

HORIZONTE EUROPA – [Programa de Trabalhos 2021-2022 do Cluster 4: “Digital e Indústria” – Tópicos 2022](#)

Referência tópico	Título	Tipo de projeto	M€ por projeto	Orçamento disponível (M€)	Deadline
Destination – Climate Neutral, Circular and Digitised Production					
HORIZON-CL4-2022-TWIN-TRANSITION-01-01	Rapid reconfigurable production process chains (IA)	IA	8-10	27.5	30-03-2022
HORIZON-CL4-2022-TWIN-TRANSITION-01-02	Products with complex functional surfaces (RIA)	RIA	4-6	21.5	
HORIZON-CL4-2022-TWIN-TRANSITION-01-03	Excellence in distributed control and modular manufacturing	RIA	4-6	21.5	
HORIZON-CL4-2022-TWIN-TRANSITION-01-04	Intelligent work piece handling in a full production line	RIA	4-6	21.5	
HORIZON-CL4-2022-TWIN-TRANSITION-01-06	ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2) (IA)	IA	4-8	30	
HORIZON-CL4-2022-TWIN-TRANSITION-01-07	Digital tools to support the engineering of a Circular Economy (RIA)	RIA	3-6	22	
HORIZON-CL4-2022-TWIN-TRANSITION-01-09	Demonstrate the use of Digital Logbook for buildings (IA)	IA	4.5	9	
HORIZON-CL4-2022-TWIN-TRANSITION-01-10	Circular flows for solid waste in urban environment (IA)	IA	12-18	42.5	
HORIZON-CL4-2022-TWIN-TRANSITION-01-11	Valorisation of CO/CO2 streams into added-value products of market interest (IA)	IA	12-18	42.5	
HORIZON-CL4-2022-TWIN-TRANSITION-01-13	Raw material preparation for clean steel production (IA)	IA	4-5	14	
HORIZON-CL4-2022-TWIN-TRANSITION-01-15	New electrochemical conversion routes for the production of chemicals and materials in process industries (RIA)	RIA	8-12	30	
HORIZON-CL4-2022-TWIN-TRANSITION-01-16	Modular and hybrid heating technologies in steel production (IA)	IA	3	10	
HORIZON-CL4-2022-TWIN-TRANSITION-01-17	Integration of hydrogen for replacing fossil fuels in industrial applications (IA)	IA	12-18	42.5	

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<u>Destination – Increased Autonomy in Key Strategic Value Chains for Resilient Industry</u>					
HORIZON-CL4-2022-RESILIENCE-01-01	Circular and low emission value chains through digitalisation (RIA)	RIA	6-8	25.3	30/03/2022
HORIZON-CL4-2022-RESILIENCE-01-02	Monitoring and supervising system for exploration and future exploitation activities in the deep sea (RIA)	RIA	14	14	
HORIZON-CL4-2022-RESILIENCE-01-03	Streamlining cross-sectoral policy framework throughout the extractive life-cycle in environmentally protected areas (CSA)	CSA	2.4	2.4	
HORIZON-CL4-2022-RESILIENCE-01-04	Developing digital platforms for the small scale extractive industry (IA)	IA	5	15	
HORIZON-CL4-2022-RESILIENCE-01-05	Technological solutions for tracking raw material flows in complex supply chains (RIA)	RIA	13.5	13.5	
HORIZON-CL4-2022-RESILIENCE-01-06	Sustainable and innovative mine of the future (IA)	IA	12	36	
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)	IA	12	36	
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)	RIA	4.5	13.5	
HORIZON-CL4-2022-RESILIENCE-01-10	Innovative materials for advanced (nano)electronic components and systems (RIA)	RIA	3-5	20	
HORIZON-CL4-2022-RESILIENCE-01-11	Advanced lightweight materials for energy efficient structures (RIA)	RIA	3-5	20	
HORIZON-CL4-2022-RESILIENCE-01-12	Functional multi-material components and structures (RIA)	RIA	4-6	20	
HORIZON-CL4-2022-RESILIENCE-01-13	Smart and multifunctional biomaterials for health innovations (RIA)	RIA	3-5	20	
HORIZON-CL4-2022-RESILIENCE-01-14	Membranes for gas separations - membrane distillation (IA)	IA	6-8	21	
HORIZON-CL4-2022-RESILIENCE-01-16	Building and renovating by exploiting advanced materials for energy and resources efficient management (IA)	IA	5-7	21	
HORIZON-CL4-2022-RESILIENCE-01-19	Advanced materials modelling and characterisation (RIA)	RIA	4-6	18	
HORIZON-CL4-2022-RESILIENCE-01-20	Climate Neutral and Circular Innovative Materials Technologies Open Innovation Test Beds (IA)	IA	10-12	34	
HORIZON-CL4-2022-RESILIENCE-01-21	Leveraging standardisation in Digital Technologies (CSA)	CSA	4.5	4.5	

HORIZON-CL4-2022-RESILIENCE-01-23	Safe- and sustainable-by-design organic and hybrid coatings (RIA)	RIA	3-5	20	
HORIZON-CL4-2022-RESILIENCE-01-24	Novel materials for supercapacitor energy storage (RIA)	RIA	4-6	23	
HORIZON-CL4-2022-RESILIENCE-01-25	Optimised Industrial Systems and Lines through digitalisation (IA)	IA	4-5	15	
HORIZON-CL4-2022-RESILIENCE-01-26	'Innovate to transform' support for SME's sustainability transition (CSA)	CSA	5	10	
HORIZON-CL4-2021-RESILIENCE-02-32	Social and affordable housing district demonstrator	RIA	2.5	10	25/01/2022

