Artificial intelligence, Data and Robotics ecosystem

https://adra-e.eu/

Call: A human-centred and ethical development of digital and industrial technologies 2021
Topic: Horizon-CL4-2021-Human-01
Type of action: Coordination and Support actions
Grant agreement Nº : 101070336

WP Nº1:	**Support the community and the implementation of the SRIDA**
Deliverable Nº1.5:	**Report on WS Period 2**
Lead partner:	**Inria**
Version Nº:	**1.1**
Date:	**30/06/2025**
Dissemination level[1]:	**PU**

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

Document information	
Deliverable Nº and title:	D1.5 – Report on WS Period 2
Version Nº:	1.1
Lead beneficiary:	Inria
Author(s):	Jozef Geurts (Inria), Elizabeth El Haddad (Inria), Marc Schoenauer (Inria) Maëllys Richard Lechat (Inria)
Reviewers:	Eloísa Villar (Atos/Eviden)
Submission date:	30/06/2025
Due date:	30/06/2025
Type[2]:	R,
Dissemination level[3]:	PU

Document history			
Date	Version	Author(s)	Comments
10/06/2024	0.1	Jozef Geurts	Concept "general purpose robotics"
06/05/2025	0.5	Jozef Geurts	Aggregated workshop reports
28/05/2025	0.7	Jozef Geurts	Introduction
03/06/2025	0.9	Elizabeth El Haddad	review
11/06/2025	0.95	Maëllys Richard Lechat	review
17/06/2025	1.0	Eloísa Villar	review
17/06/2025	1.1	Jozef Geurts	Final version

[2] **R**: Report, **DEC:** Websites, patent filling, videos; **DEM:** Demonstrator, pilot, prototype; **OTHER:** Software Tools

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

The European Union is established in accordance with the Treaty on European Union (Maastricht). There are currently 28 Member States of the Union. It is based on the European Communities and the Member States cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors (http://europa.eu/).

Adra-e has received funding from the European Union's Horizon Europe under grant agreement 101070336.

Document summary

This document is the follow-up of Deliverable D1.4 (previously denoted as D1.3), which reported on the cross-community workshops held during the first period of the project.

It reports on the activity carried out a part of the task T1.1 “Connecting European AI, Data and Robotics communities” and principally contributes to objective 2 of the workpackage (cited below)

1. *Support the update and implementation of the SRIDA and the development of the ADR partnership through the coordination of its portfolio of projects, and through actionable recommendations for Adra and the ADR partnership.*
2. *Support convergence between communities and disciplines, for topics and areas that benefit from cross-fertilization, including consultation with relevant initiatives outreach and awareness, the increase of adoption of ADR technology, and effective standards and regulation*

Table of contents

Introduction

This document is the follow-up of Deliverable D1.4 (previously denoted as D1.3), which reported on the cross-community workshops held during the first period of the project.

Recall cross-community workshops are designed to bootstrap and stimulate exchange between the stakeholder communities in the ADR partnership (i.e. AI, Data, and Robotics, as well as industrial R&I and academia). They are organized on topics where there is clear mutual benefit to consider the three disciplines together, but where sustainable collaboration may not necessarily emerge naturally. Reasons for this lack of organic convergence are numerous, including for example insufficient shared meeting opportunities (e.g. conferences and industry forums).

In the first period we organized 5 workshops on distinct topics. They were generally focused on advancing (and identifying) shared challenges facilitating the convergence between disciplines and/or communities. While the workshops were successful and generally appreciated by the participants, they were setup as one-of-a-kind events from a topic perspective (there was continuity in the venue of the cross-community workshops during the editions of EBDVF ’23 and ’24, and ERF ’23 and ’25 that took place during the course of the project).

Approach for the 2 period

To increase the impact of the cross-community workshop we chose to leverage and amplify the GenAI4Europe initiative launched by the EC and organize all workshops during the second period around the theme of “general purpose AI powered robots”, focusing each of the workshop on a particular cross-discipline topic. Moreover, a number of related activities emerged within Adra pursued by different persons and communities, including the authoring of a “policy paper and technology roadmap on GenAI and Robotics”[2], “AI-powered Robotics strategy for Europe”[3], “Intelligent Robotics for Industry”[4] and the Adra SRIDA[5]. The editors of these documents were invited to join the organization committee for the organization of a series of three cross-community workshops, with the purpose to create synergies between their respective efforts. Additionally, we invited a number of domain experts to join the programme committee for the individual workshops (marked with an asterisk).

