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How are clusters using and integrating AI?

Main conclusions of the 2024 TCI survey

Artificial Intelligence is a catalyst for driving innovation and sustainable growth across clusters and it is reshaping the landscape of **cluster collaboration** globally, making it more dynamic, scalable and resilient.

This survey aimed to identify **cases from the TCI Network on how AI is being used** by cluster companies and cluster organisations and capture evidence on **how cluster collaboration is evolving through AI.**
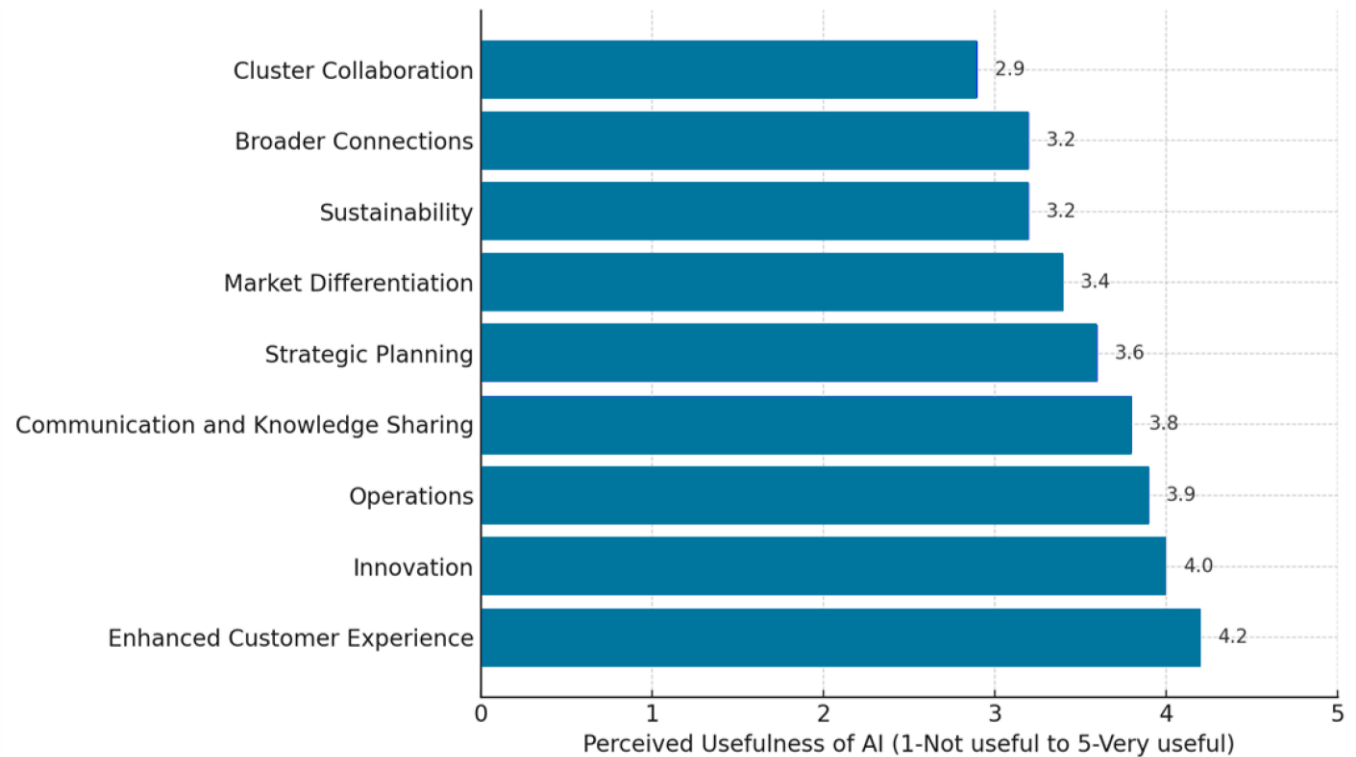
Today we present the preliminary results.

Big thanks to the 32 participants!

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How useful do you perceive AI is for cluster members (companies and other actors) in the following areas?

Perceived Usefulness of AI for Cluster Members

Category	Value
Cluster Collaboration	2.9
Broader Connections	3.2
Sustainability	3.2
Market Differentiation	3.4
Strategic Planning	3.6
Communication and Knowledge Sharing	3.8
Operations	3.9
Innovation	4.0
Enhanced Customer Experience	4.2

Perceived Usefulness of AI (1-Not useful to 5-Very useful)

AI is seen as highly useful, especially in **customer experience**, **innovation**, and **operations**. While some categories like **cluster collaboration, broader connections and sustainability** show more variability in perceived value.

