
CLUSTER 4 – DIGITAL, INDUSTRY AND SPACE (Updated 14 Jan 2022)

Progress in digital and industrial technologies, including in space, shape all sectors of the economy and society. They transform the way industry develops, produces new products and services, and are central to any sustainable future.

Conditions and Funding Instruments

A consortium needs to include a minimum of three independent participants from three different EU Members States or Associated Countries. Funding for small projects are typically €3-5 M, for large ones €5-10 M and for industry pilots €10-20 M.

Online Sources of Information

- European Commission Funding & tender opportunities:
ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home
- EU Research and Innovation Programme (Horizon Europe):
https://ec.europa.eu/info/horizon-europe_en
- Project databases of FP6, FP7 and H2020:
<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-results>

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I. DESTINATION – CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION

CALL - CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION 2022

Green, flexible and advanced manufacturing

HORIZON-CL4-2022-TWIN-TRANSITION-01-01: Rapid reconfigurable production process chains (Made in Europe Partnership) (IA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-02: Products with complex functional surfaces (Made in Europe Partnership) (RIA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-03: Excellence in distributed control and modular manufacturing (Made in Europe Partnership) (RIA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-04: Intelligent work piece handling in a full production line (Made in Europe Partnership) (RIA)

Advanced digital technologies for manufacturing

HORIZON-CL4-2022-TWIN-TRANSITION-01-06: ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2) (Made in Europe Partnership) (IA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-07: Digital tools to support the engineering of a Circular Economy (Made in Europe Partnership) (RIA)

A new way to build, accelerating disruptive change in construction

HORIZON-CL4-2022-TWIN-TRANSITION-01-09: Demonstrate the use of Digital Logbook for buildings (IA)

Hubs for circularity, a stepping stone towards climate neutrality and circularity in industry

HORIZON-CL4-2022-TWIN-TRANSITION-01-10: Circular flows for solid waste in urban environment (Processes4Planet Partnership) (IA)

Enabling circularity of resources in the process industries, including waste and CO₂/CO

HORIZON-CL4-2022-TWIN-TRANSITION-01-11: Valorisation of CO/CO₂ streams into added-value products of market interest (Processes4Planet Partnership) (IA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-13: Raw material preparation for clean steel production (Clean Steel Partnership) (IA)

Integration of Renewables and Electrification in process industry

HORIZON-CL4-2022-TWIN-TRANSITION-01-15: New electrochemical conversion routes for the production of chemicals and materials in process industries (Processes4Planet Partnership) (RIA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-16: Modular and hybrid heating technologies in steel production (Clean Steel Partnership) (IA)

HORIZON-CL4-2022-TWIN-TRANSITION-01-17: Integration of hydrogen for replacing fossil fuels in industrial applications (Processes4Planet Partnership) (IA)

Call - CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION 2022

HORIZON-CL4-2022-TWIN-TRANSITION-01

Conditions for the Call

Indicative budget(s)¹

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²	Number of projects expected to be funded
		2022		
Opening: 12 Oct 2021 Deadline(s): 30 Mar 2022				
HORIZON-CL4-2022-TWIN-TRANSITION-01-01	IA	27.50 ³	8.00 to 10.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-02	RIA	21.50	4.00 to 6.00	4
HORIZON-CL4-2022-TWIN-TRANSITION-01-03	RIA	21.50 ⁴	4.00 to 6.00	4
HORIZON-CL4-2022-TWIN-TRANSITION-01-04	RIA	21.50	4.00 to 6.00	4
HORIZON-CL4-2022-TWIN-TRANSITION-01-06	IA	30.00 ⁵	4.00 to 8.00	4
HORIZON-CL4-2022-TWIN-TRANSITION-01-07	RIA	22.00 ⁶	3.00 to 6.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-09	IA	9.00	Around 4.50	2
HORIZON-CL4-2022-TWIN-TRANSITION-01-10	IA	42.50	12.00 to 18.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-11	IA	42.50 ⁷	12.00 to 18.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-13	IA	14.00 ⁸	4.00 to 5.00	3

¹ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

² Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

³ Of which EUR 12.85 million from the 'NGEU' Fund Source.