Programme Committee members for the workshop series included:

- Gregorio Ameyugo, CEA – On behalf of Adra, Gregorio is lead editor of the “AI-powered robotics strategy for Europe” that has been requested by the EC to identify the priorities to develop an AI powered robotics technology following the Draghi report on boosting European competitiveness. The report has been authored by an editorial team of 25 experts.
- Ana García, BDVA – Ana is Secretary General of BDVA and involved in the editing group of the Adra SRIDA.
- Fredrik Heintz, LiU - Fredrik is Professor of Computer Science at Linköping University, Adra director and lead editor of the Adra SRIDA.
- Thibauld Jongen is founder of Common-Sense Robotics, Adra director and lead of the “Intelligent Robotics for Industry” initiative in Adra. He has been working on a market

[2] Policy Paper and Technology Roadmap: GenAI and Robotics 4EU, Petra Koudelková Delimoges et al. Dec 2024
[3] AI-powered robotics strategy for Europe, Gregorio Ameyugo, CEA, expected Jun 2025
[4] Intelligent Robotics for Industry, Thibauld Jongen, Common Sense Robotics,
[5] Adra SRIDA, Fredrik Heintz LiU et al. (latest version February 2024)

study to identify high-impact applications of (Gen)AI-enabled robotics in the manufacturing industry to serve as reference points for Europe's Intelligent Robotics Roadmap.

- Jean-Baptiste Mouret, Inria - Jean-Baptiste is senior researcher at Inria focusing on machine learning and evolutionary computation as a means to design highly adaptive robots. He is co-organizer of the IEEE-RAS International Conference on Humanoid Robots taking place in 2024 in Nancy.
- Philip Piatkiewicz, Adra Secretary General.
- Catherine Simon, SGPI France – The SGPI is a governmental body under the responsibility of the prime minister to assure a coherent investment strategy following the French political priorities. Catherine is adviser in charge of the French robotics strategy.

In total we organized 5 programme committee meetings during the period July 2024 – January 2025[6] to develop the concept and objectives of the workshop series and prepare the programme for each of the individual workshops.

The underlying intention of the sessions was to raise mutual awareness of the ongoing (road mapping) initiatives within Adra and develop synergies and coherence between them. Especially the preparation of the panel questions for the sessions proved useful to exchange on the priorities of the various initiatives, and the larger strategic framework in which they fit. To illustrate, the programme committee debated the question on the industrial sector that should be prioritized for applying GenAI for Europe to develop a competitive advantage. The discussion evolved around whether Europe should rather support traditional sectors that use robotics (e.g manufacturing) or leverage the disruptive effect of GenAI to boost robotics in sectors that currently do not, or make little juse of, robots (e.g. service robotics). The emerging consensus was that there is value to pursue both, while taking into account immediate needs for the manufacturing industry to stay competitive, and at the same time develop disruptive use-cases for the longer term. A similar discussion took place on whether there is trade-off, or choice to be made in short vs long-term objectives for a European strategy for robotics, or they should be developed in synergy. Likewise, the consensus was there is value in both, and a balanced approach is to be preserved.

Assessment

This series of cross-community workshops attempted to stimulate convergence between the various stakeholder communities by addressing topics that intersect multiple disciplines and that are of concern to industry, research and policymakers. Similar to the workshops in the first period, our cross-community workshops were co-located (or part of) with a community event or conference striking a balance between the various stakeholder communities (AI, Data and Robotics as well as Industry and Research). We stimulated cross-fertilization by inviting speakers to our workshops who would not normally have attended the hosting event. Based on informal assessments following the workshops, the guest speakers generally appreciated the interaction and discussions, as did the participants to the workshops.

