Artificial intelligence, Data and Robotics ecosystem

https://adra-e.eu/

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[1] **PU:** Public**; CO:** Confidential, only for members of the consortium (including the Commission Services)

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Document summary

The ADR cartography initiative set out to define and develop a strategic mapping tool for the AI, Data, and Robotics ecosystem. It began with a clear definition of mapping as the structured, visual organization of information to support decision-making.

Key insights were gathered through interviews with leading experts and stakeholders from across the ADR landscape, including euRobotics, ELLIS, BDVA, CLAIRE, DIH-HERO, and others. Community workshops offered further input.

Findings revealed a fragmented mapping landscape and workshop participants emphasized the need for a high-level overview, improved understanding of the European complexity. Additionally, the sustainability of such an overview needs to be taken into account.

Therefore, a flexible, EU-level map and accompanying Excel-based dataset were created and this mapping work has been integrated into a new Adra Topic Group, combining top-down structure with bottom-up community engagement and laying the foundation for a sustainable, user-driven, and continuously evolving cartography tool that supports long-term strategic planning in the ADR ecosystem.

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1. Introduction

The goal of WP 2 is threefold: 1) to raise awareness between ADR communities of major relevant research, innovation and infrastructure development activities being implemented in the adjacent areas as European or national initiatives; 2) to identify and capitalize on the synergies between relevant European and national initiatives and; 3) to support the identification of the most promising cross-disciplinary initiatives in close interaction and collaboration with WP1 (Task 1.1).

In order to achieve these goals, the initial step involves identifying the most relevant European and national initiatives related to AI, Data and Robotics (ADR) as described in Task 2.1. Subsequently, this process will result in the development of an ADR cartography, an open online repository hosted on the Adra-e web platform. This report summarizes the steps taken in order to identity the relevant initiatives and work done towards the development of the ADR cartography. The ADR cartography will be accessible online. This briefing note offers a concise overview of the key concepts and rationale behind this task.

2. Development of ADR cartography

2.1 Definition & Methodology

The development of the ADR cartography began with a critical foundational step: clarifying the concept of "mapping" within the context of this initiative. After in-depth exploration, we adopted the following working definition:

> *"Mapping – Systematically collecting and organization of information to support the user in making decisions on policy and strategy and present the information in a simple, visual way."*

This first step was accompanied by a literature review to explore how mapping has been defined and used in similar projects and academic studies. This helped us build a clearer picture of the different approaches and purposes mapping can serve.

We also carried out a series of semi-structured interviews with experts in the field of AI, Data and Robotics, including: David Bisset (euRobotics, RODIN), Maurits Butter (RODIN, RI4EU, BOWI), Christophe Leroux (euRobotics, DIH RIMA), Thomas Hahn (BDVA), Petri Myllymaki (ELLIS), Arnold Smeulders (ELLIS), Morten Irgens (CLAIRE), Stefano Stramigfioli (DIH-HERO), representatives of several EDIH's, Gabriel Gonzalez, Castane (AI4Europe, AI-on-Demand), Alin Albu-Schaeffer (euROBIN), Willem Jonker (EIT Digital). These conversations provided practical insights and highlighted both challenges and opportunities.

Community engagement played a pivotal role throughout the project. We facilitated a series of interactive workshops (see Table 1), enabling stakeholders to provide direct input on expectations, gaps, and priorities. These sessions were instrumental in aligning the cartography and identifying key components of the cartography.

Workshops T2.1
9 Nov 2023: ADRf Versailles (FRA): WS Iddo Bante: Innovation, deployment, and uptake of ADR technologies – offer from the instruments supported by the EC. https://2023.adrforum.eu/innovation-deployment-and-uptake-adr-technologies-offer-instruments-supported-ec
8 Feb 2024: AI Regional Ecosystems: Mapping Europe's AI Ecosystems - Building Blocks for Innovation Ecosystems (presentation Iddo). https://adra-e.eu/events/ai-regional-ecosystems-leading-ai-building-public-private-partnerships

