

URL: <https://infuse.ornl.gov>
Email: infuse@ornl.gov

INFUSE FY2026 Workshop

A. Lumsdaine & E. Gilson

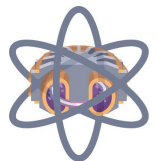
INFUSE Program Updates
November 6, 2025

INFUSE Leadership

Program Manager



Colleen Nehl



Director



Arnold Lumsdaine



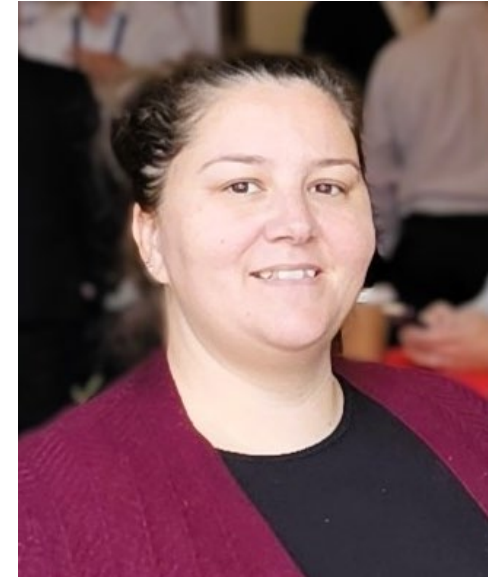
Deputy Director



Erik Gilson



Program Specialist



Jessica Black

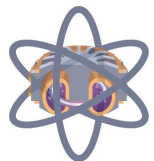


INFUSE Overview

The mission of INFUSE is to provide private-sector fusion companies access to the expertise and facilities of DOE's national laboratories and (since FY2022) U.S. academic institutions to overcome critical scientific and technological hurdles in pursuing development of fusion energy.

AWARDS

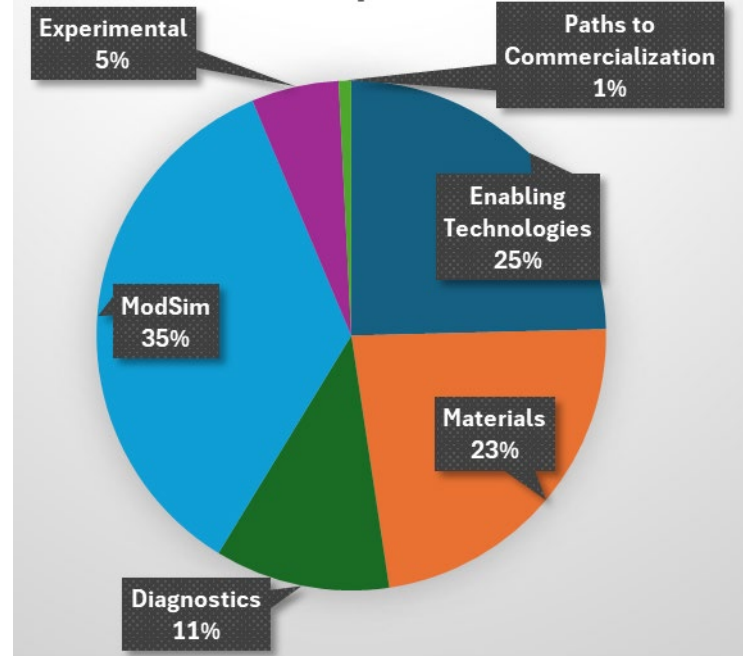
- **129** projects awarded since 2019 with a total value of **>\$29M**
- Awards were made to **37** private companies partnering with **10** DOE labs and **16** U.S. Universities.
- Detailed list: <https://infuse.ornl.gov/awards-and-statistics/>



PARTICIPATING LABORATORIES



Awarded Topical Areas



TOPICAL AREAS

- 1) Enabling Technologies
- 2) Materials Science
- 3) Plasma Diagnostics
- 4) Modeling and Simulation
- 5) Unique Fusion Experimental Capabilities
- 6) Paths to Commercialization

The U.S. Department of Energy's Office of Nuclear Energy established the GAIN initiative to provide the nuclear community with access to the technical, regulatory, and financial support necessary to move innovative technologies toward commercialization.