Besides stimulating convergence through the individual workshops, the collaborative work within the programme committee was meant to reinforce coordination between the various communities and road mapping initiatives within Adra. The practicalities inherent to the organization of a workshop provided a framework to exchange on the higher-level questions at the basis of roadmapping work. Given the various backgrounds of the programme committee

[6] 16 Jul '24, 1 Aug '24, 26 Sept '24, 14 Nov '24, 04 Dec '24

members, these discussions highlighted the diverse points of view coming from these different areas of expertise and experience and were an interesting exercise in identifying priorities and establishing common ground. As such it is difficult to objectively assess (or attribute) the impact of the workshop series on the community convergence. The members of the programme committee continued collaborating with each other on the respective documents on which they were working. Notably the AI-powered robotics strategy for Europe includes contributions from all of the programme committee members. We are confident in our analysis that the cross-community workshop series contributed to the successful collaboration of the programme committee members on this strategic publication.

In the remainder of the document, we report on the concept of the workshops series, and the organization of the individual workshops. Note the plan for the workshop as presented in the concept note was slightly adapted relative to changing circumstances. Notably, the workshop that was originally foreseen at the EuroHPC summit we had to abandon after discussion with EuroHPC programme committee as the event programme did not counter for “external” workshops, such as our own. Furthermore, the ERF programme committee suggested us to contribute to a workshop session they were organizing on the recent roadmaps that were being published, or being prepared in the context of AI and Robotics.

Concept Note of the workshop series: "GenAI4Europe – boosting European general purpose AI powered robots"

The promise of AI has seen a revolution after the invention of deep-learning, recently accelerated by the rise of LLMs and Generative AI. The potential impact this technology can have on all nearly all facets of modern society and industry has been tangibly demonstrated. More than ever Europe should step-up and shape a responsible way forward for the development of this technology in the long run.

In this regard, the societal and economic potential of next generation intelligent robots and machines capable of interacting with humans and occupying the same space is difficult to underestimate, and so are the challenges related to ensuring this happens safely and responsibly.

From the recently published "Policy paper and Technology Roadmap - GenAI and Robotics 4EU":

> "Generative Artificial Intelligence (GenAI) and Robotics, both advanced General-Purpose Technologies, find themselves at the point of convergence which can rapidly unleash unprecedented perspectives that can disrupt markets and redefine the limits of the possible by combining physical action and perception, cognitive prowess and adaptability.
>
> ...
>
> Europe needs to get on board now and seize the unique opportunity enabled by combining these general-purpose technologies. To avoid entering the race on the same terms as the USA and China, characterized by mass investment, big data and immense compute power, Europe should not just follow the mainstream trend but define its objectives through the convergence of GenAI and Robotics taking into account our strengths, weaknesses and our cultural and societal values and chart its own paths to achieve them."

Principal advantages for using GenAI in the context of robotics, is its capacity to generalize allowing the robot to operate in a multitude of environment without dedicated training or instructions. In the remainder of this document, we use the term "general purpose robotics", which is more descriptive.

An effective general purpose robotics industrial strategy requires a truly cross-disciplinary approach, leveraging the necessary expertise, know-how, and resources from AI, Data and Robotics and beyond.

Towards an industrial strategy for general purpose robotics

The policy paper and technology roadmap promote a "Blue Ocean" strategy to identify and define unclaimed areas of opportunity for European general-purpose robotics with a focus on European values, and sustainability on social, economic and environmental levels.

In the coming period, Adra, together with the European Commission, and interested member states pursue the strategic efforts necessary for defining a European industrial strategy for general purpose robotics and the path forward to its implementation.

This will require a broad dialogue across stakeholder communities to:

- Solicit input (and feedback) from the larger ADR community to appropriately structure and define the strategy
- Mobilize the larger ADR community to contribute to the strategic discussion within Adra, and its implementation.

To help bootstrap this effort Adra-e will organize 3 cross-community workshops on the topic of "general purpose robotics" that will contribute to the strategy discussion within Adra for an industrial strategy for general purpose robotics. These three workshops will cover themes that are deemed important for developing the strategy, but they will not necessarily cover all necessary themes. Therefore, the format of the workshops will be structured in such a way they can be relatively easily replicated for other themes when the opportunity presents itself.

Cross-community workshops to support the Adra strategy for general purpose robotics

Recall cross-community workshops forge links and collaboration between the diverse ADR community including AI, Data, Robotics, Industry and Research. They are face-to-face events aimed at exchange and convergence between relevant stakeholder communities and experts.