9 Nov 2024: ADRf Versailles (FRA): WS: Towards a mapping of the AI-Data-Robotics Ecosystem https://2023.adrforum.eu/towards-mapping-ai-data-robotics-ecosystem
4 Nov 2024: ADRf Eindhoven (NL): WS Iddo Bante: Shaping the new Adra Topic Group 'Innovation, Deployment and Uptake of ADR Technologies'. https://adrforum.eu/shaping-new-adra-topic-group-innovation-deployment-and-uptake-adr-technologies
5 Nov 2024 ADRf Eindhoven (NL): WS: Mapping the EU AI ecosystem – state of play and next steps. https://adrforum.eu/mapping-eu-ai-ecosystem-state-play-and-next-steps
19 Feb 2025 Future Ready ADRA / AI-on-Demand conference, Brussels (BE) WS Iddo Bante: Innovation, Deployment and Uptake of ADR / EMIR Ecosystem Mapping & Information Repository https://drive.google.com/drive/u/1/folders/1JFiKbIW1HdyCFtBZ8DybCJwjhUGt0ZNf
27 March 2025: ERF Stuttgart (GER): Workshop 26 Iddo Bante: European Innovation structures and networks http://erf2025.eu/programme/#detailed

Table 1: Workshops

Additionally, targeted desk research, including an analysis of the CORDIS database, was carried out to identify and evaluate major EU-funded projects (specifically those exceeding €10 million in funding) related to AI, Data, and Robotics.

The insights gathered from these combined activities are summarized in the following sections.

2.1.1 User perspective

One of the clearest findings from our research is the wide diversity of existing mapping initiatives, each shaped by different goals, audiences, and levels of granularity, as shown in figures 1 to 3. While this diversity reflects the richness of the European ADR landscape, it also creates a fragmented environment that lacks coherence. The absence of integration between AI, Data, and Robotics in many existing mappings limits their utility for strategic planning and policy alignment.

Figure 1: Presented at ERF2023, this is a geography map of one consortium (focusing on Robotics and AI) that develops over time. Within no time, this will be outdated. It shows the location of the partners. This raises the question what type of information is essential.

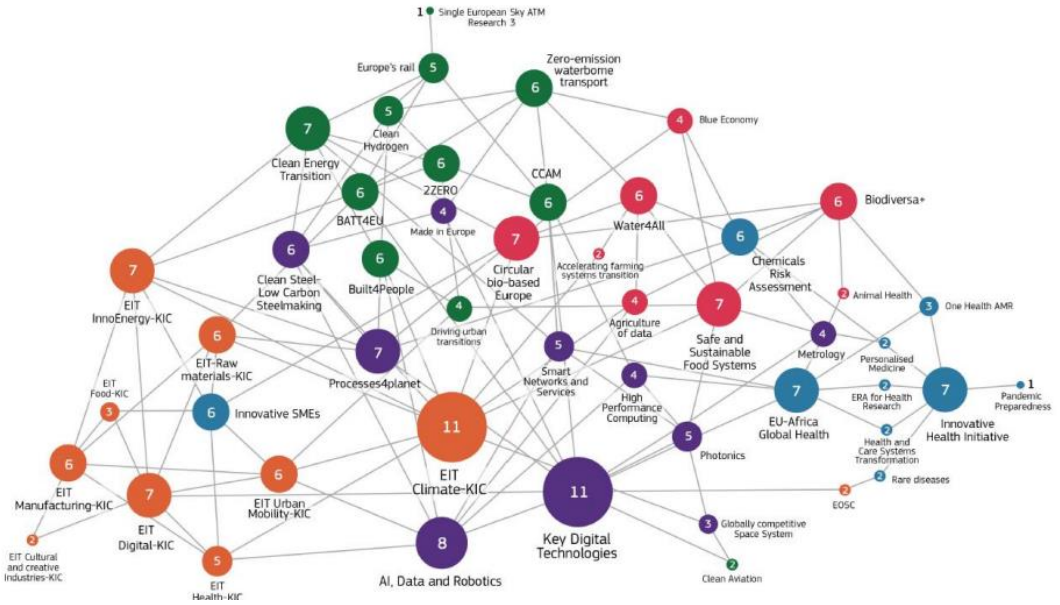


Figure 2: Presented at ERF2023, this example shows a completely different way to represent information. This shows the underlying themes, but it is harder to identify the relations. It also might lack a clear message.

