Want to join the ADRA topic group mailing list?

Send an e-mail to Aksel.A.Transeth@sintef.no
or visit this link:

Generative AI in inspection and maintenance (I&M): Learnings across sectors, low-hanging industry use cases, and future challenges and opportunities

ADRA Forum workshop, 5 November 2024

Organizers:

- **Aksel A. Transeth, Ahmed Mohammed and Magnus Bjerkeng** (SINTEF)
- **Thomas Vögele** (DFKI)
- **Ebert van Vonderen** (TUKE)
- **Kirill Safronov** (KUKA)

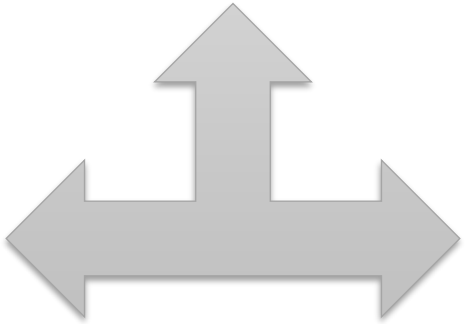
https://www.sintef.no/en/events/generative-ai-in-inspection-and-maintenance-im-learnings-across-sectors-low-hanging-industry-use-cases-and-future-challenges-and-opportunities/

ADRA topic group (TG) on ADR in Inspection and Maintenance (I&M)

Our mission is to facilitate **cross-community networking** among stakeholders, promote the exchange of **challenges and success stories**, and **identify next steps** in fostering a thriving I&M AI, data and robotics community in Europe – while contributing to the European Green Deal.

TG coordinators:
Aksel A. Transeth (SINTEF)
Ekkehard Zwicker (Waygate Technologies)

The AI Data Robotics Association



Other events:

- AI-based analytics in I&M (March 2024, Italy)
- Automated planning in I&M robotics (11 Nov, 2024)
- ERF2025 workshop on AI and robotics.

RIMA
ROBOTICS FOR INSPECTION AND MAINTENANCE

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Three main types of infrastructure in the industry and public sector – large variety

Assets and equipment

Pressure vessels, ship hulls, hydro turbines, flare stacks, aquaculture net cages, generators, pipe bends, storage tanks, …

Plants and areas

Electrical substations, offshore/onshore O&G platforms, harbors, nuclear facilities, power stations, buildings, airports, quay walls, …

Credit: D Sharon Pruitt

Long-distance / linear

Rail infrastructures, tunnels, bridges, dams, waterways, drinking water networks and installations, power lines, …

Today's workshop on ADR in I&M

1. What are the currently **demonstrated capabilities and limitations** of applying GenAI for I&M and other sectors, and how is the use in other sectors relevant for I&M?

2. What are the **high-impact I&M use cases** for GenAI in the industry and public sector? Both low-hanging fruits and more advanced use cases.

3. What are the **research, development and innovation challenges** to tackle next to boost European competitiveness for GenAI in I&M?

Agenda

- Introduction

- Short presentations
  - Current use of GenAI in the industry and low-hanging fruit-opportunities for I&M (**Thordur Arnason**, Capgemini)
  - Opportunities for industrial use of GenAI (**Kuka**, presented by **Aksel Transeth**, SINTEF)
  - Sustainable AI for inspection and maintenance (**Sabine Demey**, IMEC)
  - Potential of LLM in robotics in the energy industry: The cross-domain nature of AI, Data and robotics (**Svein Ivar Sagatun**, Equinor)
  - Generative AI for the aviation and maintenance sectors (**Ahmed K. Mohammed**, SINTEF)
  - AutoGPT+P: Affordance-based Task Planning with Large Language Models (**Timo Birr**, Karlsruhe Institute of Technology (KIT))
  - I&M-relevant aspects from the recent ADRA's policy paper and technology roadmap on GenAI for robotics (**Krzysztof Walas**, IDEAS NCBR / Poznan University of Technology, and part of the policy paper's editorial team)

- Brainstorming and summary

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Open discussion and brainstorming

1. What are the currently demonstrated **capabilities and limitations** of applying GenAI for I&M and other sectors, and how is the use in other sectors relevant for I&M?

2. What are the **high-impact I&M use cases** for GenAI in the industry and public sector? Both low-hanging fruits and more advanced use cases.

3. What are the **research, development and innovation challenges** to tackle next to boost European competitiveness for GenAI in I&M?

Thank you!

Join the I&M topic group list?

Contact Aksel.A.Transeth@sintef.no or: