





CeS-UTCN - Excelenta Științifică și Specializare Inteligenta prin crearea unui Centru Suport dedicat facilitării accesului entităților publice și private la proiecte/competiții CD

> Proiect cofinanțat din Fondul European de Dezvoltare Regională prin Programul Operațional Competitivitate





Avizat,

Manager de proiect,

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# **BULETIN INFORMATIV NR. 27**

**Programul Orizont Europa** 

Apeluri deschise în anul 2023 pentru Clusterul 4 – Digital, Industry and Space

## **Destination 1: Climate neutral, Circular and Digitised Production**

• Call - TWIN GREEN AND DIGITAL TRANSITION 2023HORIZON - CL4 – 2023 - TWIN-TRANSITION- 01

| Topics  | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|---|----------------------|-------------------------------------|---|---|
| Opening<br>Dec 20   |                      | ·                                   |   |   |
| Dec 20<br>Deadline(s): 20   |                      | 3                                   |   |   |
| High-precision OR complex product<br>manufacturing – potentially including the use<br>of photonics (Made in Europe and Photonics<br>Partnerships) (IA) HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-02 | IA                   | 48.00                               | 5.00 to<br>6.00   | 8   |
| <b>Factory-level and value chain approaches</b><br><b>for remanufacturing (Made in Europe</b><br><b>Partnership) (IA)</b> HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-04                              | IA                   | 37,60                               | 5.00 to<br>6.00   | 6   |
| Achievingresiliencyinvalue networksthroughmodellingandManufacturingasaService(MadeinEurope Partnership)(RIA)HORIZON-CL4-2023-TWIN-TRANSITION-01-07  | RIA                  | 32.00                               | 4.00 to<br>6.00   | 6   |
| Foresight and technology transfer for<br>Manufacturing as a Service (Made in Europe<br>Partnership)(CSA) HORIZON-CL4-2023-<br>TWIN-TRANSITION-01-08   | CSA                  | 1.00                                | Around 1.00   | 1   |
| Energy efficiency breakthroughs in<br>the process industries (Processes4Planet<br>partnership) (RIA) HORIZON-CL4-2023-<br>TWIN-TRANSITION-01-31   | RIA                  | 32.00                               | 8.00 to 10.00   | 3   |
| <b>Electrification of high temperature</b><br><b>heating systems (Processes4Planet Part</b><br><b>nership) (IA)</b> HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-33                                    | IA                   | 35.67                               | 15.00   | 3   |
| Modelling industry transition to<br>climate neutrality, sustainability and<br>circularity (Processes4Planet partnership)<br>(RIA) HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-36                      | RIA                  | 13.00                               | 6.00-7.00   | 2   |
| Hubs for circularity for near zero<br>emissions regions applying industrial<br>symbiosis and cooperative approach to  | IA                   | 40.00                               | 15.00-20.00   | 2   |

| heavy industrialized clusters and surrounding<br>ecosystems (Processes4Planet partnership) (IA)<br>HORIZON-CL4-2023-TWIN-TRANSITION-01-<br>37<br>Sustainable and efficient industrial water  |     |        |              |   |
|--|-----|--------|--------------|---|
| consumption: through energy and solute<br>recovery (Processes4Planet partnership)<br>(RIA) HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-40  | RIA | 30.00  | 10.00-12.00  | 3 |
| <b>Circular economy in process industries:</b><br><b>Upcycling large volumes of secondary</b><br><b>resources (Processes4Planet partnership)</b><br>( <b>RIA</b> ) HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-42  | RIA | 30.00  | 10.00-12.00  | 3 |
| Low carbon-dioxide emission technologies<br>for melting iron-bearing feed materials OR<br>smart carbon usage and improved energy &<br>resource efficiency via process integration<br>(Clean Steel Partnership) (IA) HORIZON-CL4-<br>2023-TWIN-TRANSITION-01-43                           | IA  | 23.00  | 4.00 to 6.00 | 4 |
| Circular economy solutions for the<br>valorisation of low-quality scrap streams,<br>materials recirculation with high recycling<br>rate, and residue valorisation for long term<br>goal towards zero waste (Clean Steel<br>Partnership) (RIA) HORIZON-CL4-2023-<br>TWIN-TRANSITION-01-45 | IA  | 12.00  | 3.00 to 6.00 | 2 |
| Overall indicative budget  |     | 337.27 |              |   |

• Call -Twin green and digital transition 2023 TWO STAGE HORIZON-CL4-2023-TWIN-TRANSITION-01-TWO-STAGE

| Topics  | Type         | Budgets<br>(EUR<br>million) | Expected<br>EU<br>contribution  | Number<br>of<br>projects    |  |
|---|--------------|-----------------------------|---------------------------------|-----------------------------|--|
| Topics  | of<br>Action | 2023                        | per project<br>(EUR<br>million) | expected<br>to be<br>funded |  |
| Opening: 08   |              |                             |                                 |                             |  |
| Dec 20  | )22          |                             |                                 |                             |  |
| Deadline(s): 07 Mar 2023 (First Sta   | ge), 05 O    | <u>ct 2023 (Se</u>          | cond Stage)                     |                             |  |
| Intelligent data acquisition and analysis of<br>materials and products in existing built works<br>(RIA)HORIZON-CL4-2023-TWIN-<br>TRANSITION-01-11 | RIA          | 12.00                       | 5.00 to 6.00                    | 2                           |  |
| Overall indicative budget   |              | 12.00                       |                                 |                             |  |

