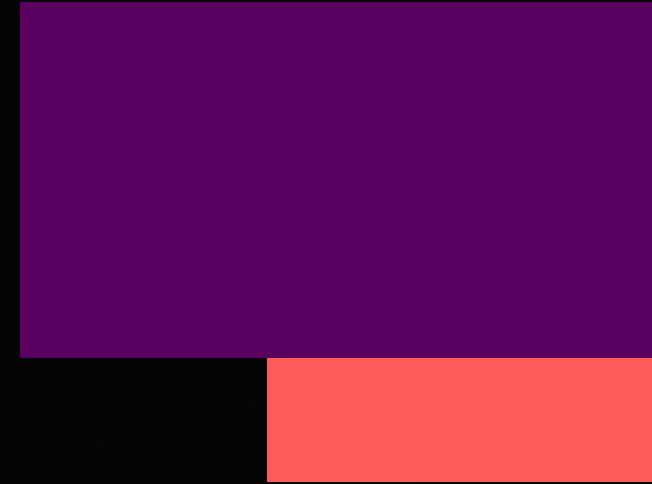


# AI FOR NUCLEAR (AI4N)

**Dr Caroline Chibelushi**

**AI Lead, Innovate UK KTN**



[www.ktn-uk.org](http://www.ktn-uk.org)



**Innovate UK**  
KTN

# AI4N

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AI4N is a subgroup formed from the Nuclear Institute's Digital Special Interest Group (DIGSIG).

The DIGSIG was set up in 2016 and has subsequently grown to over 450 members drawn from across the industry and the supply chain.

DIGSIG members believe that increased digitalisation has the potential to transform the nuclear sector.

The AI4N group is new and ambitious. Its vision is for AI to be adopted across the nuclear sector to enhance the safety and security of our operations as well as to enhance the effectiveness and efficiency of sector-wide activities.

The launch event was held on the 28th June and was hosted by The Hartree Centre at the Science and Technology Facilities Council's Daresbury Laboratory and was supported by Innovate UK KTN, the National Nuclear Laboratory (NNL), Sellafield and Jacobs.

# AI4N Topics

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Topics in focus included (but were not limited to):

- The challenges in decommissioning old nuclear sites;
- The current energy crisis;
- Supporting the delivery of the government's energy strategy and achieving Great British Nuclear's objective of the UK generating 25% of electricity from nuclear by 2050;
- How we reduce the costs of nuclear decommissioning by introducing innovative AI
- How we can solve the skills challenges across the sector, specifically knowledge retention and management and upskilling the workforce to embrace AI;
- Contributing to the international GEN-IV Innovation Forum (GIF)
- Identifying case studies that could form the UK contribution to an international expert session on AI sponsored by BEIS.

# Nuclear Sectors Needs

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## Needs:

- **Jobs and skills**
  - Create highly skilled jobs
  - Retain the existing workforce
  - Combine experience, knowledge and skills
- **Sustainability and affordability**
  - Develop low-carbon, safe and sustainable power
  - reduce the volumes of materials being used
  - manage water resources more effectively
  - reduce and reuse waste
  - protect and increase biodiversity
- **Innovation**
  - Create new approaches for building power plants
  - promote innovation within decommissioning processes to reduce costs and increase productivity

# AI4N Future Plan

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- Learn from the AI adoption **best practices** developed by other sectors .
- Develop **case studies** to learn how to apply AI within the UK regulatory framework, challenging the regulatory process if the process itself acts as a barrier to innovation without compromising safety
- Develop a **roadmap for skills and capability** development, identifying the gaps and specific industry challenges, focusing on people, software, technology
- Innovating the nuclear sector so that it can **attract new, young and cross-sector talent**, as well as retaining the existing workforce.
- Encourage the development of networks so that **collaborative research** would form to address the above