (IA)	IA	5-8	4
<a href="#">HORIZON-CL4-2023-HUMAN-01-23</a>	Supporting the emergence of an open human-centric Metaverse (CSA)	CSA	2	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-52</a>	Drivers and success factors for progress towards Industry 5.0 (RIA)	RIA	4	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-53</a>	Localised and Urban Manufacturing, supporting creativity and the New European Bauhaus (RIA using FSTP)	RIA	1,5 – 2,5	4
<a href="#">HORIZON-CL4-2023-HUMAN-01-65</a>	Support facility for digital standardisation and international cooperation in digital partnerships (CSA)	CSA	1,5	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-66</a>	Promoting EU standards globally (CSA)	CSA	2,5	1
<a href="#">HORIZON-CL4-2023-HUMAN-01-81</a>	Digital Humanism - Putting people at the centre of the digital transformation (CSA)	CSA	1,5	1
<a href="#">HORIZON-CL4-2023-RESILIENCE-01-39</a>	Coordination and knowledge sharing across materials development communities (CSA)	CSA	2	1
<a href="#">HORIZON-CL4-2023-SPACE-01-32</a>	Copernicus for Emergency Management	RIA	3	1
<a href="#">HORIZON-CL4-2023-SPACE-01-33</a>	Copernicus in-situ component	RIA	2	1
<a href="#">HORIZON-CL4-2023-SPACE-01-62</a>	Quantum Communication Technologies for space systems	RIA	2 – 2,5	2
<a href="#">HORIZON-CL4-2023-TWIN-TRANSITION-01-02</a>	High-precision OR complex product manufacturing – potentially including the use of photonics (Made in Europe and Photonics Partnerships) (IA)	IA	5 - 6	8
<a href="#">HORIZON-CL4-2023-TWIN-TRANSITION-01-04</a>	Factory-level and value chain approaches for remanufacturing (Made in Europe Partnership) (IA)	IA	5 - 7	6
<a href="#">HORIZON-CL4-2023-TWIN-TRANSITION-01-07</a>	Achieving resiliency in value networks through modelling and Manufacturing as a Service (Made in Europe Partnership) (RIA)	RIA	4 - 6	6
<a href="#">HORIZON-CL4-2023-TWIN-TRANSITION-01-08</a>	Foresight and technology transfer for Manufacturing as a Service (Made in Europe Partnership) (CSA)	CSA	1	1
<a href="#">HORIZON-CL4-2023-TWIN-TRANSITION-01-11</a>	Intelligent data acquisition and analysis of materials and products in existing built works (RIA)	RIA	5 - 6	2

## 19. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – World leading data and computing technologies



Data 01-02 Integration of data life cycle, architectures and standards for complex data cycles and/or human factors, language (AI, data and robotics partnership) (RIA)

+ **BUDGET:** 9 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Ability to process **vast volumes data** as one of the key enablers for other technological developments, supporting the competitiveness of the EU's industrial ecosystems;
- successful deployment of data spaces involving several sectors of economy or society;
- improve **data access** (in line with the FAIR[1] principles), **data sovereignty**, **data interoperability** and **data protection** as an essential factor in the development of sustainable value chains respecting all stakeholder interests, particularly SMEs, but also the public sector as data providers and innovation/market ecosystem enablers. The European Strategy for Data[2] calls for actions to support and promote data sharing and the use of data for social and economic benefit.

+ **LINK TO CYBERSECURITY:**

- Proposals should build on existing and emerging standards, models and architectures and complement/expand them as necessary in view of interoperability of systems and portability of data, especially between sectors, between private and public sectors and between different communities/constituencies of actors, **including consideration of cybersecurity** issues and analysing the use and re-use potential, especially in view of use of data across sectors
- The overall objective of the topics in this heading is to establish the European supply and value chains in cloud to edge computing to Internet of Things (IoT) and tactile internet by integrating relevant elements of computing, connectivity, IoT, AI **cybersecurity**.

## 20. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – World leading data and computing technologies



Data 01-04 Cognitive Computing Continuum: Intelligence and automation for more efficient data processing (AI, data and robotics partnership) (RIA)

+ **BUDGET:** 4 to 6 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Enhanced **openness and open strategic autonomy** in the evolving data and AI-economies across the computing continuum including adapted system integration at the edge and at device level, validation of key sectors and nurturing European value chains to accelerate and steer the digital and green transitions.
- Paving the way to strategic industrial cooperation in data processing required to support future hyper-distributed applications by building open platforms, underpinning an emerging **industrial open edge ecosystem** critical to establishing a mature European supply chain.
- Establishment of adaptive hybrid computing, cognitive clouds and edge intelligence beyond today's investments on data infrastructure.
- Better international collaboration with trusted partner regions, guaranteeing a minimum level of interoperability, portability thereby fostering competition in the Cloud/Edge services market for the European cloud/edge and software industry and facilitate European access to foreign markets.

+ **LINK TO CYBERSECURITY:**

- The overall objective of the topics in this heading is to establish the European supply and value chains in cloud to edge computing to Internet of Things (IoT) and tactile internet by integrating relevant elements of computing, connectivity, IoT, AI **cybersecurity**.

## 21. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Digital and emerging technologies for competitiveness and fit for the Green Deal



EMERGING-01-01 Novel paradigms and approaches, towards AI-driven autonomous robots (AI, data and robotics partnership) (RIA)

+ **BUDGET:** 8 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Achieve substantial “**next step autonomy**” in robots, undertaking non-repetitive tasks in realistic settings, including Human-Robot interactions, as well as robots acting in isolation, demonstrated in key high impact sectors where robotics has the potential to deliver significant economic and/or societal benefits

+ **LINK TO CYBERSECURITY:**

- Proposals will need to address **safety and security aspects** at all levels, as well as consider the handling of data collection (respecting relevant regulation such as the GDPR and the revised Machinery Directive).
- Proposals should address the interdependence between safety, security and system performance with respect to the chosen application or use case.

## 22. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Digital and emerging technologies for competitiveness and fit for the Green Deal



EMERGING 01-02 Industrial leadership in AI, Data and Robotics – advanced human robot interaction (AI Data and Robotics Partnership) (IA)

+ **BUDGET:** 10 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- To reach the point where **human robot interaction**, extended in time and scope beyond the current state of the art, adds value and improves the quality of outcome for complex tasks; for example service tasks, or complex industry processing tasks or tasks in a healthcare setting. Where the focus is on tasks where robotics can add capabilities that extend human ability but which require human interaction to be achieved. These tasks will require varying levels of interaction and communication, dependent on the current state of the task, but will essentially require close interaction over extended periods of time.
- Validate **AI, Data and Robotics at scale** by demonstrating the potential of integrating these technologies to address challenges in key industries and develop solutions that address human robot interaction at all levels from physical interaction to social interaction in a variety of working environments.
- Make and exploit major advances in technology, to maintain Europe's excellence and ensure sovereignty of these key technologies expected to affect society by contributing to addressing major societal challenges by enhancing interactions between robots and people. Boost the innovation potential for wide uptake of AI, Data and Robotics by significantly improving the ability of robots to work in collaboration with humans as equals.

+ **LINK TO**

**CYBERSECURITY:**

- **Security, privacy and safety** should be taken into account to minimise risks to users both in terms of physical harm and in terms of digital privacy and security.



## 23. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Digital and emerging technologies for competitiveness and fit for the Green Deal



EMERGING 01-40 Quantum Photonic Integrated Circuit technologies (RIA)

+ **BUDGET:** 4 to 6 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:**

- To improve over existing **PIC technologies** in terms of performance, functionality, manufacturing process efficiency and reliability, integration, and packaging in a manner that **facilitates scalable manufacturing**.
- To demonstrate the technology capability in key enabling Quantum PIC technologies with high potential impact on the quantum technology Industry, including applications in **quantum sensing, communications, computation and simulation**,
- Preparing QPIC technologies for future Pilot Lines and Photonics hubs and open testing and experimentation facilities,
- Exploit the potential of QPICs for a digital, green and healthy future in Europe by providing critical components and systems for next generation applications, products and processes. Develop tools for efficient design and prototyping of QPICs.
- **Secure Technological Sovereignty** for Europe by maintaining leadership in QPICs
- Contribution to the objectives of Digital Transformation, Green Deal, Competitiveness and Economic Growth.