The themes we would like to address in the workshop are:

- **"Data collection and sharing at European scale"** (at EBDVF 2024, 2-4 October, Budapest) – General purpose robotics requires datasets with particular properties (e.g. pressure data), but robots also generate data about their environment and interactions that can be used for training other robots, but potentially also other purposes. The workshop will focus on developing a data ecosystem taking into account ethical concerns (including privacy) of data collection and sharing.
- **"Towards general-purpose robots: connecting generative artificial intelligence to humanoids"** (at Humanoids, Nov 22, Nancy) – General purpose robotics has clear use-cases in manufacturing and industrial settings, such as dangerous environments, and repetitive tasks. Yet, the robots also need to occupy the same space as humans, requiring a certain common-sense reasoning about their environment and interactions, as well as imposing certain safety and security constraints that need to be respected. The workshop will focus on the challenges with humanoid robots powered by generative AI
- **Infrastructure: HPC - Edge Computation, Access to Data, and Connectivity** (EuroHPC Summit 2025 Poznan). – The foundational models used for generative AI requires massive amounts of data, and computational resources typically provided by HPC infrastructures. Using generative AI to power robots adds locality and physical dimension impacting the architecture of the overall systems. This workshop will focus on the infrastructure needs to enable general purpose robotics at European scale.
- **High impact use-cases for generative AI in robotics** (European Robotics Forum 2025 Stutgart, March 22-23) – The rise of generative AI started a transformation in many disciplines and sectors. The transformation can be continuous, in the sense that existing use-cases are improved through the use of generative AI, or they can be disruptive, in the sense that use-cases are being developed that previously didn't exist (or were not realistically viable in an industry setting). In this workshop we will investigate the question what (type of) use-cases are most appropriate to boost European industry.

Format

The workshop series will be co-developed with the principal editors to the “Policy paper and Technology Roadmap - GenAI and Robotics 4EU” that also animate the strategic discussion with Adra, the European Commission and member-states on the development of European industrial strategy for general purpose robotics.

For the programme committee of the individual workshop this team will be completed with domain experts of the theme of the workshop. The objective for each of the workshops is to include speakers that bring a novel perspective to the discussion facilitating exchange between the relevant stakeholder communities.

Concept Agenda (for a 2h workshop)

5 minutes	Welcome
20 minutes	Presentation Adra and “Policy paper and Technology Roadmap - GenAI and Robotics 4EU” + Q&A
20 minutes	Keynote
20 minutes	Keynote
45 minutes	Panel discussion (including audience)
10 minutes	Wrap-up + next steps

Budget

As we are leveraging existing events organized by a particular stakeholder community, part of the necessary expertise is on-site. We foresee travel/registration budget for other experts to attend the workshops that wouldn’t normally attend the event (but we hope they will in the future).

Workshop "Towards a circular data-ecosystem for general-purpose robotics" – Budapest Oct 2024

Co-located with EBDVF in Budapest Oct 2-4

Co-organizer: Philip Piatkiewicz, Ana Garcia, Jozef Geurts

General purpose robotics requires datasets with particular properties (e.g. pressure data), but robots also generate data about their environment and interactions that can be used for training other robots, or other purposes. The workshop will focus on developing a data ecosystem taking into account ethical concerns (including privacy) of data collection and sharing.

Agenda (90 mins)

5 minutes Welcome

15 minutes Presentation Adra and "Policy paper and Technology Roadmap - GenAI and Robotics 4EU" + Q&A (Petra Koudelková Delimoges)

10 minutes Keynote Aníbal Reñones "Towards full data life cycles for intelligent robots"

10 minutes Keynote Patrick vd Smagt "Trustworthy general-purpose robotics"