⁴ Of which EUR 11.30 million from the 'NGEU' Fund Source.

⁵ Of which EUR 25.95 million from the 'NGEU' Fund Source.

⁶ Of which EUR 13.03 million from the 'NGEU' Fund Source.

⁷ Of which EUR 34.60 million from the 'NGEU' Fund Source.

⁸ Of which EUR 12.11 million from the 'NGEU' Fund Source.

HORIZON-CL4-2022-TWIN-TRANSITION-01-15	RIA	30.00	8.00 to 12.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-16	IA	10.00	Around 3.00	3
HORIZON-CL4-2022-TWIN-TRANSITION-01-17	IA	42.50 ⁹	12.00 to 18.00	3
Overall indicative budget		334.50		

⁹ Of which EUR 36.33 million from the 'NGEU' Fund Source.

II. DESTINATION – INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR RESILIENT INDUSTRY

CALL - A DIGITISED, RESOURCE-EFFICIENT AND RESILIENT INDUSTRY 2022

Novel paradigms to establish resilient and circular value chains

HORIZON-CL4-2022-RESILIENCE-01-01: Circular and low emission value chains through digitalisation (Processes4Planet Partnership) (RIA)

Raw materials for EU open strategic autonomy and successful transition to a climate-neutral and circular economy

HORIZON-CL4-2022-RESILIENCE-01-02: Monitoring and supervising system for exploration and future exploitation activities in the deep sea (RIA)

HORIZON-CL4-2022-RESILIENCE-01-03: Streamlining cross-sectoral policy framework throughout the extractive life-cycle in environmentally protected areas (CSA)

HORIZON-CL4-2022-RESILIENCE-01-04: Developing digital platforms for the small scale extractive industry (IA)

HORIZON-CL4-2022-RESILIENCE-01-05: Technological solutions for tracking raw material flows in complex supply chains (RIA)

HORIZON-CL4-2022-RESILIENCE-01-06: Sustainable and innovative mine of the future (IA)

HORIZON-CL4-2022-RESILIENCE-01-07: Innovative solutions for efficient use and enhanced recovery of mineral and metal by-products from processing of raw materials (IA)

HORIZON-CL4-2022-RESILIENCE-01-08: Earth observation technologies for the mining life cycle in support of EU autonomy and transition to a climate-neutral economy (RIA)

Green and Sustainable Materials

HORIZON-CL4-2022-RESILIENCE-01-10: Innovative materials for advanced (nano)electronic components and systems (RIA)

HORIZON-CL4-2022-RESILIENCE-01-11: Advanced lightweight materials for energy efficient structures (RIA)

HORIZON-CL4-2022-RESILIENCE-01-12: Functional multi-material components and structures (RIA)

HORIZON-CL4-2022-RESILIENCE-01-23: Safe- and sustainable-by-design organic and hybrid coatings (RIA)

Materials for the benefit of society and the environment and materials for climate neutral Industry

HORIZON-CL4-2022-RESILIENCE-01-13: Smart and multifunctional biomaterials for health innovations (RIA)

HORIZON-CL4-2022-RESILIENCE-01-14: Membranes for gas separations – membrane distillation (IA)

HORIZON-CL4-2022-RESILIENCE-01-16: Building and renovating by exploiting advanced materials for energy and resources efficient management (IA)

HORIZON-CL4-2022-RESILIENCE-01-24: Novel materials for supercapacitor energy storage (RIA)

Materials and data cross-cutting actions

HORIZON-CL4-2022-RESILIENCE-01-19: Advanced materials modelling and characterisation (RIA)

HORIZON-CL4-2022-RESILIENCE-01-20: Climate Neutral and Circular Innovative Materials Technologies Open Innovation Test Beds (IA)

HORIZON-CL4-2022-RESILIENCE-01-25: Optimised Industrial Systems and Lines through digitalisation (IA)

Improving the resilience and preparedness of EU businesses, especially SMEs and Startups