+ **LINK TO**

**CYBERSECURITY:** • **AI, Data, Robotics**

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 24. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Digital and emerging technologies for competitiveness and fit for the Green Deal



EMERGING 01-41 Investing in alternative quantum computation and simulation platform technologies (RIA)

+ **BUDGET:** 7 to 12 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:** Proposals are expected to further mature alternative and promising **quantum computation and simulation platforms** which have the prospects of high scalability and programmability, to complement the ones already supported by the Quantum Technologies Flagship.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **LINK TO CYBERSECURITY:** • **AI, Data, Robotics**

## 25. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Digital and emerging technologies for competitiveness and fit for the Green Deal



EMERGING 01-50 Next generation quantum sensing and metrology technologies (RIA)

+ **BUDGET:** 9 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:**

- Projects are expected to contribute to demonstrate the feasibility of **next generation quantum sensing and metrology technologies** and devices by showing disruptive progress in the performance, reliability and efficiency and application of such technologies and devices and by enhancing the TRL of all (essential) components necessary to build them.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **LINK TO CYBERSECURITY:**

- **AI, Data, Robotics**

## 26. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-01 Efficient trustworthy AI - making the best of data (AI, Data and Robotics Partnership) (RIA)

+ **BUDGET:** 7 to 9 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:**

- Optimized AI solutions: **optimizing model design and data usage** to maximize accuracy and robustness.
- Ensure in general, the pipeline of high-quality, representative, unbiased and compliant training data for AI development in all relevant sectors
- Support **data preparation and AI training processes** that lead to efficient and more **trustworthy** AI

+ **LINK TO**

**CYBERSECURITY:** • **AI, Data, Robotics**

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 27. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-02 Large Scale pilots on trustworthy AI data and robotics addressing key societal challenges (AI Data and Robotics Partnership) (IA)

+ **BUDGET:** 8 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Strengthening EU's ecosystem of **AI, Data and Robotics excellence and innovation** in world class foundational and application-inspired and application-oriented research;
- Technology progress in AI addressing major challenges hampering the deployment of AI, Data and Robotics technologies;
- Wide uptake of AI, Data and Robotics technologies by industry and end-users towards the Digital Decade targets for 2030.
- Robust and trustworthy AI, Data and Robotics technologies

+ **LINK TO CYBERSECURITY:** • **AI, Data, Robotics**

## 28. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-03 Natural Language Understanding and Interaction in Advanced Language Technologies (AI Data and Robotics Partnership) (RIA)

+ **BUDGET:** 6 to 8 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Development of **natural language understanding and interaction** in advanced language technologies based on context-aware language models able to further integrate long-term general knowledge and derive meaning in order to develop automated reasoning and enhanced interaction skills;
- Effective multilingual and bias-controlled language models, capable of learning from smaller language corpora, efficient in computing and respectful of European values (i.e., **privacy, non-discrimination, robustness** in legal, ethical and technical terms, reliability and **trustworthiness**, interpretability and explainability, security and safety);
- AI systems and solutions based on novel multilingual pre-trained language models that have assimilated cross-language and cross-cultural knowledge through textual and speech input;
- Higher uptake of innovative language technology solutions by European companies, providing extensive language coverage<sup>[1]</sup> of AI-enabled applications and services in Europe.

+ **LINK TO CYBERSECURITY:**

- **AI, Data, Robotics**

## 29. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-04 Open innovation: Addressing Grand challenges in AI (AI Data and Robotics Partnership) (CSA)

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Coordination & Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Demonstrate and reinforce Europe's research excellence in AI by driving substantial scientific progress in the following major scientific & technological AI areas: **optimisation, explainability, robustness, natural language understanding and interaction, and collaborative intelligence**
- Develop prestigious AI open innovation challenges that will mobilise wide participation of top scientists from academia, industry including start-ups and as well as young teams and rising stars from all over EU and Associated countries.
- Substantially increase interest from industry in AI (incl. SMEs and start-ups), in particular from key socio-economic sectors for Europe. Therefore contributing to uptake of research results by industry

+ **LINK TO CYBERSECURITY:** • **AI, Data, Robotics**

## 30. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-05 Through AI from Disinformation to Trust (IA)

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:**

- Innovative AI solutions for **trusted** information production for media professionals.
- Innovative AI solutions for supporting **trustworthy** online activity of citizens.

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale **cybersecurity** and **data breaches**, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as cyber-security is also a critical matter for the competitiveness and resilience of EU industries.



## 31. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-11 Next Generation Internet Fund (RIA)

+ **BUDGET:** 27 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- A human centric internet aligned with values and principles commonly shared in Europe such as protection of privacy, inclusiveness, transparency, autonomy, openness, decentralisation and cooperation across borders.
- A flourishing internet, based on common building blocks created within NGI, that enables better control of our digital life, respects our privacy, permits **better sharing of data** (including personal and non-personal) based on users' preferences, and enables better socio-economic impact based on improved trust.
- A structured eco-system of talented contributors driving the creation of **new internet commons** and the evolution of existing internet commons based on open-source software, open standards and open hardware and designs.
- Synergies with NGI pilots as well as with other like-minded actions in Europe and outside.

+ **LINK TO CYBERSECURITY:**

- The issue of trust has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale **cybersecurity and data breaches**, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 32. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-13 Next Generation Internet International Collaboration - USA (RIA)

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Supporting the EU internet policy objectives by sharing the EU vision and values with international partners, and forging bonds through concrete collaborations.
- Reinforced collaboration and increased synergies between the Next Generation Internet (NGI) and the Internet programmes of the US National Science Foundation (NSF).
- Enhanced EU-US cooperation in the development of Next Generation Internet technologies, services and standards. Developing interoperable solutions and joint demonstrators, contributions to standards
- A transatlantic ecosystem of researchers, open source developers, high-tech startups / SMEs and Internet related communities collaborating on the evolution of the Internet according to a human-centric approach.
- Generate new business opportunities for European Internet innovators based on decentralised technologies and open source.

+ **LINK TO CYBERSECURITY:**

- The issue of trust has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as cyber-security is also a critical matter for the competitiveness and resilience of EU industries.

### 33. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-21 Next Generation eXtended Reality (RIA)

+ **BUDGET:** 5 to 8 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Next generation of **XR devices and applications**, which are human-centred, and provide intuitive and realistic user experiences, by exploiting cross fertilisation between technologies such as 5G/6G, IoT, data, artificial intelligence, edge and cloud computing, and microelectronics but also across domains of use such as (but not limited to education, manufacturing, health, cultural heritage, media and security).
- More realistic, more affordable and gender-neutral devices and applications, developed by European companies, respecting European values of ethics, **privacy, security and safety**, aiming at technological sovereignty and resilience.

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 34. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-22 eXtended Reality for Industry 5.0 (IA)

+ **BUDGET:** 5 à 8 M€ per project

+ **DEADLINE:** 29 March 2023

+ **OBJECTIVE:**

- Develop “XR made in Europe”, contributing to technological sovereignty.
- Contribute to develop **virtual worlds European platforms**.
- Support the use of XR technologies for a sustainable, human-centric and resilient European industry[1].

+ **LINK TO**

**CYBERSECURITY:**

- The applications should be robust, gender-neutral safe and **trustworthy**, especially in terms of **cybersecurity**, **privacy** and health issues
- The issue of trust has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and **data breaches**, and growing awareness of online disinformation.

## 35. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-23 Supporting the emergence of an open human-centric Metaverse (CSA)

+ **BUDGET:** 2 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Coordination & Support Actions

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Europe to co-shape and promote an open, decentralised, **trustworthy** European and global Metaverse in line with the vision of human-centric technology set out in the EU Declaration on Digital Principles and Rights.
- A strong and competitive ecosystem, with European companies playing a leading role in the adoption and acceptance, and in the development and deployment of Metaverse technologies.

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 36. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-52 Drivers and success factors for progress towards Industry 5.0 (RIA)

+ **BUDGET:** 4 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Increased uptake of the Industry 5.0 principles and practices across industrial sectors, achieved through improved understanding of its benefits for enterprises and society and actionable knowledge about factors of success and impediment;
- Sound data and analysis of the uptake of **Industry 5.0** in its different dimensions for policy makers at EU, national/regional and sectoral level.