#### • Call -TWIN GREEN AND DIGITAL TRANSITION 2024 HORIZON - CL4-2024-TWIN-TRANSITION-01

| Topics   | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |  |  |  |
|--|----------------------|-------------------------------------|---|---|--|--|--|--|
| Opening: 19  | -                    | •                                   | ,   |   |  |  |  |  |
| Deadline(s): 07 Feb 2024   |                      |                                     |   |   |  |  |  |  |
| Manufacturing as a Service: Technologies   |                      |                                     |   |   |  |  |  |  |
| for customised, flexible, and decentralised  | DIA                  | 25.00                               | 500 500   | -   |  |  |  |  |
| production on demand (Made in Europe<br>Partnership) (RIA) HORIZON-CL4-2024-   | RIA                  | 35.00                               | 5.00 to 7.00  | 5   |  |  |  |  |
| TWIN-TRANSITION-01-03  |                      |                                     |   |   |  |  |  |  |
| Technologies/solutions to support circularity  |                      |                                     |   |   |  |  |  |  |
| for manufacturing (Made in Europe<br>Partnership) (RIA) HORIZON-CL4-2024-<br>TWIN TRANSITION-01-05   | RIA                  | 36.00                               | 4.00 to 6.00  | 6   |  |  |  |  |
| Optimisation of thermal energy   |                      |                                     |   |   |  |  |  |  |
| flows in the process industry (Processes4Planet<br>partnership) (IA) HORIZON-CL4-2024-TWIN-<br>TRANSITION-01-32  | IA                   | 30.00                               | 10.00 to<br>15.00   | 2   |  |  |  |  |
| Renewable hydrogen used as feedstock in  |                      |                                     |   |   |  |  |  |  |
| <b>innovative production routes (Processes4Planet</b><br><b>Partnership) (RIA)</b> HORIZON-CL4-2024-<br>TWIN-TRANSITION-01-34  | RIA                  | 20.00                               | 8.00 to 10.00   | 2   |  |  |  |  |
| <b>Turning CO2 emissions from the process</b><br><b>industry to feedstock (Processes4Planet</b><br><b>partnership) (IA)</b> HORIZON-CL4-2024-TWIN-<br>TRANSITION-01-35                       | IA                   | 30.00                               | 10.00 to<br>15.00   | 2   |  |  |  |  |
| Hubs for circularity for industrialised urbanperipheralareas(Processes4Planetpartnership) (IA)HORIZON-CL4-2024-TWIN-TRANSITION-01-38   | IA                   | 40.00                               | 15.00 to<br>20.00   | 2   |  |  |  |  |
| Breakthroughsto improveprocess industryresourceefficiency(Processes4Planetpartnership)(RIA)HORIZON-CL4-2024-TWITRANSITION-01-41  | RIA                  | 30.00                               | 10.00 to<br>12.00   | 3   |  |  |  |  |
| Digital transformation and ensuring a better<br>use of industrial data, which can optimise<br>steel supply chains (Clean Steel Partnership)<br>(IA)HORIZON-CL4-2024-TWIN<br>TRANSITION-01-44 | IA                   | 10.00                               | 3.00 to 5.00  | 2   |  |  |  |  |

| <b>CO2-neutral steel production with hydrogen,</b><br>secondary carbon carriers and electricity OR<br>innovative steel applications for low CO2<br>emissions (Clean Steel Partnership) (RIA)<br>HORIZON-CL4-2024-TWIN TRANSITION-01-<br>46 | RIA | 20.00  | 3.00 to 5.00 | 4 |
|--|-----|--------|--------------|---|
| Overall indicative budget  |     | 251.00 |              |   |

• Call -Twin Green and digital Transition 2024 TWO STAGE HORIZON-CL4-2024-TWIN-TRANSITION-01-TWO-STAGE

| Topics   | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |  |
|--|----------------------|-------------------------------------|---|---|--|--|
| Opening: 19 Sep 2023   |                      |                                     |   |   |  |  |
| Deadline(s): 07 Feb 2024 (First Sta  | ge), 24 Se           | p 2024 (Se                          | cond Stage)   |   |  |  |
| <b>Bio-intelligent manufacturing industries (Made in Europe Partnership) (RIA)</b> HORIZON-CL4-2024-TWIN-TRANSITION-01-01                      | RIA                  | 25.00                               | 4.00 to 5.00  | 5   |  |  |
| <b>Enhanced assessment, intervention and repair</b><br>of civil engineering infrastructure (RIA)<br>HORIZON-CL4-2024-TWIN-TRANSITION-01-<br>12 | RIA                  | 12.00                               | 5.00 to 6.00  | 2   |  |  |
| Overall indicative budget  |                      | 37.00                               |   |   |  |  |

### Destination 2: Increased Autonomy in Key Strategic Value Chains for Resilient Industry

• Call -Resilient Value Chains 2023 TWO STAGE HORIZON-CL4-2023-RESILIENCE-01-TWO-STAGE

| Topics   | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |  |
|--|----------------------|-------------------------------------|---|---|--|--|
| Opening: 08<br>Dec 2022  |                      |                                     |   |   |  |  |
| Dece 2022<br>Deadline(s): 07 Mar 2023 (First Stage), 05 Oct 2023 (Second Stage)                            |                      |                                     |   |   |  |  |
| Bioinspired and biomimetic<br>materials for sustainable textiles (IA)HORIZON-<br>CL4-2023-RESILIENCE-01-32 | IA                   | 31.00                               | 6.00 to 8.00  | 4   |  |  |

| Smart sensors for the ElectronicAppliances market (RIA)2023-RESILIENCE-01-33   | RIA | 31.00  | 6.00 to 8.00 | 4 |
|--|-----|--------|--------------|---|
| Advanced (nano and bio-based) materials for<br>sustainable agriculture (RIA) HORIZON-CL4-<br>2023-RESILIENCE-01-34           | RIA | 31.00  | 6.00 to 8.00 | 4 |
| Advanced materials for magnets in<br>applications for the New Energies Market<br>(RIA) HORIZON-CL4-2023-RESILIENCE-01-<br>37 | RIA | 31.00  | 6.00 to 8.00 | 4 |
| Overall indicative budget  |     | 124.00 |              |   |

