



Case Study

Transition/Manufacturing Case Study – Fusion Energy

CHALLENGE

Frazer-Nash excels in assisting our clients as they progress through the Technology Readiness Levels (TRL) in complex, highly regulated industries with multiple stakeholders.

A prominent example of our ongoing and high-profile work is our support for the emerging UK nuclear fusion industry. In this arena, we conducted a full review evaluating the manufacture of radial transmission lines for the nuclear fusion power plants. This is a business-critical, safety-sensitive challenge in an industry where the time of development is crucial. Therefore, a risk-based feasibility assessment was imperative; and involved thorough examinations of diverse technologies, advanced materials, and manufacturing capabilities.

Our expertise is dedicated to facilitating the journey of our clients through the intricacies of the TRL, ensuring they remain at the cutting edge of technology in their respective industry.

OUR SOLUTION

Frazer-Nash executed a rapid and all-encompassing feasibility review, thoroughly evaluating technologies and manufacturing methods against the specified performance requirements down to the component level.

Through this process, we identified critical design and manufacturing risks, while also identifying potential opportunities. We engaged with prospective suppliers and systematically ranked the identified solutions.

Our deliverable was a detailed technical roadmap. This roadmap not only determined the engagement strategy and development plan but also provided a Rough Order of Magnitude (ROM) estimate for the required investment in supply chain facilities and capabilities. Additionally, it outlined how known risks, including skill shortages, material shortages, or shifts in political direction, would be effectively managed.

BENEFIT

Our holistic approach, combined with close and collaborative working relationships with our clients, their stakeholders, and supply chain partners, enabled us to gain a deep understanding of the available options and the challenges in achieving our clients' objectives.

As a result of this project, we have successfully established a collaborative investment program with a key supplier. This initiative has not only strengthened our partnerships but has also significantly reduced the risks associated with the overall program.

Business need

Maturing Fusion across the Technology Readiness Levels

Why Frazer-Nash

Systems engineering approach to manufacturing challenges with access to industry via AMTech.

Date project completed

April 2023