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 37. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-53 Localised and Urban Manufacturing, supporting creativity and the New European Bauhaus (RIA using FSTP)

+ **BUDGET:** 1,5 to 2,5 M€ per project

+ **TYPE OF ACTION:** Research & Innovation Action

+ **DEADLINE:** 29 March 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Designing and demonstrating symbiotic and sustainable factories that support a decentralised manufacturing vision close to the customer – this will in turn bring benefits in terms of flexibility, resilience, urban transformation and minimisation of transport costs and impacts;
- Developing **regenerative concepts** that offer increased value for the larger community, inspired by the New European Bauhaus, paying particular attention to regenerative design and regenerative and value-added manufacturing;
- Human-centric and participatory approaches to **enhance wider engagement and creativity**, with appropriate contributions from Social Sciences and Humanities (SSH), including cognitive science;
- Raising the profile of manufacturing as an attractive career option;
- Improved access to **flexible production capabilities** in decentralised environments, especially for SMEs.

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 38. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-65 Support facility for digital standardisation and international cooperation in digital partnerships (CSA)

+ **BUDGET:** 1,5 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Coordination & Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Further alignment with like-minded countries on a **common vision on ICT standardisation** of key technologies and developing a robust coordination mechanism to express this common vision in international fora/SDOs.
- The project beneficiaries should engage with relevant entities working in ICT standardisation from Japan, South Korea, Taiwan, Singapore, Canada, Australia, and the USA.

+ **LINK TO CYBERSECURITY:**

- The issue of **trust** has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and data breaches, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.



### 39. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-66 Promoting EU standards globally (CSA)

+ **BUDGET:** 1,5 M€ per project

+ **DEADLINE:** 29 March 2023

+ **TYPE OF ACTION:** Coordination & Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Building on the successful action of the first phase of the FPI InDiCo project on international cooperation on ICT standardisation, the expected outcomes include (i) enhancing the promotion of the EU ICT/digital standards for key technologies in the Horizon Europe programme; (ii) the promotion of the EU model for setting global **interoperable ICT/digital standards** (stakeholder driven model) in selected targeted countries and (iii) understanding standardisation ecosystems and when relevant fostering capacity building in third countries for ICT/digital standardisation around EU values.
- The targeted countries and regions are India, China, Southeast Asia, the African Union, Latin America and Caribbean (LAC), the Western Balkans and the Eastern Partnership.

+ **LINK TO CYBERSECURITY:**

- Extending its technological reach to cover better technologies that are prioritized in Horizon Europe, such as AI, 5G and beyond, IoT and its security aspects, internet, **cybersecurity**, data, eID, quantum, digital ledger technologies (DLT), circular economy or smart cities.
- The issue of trust has become central in the use of technologies, following revelations about the exploitation of personal data, large-scale cybersecurity and **data breaches**, and growing awareness of online disinformation.
- Establishing global leadership in key priority standards such as **cyber-security** is also a critical matter for the competitiveness and resilience of EU industries.

## 40. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

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



HUMAN 01-81 Digital Humanism - Putting people at the centre of the digital transformation (CSA)

+ **BUDGET:** 1,5 M€ per project

+ **TYPE OF ACTION:** Coordination & Support Action

+ **DEADLINE:** 29 March 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Create an **active network and cross disciplinary communities** on digital humanism bringing together ICT experts, ethnologists, sociologists and experts in fundamental rights
- Help defining and strengthening EU's approach to a **human-centred digital transformation** through cross-disciplinary, world class foundational and application oriented research
- Formulate approaches how to transform and strengthen European standards (rule of law, social market economy, fundamental rights, social standards and social partnership) into the digital realm including the take up of those standards by digital actors and in particular those developing new digital environment (e.g. data scientists, start-ups, investors)
- Formulate a list of recommendations and roadmaps to address current gaps or issues that are preventing the development of digital solutions that will reinforce - and not undermine - **digital humanism across the society**
- Propose a concrete framework for measuring and promoting progress of the promotion and putting into practice of the digital rights and principles declaration in the context of the Digital Decade policy programme.

+ **LINK TO**

**CYBERSECURITY:**

- While digital technologies bring strong advantages coming along with a promise of freedom and innovation, negative aspects have also become visible in the last years. These include the monopolization of the information space, increasing levels of fake news and disinformation, strong power of online platforms, **cyber threats and crimes, privacy breaches**, strong market disparities as well as an economic order that claims human experience as free raw material for commercial practices of extraction, prediction and sales (Zuboff, 2019).

## 41. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Increased autonomy in key strategic value chains for resilient industry



Resilience 01-39 Coordination and knowledge sharing across materials development communities (CSA)

+ **BUDGET:** 2 M€ per project

+ **DEADLINE:** 20 April 2023

+ **OBJECTIVE:**

- A pathway for accelerating **advanced material research** in line with strategic innovation markets, in particular for generating reliable data and information and for providing easy access to any interested stakeholder;
- A common knowledge base for researchers and industry increasing collaboration between strategic innovation markets driven by advanced materials;
- Overcoming hurdles with regards to the use of digital tools for **improved access to and valorisation of data.**

+ **LINK TO**

**CYBERSECURITY:**

Establish common methodologies for data acquisition and knowledge generation:

- Modelling, including data- and physics-based materials modelling
- Characterisation, including multi-scale, multi-technique, in/on-line
- Materials synthesis and fabrication technologies including autonomous robotics platforms
- Machine learning and AI-based methods,

## 42. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data



Space 01-32 Copernicus for Emergency Management

+ **BUDGET:** 3 M€ per project

+ **DEADLINE:** 28 March 2023

+ **OBJECTIVE:**

- **Automated characterisation** of building height and building use (e.g. residential, industrial, commercial, public, population density, vulnerability) through integration of different sensor types (e.g. optical, radar, night-time lights) and/or open source non-EO data,
- Integration of **new sensors** (incl. 3D data derived from multi sensor platforms) for early warning and active global fire detection and fire monitoring (delineation, grading, damage assessment, plume dispersion) from geosynchronous and Geostationary sensors, including refined post-processing for active-fire detection confidence and false alarm removals,
- Integration of **high and very-high spatial resolution data and sensors** for continuous multi-scale mapping and assessment of fuel structure and condition at pan-European level, including active (SAR, Lidar) and passive remote (multispectral and hyperspectral) sensing data,
- Improvements of the hydrological predictions for the flood (including flash floods) and drought early warning and monitoring component through data assimilation and/or multi-objective parameter calibration and regionalization using satellite based and/or in-situ data linking where relevant to the European and Global Flood Awareness Systems (EFAS & GloFAS),

+ **LINK TO**

**CYBERSECURITY:**

- Potential security **threats** (e.g. cybersecurity) in the data flow and sensitivity of data and service products should be duly taken into account.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

### 43. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination - Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data



Space 01-33 Copernicus in-situ component

+ **BUDGET:** 2 M€ per project

+ **DEADLINE:** 28 March 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Optimal use of **early observations**. Evaluation and assessment of past observing methods and environmental factors, and on error analysis, quality control and bias adjustment of the in situ historical record;
  - Better access and wider use of Copernicus relevant observations and auxiliary data collected during R&I projects not easily recoverable and reusable for validation purposes in an operational context;
  - Enhanced availability and quality of **in situ and ground-based data** critical for the production, calibration and validation of Copernicus products and data services;
  - Appropriate consideration of Copernicus Services' cross-cutting challenges and R&I priorities.

- + **LINK TO CYBERSECURITY:**
- To meet these challenges, EU needs sustained investments in R&D for innovative mission concepts, technology and systems. These will ensure the continuity of the EGNSS service, minimise the risks for technology inclusion in the infrastructure, thanks to anticipated development and testing including in-orbit, protect better this infrastructure against **modern threats** (notably **cyber**, jamming/spoofing, natural hazards), and increase the open strategic autonomy in key technologies.

## 44. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data



Space 01-62 Quantum Communication Technologies for space systems

+ **BUDGET:** 2 to 2,5 M€ per project

+ **DEADLINE:** 28 March 2023

+ **OBJECTIVE:**

- Support the EU space policy and the EU initiative to establish the Union Secure Connectivity Programme and foster the development of **ultra-secure EU services based on or using space systems**
- Ensure the EU sovereignty and non-dependence for the development of capacities leading to the availability of ultra-secure services based on Quantum Key Distribution (QKD).
- Enhance the TRL of the critical components necessary to build QKD space systems and foster the development of the associated QKD standards.