#### • Call -Resilient Value Chains 2023 HORIZON-CL4-2023- RESILIENCE-01

| Topics   | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|--|-------------------|-------------------------------------|---|---|
|  | ng: 08<br>2022    |                                     |   |   |
| Dec Deadline(s):   | -                 | 3                                   |   |   |
| Innovative technologies for sustainable and                              | 20 Apr 202        |                                     |   |   |
| decarbonised extraction (RIA) HORIZON-                                   | RIA               | 25.00                               | Around 5.00   |   |
| CL4-2023-RESILIENCE-01-02  |                   |                                     |   |   |
| Technologies for processing and refining of                              |                   |                                     | Around  |   |
| critical raw materials (IA) HORIZON-CL4-                                 | IA                | 22.00                               | 7.300   |   |
| 2023-RESILIENCE-01-03  |                   |                                     | 7.500   |   |
| Recycling technologies for critical raw                                  |                   |                                     |   |   |
| Materials from EoL products(IA)  | IA                | 28.00                               | Around 7.00   |   |
| HORIZON-CL4-2023-RESILIENCE-01-05  |                   |                                     |   |   |
| Earth Observation platform, products                                     |                   | 20.00                               | Around<br>6.700   |   |
| and services for raw materials (IA)<br>HORIZON-CL4-2023-RESILIENCE-01-06 | IA                |                                     |   |   |
| Expert network on Critical raw materials                                 |                   |                                     |   |   |
| (CSA) HORIZON-CL4-2023-RESILIENCE-                                       | CSA               | 3.00                                | Around 3.00   |   |
| 01-07  | CBA               | 5.00                                | Alound 5.00   |   |
| <b>Recyclability and resource efficiency of</b>                          |                   |                                     |   |   |
| Rare Earth based magnets (IA) HORIZON-                                   | IA                | 20.00                               | Around 6.70   |   |
| CL4-2023-RESILIENCE-01-09  |                   | 20.00                               | 1100110 0170  |   |
| Innovative methods for safety and  |                   |                                     |   |   |
| sustainability assessments of chemicals and                              | RIA               | 29.00                               | Around 8.00   |   |
| materials (RIA) HORIZON-CL4-2023-  | 1111 1            | 27.00                               |   |   |
| RESILIENCE-01-21   | DI                | 1.5.00                              |   |   |
| Integrated approach for impact assessment                                | RIA               | 15.00                               | Around 5.00   |   |

| of safe and sustainable chemicals and<br>materials (RIA) HORIZON-CL4-2023-<br>RESILIENCE-01-22   |     |        |             |  |
|--|-----|--------|-------------|--|
| <b>Computational models for the develop</b><br><b>ment of safe and sustainable by design</b><br><b>chemicals and materials (RIA)</b> HORIZON-<br>CL4-2023-RESILIENCE-01-23 | RIA | 29.00  | Around 5.00 |  |
| <b>Coordination and knowledge sharing</b><br><b>across materials development communities</b><br>( <b>CSA</b> ) HORIZON-CL4-2023-RESILIENCE-<br>01-39                       | CSA | 2.00   | Around 5.00 |  |
| <b>Boosting generation and diffusion of advanced technologies in SMEs based on a supply chain model (CSA)</b> HORIZON-CL4-2023-RESILIENCE-01-42                            | CSA | 10.00  | Around 5.00 |  |
| <b>Affordable Housing District Demonstrator</b><br>( <b>IA</b> ) HORIZON-CL4-2023-RESILIENCE-01-<br>44   | IA  | 10.00  | Around 5.00 |  |
| Overall indicative budget  |     | 213.00 |             |  |

• Call – Resilient Value Chains 2024 TWO STAGE HORIZON-CL4-2024 RESILIENCE-01-TWO-STAGE

| Topics   | Type of<br>Action   | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |  |
|--|---|-------------------------------------|---|---|--|--|
| Deadline(s): 07 Feb  | Opening: 19 Sep 2023<br>Deadline(s): 07 Feb 2024 (First Stage), 24 Sep 2024<br>(Second Stage) |                                     |   |   |  |  |
| Biodegradable polymers for<br>sustainable<br>packaging materials (IA)<br>HORIZON-CL4-2024-<br>RESILIENCE-01-35 | RIA   | 31.00                               | 6.00 to 8.00  | 4   |  |  |
| Advanced biomaterials for theHealth Care(IA)HORIZON-CL4-2024-RESILIENCE-01-36                                  | RIA   | 31.00                               | 6.00 to 8.00  | 4   |  |  |

| Overall indicative budget | 62.00 |  | 62.00 |  |  |
|---------------------------|-------|--|-------|--|--|
|---------------------------|-------|--|-------|--|--|