AI solutions/innovations developed by the members of the cluster.

Greentech.Ruhr GE –

AI solutions applied to the 'water economy' and predictive maintenance Companies in the water economy are using AI to interpret flooding risks based on sensor data combined with weather forecasts. AI is also being applied for predictive maintenance in factories.

ITRI Taiwan

AI-powered health sensor (iDarlingWeaR)
They developed an AI-powered sensor offering vital sign monitoring services for baby healthcare, pet wearable technology, and sleep monitoring. It was recognized with a CES Innovation Award.

Dutch Fresh Port

AI in supply chain management and personalized production in
AI is being used to support the supply chain from growers to the retail market, combined with other technologies like AR glasses to facilitate use. AI recognizes user needs and adapts settings, enhancing productivity and offering personalized features.

Why are important for the cluster, the economy and the society?

This showcases practical AI applications that address real-world issues such as flood risk management and industrial efficiency, contributing to resource optimization and safety.

This AI innovation directly improves healthcare and well-being, demonstrating AI's potential to enhance quality of life and advance healthcare solutions.

This showcases AI's role in optimizing supply chains, reducing environmental impact, and providing tailored solutions for individual product needs, which are significant for economic growth and sustainability.

How is your cluster supporting members (companies and other actors) in the adoption of AI?

Limited/no support

Our cluster team/organization offers limited or no support for AI adoption. Companies mostly pursue AI initiatives independently without much assistance from our cluster team.

34.4%

Occasional support

Our cluster team/organization encourages AI adoption. We disseminate information, provide occasional guidance and support cluster members when they seek help, but don't proactively drive AI initiatives.
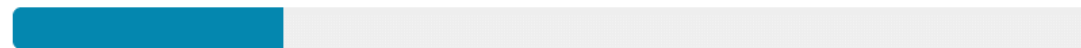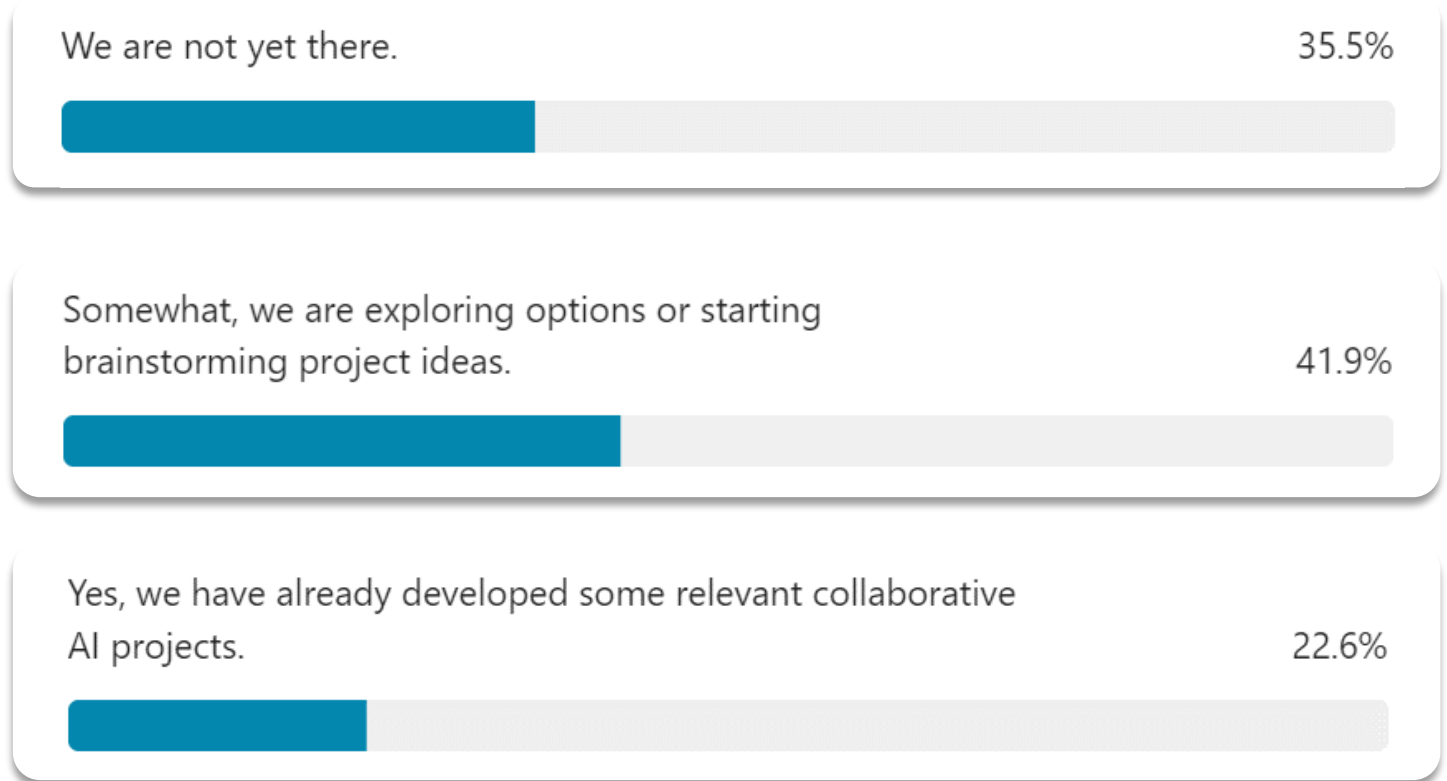
40.6%