+ **LINK TO CYBERSECURITY:**

- To meet these challenges, EU needs sustained investments in R&D for innovative mission concepts, technology and systems. These will ensure the continuity of the EGNSS service, minimise the risks for technology inclusion in the infrastructure, thanks to anticipated development and testing including in-orbit, protect better this infrastructure against **modern threats** (notably cyber, jamming/spoofing, natural hazards), and increase the open strategic autonomy in key technologies.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 45. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Climate neutral, circular and digitised production



Transition 01-02 High-precision OR complex product manufacturing – potentially including the use of photonics (Made in Europe and Photonics Partnerships) (IA)

+ **BUDGET:** 5 to 6 M€ per project

+ **TYPE OF ACTION:** Innovation Action

+ **DEADLINE:** 20 April 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- High-precision manufacturing and/or manufacturing of products with complex geometries or structures; embedded electronics, optics or photonics; surfaces and surface functionalities; and multi-process manufacturing;
- Highly resilient and flexible production lines, enabling highly customised products across a wide range of markets, and ensuring open strategic autonomy for the manufacturing industry of the Union and Associated Countries.
- Significant reductions in the use of materials, waste, defects and energy consumption, which also lead indirectly to reductions in GHG emissions.
- Fostering the competitiveness of the European manufacturing industry, in general and (only in the relevant projects) in the field of laser machine tools and within the laser markets in particular.

+ **LINK TO CYBERSECURITY:**

- Parallel product and manufacturing engineering, developing **cyber physical systems**, e.g. digital twins, to manage complex production using data spaces across the whole value chain;
- For advanced manufacturing in general, synergies are necessary between the Made in Europe Partnership and the Digital Europe Programme, primarily Industrial Data Spaces, Cybersecurity Centres and European Digital Innovation Hubs.

## 46. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Climate neutral, circular and digitised production



Transition 01-04 Factory-level and value chain approaches for remanufacturing (Made in Europe Partnership) (IA)

+ **BUDGET:** 5 to 7 M€ per project

+ **DEADLINE:** 20 April 2023

+ **OBJECTIVE:**

- Suitably scaled green and digital technologies supporting remanufacturing, for **circular value chains** in industrial ecosystems;
- Remanufacturing of both components and products towards full circularity while retaining value or functions of components;
- Skills and education capabilities for remanufacturing.

+ **LINK TO**

**CYBERSECURITY:**

- For advanced manufacturing in general, synergies are necessary between the Made in Europe Partnership and the Digital Europe Programme, primarily Industrial Data Spaces, **Cybersecurity Centres** and European Digital Innovation Hubs.

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States



## 47. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Climate neutral, circular and digitised production



Transition 01-07 Achieving resiliency in value networks through modelling and Manufacturing as a Service (Made in Europe Partnership) (RIA)

+ **BUDGET:** 4 to 6 M€ per project

+ **DEADLINE:** 20 April 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Availability of reliable models, simulators, digital twins, decision making and planning technologies for specific value networks, **providing timely scoreboard views** and enabling a **better understanding** of the **impact** of **unforeseen events** on manufacturing and industrial production.
- Availability of technologies to swiftly adapt logistics and production to varying external conditions, improving the resilience of the industrial systems and value chains, and the sustainability of the entire production process.
- Smart manufacturing networks that are resilient and capable of **self-adaptation in response to external threats**.

+ **LINK TO CYBERSECURITY:**

- For advanced manufacturing in general, synergies are necessary between the Made in Europe Partnership and the Digital Europe Programme, primarily Industrial Data Spaces, **Cybersecurity Centres** and European Digital Innovation Hubs.

## 48. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Climate neutral, circular and digitised production



Transition 01-08 Foresight and technology transfer for Manufacturing as a Service (Made in Europe Partnership) (CSA)

+ **BUDGET:** 1 M€ per project

+ **DEADLINE:** 20 April 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Focused strategic foresight relevant to Manufacturing as a Service and digital technologies in manufacturing, namely (a) **analysis of the best practices to advance circularity, decarbonisation, and sustainability of industrial production** in the context of “Manufacturing as a Service” approach, (b) analysis of foreseeable developments and trends, including the potential advantages and disadvantages, regarding distributed Manufacturing as a Service vs. centralised manufacturing, (c) recommendations for an EU manufacturing standardisation strategy focusing specifically on the role of data and (d) roadmapping for EU industry to transform and anticipate these changes.
- Support for the transfer of information and technologies between Horizon Europe projects and other relevant initiatives, e.g., the Manufacturing Data Spaces and the network of European Digital Innovation Hubs.

+ **LINK TO CYBERSECURITY:**

- For advanced manufacturing in general, synergies are necessary between the Made in Europe Partnership and the Digital Europe Programme, primarily Industrial Data Spaces, **Cybersecurity Centres** and European Digital Innovation Hubs.

## 49. CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE.

Destination – Climate neutral, circular and digitised production



Transition 01-11 Intelligent data acquisition and analysis of materials and products in existing built works (RIA)

+ **BUDGET:** 5 to 6 M€ per project

+ **DEADLINE:** 7 March 2023 / 5 october

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entitites from 3 member States

+ **OBJECTIVE:**

- Faster and less labour-intensive **identification, analysis** and **digitisation** of materials and products from existing built works
- Increased supply of secondary materials and construction products for reuse, thus reducing the resource- and energy-intensity of the construction sector
- Reduction in construction and demolition waste
- Improved facility to re-use and repair construction products
- Improvements to labour productivity as a result of using the developed solutions

+ **LINK TO CYBERSECURITY:**

- Develop solutions to digitally record, categorise and tag existing materials, construction products and elements for their eventual use on the market and inclusion in relevant **software tools** and **databases**. Proposals should also support the development of existing tools and databases, where relevant, and ensure that relevant actors across the construction ecosystem are consulted in their development, and take into account SSH aspects of this.

## 50. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Topic	Title	Type	Budget per project	# of projects
<a href="#">HORIZON-CL5-2023-D2-02-03</a>	Creating a digital passport to track battery materials, optimize battery performance and life, validate recycling, and promote a new business model based on data sharing (Batt4EU Partnership)	IA	20	1
<a href="#">HORIZON-CL5-2023-D3-01-15</a>	Supporting the green and digital transformation of the energy ecosystem and enhancing its resilience through the development and piloting of AI-IoT Edge-cloud and platform solutions	IA	18	1
<a href="#">HORIZON-CL5-2023-D3-02-06</a>	Smart use of geothermal electricity and heating and cooling in the energy system	IA	5	3
<a href="#">HORIZON-CL5-2023-D3-02-13</a>	Operation, Performance and Maintenance of PV Systems	IA	5	2
<a href="#">HORIZON-CL5-2023-D3-03-03</a>	System approach for grid planning and upgrade in support of a dominant electric mobility (vehicles and vessels) using AI tools	IA	11	1
<a href="#">HORIZON-CL5-2023-D3-03-04</a>	Digital tools for enhancing the uptake of digital services in the energy market	IA	3-4	3
<a href="#">HORIZON-CL5-2023-D5-01-09</a>	Competitiveness and digital transformation in aviation – advancing further capabilities, digital approach to design	RIA	3-5	4
<a href="#">HORIZON-CL5-2023-D5-01-10</a>	Aviation research synergies between Horizon Europe, AZEA and National programs	CSA	2	1

## 51. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Cross-sectoral solutions for the climate transition



D2-02-03 Creating a digital passport to track battery materials, optimize battery performance and life, validate recycling, and promote a new business model based on data sharing (Batt4EU Partnership)

+ **BUDGET:** 8 M€ per project

+ **DEADLINE:** 4 May. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- A European economic base which is stronger, more resilient, competitive and fit for the green and digital transitions, by **reducing strategic dependencies** for critical raw materials by promoting resource efficiency.
- A **Digital Product Passport** (DPP), a proper **tracking** and **blockchain** solution, DLT (Distributed Ledger Technology)-solution or an equivalent solution that allows for built-in data authenticity verification, along the value chain, with no data duplication, avoiding data manipulation assuring privacy by design, with a low power consumption and promoting data interoperability.
- A set of transparent calculation methods for the relevant battery indicators stored in the DPP, which can be used as a base to set future standards.
- A demonstration of new business models in the different parts of the battery value chains and of circular data extraction, based on data sharing.

+ **LINK TO CYBERSECURITY:**

- A Digital Product Passport (DPP), a proper tracking and blockchain solution, DLT (Distributed Ledger Technology)-solution or an equivalent solution that allows for **built-in data authenticity verification**, along the value chain, with no data duplication, avoiding data manipulation assuring **privacy by design**, with a low power consumption and promoting data interoperability.

