



# Innovative Manufacturing Solutions

to Benefit the Small Modular Reactor/Advanced Reactor Industry and the Legacy Reactor Fleet

- **Conducting design for manufacturing analysis**
- **Solving first-of-a-kind manufacturing issues**
- **Prototyping new component designs and manufacturing solutions**
- **Developing and transitioning innovative manufacturing technologies**
- **Helping manufacturers become more competitive**

The past decade has seen the emergence of the next generation of commercial nuclear power plants, commonly referred to as Small Modular Reactors (SMRs) and Advanced Reactors (ARs). A single reactor using SMR technology is capable of generating 50-300 MW of power, can be “factory produced” and then transported in a few sections to a designated location for assembly. In addition, these reactors employ passive safety technologies that make them safer to operate.

Approximately twenty companies are developing clean, reliable, and economical technologies that will play a significant role in meeting future demand in the U.S. and other nations. It’s projected that hundreds of SMR/AR systems will be needed by the late 2030s, requiring a significantly different manufacturing approach than is currently used for constructing the current large Light Water Reactor systems.

The fundamentally different approach to manufacturing SMRs/ARs will challenge both nuclear suppliers as well as regulators. Numerous technical issues must be considered to facilitate efficient SMR/AR production, from addressing supply chain capabilities to developing mechanized/automated manufacturing processes to support higher demand volumes.

A critical gap exists in providing proven applied advanced manufacturing technologies to this emerging field.

Concurrent Technologies Corporation (CTC) is recognized as one of the world’s premier nonprofit applied scientific research and development organizations for the creation and implementation of advanced manufacturing technologies. The skills and processes developed at CTC are leveraged by the Center for Advanced Nuclear Manufacturing to benefit the U.S. SMR/AR industry and the legacy reactor fleet.



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