NATIONAL CLUSTER ASSOCIATION

We connect cluster organizations and technology platforms defend their needs and develop cluster policy in the Czech Republic.

The National Cluster Association (NCA) is a non-governmental non-profit organization that brings together entities and individuals with the goal of coordinated and sustainable development of cluster initiatives and cluster policy development in the Czech Republic based on concentration of knowledge, experience and expertise to strengthen the Czech competitiveness.

NATIONAL CLUSTER ASSOCIATION

AI based Cluster Cooperation in the Danube Region

Clusters as drivers of interregional value chains

Clusters Meet Regions | Chisinau | 10 October 2024

NATIONAL CLUSTER ASSOCIATION

National Cluster Association Czech Republic brings together:

34 / 5 clusters and technology platforms / research and support organizations

881 / 282 companies / other members

268 tis Total number of employees in member organizations (approx.)

We connect cluster organizations and technology platforms defend their needs and develop cluster policy in the Czech Republic.

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Top – down view

- **EU Industrial Ecosystems**
- Smart specialisation strategies
- **Green, digital, resillience**
- **…**

- Aggregated data
- Regional comparison

- **This view is important for setting strategies for regional development, targeting grant support etc.**


10 BARREL
BREWING CO

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View from below

- **Mostly have minimum knowledge about industrial strategie, ecosystems etc.**

- Knows its product and service portfolio exactly.
- **Knows what they need for their development.**
- Doesn't use buzzwords.

- **We love them (mostly). They are our members ☺**

NCA cz
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And somewhere in the middle we are … cluster managers

- **We know our members.**
- We know strategies and buzzword.
- **We strive to help our members as well as our region.**
- Among other services, we bring business and R&D opportunities to our members.
- **What tools do we have available?**

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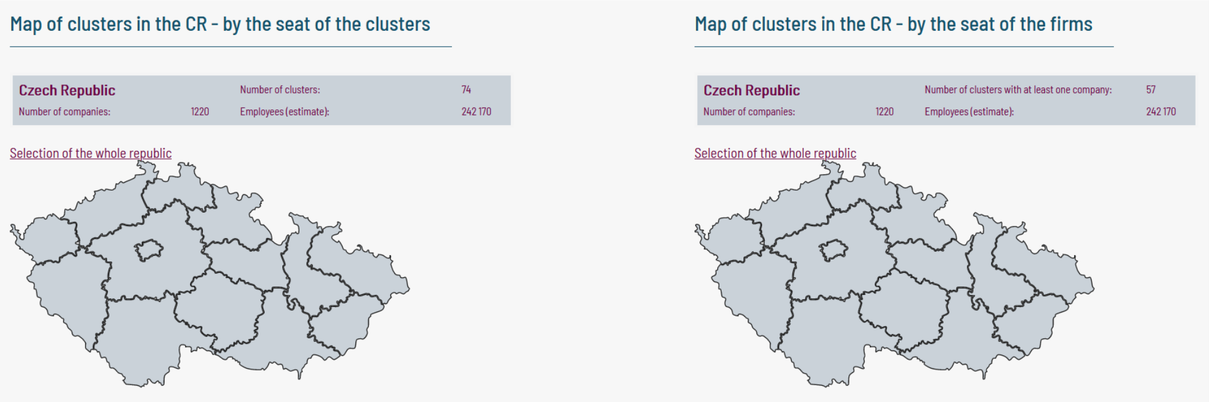
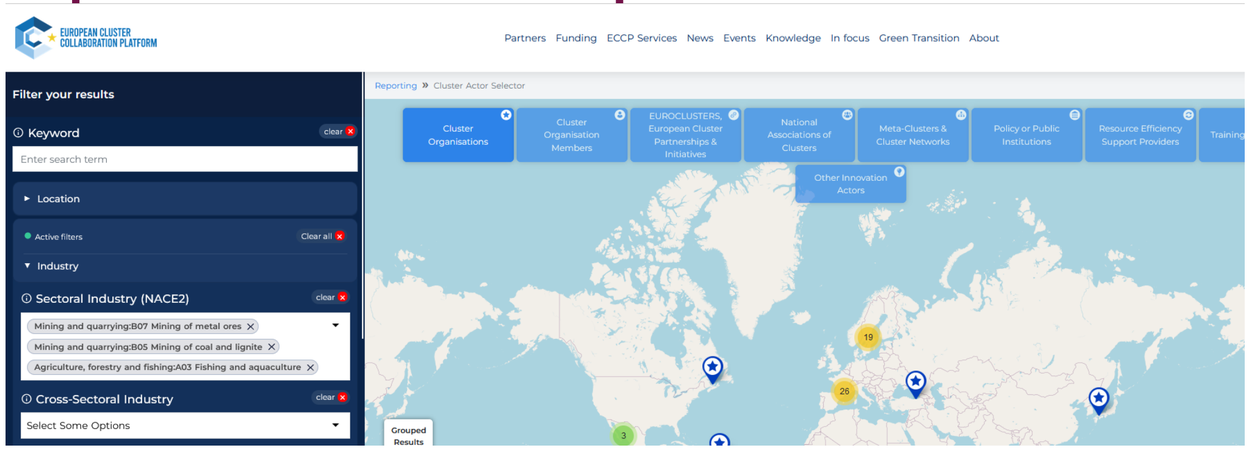
Regional Map of the clusters, ECCP partners search etc.