HORIZON-CL4-2022-RESILIENCE-01-21: Leveraging standardisation in Digital Technologies (CSA)

HORIZON-CL4-2022-RESILIENCE-01-26: 'Innovate to transform' support for SME's sustainability transition (CSA)

CALL - A DIGITISED, RESOURCE-EFFICIENT AND RESILIENT INDUSTRY 2021

Improving the resilience and preparedness of EU businesses, especially SMEs and Startups

HORIZON-CL4-2022-RESILIENCE-02-01-PCP: Boosting green economic recovery and open strategic autonomy in Strategic Digital Technologies through pre-commercial procurement (PCP action)

Call - A DIGITISED, RESOURCE-EFFICIENT AND RESILIENT INDUSTRY 2022

HORIZON-CL4-2022-RESILIENCE-01

Conditions for the Call

Indicative budget(s)¹⁰

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ¹¹	Number of projects expected to be funded
		2022		
Opening: 12 Oct 2021 Deadline(s): 30 Mar 2022				
HORIZON-CL4-2022-RESILIENCE-01-01	RIA	25.30 ¹²	6.00 to 8.00	4
HORIZON-CL4-2022-RESILIENCE-01-02	RIA	14.00	Around 14.00	1
HORIZON-CL4-2022-RESILIENCE-01-03	CSA	2.40	Around 2.40	1
HORIZON-CL4-2022-RESILIENCE-01-04	IA	15.00	Around 5.00	3
HORIZON-CL4-2022-RESILIENCE-01-05	RIA	13.50	Around 13.50	1
HORIZON-CL4-2022-RESILIENCE-01-06	IA	36.00 ¹³	Around 12.00	3
HORIZON-CL4-2022-RESILIENCE-01-07	IA	36.00 ¹⁴	Around 12.00	3
HORIZON-CL4-2022-RESILIENCE-01-08	RIA	13.50	Around 4.50	3
HORIZON-CL4-2022-RESILIENCE-01-10	RIA	20.00	3.00 to 5.00	4
HORIZON-CL4-2022-RESILIENCE-01-11	RIA	20.00	3.00 to 5.00	5
HORIZON-CL4-2022-RESILIENCE-01-12	RIA	20.00	4.00 to 6.00	4

¹⁰ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

¹¹ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

¹² Of which EUR 20.76 million from the 'NGEU' Fund Source.

¹³ Of which EUR 31.14 million from the 'NGEU' Fund Source.

¹⁴ Of which EUR 31.14 million from the 'NGEU' Fund Source.

HORIZON-CL4-2022-RESILIENCE-01-13	RIA	20.00	3.00 to 5.00	4
HORIZON-CL4-2022-RESILIENCE-01-14	IA	21.00	6.00 to 8.00	3
HORIZON-CL4-2022-RESILIENCE-01-16	IA	21.00 ¹⁵	5.00 to 7.00	3
HORIZON-CL4-2022-RESILIENCE-01-19	RIA	18.00	4.00 to 6.00	3
HORIZON-CL4-2022-RESILIENCE-01-20	IA	34.00 ¹⁶	10.00 to 12.00	3
HORIZON-CL4-2022-RESILIENCE-01-21	CSA	4.50	Around 4.50	1
HORIZON-CL4-2022-RESILIENCE-01-23	RIA	20.00	3.00 to 5.00	4
HORIZON-CL4-2022-RESILIENCE-01-24	RIA	23.00	4.00 to 6.00	4
HORIZON-CL4-2022-RESILIENCE-01-25	IA	15.00	4.00 to 5.00	4
HORIZON-CL4-2022-RESILIENCE-01-26	CSA	10.00 ¹⁷	Around 5.00	2
Overall indicative budget		402.20		

¹⁵ Of which EUR 18.16 million from the 'NGEU' Fund Source.

¹⁶ Of which EUR 29.41 million from the 'NGEU' Fund Source.

¹⁷ Of which EUR 6.05 million from the 'NGEU' Fund Source.

