

Title:

Small Modular Reactor Outlook by 2050: Trends, Economics, and Industrial Market Potential

Abstract:

Small Modular Reactors (SMRs) are set to play an increasing role in the energy future. The first SMR projects officially broke ground in advanced economies in 2025, with [the construction of the first BWRX-300 unit out of five planned in Ontario, Canada](#). The SMR project pipeline has also surged and now includes [close to 50 GW projects globally](#). Organizations such as the International Energy Agency expect that SMRs could account for [10% of global installed nuclear capacity by 2040](#).

This comes at a time when AI-driven energy demand is exploding, while the industrial sector faces persistent episodes of high energy prices, energy security concerns, and growing decarbonization pressures – all threatening industrial competitiveness, particularly in Europe. With 2030 decarbonization commitments rapidly approaching, and alternatives falling short in providing continuous high-temperature heat for industrial processes or reliable power for data centers, industry players are turning to SMRs as a potential hedge against these emerging challenges.

At the same time, the commercialization of SMRs remains uncertain and difficult to forecast, driven by factors such as the simultaneous introduction of many new technologies with varying maturity levels, untested deployment models, and a rapidly evolving regulatory and policy landscape.

This presentation will analyze the potential of SMRs to repower industrial applications through 2050 in detail and provide a framework to interpret market trends, cut through the noise, and support informed planning. It will include recent developments in SMR technology, economics, market size, and key drivers, building on the findings of a new study developed by [LucidCatalyst](#) in collaboration with [Urenco](#), entitled "[A new nuclear world: how small modular reactors can power industry](#)"