

## **Challenges for Small Modular Reactors**

*Joint CDT Fission-Fusion Event on Compact Nuclear UK  
Manufacturing Capability and Readiness*

Construction of new power generating capacity has historically focused in scaling up electrical output capacity of individual generating plants, resulting in large start-up capital costs of such programmes and long lead times. With a drive to increase the availability of low carbon generating capacity quick as well as decentralising generating capacity, a new train of thought has arisen which has led to the idea of using Small Modular Reactors. These plants focus on low output capacities, but come with lower start-up costs, increased deployment location flexibility and a capacity to install a number of units over a period of time to match power output to changing requirements.

This talk will provide an introduction to the idea of small modular reactors and will focus on the challenges to be overcome if small modular reactors are to take their place as part of a future energy mix. Construction cost reductions through factory build and advanced manufacturing techniques are the key enablers which will be required to ensure the overall generating costs are competitive.