Actively promoting AI

Our cluster team/organization actively promotes AI adoption. We offer regular training sessions, seek resources and funding, and/or collaborate closely with cluster members to help them adopt AI solutions.

25%

Collaborative AI projects in a cluster involve different organizations, researchers, or teams working together to develop and implement AI technologies and solutions. These projects leverage shared resources, data, and expertise from various cluster members, combining diverse skills to innovate, solve specific cluster challenges and drive sustainable growth.

Is your cluster supporting the development of
Collaborative AI projects
within its members?

We are not yet there. | 35.5%

Somewhat, we are exploring options or starting brainstorming project ideas. | 41.9%

Yes, we have already developed some relevant collaborative AI projects. | 22.6%

Tell us about the most relevant AI project that your cluster members are developing or have developed collaboratively. Why is this project important for the cluster, the economy and the society?

Ireland's Connected Health & Wellbeing Cluster

https://www.chwcluster.ie/ai-for-healthcare-programme/

We created an **AI for Health training programme** in 2023, that included a Prompt-Athon. We're about to commence a more in-depth programme in 2024 that includes hands-on support such as wireframe development.

Tell us about the most relevant AI project that your cluster members are developing or have developed collaboratively. Why is this project important for the cluster, the economy and the society?

Industrial Tecnology Research Institute

ITRI is collaborating with the Ministry of Culture, Taiwanese musicians, and various art companies. Through generative AI, they deeply analyze the style, background, and imagery of each piece performed by the musicians, generating texts, images, and videos that fit the performance context. The AI not only "understands" the music, identifying its emotional and structural characteristics, but also integrates the creative concepts of the artists and performance teams to generate diverse dynamic soundscapes. This deep fusion of music and AI technology brings new creative stimulation to future art performances. ITRI aims to facilitate excellent **cross-disciplinary cooperation between culture and technology**, further **establishing a cultural technology ecosystem and driving innovation in the cultural industry**.

Tell us about the most relevant AI project that your cluster members are developing or have developed collaboratively. Why is this project important for the cluster, the economy and the society?

Infrastructure 2050 France

Our sector concerns mobility and energy infrastructure. The AI applications developed within the network mainly concern applications linked to the **resilience of the territory in the face of climatic hazards**. This involves anticipation, protection, and restoration of critical infrastructure, both energy and mobility. On one hand we are affecting the security of the population / economic sovereignty of the country.

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The dtic - Trade Industry & Competition South Africa

We are a government department unit that supports industrial clusters across numerous sectors to bring development to previously marginalised communities. We help develop AI solutions applied to **township clusters in retail, energy and trade spaces/industrial parks**. Benefits are targeted for small businesses and residential household energy users and favour business and communities, with respect **to jobs, improved efficiencies in logistics and procurement, new skills for youth, and ease of doing business**.

Tell us about the most relevant AI project that your cluster members are developing or have developed collaboratively. Why is this project important for the cluster, the economy and the society?

Logistics and Mobility Cluster – Bogotá Chamber of Commerce

We launched the strategic project Emertech, for the incorporation of #emerging technologies in companies and activities as part of the logistics and mobility cluster, and extended across other clusters like creative and content, software, financial clusters.