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<u>Destination – World Leading Data and Computing Technologies</u>					
HORIZON-CL4-2022-DATA-01-04	Technologies and solutions for data trading, monetizing, exchange and interoperability (IA)	IA	10-13	52	05-04-2022
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)	RIA	8-12	33	
HORIZON-CL4-2022-DATA-01-05	Extreme data mining, aggregation and analytics technologies and solutions (RIA)	RIA	5	30	
HORIZON-CL4-2022-DATA-01-02	Cognitive Cloud: AI-enabled computing continuum from Cloud to Edge (RIA)	RIA	4-6	50	
HORIZON-CL4-2022-DATA-01-03	Programming tools for decentralised intelligence and swarms (RIA)	RIA	4-8	40	

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<u>Destination – Digital and Emerging Technologies for Competitiveness and fit for Green Deal</u>					
HORIZON-CL4-2021-DIGITAL-EMERGING-02-10	Strengthening the quantum software ecosystem for quantum computing platforms (RIA)	RIA	5-7	12	27/01/2022
HORIZON-CL4-2021-DIGITAL-EMERGING-02-15	Framework Partnership Agreement for developing the first large-scale quantum computers (FPA)	FPA			
HORIZON-CL4-2021-DIGITAL-EMERGING-02-16	Basic Science for Quantum Technologies (RIA)	RIA	2-3	16	
HORIZON-CL4-2021-DIGITAL-EMERGING-02-17	Framework Partnership Agreement for developing large scale quantum simulation platform technologies (FPA)	FPA			
HORIZON-CL4-2021-DIGITAL-EMERGING-02-19	Framework Partnership Agreements in Quantum Communications (FPA)	FPA			
HORIZON-CL4-2021-DIGITAL-EMERGING-02-20	Quantum sensing technologies for market uptake (IA)	IA	7-10	23	
HORIZON-CL4-2021-DIGITAL-EMERGING-02-22	Framework Partnership Agreements for open testing and experimentation and for pilot production capabilities for quantum technologies (FPA)	FPA			
HORIZON-CL4-2022-DIGITAL-EMERGING-01-03	Advanced multi-sensing systems (RIA)	RIA	3-5	48	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-05	AI, Data and Robotics for Industry optimisation (including production and services) (IA)	IA	3-5	19	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-06	Pushing the limit of physical intelligence and performance (RIA)	RIA	4	28.5	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-07	Increased robotics capabilities demonstrated in key sectors (IA)	IA	6	36	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-26	Open source for cloud-based services (RIA)	RIA	4-6	22	

HORIZON-CL4-2022-DIGITAL-EMERGING-01-30	European Enabling technologies for Beyond 5G/6G RAN disaggregated architectures (RIA)	RIA	13	13	05/04/2022
HORIZON-CL4-2022-DIGITAL-EMERGING-01-35	Advanced characterisation methodologies to assess and predict the health and environmental risks of nanomaterials (RIA)	RIA	2-3	17.5	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-38	International cooperation in semiconductors (CSA)	CSA	3	3	
HORIZON-CL4-2022-DIGITAL-EMERGING-01-39	Ultra-low energy and secure networks	RIA	13	13	
HORIZON-CL4-2022-DIGITAL-EMERGING-02-17	New generation of advanced electronic and photonic 2D materials-based devices, systems and sensors (RIA)	RIA	16.4	16.5	16/11/2022
HORIZON-CL4-2022-DIGITAL-EMERGING-02-18	2D materials-based devices and systems for energy storage and/or harvesting (RIA)	RIA	9	9	
HORIZON-CL4-2022-DIGITAL-EMERGING-02-19	2D materials-based devices and systems for biomedical applications (RIA)	RIA	6	6	
HORIZON-CL4-2022-DIGITAL-EMERGING-02-20	2D-material-based composites, coatings and foams (IA)	IA	9	9	
HORIZON-CL4-2022-DIGITAL-EMERGING-02-22	Supporting the coordination of the Graphene Flagship projects (CSA)	CSA	3	3	

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<u>Destination – A human-centred and ethical development of digital and industrial technologies</u>					
HORIZON-CL4-2022-HUMAN-01-01	AI for human empowerment (RIA)	RIA	4	16	05/04/2022
HORIZON-CL4-2022-HUMAN-01-02	European Network of AI Excellence Centres: Expanding the European AI lighthouse (RIA)	RIA	11.5	34.5	
HORIZON-CL4-2022-HUMAN-01-03	Internet architecture and decentralised technologies (RIA)	RIA	11	22	
HORIZON-CL4-2022-HUMAN-01-05	Next Generation Safer Internet: Technologies to identify digital Child Sexual Abuse Material (CSAM) (RIA)	RIA	2	2	
HORIZON-CL4-2022-HUMAN-01-07	NGI International Collaboration - USA and Canada (RIA)	RIA	6	6	
HORIZON-CL4-2022-HUMAN-01-14	eXtended Reality Technologies (RIA)	RIA	5-8	19	
HORIZON-CL4-2022-HUMAN-01-19	eXtended Reality Learning - Engage and Interact	IA	5-8	21.5	

RIA – Research and Innovation Action (financiamento: 100%); Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.

IA – Innovation Action (70% dos custos diretos elegíveis, com exceção das entidades sem fins lucrativos que podem ser reembolsadas a 100%); Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

CSA - Coordination and Support Action (financiamento: 100%); Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.