#### • Call – Resilient Value Chains 2024 HORIZON-CL4-2024-RESILIENCE-01

| Topics  | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|---|-------------------|-------------------------------------|---|---|
|   | 19 Sep 2023       |                                     |   |   |
| Deadline(s):  | 07 Feb 2024       | 4                                   |   |   |
| <b>Exploration of critical raw materials in</b><br><b>deep land deposits (RIA)</b> HORIZON-CL4-<br>2024-RESILIENCE-01-01        | RIA               | 20.00                               | Around 5.00   | 4   |
| <b>Technologies for processing and refining of</b><br><b>critical raw materials (IA)</b> HORIZON-CL4-<br>2024-RESILIENCE-01-04  | IA                | 22.00                               | Around 7.30   | 3   |
| <b>Rare Earth and magnets innovation hubs</b><br>(IA)HORIZON-CL4-2024-RESILIENCE-01-<br>08                                      | IA                | 32.00                               | Around<br>16.00   | 2   |
| Addressing due diligence requirements in<br>raw materials supply chains.<br>(CSA)HORIZON-CL4-2024-RESILIENCE-<br>01-10          | CSA               | 2.20                                | Around 2.20   | 1   |
| <b>Technologies for extraction and</b><br><b>processing of critical raw materials (IA)</b><br>HORIZON-CL4-2024-RESILIENCE-01-11 | IA                | 15.00                               | Around 7.50   | 2   |
| <b>Development of safe and sustainable by</b><br><b>design alternatives (IA)</b> HORIZON-CL4-<br>2024-RESILIENCE-01-24          | IA                | 59.00                               | 12.00 to<br>15.00   | 4   |
| <b>'Innovate to transform' support for<br/>SME's sustainability transition (CSA)</b><br>HORIZON-CL4-2024-RESILIENCE-01-41       | CSA               | 10.00                               | Around 5.00   | 2   |
| Overall indicative budget   |                   | 160.20                              |   |   |

### **Destination 3: World- leading Data and Computing Technologies**

• Call -World leading data and Computing Technologies HORIZON-CL4-2023-DATA-01

| Topics | Type of<br>Action | Budgets<br>(EUR | Expected<br>EU | Number<br>of |
|--------|-------------------|-----------------|----------------|--------------|
|        |                   | million)        | contribution   |              |
|        |                   | 2023            | per project    | expected     |

|  |                          |       | (EUR<br>million) | to be<br>funded |  |  |
|--|--------------------------|-------|------------------|-----------------|--|--|
| Opening: 08<br>Dec 2022  |                          |       |                  |                 |  |  |
|  | Deadline(s): 29 Mar 2023 |       |                  |                 |  |  |
| Integration of data life cycle,<br>architectures and standards for complex<br>data cycles and/or human factors,language<br>(AI, data and robotics partnership)<br>(RIA)HORIZON-CL4-2023-DATA-01-02 | RIA                      | 45.00 | Around<br>9.00   | 5               |  |  |
| Collaboration with NSF on fundamental<br>research on new concepts for distributed<br>computing and swarm intelligence (CSA)<br>HORIZON-CL4-2023-DATA-01-04   | RIA                      | 28.00 | 4.00 to 6.00     | 6               |  |  |
| Cognitive Computing Continuum:<br>Intelligence and automation for more<br>efficient data processing (AI, data and<br>robotics partnership) (RIA) HORIZON-CL4-<br>2023-DATA-01-06                   | CSA                      | 2.00  | Around 2.00      | 1               |  |  |
| Coordination and Support of Cognitive<br>Computing Continuum research and policy<br>(CSA) HORIZON-CL4-2023-DATA-01-07  | CSA                      | 1.00  | Around 1.00      | 1               |  |  |
| Overall indicative budget  |                          | 76.00 |                  |                 |  |  |

• CALL -World leading data and computing technologies HORIZON-CL4-2024-DATA-01

| Topics  | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|---|----------------------|-------------------------------------|---|---|
| Opening: 15   | 5 Nov 2023           | <u> </u><br>;                       | iiiiiiiiiii)  | Tunucu  |
| Deadline(s): 19   |                      |                                     |   |   |
| <b>AI-driven data operations and</b><br><b>compliance technologies (AI, data and robotics</b><br><b>partnership) (IA)</b> HORIZON-CL4-2024-DATA-<br>01-01 | IA                   | 38.00                               | 8.00 to 10.00   | 4   |
| <b>Piloting emerging Smart IoT Platforms</b><br><b>and decentralized intelligence (IA)</b> HORIZON-<br>CL4-2024-DATA-01-03                                | IA                   | 45.00                               | 2.00 to 25.00   | 2   |
| Platform Building, standardisation and Up-<br>scaling of the 'Cloud-Edge-IoT' Solutions<br>(Horizontal Activities -CSA) HORIZON-CL4-<br>2024-DATA-01-05   | CSA                  | 2.00                                | Around 2.00   | 1   |

| Overall indicative budget | 85.00 |  |
|---------------------------|-------|--|
|                           |       |  |