Tell us about the most relevant AI project that your cluster members are developing or have developed collaboratively. Why is this project important for the cluster, the economy and the society?
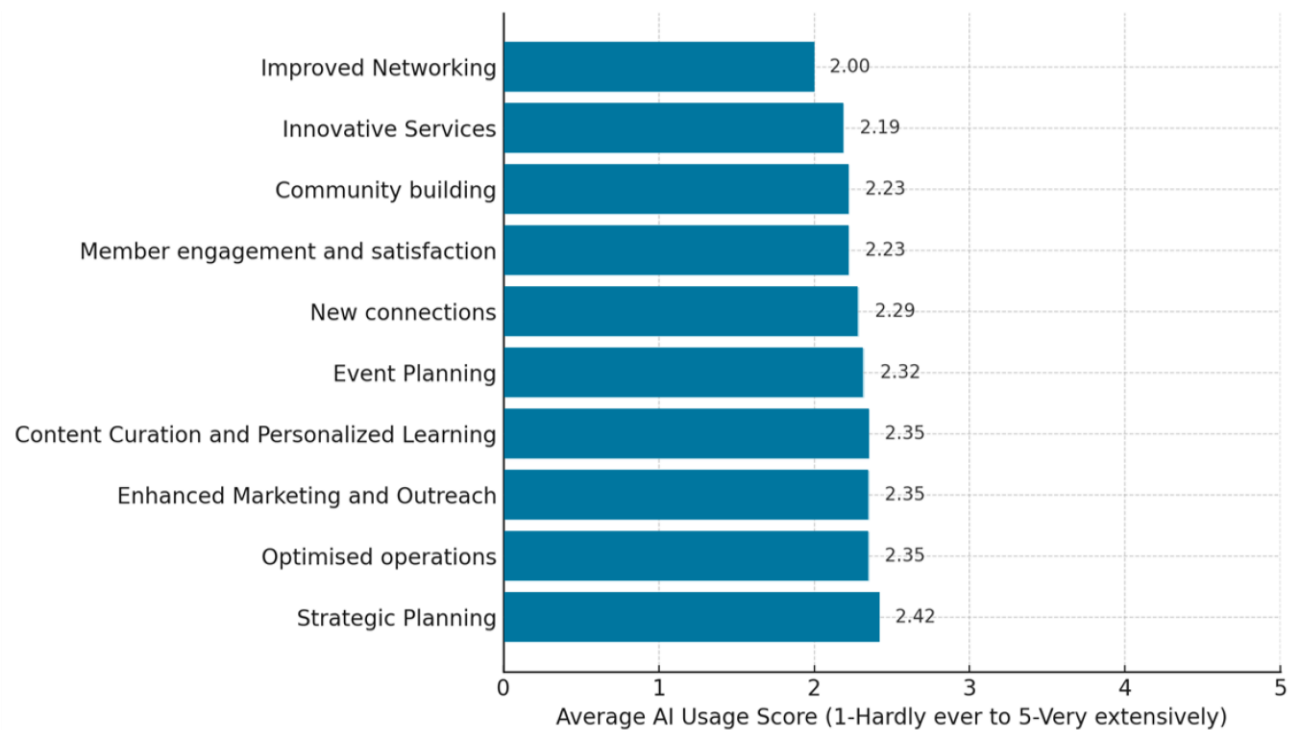
IDOM Consultancy, Basque Country

We supported the development of the Basque Country Artificial Intelligence Center", an instrument created for a rapid adoption of AI by industry and at the same time a laboratory for experimentation and acceleration of related projects.

We design public policy strategies related to the digital transformation of territories and organizations based on the incorporation of AI, promoting the use of these technologies to improve the quality of life of citizens, the efficiency of public management and the economic competitiveness of priority sectors. We also develop projects where we define technologies, processes, resources and procedures for the administration and management of data of public organizations, to make the most of the data.

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While cluster teams/organisations have a leading role in promoting AI and fostering collaborative AI projects among the cluster members, we also see they are adapting their own operations to leverage AI in a way that finally leads to more effective collaboration in the cluster and the overall innovation ecosystem.

How extensively is your cluster team/organization using AI tools in the following areas?

AI Usage in Cluster Management Areas

Area	Average AI Usage Score
Improved Networking	2.00
Innovative Services	2.19
Community building	2.23
Member engagement and satisfaction	2.23
New connections	2.29
Event Planning	2.32
Content Curation and Personalized Learning	2.35
Enhanced Marketing and Outreach	2.35
Optimised operations	2.35
Strategic Planning	2.42

Average AI Usage Score (1-Hardly ever to 5-Very extensively)

Specific AI tools you are using/integrating in your cluster organisation's

AI tools that boost efficiency and productivity for the cluster team:

➤ Writing emails, articles, project proposals, reporting and monitoring facilitate collaboration.

