FutureScope Decommissioning Data Challenge - The Scope

Overview

This Decommissioning Data Challenge is designed to find a company to work with The Robotics and Artificial Intelligence Collaboration (RAICo) to develop a high-quality proof-of-concept digital twin that can utilise, process, and merge complex data to make nuclear decommissioning faster, cheaper, and safer, answering the challenge of:

"What digital tools can be used to create a digital twin from pre-existing and robot-collected data that enables a structured approach for strategic decision making and analytics in order to make nuclear decommissioning faster/safer/cheaper?"

The Robotics and Artificial Intelligence Collaboration (RAICo) is a collaboration between the Nuclear Decommissioning Authority (NDA), Sellafield Ltd, UK Atomic Energy Authority (UKAEA) and University of Manchester. It is an end user-led collaboration that brings together teams from fission decommissioning and fusion engineering. The programme is focussed on developing robotics and artificial intelligence technologies that are required for the deployment of remotely operated solutions for decommissioning and future fusion powerplants.

The selected start-up will have 13 weeks to develop a proof-of-concept that can help RAICo automate their data collection and analysis, improve the way they share and visualise data, and allow them to make better use of data to help support the planning and forecasting of work. The selected company will also be expected to showcase their concept on site at the RAICo robotics lab in West Cumbria, in addition to submitting a report on the proof-of-concepts, its benefits and further opportunities/possibilities.

Expected Outcomes

- PoC demonstration to potential end-users that uses real-world scenarios and data, complies with regulations/requirements for implementation and fits with wider RAICo work.
- Clear demonstration of the PoC's cost/benefits, value-for-money, and impact on processes.
- A written report on the technology of the PoC, the benefits it can bring, and further development possibilities.

Programme Obligations

- Attend the onboarding kick-off event during the week commencing 11th December 2023 (location to be agreed during the contracting phase).

- Attend an initial workshop to clarify the scope of development work, ways of working, timelines, etc, as well as submission of a schedule of work to be undertaken (location to be agreed during the contracting phase).
- Attend weekly progress meetings (via remote video software) with the RAICo team and provide updates and demonstrations of progress.
- Build a demonstrator addressing the challenge and present at the final demo day at the end of the development phase (March 2024, exact date to be confirmed).
- Provide feedback on PoC development with RAICo.
- Submit a final report on the developed PoC and expected benefits in March 2024 (date to be confirmed after the Programme has commenced).
- Provide transparent access to development progress, data use, work still remaining, and any similar information to help the RAICo Collaboration prepare for providing necessary support during the weekly meetings.
- Show how the concept complies with regulations/requirements for implementation, and fits with wider RAICo work.
- Clearly communicate the proof-of-concept's cost-benefits, value-for-money, and improvement to processes.
- Enter into an Open Call Procurement Agreement with UKAEA.

Minimum Requirements

- Applicants must have a UK business bank account.
- Applicants must be a UK based registered company, or prove they have an establishment in the UK and undertake the activity in the UK.
- Applicants must have demonstrable skills and expertise required to develop solutions to meet the challenge.
- Applicants must have a documented quality control process.
- Applicants must be available for an on-site demonstration of the PoC with Digital Catapult and the RAICo Collaboration at the end of the development phase in March 2024 (date to be confirmed).
- Although there is no minimum size of team, PoC project ideas will be evaluated for feasibility against the size & experience of the team.

Key Dates

- Open Call – Applications Open – 15th August 2023
- Open Call – Application Deadline – 24th September 2023
- Invitations to pitch day sent - by 13th October
- Pitch day - 25th October
- Final selection - by 3rd November
- Contracting - by 1st Dec
- Onboarding - w/c 11th Dec
- PoC phase starts – January 2024 (exact date after the commencement of the Programme)
- Demo Day – March 2024 (exact date after the commencement of the Programme)
- End Date: Project will end 31st March