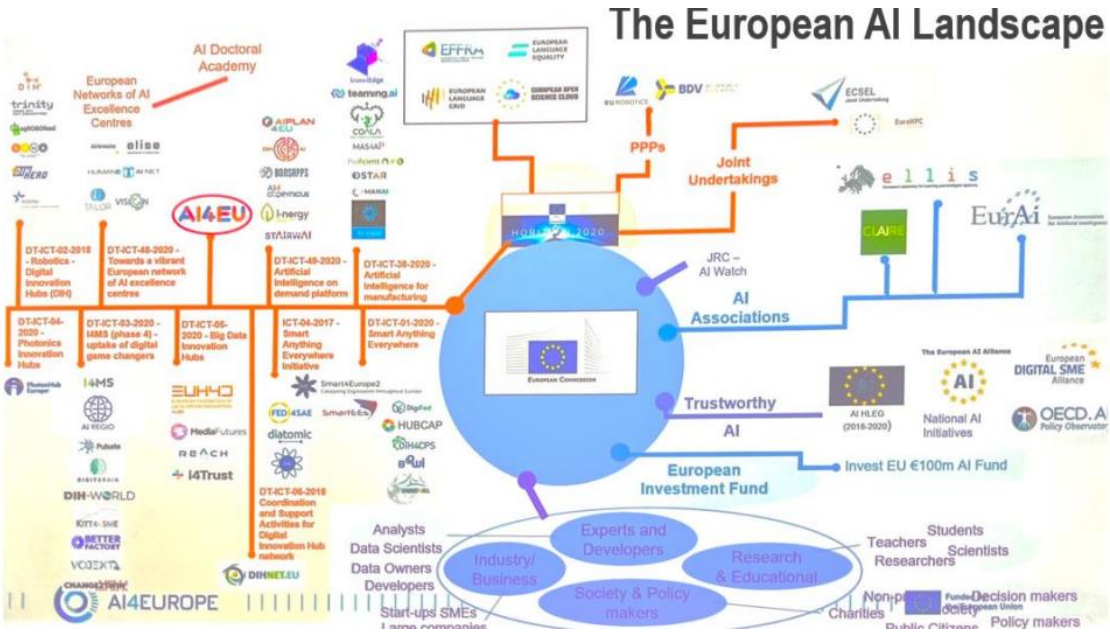


Figure 3: Presented at ERF2023, the focus is on the European AI landscape. It shows the development (over time) of the AI4Europe network (now known as AI-on-Demand). This highlights that these pictures develop over time, how do ensure the sustainability of an overview?

During the Adra-e conference, we asked input directly from the community to better understand user expectations. The top priorities identified were: 1) understanding the European complexity, 2) analyse links between projects, organizations, companies and 3) overview. Consequently, the presented information in the cartography will provide a more generalized, high-level overview.

User	Needs
Adra community	Identify partners, develop strategies
Public authorities / organizations	Evaluate policies, identify strategic investments
SMEs	Benchmarking their business, find possible market partners, identify cheap shared infrastructures
Large companies	Identify strategic investments, identify strategic enabling technologies, identify possible markets
Network organizations	Identify partners, identify possible markets, find shared infrastructures
Knowledge organizations	To find EU-partners for R&D, market unique infrastructures and expertise, find student exchange partnerships

Table 2: Users and their possible requirements of ADR cartography

These insights underscored the importance of adopting a user-centered design philosophy. For a mapping initiative to be relevant and usable, it cannot be designed as a top-down or standalone exercise. It needs to be driven by real needs and continuously shaped by input from the community it intends to serve. This requires building trust, demonstrating the value of the mapping tool, and enabling users to actively contribute, refine, and adapt the content.