➤ Improve tracking of conversations with members, scouting of collaboration opportunities enhance creative processes and innovation.

➤ Ideation of projects, decision-making, productive project meetings.

Could you roughly estimate whether using these AI tools in a more structured way is cost-effective?

AI tools are being perceived as **cost-effective** (save time and resources and improve efficiency), though a few organizations are still in the process of assessing their exact financial impact

No matter where you are in your AI journey, this survey can be a handy checklist. Use it to see how you're doing, spot areas to improve, and pick up tips for making your AI cluster journey successful.
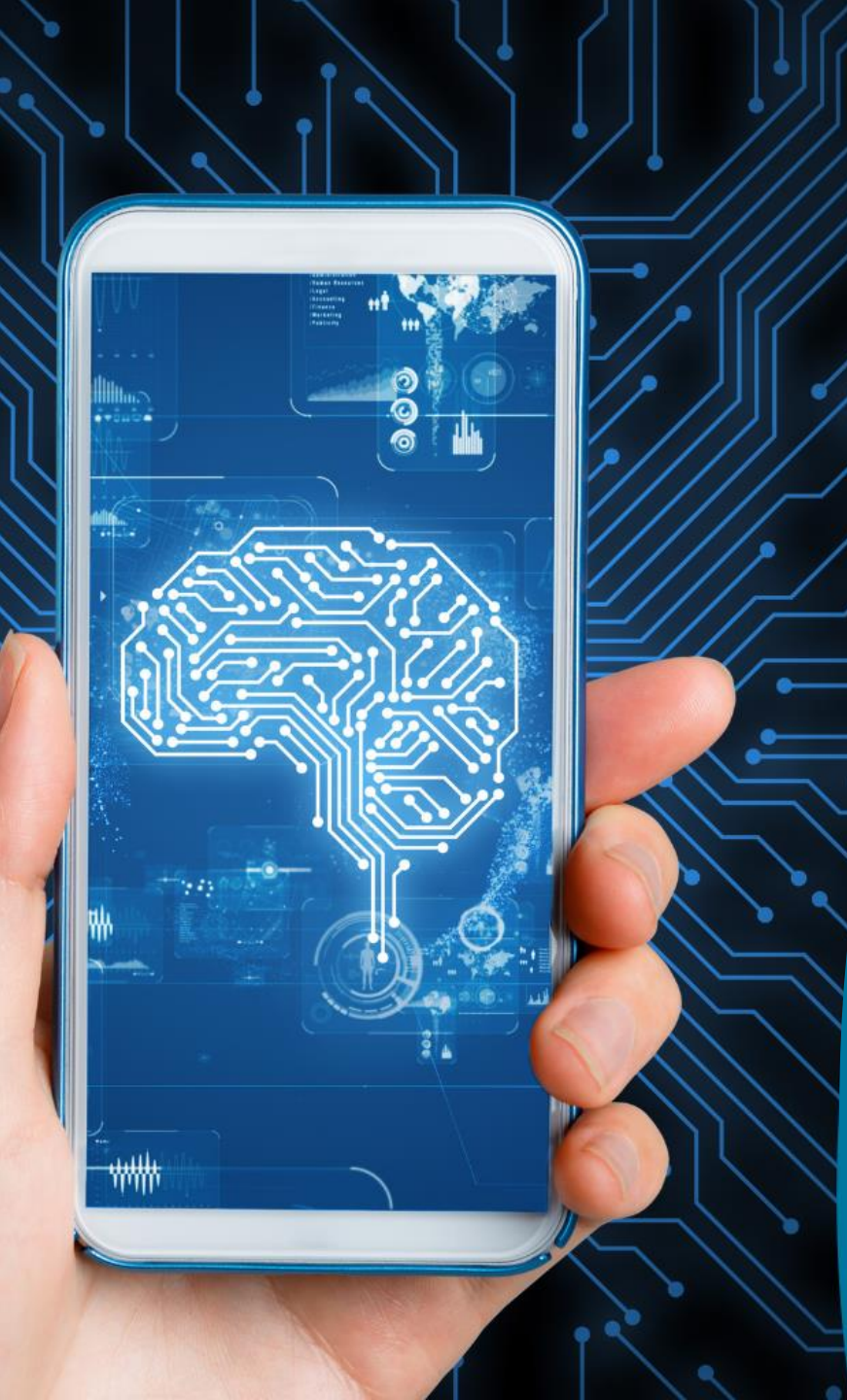
https://form.typeform.com/to/KoWPAFLx

You can participate in the survey.
Scan QR code!

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