https://nca.cz/en/clusters-map-cr/



List of Clusters and Technology Platforms in the Czech Republic

Involvement of Clusters and Technological Platforms in the EU Industrial Ecosystems

All | Tourism (0) | Proximity and Social Economy (0) | Retail (0) | Construction (5) | Digital (8) | Health (8) | Ag
Aerospace and Defence (6) | Creative and cultural Industries (2)

Involvement of Clusters and Technology Platforms in Key Enable Technologies

All | Výrobní technologie - Pokročilé výrobní technologie (10) | Výrobní technologie - Pokročilé materiály (9) | Výro
Digitální technologie - Fotonika (1) | Digitální technologie - Umělá inteligence (6) | Kybernetické technologie - Zabezpe

Established International Cooperation

All | Bulharsko (1) | Česko (2) | Dánsko (1) | Finsko (2) | Francie (5) | Itálie (5) | Maďarsko (1) | Německo (4)

CIN	Organization name	No Members	Web
3888321	Agroklastr Vysočina z.s.	0	They don't h
26795761	AIM.klastr, družstvo	0	They don't h
26562898	Asociace NGV z.s.	0	http://www
67362176	Asociace obranného a bezpečnostního průmyslu ČR	5	https://aob
10755713	Asociace pro inovace v logistice, z.s.	0	https://apil
4968298	Asociace pro komunikační nástroje a internet věcí, z.s.	0	https://ww
67775403	Asociace pro vodu v krajině České republiky, z.s.	0	https://ww
546151	Asociace výzkumných organizací, z.s.	0	https://ww

https://reporting.clustercollaboration.eu/

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Detailed information about our members

Technology profiles		9
NÁZEV ORGANIZACE (člen COC):		NETWORK GROUP, s.r.o.
WEB:		www.nwg.cz
Počet zaměstnanců v ČR		50
SMEs		x
Large Enterprices		
Research Institutions		
Logo		https://www.optickyklastr.cz/wp-content/uploads/20
Působnost v pilířích:	*Industriální a spotřební optika*	x
	Vojenská optika	
	Světelná technika	
	Laserové technologie a aplikace	x
	Elektronová a světelná mikroskopie	
	Optické kvantové technologie	
ZAMĚŘENÍ:	Hlavní (podnikatelské) činnosti: Who we are: 95 znaků	Development and production of FBG based sensors, interrogators and components of special fibre optic. Cabling systems and PCB assembling
	Hlavní / nejčastější typy zákazníků:	Owners of critical infrastructures, manufacturing companies, industrial companies, Research centres and Universities.
	Hlavní oblasti výroby/služeb: Main areas of production/services: 250 znaků	Nuclear power plant monitoring. Bridge monitoring. Temperature measurement in silos. Advanced temperature measurement. Railway monitoring.
	Hlavní oblasti výzkumu a vývoje: Main areas of R&D: 400 znaků	FBG sensors for advance industrial applications and Structure Health Monitoring, development of interrogation units, special sensors for nuclear powerplants, bridge monitoring systems, diffractive structures for sensor applications and development of optical resonance structures.
	Hlavní (příp. mezinárodní) konkurenční výhody (max. 3): What we are the best at: 400 znaků	Unique manufacturer of FBG structures and FBG based sensors in Czech Republic, development of low-cost interrogation units and following systems, independence from suppliers of key components for sensor systems. Own
	Specializované technologie a přístrojové vybavení: Specialized technologies and equipment: 400 znaků	UV laser for FBG exposition; femtosecond laser; Special splicing system for manufacturing of unique optical components; hexapod position system, Hot-air stripper, Acrylate recoater; Polyimide recoater; Calibration baths; Thermo chambers; LTCC (low-temperature co-fired ceramic) workshop; dept. of PCB assembling, dept. of cable systems.