## 52. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Sustainable, secure and competitive energy supply



D3-01-15 Supporting the green and digital transformation of the energy ecosystem and enhancing its resilience through the development and piloting of AI-IoT Edge-cloud and platform solutions

+ **BUDGET:** 18 M€ per project

+ **DEADLINE:** 30 March. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Advance the European scientific basis, technology base, technology leadership in the area of hydropower in the context of digital transition and energy markets while creating evidence for policy making;
- Increase the **technology competitiveness of the existing hydropower fleet** in changing European power markets by increasing hydropower flexibility and decision-making in modern power markets;
- Facilitate market penetration of renewables and getting closer to the European Green Deal and climate and energy targets for 2030 by increasing the flexibility, sustainability and predictability of existing hydropower;
- Improve environmental and socio-economic sustainability of the existing hydropower fleet.

+ **LINK TO CYBERSECURITY:**

- Ensuring cost-effective uninterrupted and affordable supply of energy to households and industries in a scenario of high penetration of variable renewables and other new low carbon energy supply. This includes more efficient approaches to managing smart and **cyber-secure** energy grids and optimisation the interaction between producers, consumers, networks, infrastructures and vectors (more detailed information below).
- Development of **cyber-security and privacy** tools and technologies tailor-made for the specific requirements of the energy system.

## 53. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Sustainable, secure and competitive energy supply



D3-02-06 Smart use of geothermal electricity and heating and cooling in the energy system

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 5 Sept. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Geothermal energy will be widely deployed and competitively priced, underpinned with reduced capital, operational and maintenance costs. Geothermal and geological thermal storage facilities as support system will be a backbone of the heating grid.
- Improved system integration of geothermal heat and power plants coping with changing demand for electricity, heat and cooling and intermittent renewable power generation.
- Enhanced **operation flexibility of a geothermal heat and power plant** by improving substantially key performance indicators: ramp rate & start-up time, power & heat operation range, overload capability.
- Implementation of **smart control system** aiming at optimizing plant operation by taking into account various control parameters (current and anticipated) such as demand (power & heat), price signals, flexibility of demand, ancillary grid services, renewable generation, etc.

+ **LINK TO**

**CYBERSECURITY:**

- Development of **cyber-security and privacy tools** and **technologies** tailor-made for the specific requirements of the energy system.

## 54. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Sustainable, secure and competitive energy supply



D3-02-13 Operation, Performance and Maintenance of PV Systems

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 5 Sept. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Increase PV system **performance, reliability, security and flexibility** under various topology and operating conditions with enhanced digitalisation
- Increase utility-friendly integration of PV generation into the European energy system at high-penetration levels and the profitability of PV systems

+ **LINK TO CYBERSECURITY:**

- Ensuring cost-effective uninterrupted and affordable supply of energy to households and industries in a scenario of high penetration of variable renewables and other new low carbon energy supply. This includes more efficient approaches to managing smart and **cyber-secure energy grids** and optimisation the interaction between producers, consumers, networks, infrastructures and vectors (more detailed information below).
- Development of **cyber-security and privacy tools** and technologies tailor-made for the specific requirements of the energy system.



## 55. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Sustainable, secure and competitive energy supply



D3-03-03 System approach for grid planning and upgrade in support of a dominant electric mobility (vehicles and vessels) using AI tools

+ **BUDGET:** 11 M€ per project

+ **DEADLINE:** 10 Oct. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- **AI-based prediction** of most convenient locations that optimize grid resources and upgrades around recharging pools for EVs and electric HDVs.
- Developing of spatial mapping models and software tool for location decision-making with a comprehensive focus, including major highways, industrial zones (depot charging), urban nodes (e.g., for overnight charging) and less-densely populated areas.
- Simulation, analysis, design, test and demonstration of smart and bidirectional charging schemes and their integration into flexibility markets that allow to minimise the impact on grid planning and connection of high-power recharging pools for recharging EVs, and especially HDVs on more cost-intensive locations, and that ensure benefits to consumers based on smart charging energy service models.
- Exploration of the impact of different charging methods, including cable-charging, wireless charging and electric road systems covering either catenary as inductive coils embedded in the road.
- **Analysis, design, testing and developing of a cyber security model** that can simulate and accurately represent attack propagation from recharging infrastructure entry vectors, informing the development of efficient strategies and lines of defence to mitigate these vulnerabilities for the different relevant stakeholders.

+ **LINK TO CYBERSECURITY:**

- Focus on smart and **cyber-secure energy grids** and optimisation the interaction between producers, consumers, networks, infrastructures and vectors.

## 56. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Sustainable, secure and competitive energy supply



### D3-03-04 Digital tools for enhancing the uptake of digital services in the energy market

+ **BUDGET:** 3 to 4 M€ per project

+ **TYPE OF ACTION:** Innovation Action

+ **DEADLINE:** 10 Oct. 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Development and uptake of innovative data-driven cross-sector integrated services, solutions and products using cross-sectorial data resulted from other sectors than energy (e.g. data economy, health, finance, security) that empower consumers and facilitate consumer investment in the energy transition (e.g. renewables, energy efficiency, renovation, demand response, storage).
- Development and fast market-uptake of digital twin models of household energy consumers to help consumers, citizens, energy suppliers, aggregators and energy communities to optimise data-driven energy (and other sector) services and to enhance digital energy literacy.
- Greater access for consumers to the wide range of emerging services and applications that will be present in the market resulting from data sharing and benefiting from increased interoperability.
- Increased simplification of management and improvement of quality of new and current energy services and new digital platforms, smart meters and tools to provide consumers with seamless omni-channel experiences.
- Assessment of the implications for market design (energy and flexibility markets) of a wide uptake of digital tools and propose relevant modifications to flexibility services and related processes to contract, activate, measure and settle flexibility.
- Creation of value and direct benefit for the consumers and support digital empowerment and energy literacy of citizens: European citizens are educated, motivated, and empowered to use digital tools to be an active participant in the just energy transition.

+ **LINK TO CYBERSECURITY:**

- Ensuring cost-effective uninterrupted and affordable supply of energy to households and industries in a scenario of high penetration of variable renewables and other new low carbon energy supply. This includes more efficient approaches to managing smart and **cyber-secure energy grids** and optimisation the interaction between producers, consumers, networks, infrastructures and vectors (more detailed information below).
- Development of cyber-security and privacy tools and technologies tailor-made for the specific requirements of the energy system.

## 57. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Clean and competitive solutions for all transport modes



D5-01-09 Competitiveness and digital transformation in aviation – advancing further capabilities, digital approach to design

+ **BUDGET:** 3 to 5 M€ per project

+ **DEADLINE:** 20 Apr. 2023

+ **TYPE OF ACTION:** Research and innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Multi-disciplinary and multi-fidelity design and optimisation integrated tools for industrial environment.
- New advancements in aerodynamics and aeroacoustics (with emphasis on interference), including data-driven (Artificial Intelligence – Machine Learning, Hybrid modelling) high-performance computing and advanced validation-verification procedures.
- Advance **further design for manufacturing optimisations**, including additive manufacturing, circularity and sustainability aspects.
- Methodologies for simulation, testing and further certification of urban air-mobility safety critical applications, considering for example, virtual or extended reality technologies.

+ **LINK TO CYBERSECURITY:**

- Methodologies for simulation, testing and further certification of urban air-mobility **safety critical applications**, considering for example, virtual or extended reality technologies.

## 58. CLUSTER 5 – CLIMATE, ENERGY AND MOBILITY.

Destination – Clean and competitive solutions for all transport modes



D5-01-10 Aviation research synergies between Horizon Europe, AZEA and National programs

+ **BUDGET:** 2 M€ per project

+ **DEADLINE:** 20 April. 2023

+ **TYPE OF ACTION:** Coordination and Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Coordinate and support synergies between European, National and Regional R&I aviation programmes.
- Contribute to the preparation of the European Aerodays 2024-2025.
- Support the Alliance on Zero Emission Aviation (AZEA).

+ **LINK TO CYBERSECURITY:**

- Methodologies for simulation, testing and further certification of urban air-mobility **safety critical applications**, considering for example, virtual or extended reality technologies.

