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Costain to partner with U-Battery Developments Ltd on modular nuclear reactor design

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Costain, the smart infrastructure solutions company is collaborating with U-Battery Developments Ltd to develop an advanced modular reactor (AMR) which is being funded by the UK Department of Business as part of the Energy and Industrial Strategy's Energy Innovation Portfolio.

This work forms part of Costain's climate change strategy and is in support of the Government's £12 billion Ten Point Plan for carbon reduction to develop new nuclear energy solutions to help achieve the UK's net zero carbon target.

Tony Davies, new business director for energy at Costain commented: "This project is a fantastic example of working together with industry, academia and research to develop a low carbon and reliable energy source. Costain has a strong nuclear pedigree and this project is testament to our expertise in modularisation and R&D in this field, including plasma vitrification." https://bit.ly/3oLE0sI

The scaling up of nuclear power generation has received new and additional funding for investment in

these small and advanced reactors.

The initial scope of Costain's work is a feasibility study to develop and interrogate the modular reactor design to intelligently incorporate philosophies such as Modularisation, Modern Methods of Construction (MMC) and Design for Manufacture and Assembly (DfMA). U-Battery aims to be operational by 2028 and will provide a flexible source of clean, low-carbon, electrical power or process heat (or a combination of both) to serve customers including energy intensive industrial applications and remote communities.

The key part of the U-battery design is its affordability and adaptable configuration. Costain's initial role is to advise on the engineering design of the modular, off site construction and installation methods that will ultimately mean the small modular reactor can be competitively priced and deployed locally to meet demand.

The current stage of design development is for an initial 18 months, progressing towards successful acceptance by the Office for Nuclear Regulation.

Photo credit: Costain