# **Destination 4: Digital & Emerging Technologies for Competitiveness and Fit for the Green Deal**

• Call -D igital and Emerging Technologies for Competitiveness and Fit for the Greean Deal - HORIZON-CL4-2023-DIGITAL-EMERGING-01

| Topics   | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|--|-------------------|-------------------------------------|---|---|
| Openin<br>Des 2  |                   |                                     |   |   |
| Dec 2<br>Deadline(s): 2  | -                 | 3                                   |   |   |
| Novel paradigms and approaches, towards  |                   |                                     |   |   |
| AI-driven autonomous robots (AI, data<br>and robotics partnership) (RIA)HORIZON-<br>CL4-2023-DIGITAL-EMERGING-<br>01-01  | RIA               | 30.00                               | Around 8.00   | 4   |
| Adaptive multi-scale modelling and<br>characterisation suites from lab to production<br>(RIA)HORIZON-CL4-2023-DIGITAL-<br>EMERGING-01-12   | RIA               | 22.00                               | 5.00 to 7.00  | 4   |
| <b>Pervasive photonics -multi-technology</b><br><b>integration for digital infrastructure,</b><br><b>sensors and internet of things (Photonics</b><br><b>partnership)(RIA)</b> HORIZON-CL4-2023-<br>DIGITAL-EMERGING-<br>01-53 | RIA               | 18.00                               | 3.00 to 5.00  | 4   |
| Versatile light sources and systems as<br>tools for manufacturing and medical<br>application (Photonics Partnership) (RIA)<br>HORIZON-CL4-2023-DIGITAL-EMERGING-<br>01-01  | RIA               | 18.00                               | 3.00 to 5.00  | 4   |
| Advanced imaging and sensing technologies<br>(IA)(Photonics Partnership) HORIZON-CL4-<br>2023-DIGITAL-EMERGING-01-57   | IA                | 20.00                               | 5.00 to 7.00  | 4   |
| Overall indicative budget  |                   | 108.00                              |   |   |

• Call -Digital and emerging technologies for competitiveness and fit for the Green Deal HORIZON-CL4-2023-DIGITAL-EMERGING-01-CNECT

| Topics  | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|---|-------------------|-------------------------------------|---|---|
| Opening: 08<br>Dec 2022<br>Deadline(s): 29 Mar 2023   |                   |                                     |   |   |
| Industrial leadership in AI, Data<br>and Robotics –advanced human robot<br>interaction (AI Data and Robotics<br>Partnership) (IA) HORIZON-CL4-2023-<br>DIGITAL-EMERGING-01-02 | IA                | 30.00                               | Around<br>10.00   | 3   |
| Low TRL research in micro-electronics<br>and integration technologies for industrial<br>solutions (RIA) HORIZON-CL4-2023-<br>DIGITAL EMERGING-01-11                           | RIA               | 35.00                               | 3.00 to 4.00  | 10  |
| Sustainable safe-by-design 2D materials<br>technology (RIA) HORIZON-CL4-2023<br>DIGITAL-EMERGING-01-32  | RIA               | 6.00                                | 3.00 to 5.00  | 2   |
| <b>2D materials of tomorrow (RIA)</b> HORIZON-<br>CL4-2023-DIGITAL-EMERGING-01-33   | RIA               | 12.00                               | 3.00 to 4.00  | 3   |
| Quantum Photonic Integrated<br>Circuit technologies (RIA) HORIZON-CL4-<br>2023-DIGITAL-EMERGING-01-40   | RIA               | 12.00                               | 4.00 to 6.00  | 2   |
| <b>Investing in alternative quantum</b><br><b>computation and simulation platform</b><br><b>technologies (RIA)</b> HORIZON-CL4-2023-<br>DIGITAL-EMERGING-01-41                | RIA               | 20.00                               | 7.00 to 12.00   | 2   |
| Framework Partnership Agreement for<br>developing large-scale quantum Computing<br>platform technologies (FPA)HORIZON-CL4-<br>2023-DIGITAL-EMERGING-01-43                     | FPA               |                                     |   | 0   |
| <b>Next generation quantum sensing and</b><br><b>metrology technologies (RIA)</b> HORIZON-<br>CL4-2023-DIGITAL-EMERGING-01-50   | RIA               | 10.00                               | 2.00 to 3.00  | 3   |
| <b>Photonic Strategies and Skills</b><br><b>Development (CSA) (Photonics Partnership)</b><br>HORIZON-CL4-2023-DIGITAL-EMERGING-<br>01-56                                      | CSA               | 4.00                                | 1.00 to 3.00  | 2   |

| Overall indicative budget |  | 129.00 |  |  |
|---------------------------|--|--------|--|--|
|---------------------------|--|--------|--|--|

• Call - Digital and emerging technologies for competitiveness and fit for the Green Deal HORIZON-CL4-2024-DIGITAL-EMERGING-01

| Topics  | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|---|----------------------|-------------------------------------|---|---|
| Opening: 12   |                      |                                     |   |   |
| Deadline(s): 13   | 8 Apr 202            | .3                                  | 1   |   |
| Novel paradigms and approaches, towards AI-<br>powered robots-step change in functionality<br>(AI, data and robotics partnership) (RIA)<br>HORIZON-CL4-2024-DIGITAL-EMERGING-<br>01-03      | RIA                  | 30.00                               | Around 8.00   | 4   |
| Industrial leadership in AI, Data and<br>Robotics boosting competitiveness and the<br>green transition (AI Data and Robotics<br>Partnership)(IA) HORIZON-CL4-2024-<br>DIGITALEMERGING-01-04 | IA                   | 60.00                               | Around<br>10.00   | 5   |
| <b>Fundamentals of Software Engineering</b><br>( <b>RIA</b> )HORIZON-CL4-2024-DIGITAL<br>EMERGING-01-22   | RIA                  | 13.50                               | 4.00 to 6.00  | 4   |
| Smart photonics for joint communication& sensing and access everywhere (PhotonicsPartnership) (RIA) HORIZON-CL4-2024-DIGITAL-EMERGING-01-54   | IRA                  | 18.00                               | 3.00 to 5.00  | 4   |
| Photonics Innovation Factory forEurope(PhotonicsPartnership)(IA)HORIZON-CL4-2024-DIGITALEMERGING-<br>01-55Overall indicative budget   | IA                   | 15.00                               | Around<br>15.00   | 1   |