Call - A DIGITISED, RESOURCE-EFFICIENT AND RESILIENT INDUSTRY 2021 (PCP)

HORIZON-CL4-2022-RESILIENCE-02-PCP

Conditions for the Call

Indicative budget(s)¹⁸

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ¹⁹	Number of projects expected to be funded
		2022		
Opening: 12 Oct 2021 Deadline(s): 30 Mar 2022				
HORIZON-CL4-2022-RESILIENCE-02-01-PCP	PCP	9.00 ²⁰	Around 9.00	1
Overall indicative budget		9.00		

¹⁸ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

¹⁹ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

²⁰ Of which EUR 5.38 million from the 'NGEU' Fund Source.

III. DESTINATION – WORLD LEADING DATA AND COMPUTING TECHNOLOGIES

CALL - WORLD LEADING DATA AND COMPUTING TECHNOLOGIES 2022

Data sharing in the common European data spaces

HORIZON-CL4-2022-DATA-01-04: Technologies and solutions for data trading, monetizing, exchange and interoperability (AI, Data and Robotics Partnership) (IA)

Strengthening Europe's data analytics capacity

HORIZON-CL4-2022-DATA-01-01: Methods for exploiting data and knowledge for extremely precise outcomes (analysis, prediction, decision support), reducing complexity and presenting insights in understandable way (RIA)

HORIZON-CL4-2022-DATA-01-05: Extreme data mining, aggregation and analytics technologies and solutions (RIA)

From Cloud to Edge to IoT for European Data

HORIZON-CL4-2022-DATA-01-02: Cognitive Cloud: AI-enabled computing continuum from Cloud to Edge (RIA)

HORIZON-CL4-2022-DATA-01-03: Programming tools for decentralised intelligence and swarms (RIA)

Call - WORLD LEADING DATA AND COMPUTING TECHNOLOGIES 2022

HORIZON-CL4-2022-DATA-01

Conditions for the Call

Indicative budget(s)²¹

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²²	Number of projects expected to be funded
		2022		
Opening: 23 Nov 2021 Deadline(s): 05 Apr 2022				
HORIZON-CL4-2022-DATA-01-01	RIA	33.00	8.00 to 12.00	3
HORIZON-CL4-2022-DATA-01-02	RIA	50.00 ²³	4.00 to 6.00	10
HORIZON-CL4-2022-DATA-01-03	RIA	40.00	4.00 to 8.00	5
HORIZON-CL4-2022-DATA-01-04	IA	52.00	10.00 to 13.00	4
HORIZON-CL4-2022-DATA-01-05	RIA	30.00	Around 5.00	6
Overall indicative budget		205.00		

²¹ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

²² Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

²³ Of which EUR 42.38 million from the 'NGEU' Fund Source.

IV. DESTINATION – DIGITAL AND EMERGING TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

CALL - DIGITAL AND EMERGING TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

Ultra-low power processors

HORIZON-CL4-2022-DIGITAL-EMERGING-01-26: Open source for cloud-based services (RIA)

European Innovation Leadership in Electronics

HORIZON-CL4-2022-DIGITAL-EMERGING-01-38: International cooperation in semiconductors (CSA)

European Innovation Leadership in Photonics

HORIZON-CL4-2022-DIGITAL-EMERGING-01-03: Advanced multi-sensing systems (Photonics Partnership) (RIA)

6G and foundational connectivity technologies

HORIZON-CL4-2022-DIGITAL-EMERGING-01-30: European Enabling technologies for Beyond 5G/6G RAN disaggregated architectures (RIA)

HORIZON-CL4-2022-DIGITAL-EMERGING-01-39: Ultra low energy and secure networks (RIA)
European leadership in Emerging Enabling Technologies

HORIZON-CL4-2022-DIGITAL-EMERGING-01-35: Advanced characterization methodologies to assess and predict the health and environmental risks of nanomaterials (RIA)

Call - Digital and emerging technologies for competitiveness and fit for the green deal