40 minutes Panel discussion (including audience), moderator: Philip Piatkiewicz

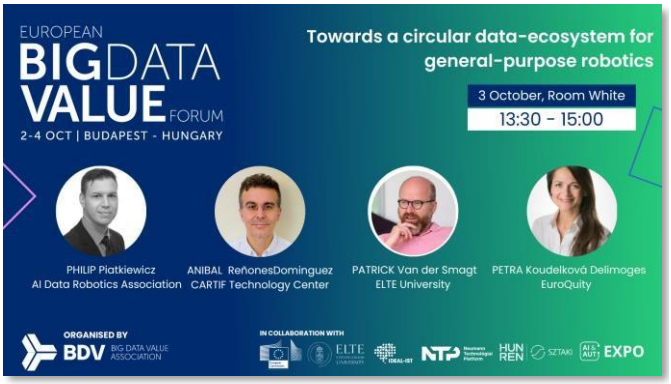
- Aníbal Reñones
- Petra Koudelková Delimoges
- Patrick vd Smagt

10 minutes Wrap-up + next steps

Panel Questions

- Are there any particularities with (sharing) robotics data that are important for training robots that may not be obvious to data experts (e.g. new type of modalities, noisy data etc)?
- What are the potential advantages of building General Purpose Models for Robotic tasks? In what cases is it better to create specific models for specific tasks, and specific kinds of robots?
- What are the most important data challenges to address for enabling general purpose robotics? From a standards perspective, where do you see the principal challenges? What about ensuring safety of robots trained using third party data?
- In your view, what economic model and infrastructure (e.g private, public) should Europe adopt for deploying General Purpose Robotics at scale? E.g. Should we look at generic open-source models financed through private/public resources? Or produce quality datasets through public/private means that can be used to train models and provide some safety assurance? Or something different altogether?

Pictures



The session was attended by 20 – 30 people.

Take-away messages

- While there is a huge potential for advanced robotics technology using AI, there are still significant challenges with basic robotics functionality (e.g. hand-over between robots and humans) that should not be underestimated. From that perspective one may question if it is realistic to discuss general-purpose robotics.
- Access to data is a critical element of building competitive LLMs, including those tailored to robotics applications (e.g. sensor and multimodal data). The European commission has launched a number of initiatives making data shareable at European scale (e.g. European dataspaces, AioD). These initiatives should be leveraged to develop a European framework for data collection, storage, and reuse to support intelligent robotics and Hybrid European Foundation Models.
- While robotics technology can work within an isolated and controlled environment, the socio-economic potential of using robots in shared spaces with humans is enormous (e.g. service robotics). The challenge with this scenario ultimately is ensuring trustworthy and safe technology, which is one of the strengths in the European ecosystem (and enforced through the AI act and Machine regulation). While this is a requirement in Europe it is also a unique selling point compared to robotics technology developed elsewhere.

Workshop "Towards general-purpose robots: connecting generative artificial intelligence to humanoids" – Nancy Nov 2024

Co-located with Humanoids Nov 22-23 2024 and euRobin in Nancy France (see https://2024.ieee-humanoids.org/)

Organisers:

- JB Mouret (Inria)
- Fredrik Heintz (Linköping University, Sweden)
- Thibauld Jongen (Generative Robotics)
- Catherine Simon (French General Secretary for Investment [SGPI])
- Philip Piatkiewicz (ADRA)
- Gregorio Ameyugo (CEA)

Objective and Scope

General-purpose robots are machines that could perform virtually any task given simple instructions (e.g., verbal instructions). Up to a few years ago, these robots were mostly considered to be out of reach, often because of the lack of "common sense" displayed by the planning and natural language processing algorithms.

Recent advances in Generative AI, including Large Language Models (LLMs), Visual Language Models, and Diffusion methods, are making this vision increasingly attainable. Models such as ChatGPT demonstrate the ability to interpret and respond to diverse queries from text or images, proposing relevant answers and plans. However, linking such models to actions or control is an open challenge.

For these advanced AI models to be effectively utilized in robotics, the robots themselves must possess general-purpose capabilities. Humanoid and quasi-humanoid robots (e.g., bimanual torsos on wheels, centaur-like configurations) are particularly well-suited for this role: their versatility allows them to perform a wide range of tasks in environments are designed for humans.

The potential synergy between generative AI and humanoid robots presents an exciting avenue for research and industry that is gaining significant attention within the scientific community, with various research teams exploring multiple approaches, both with and without training specific components, and leveraging language or visual language models.