• Call -Digital and emerging technologies for competitiveness and fit for the Green Deal HORIZON-CL4-2024-DIGITAL-EMERGING-01-CNECT

| Topics   | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|--|-------------------|-------------------------------------|--|---|
| Ope  | ning: 15 Nov      | 2023                                |  |   |
|  | ine(s): 19 Ma     | r 2024                              |  |   |
| <b>Open Source for Cloud/Edge to</b><br><b>support European Digital Autonomy</b><br>( <b>RIA</b> )HORIZON-CL4-2024-DIGITAL-<br>EMERGING-01-21  | RIA               | 20.00                               | 4.00 to 6.00   | 4   |
| Public recognition scheme for<br>Open Source (CSA) HORIZON-CL4-<br>2024-DIGITAL-<br>EMERGING-01-23   | CSA               | 2.00                                | Around 2.00  | 1   |
| <b>Pilot line(s) for 2D materials-based</b><br><b>devices</b> ( <b>RIA</b> )HORIZON-CL4-2024-<br>DIGITAL-EMERGING-01-31  | RIA               | 33.00                               | Around 33.00   | 1   |
| Synergy with national and<br>regional initiatives in Europe (CSA)<br>HORIZON-CL4-2024-DIGITAL-<br>EMERGING-01-34   | CSA               | 3.00                                | Around 3.00  | 1   |
| Stimulating transnational research<br>and development of next generation<br>quantum technologies, including<br>basic theories and components<br>(Cascading grant with FSTP)<br>HORIZON-CL4-2024-DIGITAL-<br>EMERGING-01-42 | RIA               | 15.00                               | Around 15.00   | 1   |
| Quantum sensing and metrology<br>for market uptake (IA) HORIZON-<br>CL4-2024-DIGITAL-EMERGING-01-<br>45  | IA                | 15.00                               | 4.00 to 5.00   | 3   |
| Overall indicative budget  |                   | 88.00                               |  |   |

**Destination 5: 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-spacebased infrastructures, services, application and data 2023 HORIZON-CL4-2023-SPACE-01

| Topics   | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |
|--|-------------------|-------------------------------------|--|---|--|
| Opening: 22 Dec 2022<br>Deadline(s): 28 Mar 2023   |                   |                                     |  |   |  |
| End-to-endEarthobservationsystemsand associated servicesHORIZON-CL4-2023-SPACE-01-11   | IA                | 10.10                               | 1.00 to 2.5.00   | 5   |  |
| Future Space Ecosystem and EnablingTechnologiesHORIZON-CL4-2023-SPACE-01-12  | RIA               | 15.00                               | 0.50 to 2.50   | 7   |  |
| FutureSpaceEcosystem:ManagementandCoordinationActivityHORIZON-CL4-2023-SPACE-01-13   | CSA               | 2.00                                | Around 2.00  | 1   |  |
| Low cost high thrust propulsion for<br>European strategic space launchers -<br>technologies maturation including<br>ground system tests HORIZON-CL4-<br>2023-SPACE-01-21 | RIA               | 20.00                               | Around 20.00   | 1   |  |
| New space transportation solutions<br>and services HORIZON-CL4-2023-<br>SPACE-01-22  | RIA               | 23.10                               | 4.00 to 10.00  | 4   |  |
| Modern,flexibleandefficientEuropeantest, production and launchfacilitiesHORIZON-CL4-2023-SPACE-01-23   | RIA               | 10.00                               | 2.00 to 5.00   | 3   |  |
| CopernicusforAtmosphereandClimateChange,includingCO2HORIZON-CL4-2023-SPACE-01-31   | RIA               | 8.60                                | 2.00 to 3.00   | 3   |  |

| <b>Copernicus</b> for <b>Emergency</b>  |     |        |              |   |
|---|-----|--------|--------------|---|
| Management HORIZON-CL4-2023-<br>SPACE-01-32   | RIA | 3.00   | Around 3.00  | 1 |
| Copernicusin-situcomponentHORIZON-CL4-2023-SPACE-01-33  | RIA | 2.00   | Around 2.00  | 1 |
| Copernicus forMarine EnvironmentMonitoringHORIZON-CL4-2023-SPACE-01-34  | RIA | 5.00   | Around 5.00  | 1 |
| QuantumCommunicationTechnologiesforspaceSystemsHORIZON-CL4-2023-SPACE-01-62                                   | RIA | 5.00   | 2.00 to 2.50 | 2 |
| Quantum Space Gravimetry Phase-AStudyHORIZON-CL4-2023-SPACE-01-63   | RIA | 3.00   | 1.00 to 1.50 | 2 |
| Scientific exploitation of space data<br>HORIZON-CL4-2023-SPACE-01-71   | RIA | 10.70  | 1.00 to 1.50 | 8 |
| <b>Space technologies for European non</b><br>-dependence and competitiveness<br>HORIZON-CL4-2023-SPACE-01-72 | RIA | 20.00  | 2.00 to 3.00 | 7 |
| Overall indicative budget   |     | 137.50 |              |   |