HORIZON-CL4-2022-DIGITAL-EMERGING-01

Conditions for the Call

Indicative budget(s)²⁴

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²⁵	Number of projects expected to be funded
		2022		
Opening: 21 Dec 2021 Deadline(s): 05 Apr 2022				
HORIZON-CL4-2022-DIGITAL-EMERGING-01-03	RIA	48.00	3.00 to 5.00	10
HORIZON-CL4-2022-DIGITAL-EMERGING-01-26	RIA	22.00	4.00 to 6.00	4
HORIZON-CL4-2022-DIGITAL-EMERGING-01-30	RIA	13.00	Around 13.00	1
HORIZON-CL4-2022-DIGITAL-EMERGING-01-35	RIA	17.50	2.00 to 3.00	5
HORIZON-CL4-2022-DIGITAL-EMERGING-01-38	CSA	3.00	Around 3.00	1
HORIZON-CL4-2022-DIGITAL-EMERGING-01-39	RIA	13.00	Around 13.00	1
Overall indicative budget		116.50		

²⁴ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

²⁵ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

CALL - DIGITAL AND EMERGING TECHNOLOGIES FOR COMPETITIVENESS AND FIT FOR THE GREEN DEAL

Innovation in AI, Data and Robotics

HORIZON-CL4-2022-DIGITAL-EMERGING-02-05: AI, Data and Robotics for Industry optimisation (including production and services) (AI, Data and Robotics Partnership) (IA)

Tomorrow's deployable Robots: efficient, robust, safe, adaptive and trusted

HORIZON-CL4-2022-DIGITAL-EMERGING-02-06: Pushing the limit of physical intelligence and performance (RIA)

HORIZON-CL4-2022-DIGITAL-EMERGING-02-07: Increased robotics capabilities demonstrated in key sectors (AI, Data and Robotics Partnership) (IA)

Graphene: Europe in the lead

HORIZON-CL4-2022-DIGITAL-EMERGING-02-17: New generation of advanced electronic and photonic 2D materials-based devices, systems and sensors (RIA)

HORIZON-CL4-2022-DIGITAL-EMERGING-02-18: 2D materials-based devices and systems for energy storage and/or harvesting (RIA)

HORIZON-CL4-2022-DIGITAL-EMERGING-02-19: 2D materials-based devices and systems for biomedical applications (RIA)

HORIZON-CL4-2022-DIGITAL-EMERGING-02-20: 2D-material-based composites, coatings and foams (IA)

HORIZON-CL4-2022-DIGITAL-EMERGING-02-22: Supporting the coordination of the Graphene Flagship projects (CSA)

Call - Digital and emerging technologies for competitiveness and fit for the green deal

HORIZON-CL4-2022-DIGITAL-EMERGING-02

Conditions for the Call

Indicative budget(s)²⁶

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²⁷	Number of projects expected to be funded
		2022		
Opening: 16 Jun 2022 Deadline(s): 16 Nov 2022				
HORIZON-CL4-2022-DIGITAL-EMERGING-02-05	IA	19.00	3.00 to 5.00	5
HORIZON-CL4-2022-DIGITAL-EMERGING-02-06	RIA	28.50	Around 4.00	7
HORIZON-CL4-2022-DIGITAL-EMERGING-02-07	IA	36.00	Around 6.00	6
HORIZON-CL4-2022-DIGITAL-EMERGING-02-17	RIA	16.50	Around 16.50	1
HORIZON-CL4-2022-DIGITAL-EMERGING-02-18	RIA	9.00	Around 9.00	1
HORIZON-CL4-2022-DIGITAL-EMERGING-02-19	RIA	6.00	Around 6.00	1
HORIZON-CL4-2022-DIGITAL-EMERGING-02-20	IA	9.00	Around 9.00	1
HORIZON-CL4-2022-DIGITAL-EMERGING-02-22	CSA	3.00	Around 3.00	1
Overall indicative budget		127.00		

²⁶ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

²⁷ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

V. DESTINATION – OPEN STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA

CALL - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2021

Foster competitiveness of space systems

HORIZON-CL4-2021-SPACE-01-11: End-to-end satellite communication systems and associated services

HORIZON-CL4-2021-SPACE-01-12: Future space ecosystems: on-orbit operations, new system concepts

