

## Horisontti Euroopan 5-klusterin työohjelmat 2021-22 ja 2023-24

Horisontti Euroopan 5-klusterin työohjelma 2021–2022: versio julkaistu 5.4.2022.

Työohjelma on löydettävissä Euroopan komission sivuilta. Hahmotusta helpottamaan olemme tehneet tämän luettelon hakujen aikatauluista, kaikista hakuotsikoista ja EU:n ilmoittamista alustavista rahoitusmääristä, projektityypeistä ja aihealueista.

S:llä on merkitty haut, joissa myös yhteiskuntatieteellistä näkökulmaa edellytetään.

Vuosien 2021-22 työohjelmassa on vielä 6 hakua vuodelle 2022, viimeiset sulkeutuvat tammikuussa. Vuosien 2023-24 työohjelmasta on luonnos, josta saadaan uusi versio touko-kesäkuussa 2022. Työohjelman aiheet ovat tiedossa ja ne on esitetty alla, suluissa arvio otsikkomäärästä kussakin aiheessa.

Topic areas of Cluster 5 Calls		
ClimS	Climate sciences and responses	(Destination 1 Calls)
BAT	Batteries partnership	(Destination 2 Calls)
BT	Breakthrough technologies	(Destination 2 Calls)
CitE	Citizen and stakeholder engagement	(Destination 2 Calls)
CaC	Communities and cities	(Destination 2 Calls)
RES	Renewable energy systems	(Destination 3 Calls)
ESGS	Energy systems, grids and storage	(Destination 3 Calls)
CCUS	Carbon capture, utilisation and storage	(Destination 3 Calls)
CC	Cross-cutting issues	(Destination 3+5 Calls)
Build	Buildings, also BUILT4PEOPLE partnership	(Destination 4 Calls)
IND	Industrial facilities energy transition	(Destination 4 Calls)
2ZERO	Zero-emission road transport	(Destination 5 Calls)
AVI	Aviation	(Destination 5 Calls)
WaT	Waterborne transport	(Destination 5+6 Calls)
THE	Transport - health and environment	(Destination 5 Calls)
CCAM	Connected, automated mobility	(Destination 6 Calls)
MSTS	Multimodal sust. transport systems	(Destination 6 Calls)
SAFE	Safety and resilience	(Destination 6 Calls)