• Call Strategic autonomy in developing, deploying and using global space based infrastructures services, applications and data 2024 HORIZON-CL4 2024 SPACE- 01

| Topics   | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |
|--|----------------------|-------------------------------------|---|---|--|
| Opening: 21 Nov 2023   |                      |                                     |   |   |  |
| Deadline(s): 20  | Feb 202              | 4                                   |   |   |  |
| <b>Copernicus for Land and Water</b> HORIZON-<br>CL4-2024-SPACE-01-35                                      | RIA                  | 4.00                                | 1.5 to 2.00   | 2   |  |
| <b>Copernicus for Security</b> HORIZON-CL4-2024-<br>SPACE-01-36  | RIA                  | 8.00                                | Around 4.00   | 2   |  |
| <b>Quantum Space Gravimetry Phase-B study</b><br>& Technology Maturation HORIZON-CL4-<br>2024-SPACE-01-64: | RIA                  | 14.20                               | Around<br>14.00   | 1   |  |
| Space technologies for European non-<br>dependence and competitiveness HORIZON-<br>CL4-2024-SPACE-01-73:   | RIA                  | 20.10                               | 2.00 to 3.00  | 7   |  |
| Overall indicative budget  |                      | 46.30                               |   |   |  |

# Destination 6: A human-centred and ethical development of digital and industrial technologies

| Topics   | Type of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|--|-------------------|-------------------------------------|--|---|
|  | Opening: 08       |                                     |  | Tunueu  |
|  | Dec 2022          |                                     |  |   |
|  | ine(s): 29 Ma     | r 2023                              | 1  |   |
| <b>Toolbox for efficient IP licensing</b><br><b>for market uptake and societal value</b><br><b>creation (CSA)</b> HORIZON-CL4-2023-<br>HUMAN-01-31                     | CSA               | 2.00                                | Around 2.00  | 1   |
| <b>Piloting communities of expert</b><br><b>facilitators to improve industry</b><br><b>academia-public sector co-creation</b><br>(CSA)HORIZON-CL4-2023-HUMAN-<br>01-32 | CSA               | 2.00                                | Around 2.00  | 1   |
| Fostering knowledge valorisation<br>through societal and cultural<br>interactions (CSA) HORIZON-CL4-<br>2023-HUMAN-01-33   | CSA               | 5.00                                | Around 1.00  | 5   |
| <b>Pilots for an innovative human-<br/>centric industry (RIA)</b> HORIZON-<br>CL4-2023-HUMAN-01-51   | RIA               | 10.00                               | Around 10.00   | 1   |
| Drivers and success factors for<br>progress towards Industry 5.0 (RIA)<br>HORIZON-CL4-2023-HUMAN-01-52   | RIA               | 4.00                                | Around 4.00  | 1   |
| Localised and Urban Manufacturing,<br>supporting creativity and the New<br>European Bauhaus (RIA using FSTP)<br>HORIZON-CL4-2023-HUMAN-01-53                           | RIA               | 10.00                               | 1.50 to 2.50   | 4   |
| Green and digital skills and training<br>needs for a just transition (CSA)<br>HORIZON-CL4-2023-HUMAN-01-54   | CSA               | 2.50                                | Around 0.50  | 5   |
| <b>Boosting industrial symbiosis by</b><br><b>standardisation (CSA)</b> HORIZON-<br>CL4-2023-HUMAN-01-62   | CSA               | 2.00                                | Around 2.00  | 1   |
| Provide for a strong and<br>sustainable pool of experts for<br>European Standardisation: attract   | CSA               | 3.00                                | 2.50 to 3.00   | 1   |

| the students of university/HEI<br>HORIZON-CL4-2023-HUMAN-01-63   |     |       |              |   |
|--|-----|-------|--------------|---|
| Pre-normative research and<br>standardisation in industrial<br>ecosystems (CSA) HORIZON-CL4-<br>2023-HUMAN-01-64   | CSA | 8.00  | 0.50 to 1.00 | 8 |
| International Hub for Digital<br>Partnerships in the Indo-Pacific<br>(CSA) HORIZON-CL4-2023-HUMAN-<br>01-91  | CSA | 2.50  | Around 2.50  | 1 |
| <b>R&amp;I cooperation with Sub-</b><br><b>Saharan Africa (CSA)</b> HORIZON-<br>CL4-2023-HUMAN-01-92   | CSA | 2.00  | Around 2.00  | 1 |
| <b>R&amp;I cooperation with Latin</b><br>America (Mexico, Brazil, Argentina,<br>and other countries in the BELLA<br>network or members of<br>RedClara)(CSA) HORIZON-CL4-<br>2023-HUMAN-01-93 | CSA | 2.00  | Around 2.00  | 1 |
| Overall indicative budget  |     | 55.00 |              |   |

• Call -A human-centred and ethical development of digital and industrial technologies HORIZON -CL4-2023-HUMAN-01-CNECT

| Topics  | Type<br>of<br>Action | Budgets<br>(EUR<br>million)<br>2023 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |  |
|---|----------------------|-------------------------------------|---|---|--|
| Opening: 08 Dec 2022  |                      |                                     |   |   |  |
| Deadline(s): 29   | Mar 202              | 3                                   |   |   |  |
| Efficient trustworthy AI -making the best of<br>data (AI, Data and Robotics Partnership) (RIA)<br>HORIZON-CL4-2023-HUMAN-01-01  | RIA                  | 35.00                               | 7.00 to 9.00  | 5   |  |
| Large Scale pilots on trustworthy AI data<br>and robotics addressing key societal challenges<br>(AI Data and Robotics Partnership) (IA)<br>HORIZON-CL4-2023-HUMAN-01-02 | IA                   | 24.00                               | Around 8.00   | 3   |  |
| Natural Language Understanding and<br>Interaction in Advanced Language<br>Technologies (AI Data and Robotics<br>Partnership) (RIA) HORIZON-CL4-2023-<br>HUMAN-01-03     | RIA                  | 20.00                               | 6.00 to 8.00  | 3   |  |
| Open innovation: Addressing Grand<br>challenges in AI (AI Data and Robotics   | CSA                  | 4.00                                | Around 4.00   | 1   |  |