Reinforce EU capacity to access and use space

HORIZON-CL4-2021-SPACE-01-21: Reusability for European strategic space launchers - technologies and operation maturation including flight test demonstration

HORIZON-CL4-2021-SPACE-01-22: Low cost high thrust propulsion for European strategic space launchers - technologies maturation including ground tests

HORIZON-CL4-2021-SPACE-01-23: New space transportation solutions and services

Evolution of space and ground infrastructure for Galileo/EGNOS

Evolution of Copernicus services

HORIZON-CL4-2021-SPACE-01-41: Copernicus Climate Change Service evolution

HORIZON-CL4-2021-SPACE-01-42: Copernicus Atmosphere Monitoring Service evolution

HORIZON-CL4-2021-SPACE-01-43: Copernicus Security and Emergency Services evolution

HORIZON-CL4-2021-SPACE-01-44: Copernicus evolution for cross-services thematic domains

Innovative space capabilities: SSA, GOVSATCOM, Quantum

HORIZON-CL4-2021-SPACE-01-62: Quantum technologies for space gravimetry

Space entrepreneurship ecosystem (including "New Space" and start-ups) and skills

Targeted and strategic actions supporting the EU space sector

HORIZON-CL4-2021-SPACE-01-81: Space technologies for European non-dependence and competitiveness

Call - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2021

HORIZON-CL4-2021-SPACE-01

Conditions for the Call

Indicative budget(s)²⁸

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²⁹	Number of projects expected to be funded
		2021		
Opening: 02 Nov 2021 Deadline(s): 16 Feb 2022				
HORIZON-CL4-2021-SPACE-01-11	RIA	12.00 ³⁰	4.00 to 6.00	2
HORIZON-CL4-2021-SPACE-01-12	RIA	6.00	1.00 to 2.00	3
HORIZON-CL4-2021-SPACE-01-21	RIA	39.00 ³¹	30.00 to 39.00	1
HORIZON-CL4-2021-SPACE-01-22	RIA	19.80 ³²	15.00 to 19.00	1
HORIZON-CL4-2021-SPACE-01-23	RIA	3.00 ³³	1.00 to 1.50	2
HORIZON-CL4-2021-SPACE-01-41	RIA	11.00 ³⁴	10.00 to 11.00	1
HORIZON-CL4-2021-SPACE-01-42	RIA	7.50 ³⁵	6.00 to 7.50	1
HORIZON-CL4-2021-SPACE-01-43	RIA	5.00 ³⁶	4.00 to 5.00	1

²⁸ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

²⁹ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

³⁰ Of which EUR 7.20 million from the 'NGEU' Fund Source.

³¹ Of which EUR 26.01 million from the 'NGEU' Fund Source.

³² Of which EUR 11.98 million from the 'NGEU' Fund Source.

³³ Of which EUR 1.81 million from the 'NGEU' Fund Source.

³⁴ Of which EUR 6.72 million from the 'NGEU' Fund Source.

³⁵ Of which EUR 4.48 million from the 'NGEU' Fund Source.

³⁶ Of which EUR 2.78 million from the 'NGEU' Fund Source.

HORIZON-CL4-2021-SPACE-01-44	RIA	5.60 ³⁷	Around 3.00	2
HORIZON-CL4-2021-SPACE-01-62	RIA	17.00	15.00 to 17.00	1
HORIZON-CL4-2021-SPACE-01-81	RIA	10.32 ³⁸	2.00 to 3.00	4
Overall indicative budget		136.22		

³⁷ Of which EUR 3.39 million from the 'NGEU' Fund Source.

³⁸ Of which EUR 6.72 million from the 'NGEU' Fund Source.