### Lisätietoa kansallisilta

#### yhteyshenkilöiltä:

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<b>D2 Second Call 22-D2-01 - opening 28.4.2022 - deadline 6.9.2022 - budget 138 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D2-01-01: Sustainable processing and refining of battery grade graphite (Batteries Partnership)	10	5	2	IA	BAT	60
CL5-2022-D2-01-02: Interface and electron monitoring for the engineering of new and emerging battery technologies (Batteries Partnership)	10	5	2	RIA	BAT	
CL5-2022-D2-01-03: Furthering the development of a materials acceleration platform for sustainable batteries (combining AI, big data, autonomous synthesis robotics, high throughput testing)(Batteries Partnership)	20	20	1	RIA	BAT	
CL5-2022-D2-01-04: Towards creating an integrated manufacturing value chain in Europe: from machinery development to plant and site integrated design (Batteries Partnership)	15	7-8	2	IA	BAT	60
CL5-2022-D2-01-05: Next generation technologies for High-performance and safe-by-design battery systems for transport and mobile applications (Batteries Partnership)	15	5	2	RIA	BAT	
CL5-2022-D2-01-06: Embedding smart functionalities into battery cells (embedding sensing and self-healing functionalities to monitor and self-repair battery cells) (Batteries Partnership)	15	5	3	RIA	BAT	
CL5-2022-D2-01-07: Digitalisation of battery testing, from cell to system level, including lifetime assessment (Batteries Partnership)	15	5	3	RIA	BAT	
CL5-2022-D2-01-08: Coordination of large-scale initiative on future battery technologies (Batteries Partnership)	3	3	1	CSA	BAT	
CL5-2022-D2-01-09: Physics and data-based battery management for optimised battery utilisation (Batteries Partnership)	15	5	3	RIA	BAT	
CL5-2022-D2-01-10: Streamlined collection and reversed logistics, fully automated, safe and cost-efficient sorting, dismantling and second use before recycling (Batteries Partnership)	15	5	3	RIA	BAT	
CL5-2022-D2-01-11: CIVITAS 2030 – Coordination and support for EU funded urban mobility innovation	5	4-5	1	CSA	CaC	S
<b>D3 Fifth Call 22-D3-02 - opening 26.5.2022 - deadline 27.10.2022 - budget 99 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D3-02-01: Digital solutions for defining synergies in international renewable energy value chains	9	3	3	RIA	RES	
CL5-2022-D3-02-02: AU-EU Energy System Modelling	5	2,5	2	RIA	RES	
CL5-2022-D3-02-03: Innovative renewable energy carrier production for heating from renewable energies	10	10	1	IA	RES	
CL5-2022-D3-02-04: Technological interfaces between solar fuel technologies and other renewables	10	3-5	2	RIA	RES	
CL5-2022-D3-02-05: Renewable energy carriers from variable renewable electricity surplus and carbon emissions from energy consuming sectors	20	10	2	IA	RES	S
CL5-2022-D3-02-06: Direct renewable energy integration into process energy demands of the chemical industry	10	3-5	2	RIA	RES	
CL5-2022-D3-02-07: Renewable energy incorporation in agriculture and forestry	15	7,5	2	IA	RES	S
CL5-2022-D3-02-08: Demonstration of complete value chains for advanced biofuel and non-biological renewable fuel production	20	10	2	IA	RES	
<b>D3 Sixth Call 22-D3-03 - opening 6.9.2022 - deadline 10.1.2023 - budget 127.5 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D3-03-01: Innovative components and/or sub-systems for CSP plants and/or concentrating solar thermal installations	16,5	5,5	3	IA	RES	
CL5-2022-D3-03-02: Best international practice for scaling up sustainable biofuels	9	3	3	RIA	RES	
CL5-2022-D3-03-03: Efficient and circular artificial photosynthesis	10	3-5	2	RIA	RES	
CL5-2022-D3-03-04: Integrated wind farm control	18	6	3	RIA	RES	
CL5-2022-D3-03-05: Novel Thin Film (TF) technologies targeting high efficiencies	20	5	4	RIA	RES	
CL5-2022-D3-03-06: Efficient and low-emission technologies for industrial use of combustion and gasification systems from low-value biogenic residues and wastes	10	3-5	2	RIA	RES	
CL5-2022-D3-03-07: Development of algal and renewable fuels of non-biological origin	15	5,0	3	RIA	RES	
CL5-2022-D3-03-08: Development of digital solutions for existing hydropower operation and maintenance	9	3-4,5	3	RIA	RES	
CL5-2022-D3-03-09: Recycling end of life PV module	20	6-7	3	IA	RES	
<b>D4 Third Call 22-D4-01 - opening 28.4.2022 - deadline 6.9.2022 - budget 54 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D4-01-01: Demand response in energy-efficient residential buildings	12	4-6	2	IA	Build	S
CL5-2022-D4-01-02: Renewable-intensive, energy positive homes	12	4-6	2	IA	Build	
CL5-2022-D4-01-03: Smarter buildings for better energy performance	12	4-6	2	IA	Build	
CL5-2022-D4-01-04: Development and pilot demonstration of heat upgrade technologies with supply temperature in the range 150-250°C	10	3-5	2	RIA	IND	
CL5-2022-D4-01-05: Development of high temperature thermal storage for industrial applications	8	3-5	2	RIA	IND	
<b>D4 Fourth Call 22-D4-02 - opening 6.9.2022 - deadline 24.1.2023 - budget 86 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D4-02-01: Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)	15	5-7,5	2	IA	Build	S60
CL5-2022-D4-02-02: Solutions for the sustainable, resilient, inclusive and accessible regeneration of neighbourhoods enabling low carbon footprint lifestyles and businesses (Built4People)	15	5-7,5	2	IA	Build	S60
CL5-2022-D4-02-03: Sustainable and resource-efficient solutions for an open, accessible, inclusive, resilient and low-emission cultural heritage: prevention, monitoring, management, maintenance, and renovation (Built4People)	20	4-5	4	RIA	Build	S
CL5-2022-D4-02-04: Smart-grid ready and smart-network ready buildings, acting as active utility nodes (Built4People)	18	6-9	2	IA	Build	S60
CL5-2022-D4-02-06: More sustainable buildings with reduced embodied energy / carbon, high life-cycle performance and reduced life-cycle costs (Built4People)	18	6-9,5	2	IA	Build	60
<b>D6 Third Call 22-D6-02 - opening 28.4.2022 - deadline 6.9.2022 - budget 91 M€</b>	<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>
CL5-2022-D6-02-01: Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality	15	7-8	2	IA	MSTS	
CL5-2022-D6-02-02: Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight	15	7-8	2	IA	MSTS	S
CL5-2022-D6-02-03: Smart enforcement for resilient, sustainable and more efficient transport operations	8	4	2	RIA	MSTS	
CL5-2022-D6-02-04: Accelerating the deployment of new/shared mobility services for the next decade	20	8-10	2	IA	MSTS	
CL5-2022-D6-02-05: Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport	15	4-5	3	RIA	MSTS	
CL5-2022-D6-02-06: Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure	10	5	2	IA	MSTS	
CL5-2022-D6-02-07: New concepts and approaches for resilient freight transport and logistics networks against disruptive events (including pandemics)	8	4	2	RIA	MSTS	
<b>B</b>	<b>C</b>	<b>N</b>	<b>A</b>	<b>T</b>	<b>X</b>	