## 59. CLUSTER 6 FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT.

Topic	Title	Type	Budget per project	# of projects
<a href="#">HORIZON-CL6-2023-FARM2FORK-01-8</a>	Using automatic species recognition and artificial intelligence to fight illegal fish discards and revolutionise fisheries control	IA	5	1
<a href="#">HORIZON-CL6-2023-GOVERNANCE-01-15</a>	Digitalisation in agriculture and forestry: markets for data, and digital technologies and infrastructure – state of play and foresight in a fast changing regulatory, trade and technical environment	RIA	5	1

## 60. CLUSTER 6 CLUSTER 6 FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT.

Destination – Fair, healthy and environment-friendly food systems from primary production to consumption



FARM2FORK-01-8 Using automatic species recognition and artificial intelligence to fight illegal fish discards and revolutionise fisheries control

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 12 Apr. 2023

+ **TYPE OF ACTION:** Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Effective methods, tools and systems for species automatic recognition, analysis of Remote Electronic Monitoring video footage, rapid DNA-based assays and sensor data in real-time, and enhanced integration of results into the reporting systems used by fishers to report catches to competent authorities;
- Enhanced **capability to monitor and control illegal discarding practices at sea** and increased ability by EU Member States to fully implement the Landing Obligation;
- Implementation of ad-hoc sensors for the detection of discards and take advantage of the data from the Copernicus network, namely from its Maritime Surveillance Service;
- Optimal fishing operations and fishing processing and enhanced EU ability to collect, exchange and analyse data;
- Improved monitoring capabilities, including processing activities on board fishing vessels, and ultimately support to a sustainable management of marine biological resources.

+ **LINK TO CYBERSECURITY:**

- Artificial intelligence, **strategic** field (fisheries control)

## 61. CLUSTER 6 FOOD, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE AND ENVIRONMENT.



Destination – Innovative governance, environmental observations and digital solutions in support of the Green Deal

GOVERNANCE-01-15 Digitalisation in agriculture and forestry: markets for data, and digital technologies and infrastructure – state of play and foresight in a fast changing regulatory, trade and technical environment

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 23 Mar. 2023

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- Analyses of global markets through innovative approaches including trends, potential barriers and risks associated with investments in data, digital and data technologies in the agriculture and forestry sectors.
- Increased transparency in data sharing and in the markets for digital and data technologies in the agricultural and forestry sectors in support of healthy competition.
- Contribution to an increased **uptake of digital and data technologies in agriculture and forestry** including through reduced investment risks; this is expected to indirectly contribute to an increase in environmental and economic performance of the sectors through increased and enhanced used of data, and digital and data technologies.
- Strengthened policy-making and -monitoring and foresight capacities.

+ **LINK TO**

**CYBERSECURITY:** • Artificial intelligence, **strategic** field (Agriculture and forestry)

## 62. CLUSTER 1 - HEALTH.

Topic	Title	Type	Budget per project	# of projects
<a href="#"><u>HORIZON-HLTH-2023-TOOL-05-05</u></a>	Harnessing the potential of real-time data analysis and secure Point-of-Care computing for the benefit of person-centred health and care delivery	IA	8 – 10	4
<a href="#"><u>HORIZON-HLTH-2023-IND-06-02</u></a>	Expanding the European Electronic Health Record exchange Format to improve interoperability within the European Health Data Space	RIA	2 – 4	2
<a href="#"><u>HORIZON-HLTH-2023-IND-06-07</u></a>	Development and harmonisation of methodologies for assessing digital health technologies in Europe	RIA	7 – 8	2
<a href="#"><u>HORIZON-HLTH-2023-IND-06-04</u></a>	Modelling and simulation to address regulatory needs in the development of orphan and paediatric medicines	RIA	4 – 6	5
<a href="#"><u>HORIZON-INFRA-2023-EOSC-01-04</u></a>	Next generation services for operational and sustainable EOSC Core Infrastructure	RIA	10	1
<a href="#"><u>HORIZON-INFRA-2023-EOSC-01-06</u></a>	Trusted environments for sensitive data management in EOSC	RIA	5	3
<a href="#"><u>HORIZON-WIDERA-2023-ERA-01-12</u></a>	The future of research ethics review in the changing research environments	CSA	3	1



## 63. CLUSTER 1 - HEALTH.

Destination –Unlocking the full potential of new tools, technologies and digital solutions for a healthy society



TOOL 05-05 Harnessing the potential of real-time data analysis and secure Point-of-Care computing for the benefit of person-centred health and care delivery

+ **BUDGET:** 8 to 10 M€ per project

+ **TYPE OF ACTION:** Innovation Action

+ **DEADLINE:** 13 April 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOMES:**

- Healthcare professionals benefit from secure, highly performant Point-of-Care computing technologies and devices able to process and analyse vast amounts of real-time data at the point of care, combined with extended reality and visualisation techniques, to enable continuous monitoring and/or fast real-time health status checks in clinical settings and workflows.
- Patients and clinicians benefit from wider access to real-time diagnosis, screening, monitoring and treatments using novel imaging and/or robotics systems and/or Point-of-Care devices that are seamlessly integrated in care environments and workflows.
- Quicker reaction times and improved patient safety in care settings.
- Researchers and healthcare professionals have more opportunities to use, extract value from and contribute to the uptake of real-time health data and/or Point-of-Care computing; existing technologies and methods are expected to progress from their current technology readiness levels (TRL), from TRL 3-4 to at least TRL 7<sup>[1]</sup>.
- Health and care settings benefit from reduced energy consumption of Point-of-Care tools, devices and systems, and/or data analysis.

+ **LINK TO**

**CYBERSECURITY:**

- Data quality, integration and interoperability, as well as issues of **cybersecurity** and data protection have to be addressed.

## 64. CLUSTER 1 - HEALTH.



Destination – Maintaining an innovative, sustainable and globally competitive health industry

IND 06 - 02 Expanding the European Electronic Health Record exchange Format to improve interoperability within the European Health Data Space

+ **BUDGET:** 3 to 5 M€ per project

+ **TYPE OF ACTION:** Research & Innovation Action

+ **DEADLINE:** 13 Apr. 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOMES:**

- European Health Record (EHR) stakeholders (e.g. developers, suppliers, integrators, and operators) have at their disposal and use fit-for-purpose standards, guidelines, and toolsets for prioritised health information domains to address interoperability of EHRs in line with the principles set in the EEHRxF Recommendation[1], contributing also to security and privacy.
- Stakeholders have at their disposal better quality and better integrated health datasets within the European Health Data Space,[2] to foster innovations in the health sector and **leverage the potential of new analytics solutions such as AI and big data**, get new insights and detect trends from aggregated data, including for cross-border health threats.
- Citizens are provided with an expanded access to their health data, also across borders, and innovative digital services for high-quality health and care across the EU.

+ **LINK TO**

**CYBERSECURITY :**

- Developing methodologies, guidelines and standards, assessment studies, and structuring activities adapted to digital solutions and interventions for GDPR compliant translation into health care practice, including inter-operability, **cyber-security** and data confidentiality.

## 65. CLUSTER 1 - HEALTH.

Destination – Maintaining an innovative, sustainable and globally competitive health industry



IND 06 - 07 Development and harmonisation of methodologies for assessing digital health technologies in Europe

+ **BUDGET:** 7 to 8 M€ per project

+ **TYPE OF ACTION:** Research & Innovation Action

+ **DEADLINE:** 13 Apr. 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOMES:**

- Policymakers in the EU have at their disposal a **methodological framework** and **standardised approaches** for assessing digital health technologies, that helps them make evidence-based decisions regarding the introduction of digital health technologies in their health and care systems with added value for patients and society.
- Regulators have access to robust, scientifically underpinned evaluation methodologies.
- EU citizens gain faster access to safe and well-performing person-centred digital technologies and are empowered through these tools.
- Health technology developers are better informed and dispose of more guidance on the evidence needed to demonstrate the added value of digital health technologies and have better insights on market predictability.
- (Digital) Health Industry/digital health technology developers and HTA bodies can contribute to the development of EU harmonised Health Technology Assessment (HTA) rules based on common principles.
- Improved cross-border use and interoperability of digital health tools and services throughout the EU and Associated Countries.
- Increased trust in digital health technologies and better integration of digital health tools and services in health and care systems.

+ **LINK TO**

**CYBERSECURITY :**

- Existing Health Technology Assessment (HTA) methodology is well developed for health technologies such as medicinal products, but also for some categories of medical devices; however digitalisation raises new methodological challenges to the standardisation of assessment criteria such as privacy, **cybersecurity**, data storage and handling, interoperability, usability.
- Develop and/or expand a general methodological framework and standardised approaches to assess digital health technologies with a particular focus on criteria such as privacy, **cybersecurity**, data quality, data storage and handling, interoperability.