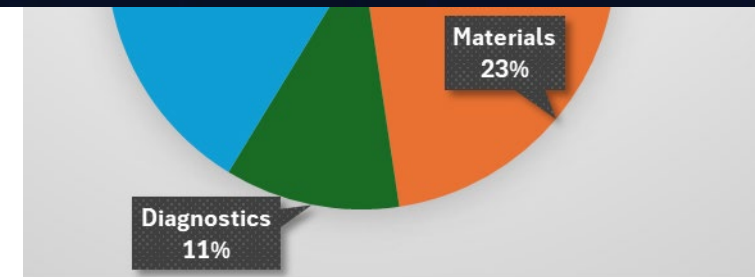
The NE Voucher Program is one way to provide industry with access to the unique research capabilities and expertise at DOE's national labs.



AWARDS

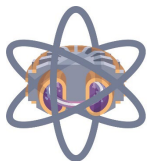
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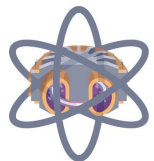


INFUSE Web Site

<https://infuse.ornl.gov/>

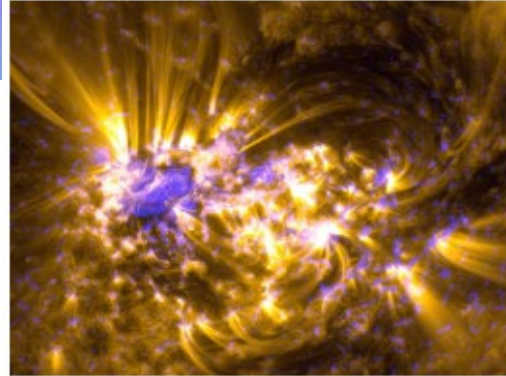
Any issues?

Email infuse@ornl.gov



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- About
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- News and Events
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- Submission
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- Frequently Asked Questions



Innovation Network for Fusion Energy

The INFUSE program is jointly led by ORNL and PPPL and seeks to accelerate fusion energy development in the private sector by reducing impediments to collaboration involving the expertise and unique resources available at DOE laboratories and universities. This will ensure the nation's energy, environmental and security needs by resolving technical, cost, and safety issues for industry. INFUSE is supported by the Department of Energy, Office of Science, Fusion Energy Sciences program.

[Read more](#)

INFUSE News



DIII-D National Fusion Facility

Join the webinar: Reducing Plasma-facing Material Requirements and Advancing Core-edge Integration using a Closed Divertor with Mid-leg pumping on October 2, 2025 at 9:00am Pacific. Registration is required through this link: https://fusion.zoom.us/webinar/register/WN_VfV0vW
Announcement flier for webinar

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DOE announces \$134 million to advance fusion

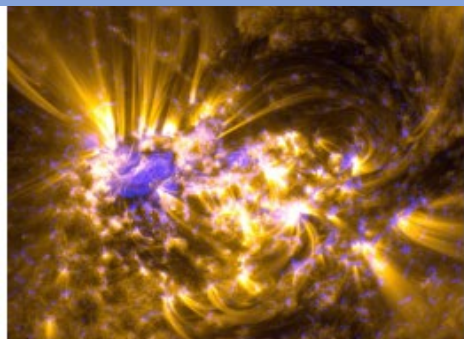
On September 10, 2025 the U.S. Department of Energy announced funding for two program: Fusion Innovation Research Engine (FIRE) and Innovation Network for Fusion Energy (INFUSE).
Read full announcement [here](#).

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INFUSE Web Site – Subscribe



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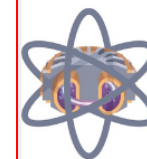
[Read Article](#)[Go to All News](#)

DOE announces \$134 million to advance fusion

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[Read Article](#)[View article on energy.gov](#)

<http://eepurl.com/iBeZiM>



INFUSE Innovation Network
for Fusion Energy

Enter information below to be informed of INFUSE program funding calls and other news. You will be able to unsubscribe at any time.