CALL - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2022

Foster competitiveness of space systems

HORIZON-CL4-2022-SPACE-01-11: Future space ecosystems: on-orbit operations, preparation of orbital demonstration mission

HORIZON-CL4-2022-SPACE-01-12: Technologies and generic building blocks for Electrical Propulsion

HORIZON-CL4-2022-SPACE-01-13: End-to-end Earth observation systems and associated services

Reinforce EU capacity to access and use space

HORIZON-CL4-2022-SPACE-01-21: Multi sites flexible industrial platform and standardised technology for improving interoperability of European access to space ground facilities

Evolution of space and ground infrastructure for Galileo/EGNOS

Evolution of services of the EU space programme components: Copernicus

HORIZON-CL4-2022-SPACE-01-41: Copernicus Marine Environment Monitoring Service evolution

HORIZON-CL4-2022-SPACE-01-42: Copernicus Anthropogenic CO₂ Emissions Monitoring & Verification Support (MVS) capacity

HORIZON-CL4-2022-SPACE-01-43: Copernicus Land Monitoring Service evolution

Innovative space capabilities: SSA, GOVSATCOM, Quantum

HORIZON-CL4-2022-SPACE-01-62: Space Weather

Space entrepreneurship ecosystems (including "New Space" and start-ups) and skills

HORIZON-CL4-2022-SPACE-01-72: Education and skills for the EU space sector

Targeted and strategic actions supporting the EU space sector

HORIZON-CL4-2022-SPACE-01-81: Space technologies for European non-dependence and competitiveness

HORIZON-CL4-2022-SPACE-01-82: Space science and exploration technologies

Call - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2022

HORIZON-CL4-2022-SPACE-01

Conditions for the Call

Indicative budget(s)³⁹

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ⁴⁰	Number of projects expected to be funded
		2022		
Opening: 02 Nov 2021 Deadline(s): 16 Feb 2022				
HORIZON-CL4-2022-SPACE-01-11	RIA	26.00	20.00 to 26.00	1
HORIZON-CL4-2022-SPACE-01-12	IA	5.10	1.00 to 2.00	3
HORIZON-CL4-2022-SPACE-01-13	IA	8.10	2.00 to 3.00	3
HORIZON-CL4-2022-SPACE-01-21	RIA	2.00	1.00 to 2.00	1
HORIZON-CL4-2022-SPACE-01-41	RIA	10.00 ⁴¹	8.00 to 10.00	1
HORIZON-CL4-2022-SPACE-01-42	RIA	6.00 ⁴²	5.00 to 6.00	1
HORIZON-CL4-2022-SPACE-01-43	RIA	5.00 ⁴³	4.00 to 5.00	1
HORIZON-CL4-2022-SPACE-01-62	RIA	2.00	0.50 to 1.00	2
HORIZON-CL4-2022-SPACE-01-72	CSA	3.00	2.00 to 3.00	1
HORIZON-CL4-2022-SPACE-01-81	RIA	10.50 ⁴⁴	2.00 to 3.00	4

³⁹ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

⁴⁰ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

⁴¹ Of which EUR 8.39 million from the 'NGEU' Fund Source.

⁴² Of which EUR 5.02 million from the 'NGEU' Fund Source.

⁴³ Of which EUR 4.15 million from the 'NGEU' Fund Source.

⁴⁴ Of which EUR 10.47 million from the 'NGEU' Fund Source.

HORIZON-CL4-2022-SPACE-01-82	RIA	8.00	1.00 to 1.50	6
Overall indicative budget		85.70		

VI. DESTINATION – A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES

CALL - A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES 2022

An Internet of Trust

HORIZON-CL4-2022-HUMAN-01-03: Internet architecture and decentralised technologies (RIA)

HORIZON-CL4-2022-HUMAN-01-05: Next Generation Safer Internet: Technologies to identify digital Child Sexual Abuse Material (CSAM) (RIA)

HORIZON-CL4-2022-HUMAN-01-07: NGI International Collaboration - USA and Canada (RIA)
eXtended Reality (XR)

HORIZON-CL4-2022-HUMAN-01-14: eXtended Reality Technologies (RIA)

HORIZON-CL4-2022-HUMAN-01-19: eXtended Reality Learning - Engage and Interact (IA)