2.1.1 Sustainability

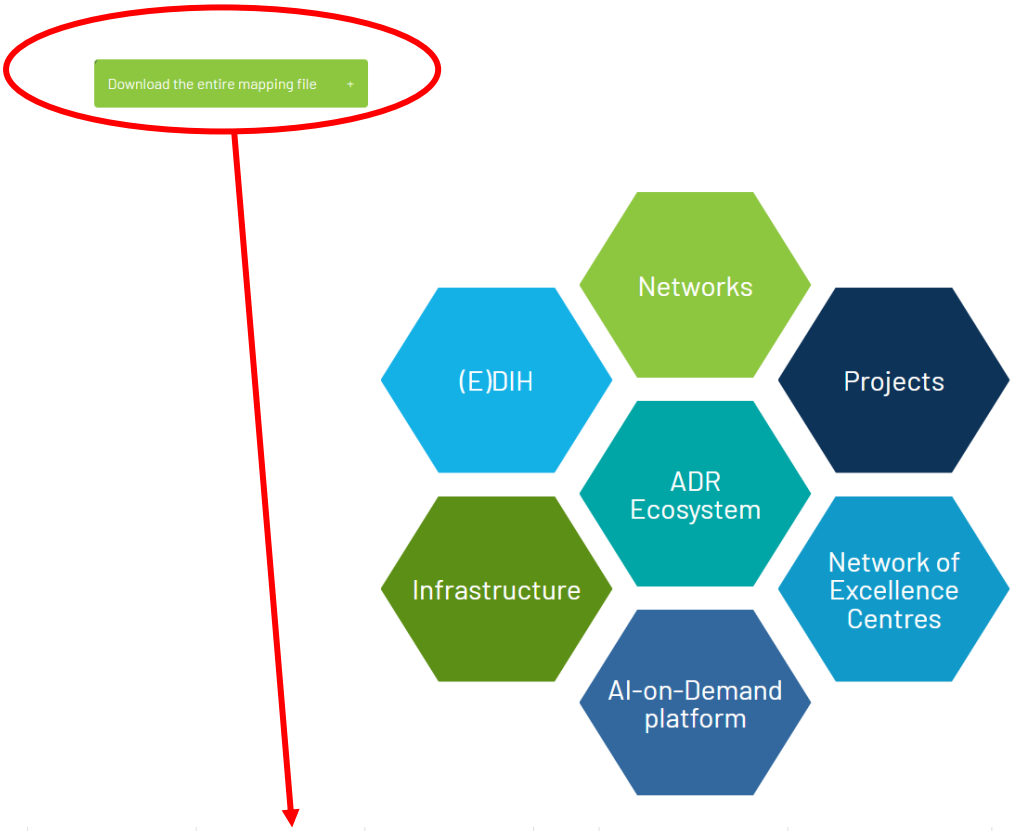
A second critical insight relates to the sustainability of mapping efforts. Many past initiatives (figures 1 to 3) have struggled to remain relevant over time due to static structures and infrequent updates. A clear example from this project is the emergence of AI factories. These were not prominent at the start of the project, but have grown significantly in importance in recent years. Their absence in earlier mappings highlights the need for flexible and adaptive approaches that can respond to evolving priorities and innovations.

2.2 Outcomes

In response to the challenges identified (the fragmentation, user engagement, and sustainability) we developed a high-level cartographic overview of the ADR landscape to be expected to be accessible through the Adra website from June 2025 (Mapping Tool | Adra Association). This visual representation is underpinned by a comprehensive, Excel-based dataset, allowing users to filter and explore the landscape across various dimensions (e.g., project type, application domain, technological focus).

Key features of this deliverable include:

- An visual overview, based on the EU overview, providing a generalized but coherent view of the ADR ecosystem.
- A flexible data structure supporting ongoing refinement and user customization.
- Integration of insights from interviews, literature, and community workshops.