CZECH OPTICAL CLUSTER | *Let's Make Optics for the Future. Together.*

asphericon s.r.o.

www.asphericon.cz

Who we are:
Design, manufacture and sale of precision optical elements and systems.

Main areas of production/services:
Asphere, sphere, acylinders, reflectors, axicons, freeforms, optical systems, beam tuning. Services: Design and Manufacturing of optical systems and elements for UV, VIS, IR, CNC Grinding and Polishing, High-End Finishing, Diamond Turning, Coatings.

Main areas of R&D:
R+D of machining processes for various materials, R+D of optical systems, R+D of evaporation and sputtering technology.

What we are the best at:
1) High-End Finishing technology; ION-Finish accuracy "lambda"/600RMS for plano; Magnetorheological Finishing Tech. (MRF); asphericon Angstrom-Polishing (up to 60 nm PV). 2) Small and large series: spherical RMSi(0,10Fr/0,030µm),Rq<1nm, aspherical RMSi(0,30Fr/0,09µm),Rq<1,5nm. 3) Fully digitized processes and digital twin of lense.

Specialized technologies and equipment:
Process Development Line: CNC optical machine center for grinding and polishing aspheres (Optotech), Interferometer (Mahr, Xonox), Non-contact 3D optical profilometer (LUPHOScan), Non-contact central thickness measurement (asphericon GmbH), White Light Interferometer (Mahr). Coating, ultrasonic cleaner.

Specialized technology services:
Optical design (Analysis, Conception, Realization). High performance optical coatings: AR-Coating (ARES, ARDS, ARDD, ARBB, ARSBB), Dielectric mirrors (SHR/BBHR), Metallic mirrors (AGM, AUM, ALM, ALENHM), Filter layers (KPF, LPF), Beam Splitter (BS) Metrology. Optical Assembly. Optical characterization, Phasics™ SID4 – HR. Refinement (Edge Varnishing, Laser marking).

asphericon

Possible Joint R&D projects:
Precision imaging systems, medical applications, optical systems for R&D, evaporation, deposition and sputtering technologies.

Possible Business cooperation:
Precise mechanical manufacturing. Testing of optomechanical systems and optical elements according to MIL. Business cooperation in the Czech Republic, Slovakia and Poland only.

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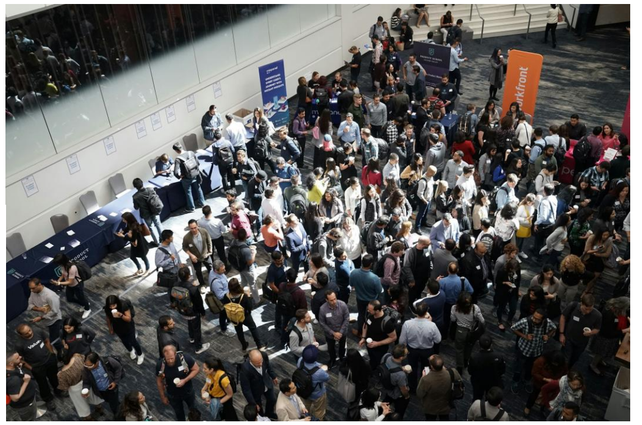
But information are fragmented.

Members' professional profiles are becoming obsolete and hard to obtain.

Sharing information between clusters is difficult at the national level and even more difficult at the international level.

Google



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AI based Cluster Cooperation in the Danube Region - **DanubIA Clusters**

How about testing the potential of artificial intelligence?

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AI based Cluster Cooperation in the Danube Region - **DanubIA Clusters**

Automatically update information about cluster members from publicly available data using AI. Cluster manager will be able to edit the prepared information.

AI algorithm finds opportunities in the supply and demand chain / value chain.

Cluster managers will be automatically contacted with opportunities for their members.

Cluster managers of two cluster organizations know their members, verify the offered opportunity and simply connect their members.

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AI based Cluster Cooperation in the Danube Region - **DanubIA Clusters**

We using relevant data prepared automatically and checked manually.

We can rely on the expertise of cluster managers to assess the collaborative proposal.

Compared to a Google search, we are working with verified data, taking advantage of the trust that managers have built among their members.

If funded, the project will be piloted in 5 countries in 2025 - 2027.

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president

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