Call - A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES 2022

HORIZON-CL4-2022-HUMAN-01

Conditions for the Call

Indicative budget(s)⁴⁵

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ⁴⁶	Number of projects expected to be funded
		2022		
Opening: 21 Dec 2021 Deadline(s): 05 Apr 2022				
HORIZON-CL4-2022-HUMAN-01-03	RIA	22.00	Around 11.00	2
HORIZON-CL4-2022-HUMAN-01-05	RIA	2.00	Around 2.00	1
HORIZON-CL4-2022-HUMAN-01-07	RIA	6.00	Around 6.00	1
HORIZON-CL4-2022-HUMAN-01-14	RIA	19.00	5.00 to 8.00	3
HORIZON-CL4-2022-HUMAN-01-19	IA	21.50	5.00 to 8.00	3
Overall indicative budget		70.50		

⁴⁵ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

⁴⁶ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

CALL - A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES 2022

Leadership in AI based on trust

HORIZON-CL4-2022-HUMAN-02-01: AI for human empowerment (AI, Data and Robotics Partnership) (RIA)

HORIZON-CL4-2022-HUMAN-02-02: European Network of AI Excellence Centres: Expanding the European AI lighthouse (RIA)

Call - A HUMAN-CENTRED AND ETHICAL DEVELOPMENT OF DIGITAL AND INDUSTRIAL TECHNOLOGIES 2022

HORIZON-CL4-2022-HUMAN-02

Conditions for the Call

Indicative budget(s)⁴⁷

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ⁴⁸	Number of projects expected to be funded
		2022		
Opening: 16 Jun 2022 Deadline(s): 16 Nov 2022				
HORIZON-CL4-2022-HUMAN-02-01	RIA	16.00	Around 4.00	4
HORIZON-CL4-2022-HUMAN-02-02	RIA	34.50	Around 11.50	3
Overall indicative budget		50.50		

⁴⁷ The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

⁴⁸ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

INDIRECTLY MANAGED ACTIONS DELEGATED TO EUSPA

CALL - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2022 – APPLICATIONS

HORIZON-EUSPA-2022-SPACE-02-51: EGNSS applications for Smart mobility

HORIZON-EUSPA-2022-SPACE-02-52: Public sector as Galileo and/or Copernicus user

HORIZON-EUSPA-2022-SPACE-02-54: Copernicus downstream applications and the European Data Economy

HORIZON-EUSPA-2022-SPACE-02-55: Large-scale Copernicus data uptake with AI and HPC

HORIZON-EUSPA-2022-SPACE-02-56: Designing space-based downstream applications with international partners

HORIZON-EUSPA-2022-SPACE-02-61: GOVSATCOM Service developments and demonstrations

Call - STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2022 - APPLICATIONS

HORIZON-EUSPA-2022-SPACE-02

Conditions for the Call

Indicative budget(s)⁴⁹

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ⁵⁰	Number of projects expected to be funded
		2022		
Opening: May 2022 (indicative) Deadline(s): Sep 2022 (indicative)				
HORIZON-EUSPA-2022-SPACE-02-51	IA	9.50 ⁵¹	2.00 to 3.00	3
HORIZON-EUSPA-2022-SPACE-02-52	PCP	5.20	2.60 to 5.20	2
HORIZON-EUSPA-2022-SPACE-02-54	IA	9.60 ⁵²	2.00 to 3.00	3
HORIZON-EUSPA-2022-SPACE-02-55	RIA	9.60 ⁵³	2.00 to 3.00	3
HORIZON-EUSPA-2022-SPACE-02-56	RIA	5.10	0.50 to 1.00	5
HORIZON-EUSPA-2022-SPACE-02-61	RIA	9.10 ⁵⁴	1.00 to 1.50	6
Overall indicative budget		48.10		

⁴⁹ The Agency responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Agency responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for years 2021 and 2022.

⁵⁰ Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

⁵¹ Of which EUR 8.22 million from the 'NGEU' Fund Source.

⁵² Of which EUR 8.30 million from the 'NGEU' Fund Source.

⁵³ Of which EUR 8.30 million from the 'NGEU' Fund Source.

⁵⁴ Of which EUR 7.87 million from the 'NGEU' Fund Source.