Category	Name	Abbreviation	AI	Application Doma	Website	Coordinator Cou	Coordinato
Projects	BOOSTING ENGAG	BeFlexible		N/A	https://cordis.europa.(	I-DE REDES ELECTR	ES
Projects	SHIFT to Direct Cu	SHIFT2DC		N/A	https://cordis.europa.(	INESC ID - INSTITUT	PT
Projects	Understanding Ge	GENIAL	AI	natural sciences	https://cordis.europa.(	UNIVERSITE LIBRE D	BE
Projects	Human-Centric AI-	XR5.0	AI		https://cordis.europa.(	GFT ITALIA SRL	IT
Projects	Hydrogen Offshore	HOPE		engineering and tech	https://cordis.europa.(	LHYFE	FR
Projects	OPEN PLATFORM F	OPENZDM		engineering and tech	https://cordis.europa.(	PANEPISTIMIO PATF	EL
Projects	HERCCULES: HER(	HERCCULES		agricultural sciences	https://cordis.europa.(	LABORATORIO ENEI	IT
Projects	Intelligent neural s	NerveRepack	AI		https://cordis.europa.(	INSTITUTUL NATION	RO
Projects	EIT Digital Sustaina	EIT Digital BP		N/A	https://cordis.europa.(	EIT DIGITAL	BE
Projects	Renewable and sa	RADAR		engineering and tech	https://cordis.europa.(	KATHOLIEKE UNIVEI	BE
Projects	Automated Inspec	AEROSUB	AI	engineering and tech	https://cordis.europa.(	INESC TEC - INSTITU	PT
Projects	Greening Europear	GEMINI		social sciences	https://cordis.europa.(	URBAN ELECTRIC M	DE
Projects	Synthetic hEalthca	SEARCH	AI	social sciences	https://cordis.europa.(	THE PROVOST, FELL	IE
Projects	NExt generation hi	NEWBORN		engineering and tech	https://cordis.europa.(	HONEYWELL INTERI	CZ
Projects	Zero-defect manuf	ENGINE		engineering and tech	https://cordis.europa.(	TEKNOLOGIAN TUTI	FI
Projects	Transformation of (	TRINEFLEX		natural sciences	https://cordis.europa.(	ASOCIACION DE IN\	ES

Figure 4: High-level visual overview and underlying Excel file that will be accessible through the Adra website (online June 2025 Mapping Tool | Adra Association).