| <b>Doutmonship</b> ) (CSA) HODIZON CL 4 2022                                       |              |        |                 |   |
|--|--------------|--------|-----------------|---|
| Partnership) (CSA) HORIZON-CL4-2023-   |              |        |                 |   |
| HUMAN-01-04  |              |        |                 |   |
| <b>Through AI from Disinformation to Trust</b><br>(IA)HORIZON-CL4-2023-HUMAN-01-05 | IA           | 10.00  | Around 5.00     | 2 |
|  |              |        | Anorrad         |   |
| Next Generation Internet Fund (RIA)  | RIA          | 27.00  | Around<br>27.00 | 1 |
| HORIZON-CL4-2023-HUMAN-01-11   |              |        | 27.00           |   |
| Pilots for the Next Generation Internet (IA)                                       | IA           | 14.00  | 3.00 to 5.00    | 5 |
| HORIZON-CL4-2023-HUMAN-01-12   |              |        |                 |   |
| Next Generation Internet International   |              | 4.00   |                 |   |
| Collaboration -USA (RIA)HORIZON-CL4  | RIA          | 4.00   | Around 4.00     | 1 |
| 2023-HUMAN-01-13   |              |        |                 |   |
| Next Generation Internet Commons Policy  | CSA          | 2.00   | Around 2.00     | 1 |
| (CSA) HORIZON-CL4-2023-HUMAN-01-14   | CSA          | 2.00   | Alound 2.00     | 1 |
| Next Generation eXtended Reality (RIA)   | RIA          | 26.00  | 5.00 to 8.00    | 4 |
| HORIZON-CL4-2023-HUMAN-01-21   | КIА          | 20.00  | 5.00 10 8.00    | 4 |
| eXtended Reality for Industry 5.0 (IA)   | IA           | 25.00  | 5 00 40 8 00    | 4 |
| HORIZON-CL4-2023-HUMAN-01-22   | IA           | 23.00  | 5.00 to 8.00    | 4 |
| Supporting the emergence of an open  |              |        |                 |   |
| human-centric Metaverse (CSA) HORIZON-   | CSA          | 2.00   | Around 2.00     | 1 |
| CL4-2023-HUMAN-01-23   |              |        |                 |   |
| Support facility for digital standardisation                                       |              |        |                 |   |
| and international cooperation in digital   |              | 1.50   | 11.50           | 1 |
| partnerships (CSA)HORIZON-CL4-2023-  | CSA          | 1.50   | Around 1.50     | 1 |
| HUMAN-01-65  |              |        |                 |   |
| Promoting EU standards globally (CSA)  |              | 2.50   |                 | 1 |
| HORIZON-CL4-2023-HUMAN-01-66   | CSA          | 2.50   | Around 2.50     | 1 |
| Digital Humanism -Putting people at the centre                                     |              |        |                 |   |
| of the digital transformation (CSA) HORIZON-                                       | CSA          | 1.50   | Around 1.50     | 1 |
| CL4-2023-HUMAN-01-81   | -            |        |                 |   |
| Art-driven digital innovation: Towards   |              |        |                 |   |
| human compatible and ecologically conscious  | <b>a</b> c : |        |                 |   |
| technology (CSA) HORIZON-CL4-2023-   | CSA          | 3.00   | Around 3.00     | 1 |
| HUMAN-01-82  |              |        |                 |   |
| Overall indicative budget  |              | 201.50 |                 |   |
| o vorant marcuit vo ouugot   |              | -01.00 |                 |   |

• Call - A human-centred and ethical development of digital and industrial technologiesHORIZON-CL4-2024-HUMAN-01

| Topics   | Type<br>of<br>Action<br>g: 15 Nov | Budgets<br>(EUR<br>million)<br>2024 | Expected<br>EU<br>contribution<br>per project<br>(EUR<br>million) | Number<br>of<br>projects<br>expected<br>to be<br>funded |
|--|-----------------------------------|-------------------------------------|---|---|
| Deadline   | -                                 |                                     |   |   |
| Explainable and Robust AI (AIData andRobotics Partnership) (RIA)HORIZON-CL4-2024-HUMAN-01-06   | RIA                               | 30.00                               | 9.00 to 10.00   | 3   |
| Collaborative intelligence –<br>combining the best of machine<br>and human (AI Data and Robotics<br>Partnership) (RIA) HORIZON-<br>CL4-2024-HUMAN-01-07                | RIA                               | 20.00                               | Around 5.00   | 4   |
| Support for transnational<br>activities of National Contact<br>Points in the thematic areas of<br>Digital, Industry and Space(CSA)<br>HORIZON-CL4-2024-HUMAN-01-<br>34 | CSA                               | 5.00                                | 1.50 to 5.00  | 3   |
| Facilitate the engagement in<br>global ICTstandardisation development(CSA) HORIZON-CL4-2024-<br>HUMAN-01-61Overall indicative budget                                   | CSA                               | 6.00                                | Around 6.00   | 1   |

Link pentru Programul de Lucru 2023-2024 al Clusterului 4:

<u>https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-</u> 2024/wp-7-digital-industry-and-space\_horizon-2023-2024\_en.pdf

Echipa CeS-UTCN