## 66. CLUSTER 1 - HEALTH.

Destination – Maintaining an innovative, sustainable and globally competitive health industry



IND 06-04 Modelling and simulation to address regulatory needs in the development of orphan and paediatric medicines

+ **BUDGET:** 4 to 6 M€ per project

+ **TYPE OF ACTION:** Innovation Action

+ **DEADLINE:** 13 Apr. 2023

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OUTCOMES:**

- Developers and regulators have access to robust modelling and simulation tools to accelerate the effective development of orphan and/or paediatric medicinal products.
- Clinical researchers, developers and regulators use accurate computational models to improve the statistical robustness in clinical trials intended for small populations and guide cost-effective clinical trial designs.
- Clinical researchers and regulators have access to accurate in-silico tools for assessing the actionable use of real-world data and for successfully estimating the risk-benefit effects in clinical trials for small populations.
- Regulators develop guidance for the use of validated computational models to support a robust extrapolation framework and facilitate the safety and efficacy assessment in the process of regulatory appraisal of orphan and/or paediatric medicinal products.

+ **LINK TO**

**CYBERSECURITY :** • Developing methodologies, guidelines and standards, assessment studies, and structuring activities adapted to digital solutions and interventions for GDPR compliant translation into health care practice, including inter-operability, **cyber-security** and data confidentiality.

## 67. INFRAEOSC.

Destination - Enabling an operational, open and fair EOSC ecosystem



### EOSC 01-04 Next generation services for operational and sustainable EOSC Core Infrastructure

+ **BUDGET:** 10 M€ per project

+ **DEADLINE:** 9 Mar. 2023

+ **OUTCOMES:**

- Developers and regulators have access to **robust modelling and simulation tools** to accelerate the effective development of orphan and/or paediatric medicinal products.
- Clinical researchers, developers and regulators use accurate computational models to improve the statistical robustness in clinical trials intended for small populations and guide cost-effective clinical trial designs.
- Clinical researchers and regulators have access to accurate in-silico tools for assessing the actionable use of real-world data and for successfully estimating the risk-benefit effects in clinical trials for small populations.
- Regulators develop guidance for the use of validated computational models to support a robust extrapolation framework and facilitate the safety and efficacy assessment in the process of regulatory appraisal of orphan and/or paediatric medicinal products.

+ **LINK TO  
CYBERSECURITY :**

- Provide open Application Programming Interface (API) registry, management, development and testing workflow, platform and tools for EOSC Core service users. A data-driven API monitoring tool should oversee security, compliance, and performance. It should send alerts towards the EOSC Core monitoring function as well as support built-in integrations with messaging services. An end-to-end API testing solution for testers and developers should facilitate an approach where test cases are in natural languages that helps the conveyance between scientific users and research tool/service providers.

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 68. INFRAEOSC.

Destination – Enabling an operational, open and fair EOSC ecosystem



EOSC 01-06 Trusted environments for sensitive data management in EOSC

+ **BUDGET:** 5 M€ per project

+ **DEADLINE:** 9 Mar. 2023

+ **OUTCOMES:**

- Expansion of EOSC's access to resources provided by public authorities, including national agencies, in highly sensitive areas, such as the health sector, governmental statistics or geo-spatial applications, that ensures the opening of these valuable data sets for novel research through a standard set of methods able to effectively enable sensitive data sharing/processing/analysis;
- Emergence of trusted environments for management and sharing of sensitive data in order to facilitate new ways of using sensitive data sets;
- Demonstration that FAIR data workflows with sensitive data are securely possible and can benefit both the data providers and the wider science community.

+ **LINK TO**

**CYBERSECURITY :**

- Exploration and demonstration of possible solutions and approaches for data anonymization, including (subsets of) **sensitive metadata**;
- Exploration and demonstration of possible solutions and approaches, such as **blockchain**, for access control management and maintenance of a secure and decentralized record of transactions of **trusted and non-trusted** parties;
- Data processing workflows that keep **sensitive data encrypted** on disk and memory, including assessment of the cost of the encryption;

+ **TYPE OF ACTION:** Research & Innovation Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 69. EUROPEAN RESEARCH AREA.

Destination – Reforming and enhancing the EU research and innovation system



ERA-01-12 The future of research ethics review in the changing research environments

+ **BUDGET:** 3 M€ per project

+ **DEADLINE:** 9 Mar. 2023

+ **OUTCOMES:**

- Evaluate the effectiveness of current approaches to the ethics reviews in ensuring the embeddedness of human rights in the development of digital technologies and promoting adherence to ‘digital rights’ and ‘digital principles’ in the context of research and related international cooperation and partnership[1];
- Develop new approaches to ethics reviews and assessments. This should focus on developing systems and procedures that promote an ethics by design culture fostering innovation, while supporting the research community to operationalise and embed new and upcoming EU human rights driven legal frameworks in research proposals, in line with the ethics by design approach;
- Enable the ethics processes to better inform policy choices about the uses of new and emerging technologies and support the researchers in incorporating ethical considerations into their research, thereby contributing to the protection of human rights and the promotion of EU values. For example, the GDPR, since its adoption has inspired the adoption and reform of privacy and data protection frameworks globally, resulting in a so-called ‘Brussels effect’.

+ **LINK TO**

**CYBERSECURITY :**

- Empower higher education institutions and research organisations to embrace a transformative process; where a highly skilled workforce can circulate freely; and where research outputs are shared; where gender equality is assured; where the outcomes of R&I are understood, trusted and increasingly used, by educated informed scientists and citizens to the benefit of society.

+ **TYPE OF ACTION:** Coordination and Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

## 70. DIGITAL EUROPE PROGRAMME.

Topic	Title	Type	Budget per project	# of projects
<a href="#">DIGITAL-ECCC-2022-CYBER-03-CYBER-RESILIENCE</a>	EU Cybersecurity Resilience, Coordination and Cybersecurity Ranges	CSA	15	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-UPTAKE-CYBERSOLUTIONS</a>	Uptake Of Innovative Cybersecurity Solutions	CSA	32	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-NIS-DIRECTIVE</a>	Supporting The NIS Directive Implementation And National Cybersecurity Strategies	CSA	20	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-TEST-CERT-CAPABILITIES</a>	Testing and Certification Capabilities	JU Grants for Financial support	5	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-SEC-5G-INFRASTRUCTURE</a>	Securing 5G Strategic Digital Infrastructures And Technologies	DIGITAL JU Simple Grants	10	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-SOC</a>	Capacity building of Security Operation Centres	DIGITAL JU Simple Grants	72,5	1
<a href="#">DIGITAL-ECCC-2022-CYBER-03-NAT-COORDINATION</a>	Deploying The Network Of National Coordination Centres With Member States	DIGITAL JU Simple Grants	22	1
<a href="#">DIGITAL-2022-SKILLS-03-SPECIALISED-EDU</a>	Specialised education programmes or modules in key capacity areas	simple grants	56	1
<a href="#">DIGITAL-2021-CLOUD-AI-03-PILOTS-CLOUD-SERVICES</a>	Large-scale pilots for cloud-to-edge based service solutions	simple grants	40	1
<a href="#">DIGITAL-2022-CLOUD-AI-03-AI-ON-DEMAND</a>	Deployment of the AI-on-demand platform	CSA	28	1
<a href="#">DIGITAL-2022-CLOUD-AI-03-DS-SMART</a>	Data space for smart communities (deployment)	Grants for Financial Support	18	1





### EU Cybersecurity Resilience, Coordination and Cybersecurity Ranges

+ **BUDGET FOR CALL TOPIC:** 15 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Coordination and Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- To strengthen the **capacity of cybersecurity actors in the Union to monitor cyber-attacks and threats** and supply chain risks, to react jointly against large incidents, and to improve relevant knowledge, skills and training. This objective will be pursued through the implementation of the Blueprint and the future Joint Cyber Unit considering the important role of the Computer Security Incident Response Teams (CSIRTs) network and of the Cyber Crisis Liaison Organization Network (CyCLONe).
  - To create, **interconnect and strengthen Cybersecurity ranges** at European, national and regional level as well as within and across critical infrastructures, including in but not limited to sectors covered by the NIS Directive, in view to share knowledge and cybersecurity threat intelligence between stakeholders in the Member States, better monitor cybersecurity threats, and respond jointly to cyber-attacks.