Email Address

First Name

Last Name

Subscribe

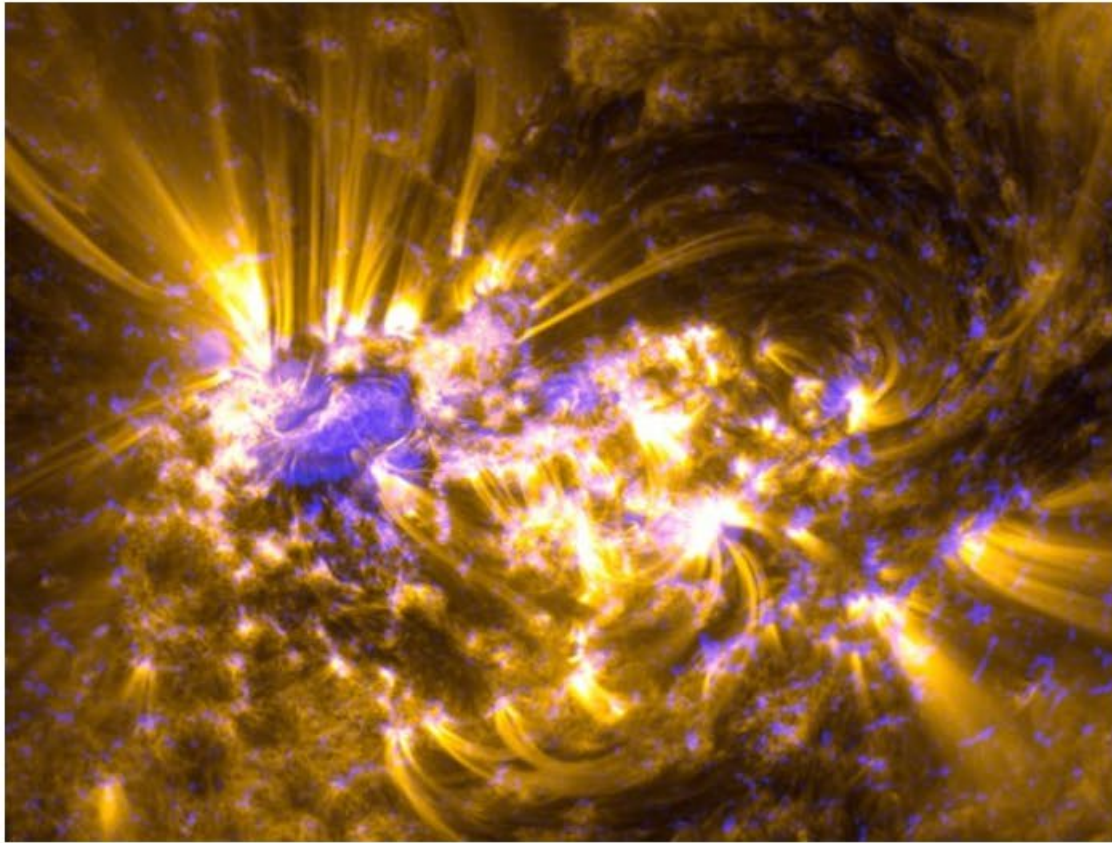


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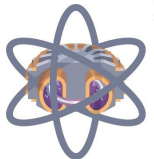
INFUSE Web Site – Meetings

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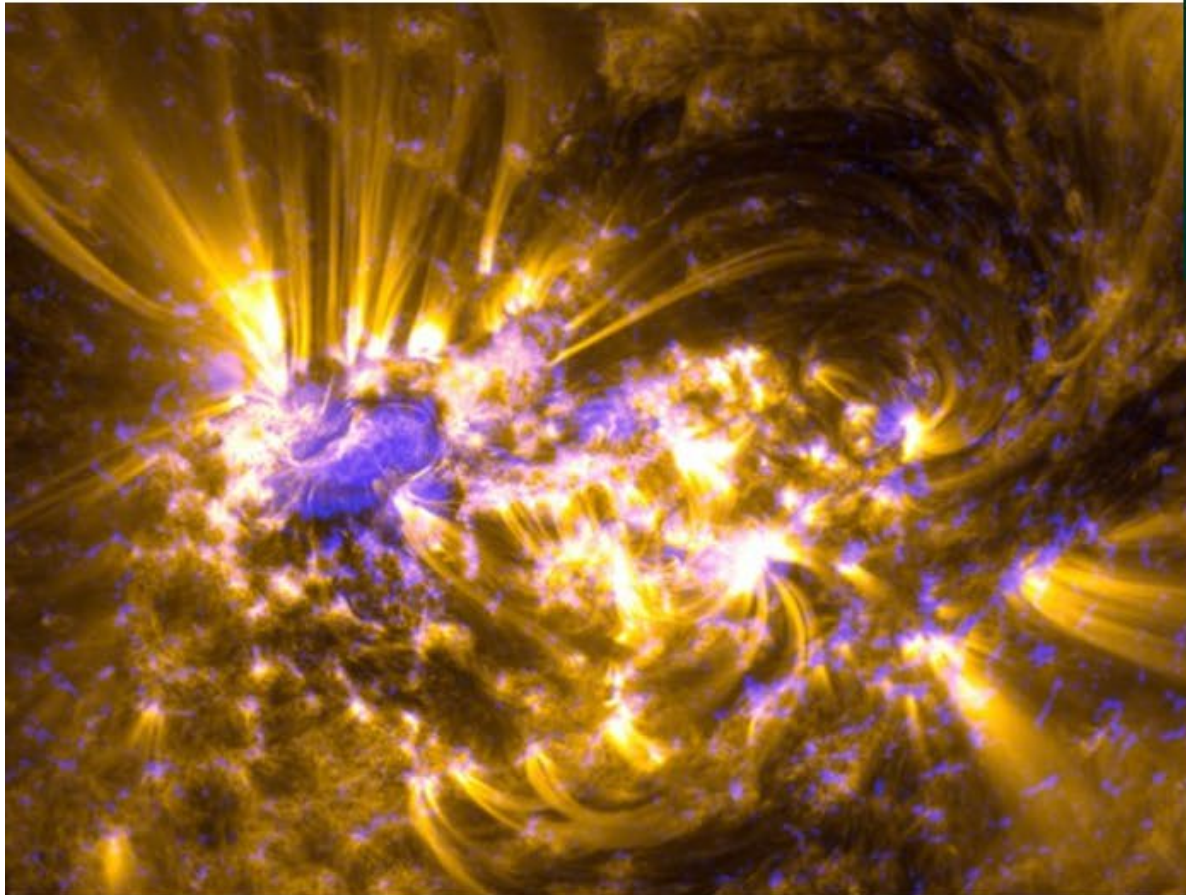
Innovative Energy Work for Fusion