This workshop aims to foster a comprehensive dialogue among multi-disciplinary research areas (e.g. AI, data, robotics), providing a platform to share insights, methodologies, and visions for the future of humanoid robotics powered by generative AI. This is why the program balances speakers from academia, policy, and industry. In addition, we will circulate a call for contributions for short presentations by PhD students and post-docs if their work combines Generative AI and Humanoids.

The discussions in the workshop will contribute to the development of a European industrial strategy toward general-purpose robotics within the AI, Data and Robotics Association (ADRA) that is co-organizer of the workshop.

- Moderator: Francesco Ferro - PAL Robotics
- Alin Abu Schaffer (or Daniel Leidner) (DLR)
- Edward Johns (Imperial College)
- Christophe Cerisera (CNRS)
- Thibauld Jongen (Generative Robotics)
- Catherine Simon (SGPI)
- Francesco Nori (Google Deepmind)
- Enchanted Tools (speaker to be confirmed)
- Camille Croze (Tplusone)
- Cem Gulec (European Commission)

Financial support by ADRA/ADRA-e: registration to the workshop day for the speakers

Agenda

Each time slot includes time for questions and discussion.

14:00 - 14:05 — Introduction
14:05 - 14:30 — Academic Presentation #1: Working with Large Language Models: Challenges and Solutions — Christophe Cerisara (LORIA, CNRS)
14:30 - 14:45 — Policy Presentation: Technology Roadmap for Europe and Beyond — Catherine Simon
14:45 - 15:00 — Industry Presentation: Replacing Manual Work in Manufacturing with Safe, Dexterous, and Intelligent Robots — Thibauld Jongen (Founder, Generative Robotics, director AI, Data, and Robotics Association)

15:00 - 15:30 — COFFEE BREAK

15:30 - 16:15 — Academic Presentation #2: Connecting Generative AI and Robotics — Edward Johns (Imperial College)
16:15 - 16:30 — Statements by the panel guests - Francesco Nori - Jérome Monceaux - Camille Croze
16:30 - 17:45 — Panel Discussion — Interactive discussion between invited speakers and the audience — The Roadmap of Generative AI for Robotics
17:45 - 17:50 — Wrap-up

Pictures

Panel questions

- The title of our session is “Towards general-purpose robots: connecting generative artificial intelligence to humanoids”. Is generative AI and humanoids the way forward to general purpose robotics, or are we too enthusiastic without title?
- GenAI promises disruptive change in many fields and sectors. While the technology and some of its applications are impressive, trustworthiness of the result generally isn’t guaranteed. In the particular case of robotics and humanoids, trustworthiness is important I would imagine, but how important exactly? Do you think that we are on the verge of a breakthrough, or the use-cases for GenAI are limited and we should temper our expectations?
- Robotics is sometimes referred to as science of integration. Arguably in the case of humanoids the speech and comprehension may be enhanced with GenAI, but besides these where do you expect GenAI will have the most impact?
- What are the most pressing technology challenges/hurdles to overcome for GenAI to be effective for robotics and humanoids? What about trustworthiness and societal adoption? Industry readiness?
- In relation to the GenAI, Joanna Maciejewska made the statement: “I want AI to do my laundry and dishes so that I can do art and writing, not for AI to do my art and writing so that I can do my laundry and dishes.” It argues for a human-centric point-of-view in development of AI and robotics. Is a humanoid the appropriate embodiment for the tasks we want a robot to accomplish?
- Internationally the US, China, Japan and others are investing in humanoids (for different reasons). Are there any particular use-case or application domains that you believe a European robotics research and innovation strategy should focus on? Why?
- Robotics technology is currently sucessfully used in a number of industry sectors (e.g. manufacturing). How should we go about in identifying use-cases. What are in your view the promising use-cases in the short term (e.g. enhancing classical robotics use-cases), and in the long-term (e.g. using robotics in novel applications/sectors that don’t currently use robotics technology)?

The session was attended by over 60 attendees that actively participated to the discussion.