### Uptake Of Innovative Cybersecurity Solutions

+ **BUDGET FOR CALL TOPIC:** 32 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Coordination and Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Support the adoption of market-ready innovative cybersecurity solutions, including solutions developed in the framework of EU-supported research and innovation projects.
  - **Provide and deploy up to date tools and services to organisations** (in particular SMEs) to prepare, protect and respond to cybersecurity threats.
  - Improve the security of open-source solutions (e.g. establishment of bug bounty programmes).
  - Objective: To support the market uptake and dissemination of innovative cybersecurity solutions (notably from SMEs, as well as results from publicly-funded research in the EU), improve knowledge, and auditing of **cybersecurity preparedness**.

## 73. DIGITAL EUROPE PROGRAMME.



### Supporting The NIS Directive Implementation And National Cybersecurity Strategies

+ **BUDGET FOR CALL TOPIC:** 20 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Coordination and Support Action

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Enable the Member States to limit the damage of **cybersecurity incidents**, including economic, social, environmental, or political damage, while reducing the overall costs of cybersecurity for individual Member States and for the EU as a whole;
  - Improve **compliance** with the NIS Directive, higher levels of situational awareness and crisis response in Member States;
  - Contribute to enhanced cooperation, preparedness and **cybersecurity resilience** of the EU.



### Testing and Certification Capabilities

+ **BUDGET FOR CALL TOPIC:** 5 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Grants for Financial support

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Strengthen national **cybersecurity certification** authorities, conformity assessment bodies and accreditation bodies.
  - Improve the cybersecurity and interoperability testing capabilities in all Member States, including in the area of 5G disaggregated and open solutions.
  - Support SMEs to audit their infrastructure in view of improving their **cybersecurity protection**.
  - Support actions in the area of standardisation.

## 75. DIGITAL EUROPE PROGRAMME.



### Securing 5G Strategic Digital Infrastructures And Technologies

+ **BUDGET FOR CALL TOPIC:** 10 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Simple Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- **Trusted** and **secure** 5G services.
  - Support the cooperation between national authorities and private providers of technology services or equipment, in particular innovative European SMEs in cooperation with network and technology providers (e.g. vendors, mobile network operators and other players) on piloting, testing and **integration** of **security** and **interoperability** aspects of 5G interoperable, open and disaggregate solutions



### Capacity building of Security Operation Centres

+ **BUDGET FOR CALL TOPIC:** 22 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Simple Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Several cross-border platform(s) for pooling data on **cybersecurity threat** between several Member States, equipped with a highly secure infrastructures and advanced data analytics tools;
  - World-class SOCs across the Union, strengthened with state of the art technology in areas such as AI;
  - Sharing of Threat Intelligence between SOCs, and information sharing agreements with competent authorities and CSIRTs;
  - **Threat intelligence** and **situational awareness** capabilities supporting strengthened collaboration in the framework of the Blueprint/CyCLONe and the Joint Cybersecurity Unit, as well as with law enforcement and defence.



### Deploying The Network Of National Coordination Centres With Member States

+ **BUDGET FOR CALL TOPIC:** 15 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Simple Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Several cross-border platform(s) for pooling data on **cybersecurity threat** between several Member States, equipped with a highly secure infrastructures and advanced data analytics tools;
  - World-class SOCs across the Union, strengthened with state of the art technology in areas such as AI;
  - Sharing of **Threat Intelligence** between SOCs, and information sharing agreements with competent authorities and CSIRTs;
  - Threat intelligence and **situational awareness capabilities** supporting strengthened collaboration in the framework of the Blueprint/CyCLONe and the Joint Cybersecurity Unit, as well as with law enforcement and defence.

## 78. DIGITAL EUROPE PROGRAMME.



Specialised education programmes or modules in key capacity areas

+ **BUDGET FOR CALL TOPIC:** 56 M€

+ **DEADLINE:** 24 Jan. 2023

+ **TYPE OF ACTIVITIES :** Simple Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Gains from Investment in key capacities can only materialise if there are enough people to design, deploy and use them. At present, all Member States face shortages of digital specialists and the training opportunities in digital areas are missing in the EU, compared to other countries. Specialised courses, such as Master's courses in domains like **Artificial Intelligence** are not uniformly available in all Member States and concentrated in some regions.
  - The action will contribute to expand the education offer across Europe, by increasing the number of courses, jointly designed by universities from different Member States and associated countries together with excellence centres and businesses active in the domain. The impact will be twofold: an increase of courses offer all over the EU and the development of dynamic digital ecosystems where academic excellence, research and innovative industries work together to attract and retain the best talents worldwide.



## 79. DIGITAL EUROPE PROGRAMME.



Large-scale pilots for cloud-to-edge based service solutions

+ **BUDGET FOR CALL TOPIC:** 40 M€

+ **DEADLINE:** 15 Feb. 2023

+ **TYPE OF ACTIVITIES :** Simple Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Reinforced European supply of **resilient**, competitive, distributed, green and **secure cloud-to-edge based services**.
  - Wider and easier access, shorter time-to-delivery and higher sustainability of public and commercial services supplied to citizens and businesses including notably SMEs across the EU.
  - Rapid deployment of EU-wide common data spaces.

## 80. DIGITAL EUROPE PROGRAMME.



Deployment of the AI-on-demand platform

+ **BUDGET FOR CALL TOPIC:** 28 M€

+ **DEADLINE:** 24 Jan. 2023

+ **TYPE OF ACTIVITIES :** Coordination and Support Actions

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- The European AI-on-demand platform, including:
  - A visible catalogue of AI resources that are made in Europe and **trustworthy**
  - A one-stop shop to access AI tools for the European industry and for public administrations
  - A reference and trusted marketplace for trustworthy AI resources
  - Services in support of the public procurement of AI solutions
  - Interconnections to computing resources, data spaces and Testing and experimentation facilities developed under this programme
  - Established links with the network of European Digital Innovation Hubs to provide access of AI tools to SMEs and the public administration throughout Europe.
  - A governance mechanism in view of the **future sustainability** of the **AI on demand platform**.

## 81. DIGITAL EUROPE PROGRAMME.



Data space for smart communities (deployment)

+ **BUDGET FOR CALL TOPIC:** 18 M€

+ **DEADLINE:** 24 Jan. 2023

+ **TYPE OF ACTIVITIES :** Grants for Financial Support

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- An innovative and federated smart communities' **dataspace**, including a large number of EU communities, supported by **middleware service solutions**.
  - 10 to 12 cross-sector data pilots covering the whole EU by making use of common data sets. These will validate and contribute to the refinement of the blueprint, as well as the refinement of its long-term (economic) sustainability plan.

## 82. CREATIVE EUROPE PROGRAMME.

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Topic	Title	Type	Budget per project	# of projects
<u>CREA-CROSS-2023-INNOVLAB</u>	Innovation Lab	CREA Project Grants	5,4	1
<u>CREA-MEDIA-2023-INNOVBUSMOD</u>	Innovative tools and business models	CREA Project Grants	8,9	1

## 83. CREATIVE EUROPE PROGRAMME.



### Innovation Lab

+ **BUDGET FOR CALL TOPIC:** 5,4 M€

+ **DEADLINE:** 20 Apr. 2023

+ **TYPE OF ACTIVITIES :** Project Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

- + **OBJECTIVE:**
- Development of innovative creative processes;
  - Increased visibility, availability and diversity of European content in the digital age;
  - **Improved business models and use of data;**
  - Increased potential audience of European content in the digital age;
  - Support greening and circular economy thinking, including innovation for sustainability, inclusion and well-being in line with the priorities of the New European Bauhaus.

## 84. CREATIVE EUROPE PROGRAMME.



Innovative tools and business models

+ **BUDGET FOR CALL TOPIC:** 8,9 M€

+ **DEADLINE:** 24 Jan. 2023

+ **TYPE OF ACTIVITIES :** Project Grants

+ **APPLIANCE:** Consortia > 3 legal entities from 3 member States

+ **OBJECTIVE:**

- The objective of the Innovative tools and business models action is to strengthen the competitiveness, scalability and sustainability of the European players, as well as to improve the visibility and availability of European works and increase audiences **in the digital environment**. The aim is to support projects focusing on the specific challenges of the audiovisual sector such as discoverability, sequencing of release windows, financing and territoriality in order to enable strong and visible offers of European works online and across borders to a wide public.