The INFUSE program, led by ORNL and PPPL and supported by the Department of Energy, Office of Science, Fusion Energy Sciences program, seeks to advance fusion energy development in the private sector through collaboration involving the expertise and resources available at DOE laboratories. This will ensure the nation's energy security needs by resolving technical, cost, and safety issues for industry. INFUSE is supported by the Department of Energy, Office of Science, Fusion Energy Sciences program.

[FY2026 Workshop](#)[FY2025 Virtual Workshop](#)[FY2024 Workshop](#)[FY2024 Virtual Mini-Workshop](#)[FY2023 Workshop](#)[FY2022 Workshop](#)[FY2021 Workshop](#)[Read more](#)

INFUSE Web Site – Submission

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Network for Fusion

The INFUSE program is jointly led by ORNL and PPPL and seeks to accelerate fusion energy development in the private

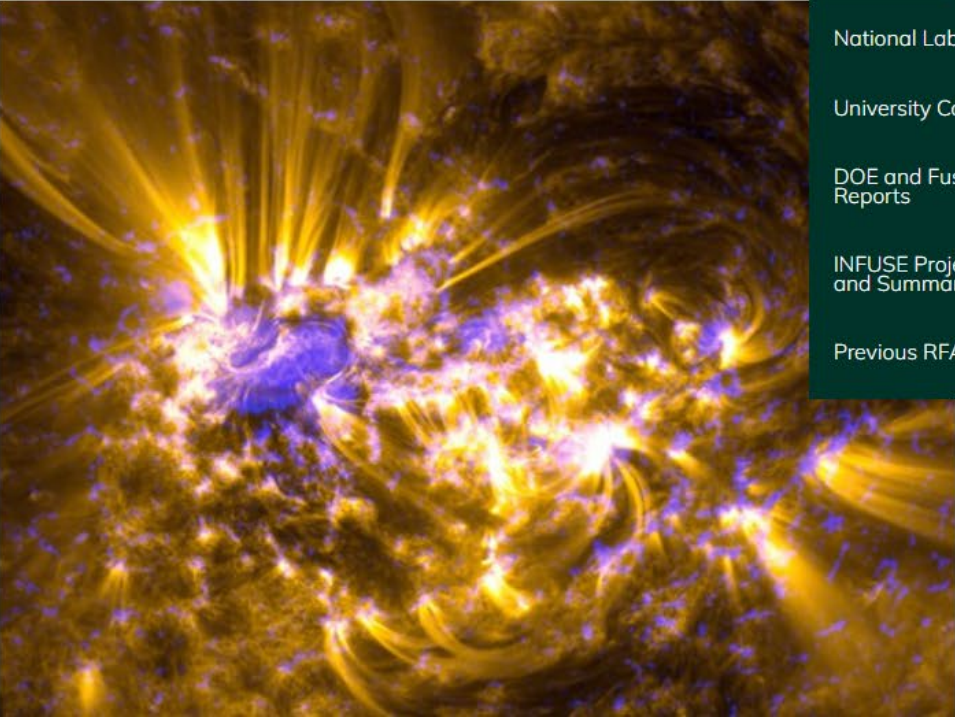
- **RFA Submission Access** – Need to **start here** if submitting an application
- **RFA Submission Information** – RFA call, documents and templates
- **Previous RFA Information** – Documents and presentations on prior RFAs

Fusion Energy Sciences program.