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## Ennakkotietoa Cluster 5 Work program 2023-24

### D1 Calls Destination 1 Climate sciences and responses

Earth system science (7 topics)  
Climate change mitigation, pathways to climate neutrality (4 topics)  
Climate change impacts and adaptation (1 topic)  
Social science, citizen science and behavioural science for climate action (3 topics)  
Climate-ecosystem interactions (1 topic)  
International cooperation (3 topics)

### D2 Calls Destination 2 Batteries and breakthrough technologies

Batteries (14 topics)  
Breakthrough Technologies (1 topic)

### D3 Calls Destination 3 Sustainable, secure and competitive energy supply

#### Renewable Energy

Cross-cutting (1 topic)  
Photovoltaics (11 topics)  
Wind energy (5 topics)  
Renewable fuels (8 topics)  
Bioenergy (2 topics)  
Geothermal energy (3 topics)  
Hydropower (2 topics)  
Ocean energy (3 topics)  
CSP, Heat Pumps, Solar Thermal (4 topics)  
Cross-technology (3 topics)  
Breakthrough (1 topic)

#### Energy Systems, grids & storage

Energy system integration (2 topics)  
Energy system planning and operation (3 topics)  
Active consumers, Markets and Energy Communities (2 topics)  
TSO/DSO Flexibility Management (2 topics)  
Electricity system reliability and resilience - grid architecture (3 topics)  
Electricity system reliability and resilience - risk preparedness (2 topics)  
Pan-European Transmission of Energy (2 topics)  
Storage development and integration (4 topics)  
Green digitalisation of the energy system - Interoperability and data (1 topic)

#### Carbon Capture, Utilization and Storage (CCUS) (3 topics)

#### Cross-cutting issues (1 topic)

### D4 Calls Destination 4 Efficient, sustainable and inclusive energy use

Buildings: Highly energy-efficient and climate neutral European building stock (17 topics)  
Industry (2 topics)

### D5 Calls Destination 5 Clean and competitive solutions for all transport modes

2ZERO Zero-emission road transport (13 topics)  
Aviation (7 topics)  
Waterborne transport (14 topics)  
Transport-related health and environment (2 topics)

### D6 Calls Destination 6 Safe, Resilient Transport and Smart Mobility services for passengers and goods

CCAM Connected, Cooperative and Automated Mobility (10 topics)  
Multimodal transport, infrastructure and logistics (8 topics)  
Safety and resilience (7 topics)  
Cross-cutting (1 topic)