Takeaway messages

- While closed source models (e.g. GPT, GEMENI, etc.) have been dominant until April 2024, since then Open Source models (e.g. Llama) have been as performing as closed search models. Moreover, open-source models have been improving more quickly.
- Energy consumption due to processing large volumes of data is the principal bottleneck for computing LLMs. Neuro Symbolic approaches (e.g Physics-informed neural networks, Theory-Trained Neural Networks), which combine symbolic data with

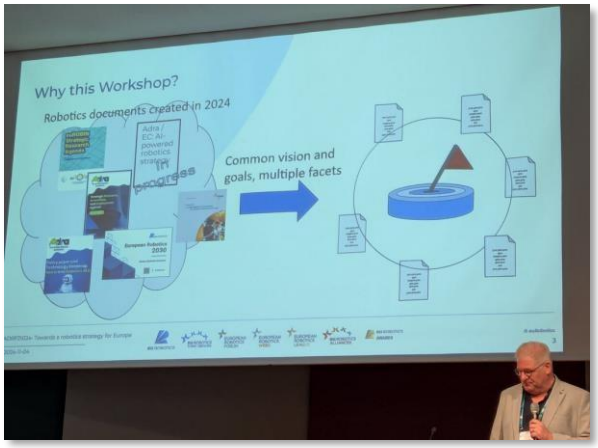
machine-learning are promising approaches to reduce energy footprint (and have a positive effect on trustworthiness of results).

- Action data, necessary for training LLMs for robotics is largely absent for the moment. Start-ups are emerging that are collecting this type of data, assuring the provenance and accuracy of the data which is critical for robotic applications. Alternative approaches include synthetic data by running simulations (but this may increase the reality gap).
- Providing (safety) guarantees on the performance of robots is critical, and largely missing at the moment preventing uptake in serious industry settings. Current AI approaches to establish trust may not be sufficient for robotics applications. Possibly Asimovs law for robots, or a constitution for robots (i.e. robots that know their limitations) are necessary for providing the necessary trust.
- GenAI disrupts how we have been thinking about robots. Total control is no longer the paradigm in which we operate. Perhaps a reset in robotics is necessary to rethink robots in the age of GenAI, including the mechatronic base (e.g., controllers), embodiment and ultimately the way we design robots.
- General-purpose robotics should not be confused with humanoids. Possibly there are more efficient embodiments for particular tasks. Yes maybe, but the world we live is designed for humans, at least for a time of transition, robots and humans need to occupy the same space; i.e. concentrating on humanoid embodiment makes sense.

The Future of Robotics in Europe - Is there a common strategy – March 26 Stuttgart

(To replace “High impact use-cases for generative AI in robotics”, co-located with the European Robotics Forum 2025 Stuttgart, March 25-27)

While organizing our session “High impact use-cases for generative AI in robotics” that was planned to take place at ERF25, Adra was invited by euRobotics to participate in a panel discussion to identify a common strategy based on a number of robotics roadmap documents that had been published by various communities. Adra joined the session with two representatives, Petra Koudelková Delimoges (lead author of “Policy Paper and Technology Roadmap: GenAI and Robotics 4EU”) and Thibauld Jongen, lead of the “Intelligent Robotics for Industry” initiative. Given the scope of the session and participants it was felt redundant to organize a session on “High impact use-cases for generative AI in robotics”. Instead, the funds available for the organization of the workshop (3k Eur) was used for an Adra booth at the exhibition space.



Conclusion

This document reports on the cross-community workshops that were organized during the second half of the project. Following the cross-community during the first period that were organized as stand-alone workshops, the cross-community workshops in the second period were organized around a central theme: “GenAI4Europe – boosting European general purpose AI powered robots”. In collaboration with a programme committee of 7 persons that were each involved in roadmapping activity in Adra we developed a workshop series addressing topics that benefit collaboration and convergence of the ADR stakeholder communities. The workshops provided an opportunity to learn about and connect to the Adra community (and vice versa for the workshop speakers). Moreover, the organization of the workshop series generated awareness and stimulated coherence between the various roadmapping activity within Adra.

The framework of the partnership (and that associated funding opportunities) provides an incentive and opportunity for stakeholder communities to expand their networks, and ultimately collaborate. This is largely an incremental process that requires time for finding shared objectives and developing synergies. The workshops proved useful for creating a platform and the necessary modalities to exchange albeit on a fairly high-level. A well-developed (and collaborative) workshop concept and a certain balance in the selection of speakers are important to this end. To sustain cross-fertilization the workshops are in our opinion to be followed up by more intensive collaborations, such as through projects and the topics groups within Adra.