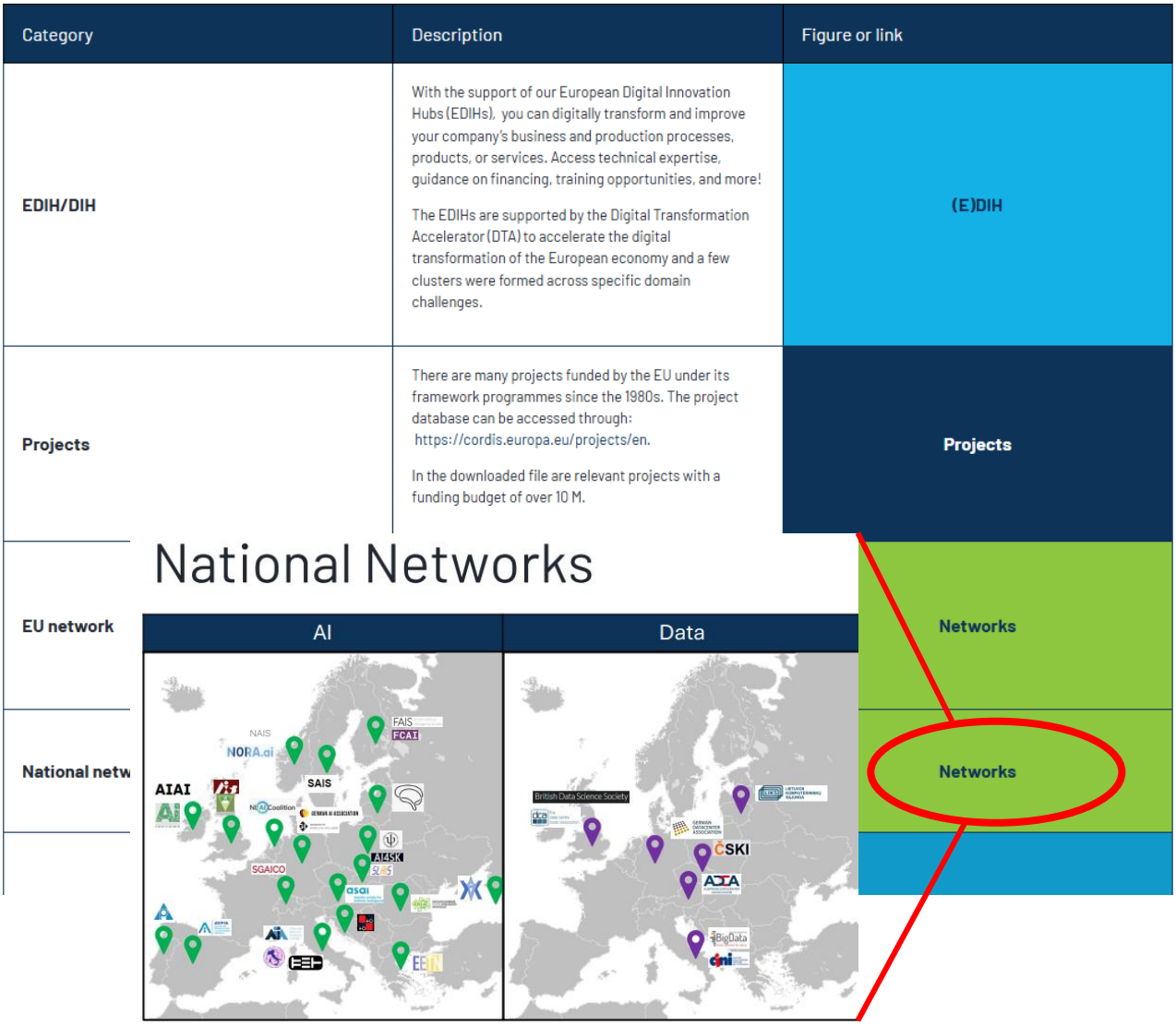


Figure 5: The high-level overview is supported by a table with categories and either links or figures for more visual representation. An example is shown in this figure (online June 2025 [Mapping Tool | Adra Association]).

This high-level mapping will be embedded within the activities of a newly formed **topic group**, emerging from merging this task with the bottom-up efforts initiated by the Vision project. By combining the structured, top-down perspective with the community-driven, bottom-up approach, we aim to lay the groundwork for a sustainable and evolving repository of knowledge.

The formation of a dedicated Adra topic group marks a concrete step in this direction. Through ongoing collaboration with this group, we plan to ensure the continued relevance, usability, and growth of the mapping tool.

As part of this collaboration, a white paper has already been published (see figure). It outlines the key insights gathered throughout the project and presents a roadmap for future actions, supporting long-term strategic planning in the AI, data, and robotics ecosystem.

TNO vector

The AI Data Robotics Association

Towards supporting innovation, competitiveness, and digital sovereignty by mapping the European AI-Data-Robotics ecosystem

White paper for the Adra Joint Topic Group on Ecosystem Mapping & Information Repository (EMIR)

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Figure 6: This deliverable resulted in formation of ADRA Joint Topic Group on Ecosystem Mapping & Information Repository. Pictures are from the published white paper.

4. Conclusion

This deliverable set out to explore the potential of mapping as a strategic tool within the AI, Data, and Robotics ecosystem. Through a multifaceted approach, combining academic review, expert interviews, community workshops, and data analysis, we developed a first repository.

Key lessons include:

- The need for **user-centric design** that reflects community realities and expectations.
- The importance of adaptable, updatable structures to ensure **long-term relevance**.

With the creation of the Adra Topic Group and the publication of a foundational white paper, this work has laid the groundwork for a sustainable, inclusive, and evolving mapping initiative. One that will continue to grow in utility and impact as it is shaped by ongoing collaboration across the ADR ecosystem.