

FUSION MANUFACTURING CHALLENGE

FEBRUARY-JULY 2023

PROBLEM STATEMENT

The Fusion Manufacturing Challenge, sponsored by the United Kingdom Atomic Energy Authority (UKAEA) and Commonwealth Fusion Systems, sought to uncover next generation technologies for bonding and inspection. Through TechConnect, these two clients asked respondents to propose technologies for bonding metals like tungsten, beryllium, and copper, as well as approaches to inspect those same bonds.

OUTCOME & RESULTS

A first-of-its-kind-challenge in the fusion industry, the Challenge garnered an enthusiastic response from the scientific and innovation community. Despite a very challenging topic space, we received 44 applications with the greatest attention to bonding targeted metals and alloys. Nine finalists pitched at TechConnect World Innovation Conference in Washington, D.C. to an audience representing technology experts, corporate scouts, federal agencies, and innovators.

Our clients and an expert review panel nominated three winners: Imperial College London, Faraday Technology, Inc., and AlchLight LLC. The review panel contained representatives from the two sponsor organizations, along with Kaleidoscope Energy, Lawrence Livermore National Lab, and Oak Ridge National Lab. They provided formal scoring and gave advice to the presenters that support them as they continue toward further commercialization and technology development.

Ultimately, Commonwealth Fusion Systems and UKAEA shed light on three dozen organizations from a variety of industries who were eager to partner with them and advance development of the commercial fusion space.

44
APPLICANTS

9
DIRECT
ENGAGEMENTS

3
WINNERS

23%
MATERIALS
SCIENCE

1
WEBINAR

32%
ACADEMIC/
GOVERNMENT
LAB

34%
CONCEPT PHASE

77%
BONDING OF
MATERIALS
FOCUS AREA

32%
SMALL-TO-MEDIUM ENTERPRISE

12
US STATES

9
COUNTRIES