

INFUSE Innovation Network for Fusion Energy

- FES established INFUSE program to aid private/public partnerships in Fusion
- ORNL and PPPL selected to manage INFUSE program for FES
- ORNL hosts the INFUSE website for submissions and reviews
- Two RFA calls occurred in FY2020
- 10 FY2020 awards in first round
- 2nd annual INFUSE workshop may be virtual

10 Participating laboratories: BNL, INL, LBNL, LLNL, LANL, ORNL, PNNL, PPPL, SNL, SRNL

Topical areas:

- Enabling Technologies including magnets
- Materials Science
- Plasma Diagnostics
- Theory and Simulation
- Magnetic Fusion Experimental Capabilities

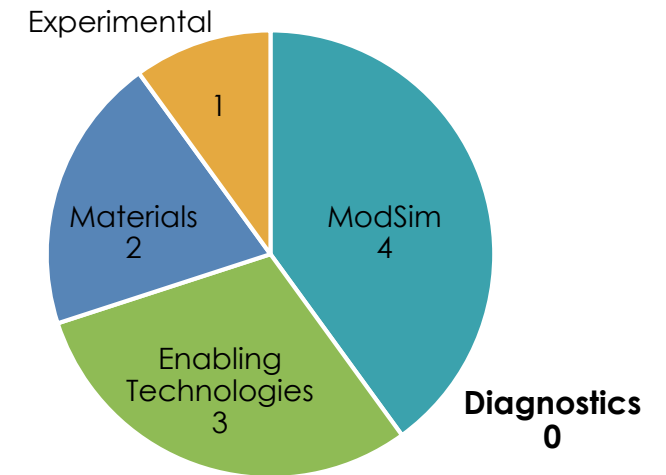


2020 INFUSE Awards and Changes for 2021

AWARDS

- 10 projects from 25 applications received 2020 awards with a total value of \$2.41 M
- The 10 awards went to 6 U.S. companies and involved 5 national labs
- Detailed list: <https://infuse.ornl.gov/2020-infuse-awards-1/>

Awarded Topical Areas



CHANGES

- **Eligibility:** In 2020 US companies with a majority foreign ownership can now participate
All must show economic advantage to US economy, must accept CRADA terms and export control restrictions (DOE POLICY 485.1 and 2CFR910.124)
- **Max. number of proposals per company is 5, but no longer restricted to one from each topical area.**
- **2020 projects can now span a two-year duration and receive a maximum of \$500k**
- **Two RFA calls in 2020. One in February, the second in July.**
- **1st cycle submissions 2/24-4/10/2020 with reviews 4/11-5/30/2020. Notifications in June.**
- **One-year window established to execute CRADAs or award is rescinded.**
- **Annual workshop will showcase projects, likely in conjunction with EPRI and the FIA.**



2020a INFUSE awards will be posted soon

<u>Project Title</u>	<u>Company</u>
Baselining a Tritium Accountancy and Safety Case for a Molten Salt Liquid Immersion Fusion Blanket	Commonwealth Fusion Systems
Development of phased-array HHFW antenna and load-resilient matching network for the C-2W FRC plasma device	TAE Technologies
Low Temperature Testing of New Lower Cost Magnum-NX HTS Cable for Fusion	Solid Material Solutions
Conceptual design of a tritium pellet injector for the ST40 spherical tokamak	Tokamak Energy Inc
SPARC 3D Field Physics and Support of the Non-Axisymmetric Coil Assessment	Commonwealth Fusion Systems
Advanced Manufacturing Workflows For Tokamak Internal Components	Commonwealth Fusion Systems
Tungsten Engineered Feed Stock for PFCs	Gamma Alloys, Inc
General Fusion - Advanced Stability Analysis for Magnetized Target Fusion	General Fusion Corp.
Investigating microstability characteristics of next step tokamaks across a range of aspect ratios	Tokamak Energy Inc
Development of an RF Antenna to start-up and sustain a fusion plasma in a spherical tokamak	Tokamak Energy Inc

Discussion Topics

1. Better reviewer instructions recommended to highlight distinct nature of INFUSE.
2. Changing to two outside reviewers and one POC panel reviewer.
3. Correct RFAs required. Missing or inaccurate data will result in rejection. Company PI writes the technical narrative.
4. Encourage diversity between companies and labs. Companies without active projects will receive the benefit of close scores.
5. Changes to lab partner if PI relocates evaluated on a case by case basis prior to CRADA signing.
6. INFUSE POCs discouraged from being Lab PIs
7. Modest NERSC time allotments may be available
8. General Q&A and feedback