[Read more](#)

INFUSE Web Site – Library

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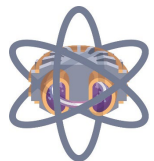
[National Lab Capabilities](#)
[University Contacts](#)
[DOE and Fusion Community Reports](#)
[INFUSE Project Final Reports and Summary Slides](#)
[Previous RFA Information](#)

Innovation Network for Fusion Energy

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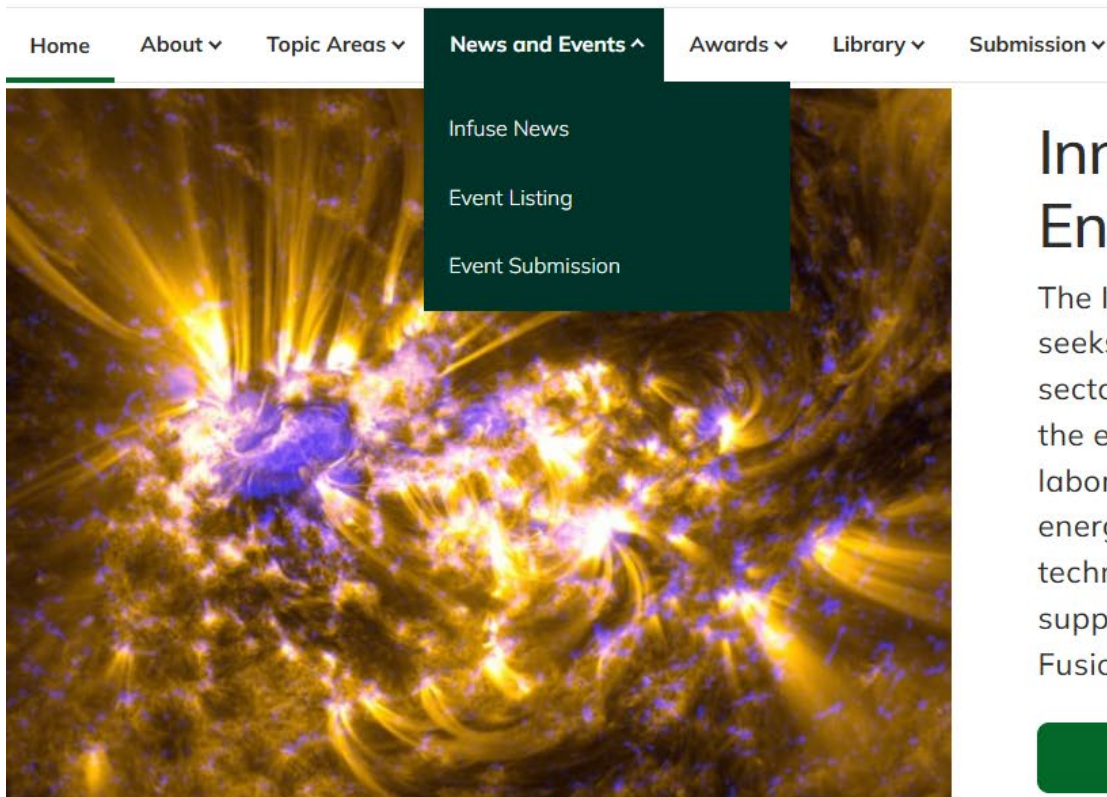
[Read more](#)

Join the University Contacts Directory

[Request a Profile](#)[Manage Your Profile](#)

- The Library includes National Lab Capabilities and University Contacts.
- If a University faculty member would like to be added to this directory, there is a link at the bottom of the contacts page.

INFUSE Web Site – Fusion Events (New Feature)



INFUSE

Home About Topic Areas **News and Events** Awards Library Submission Meetings Frequently Asked Questions

Event Submission

Event Submission Form

Event Name *(Required)*

Event Start Date *(Required)* Event End Date *(Required)*

mm/dd/yyyy mm/dd/yyyy

City

State

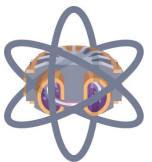
Select a state ▼

INFUSE Topics

Select an INFUSE topic

Description

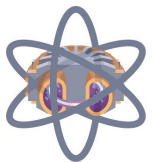
- INFUSE has started a listing of events of interest, relevant to the community.
- These may be submitted from the INFUSE website. They will be vetted before appearing on the site.



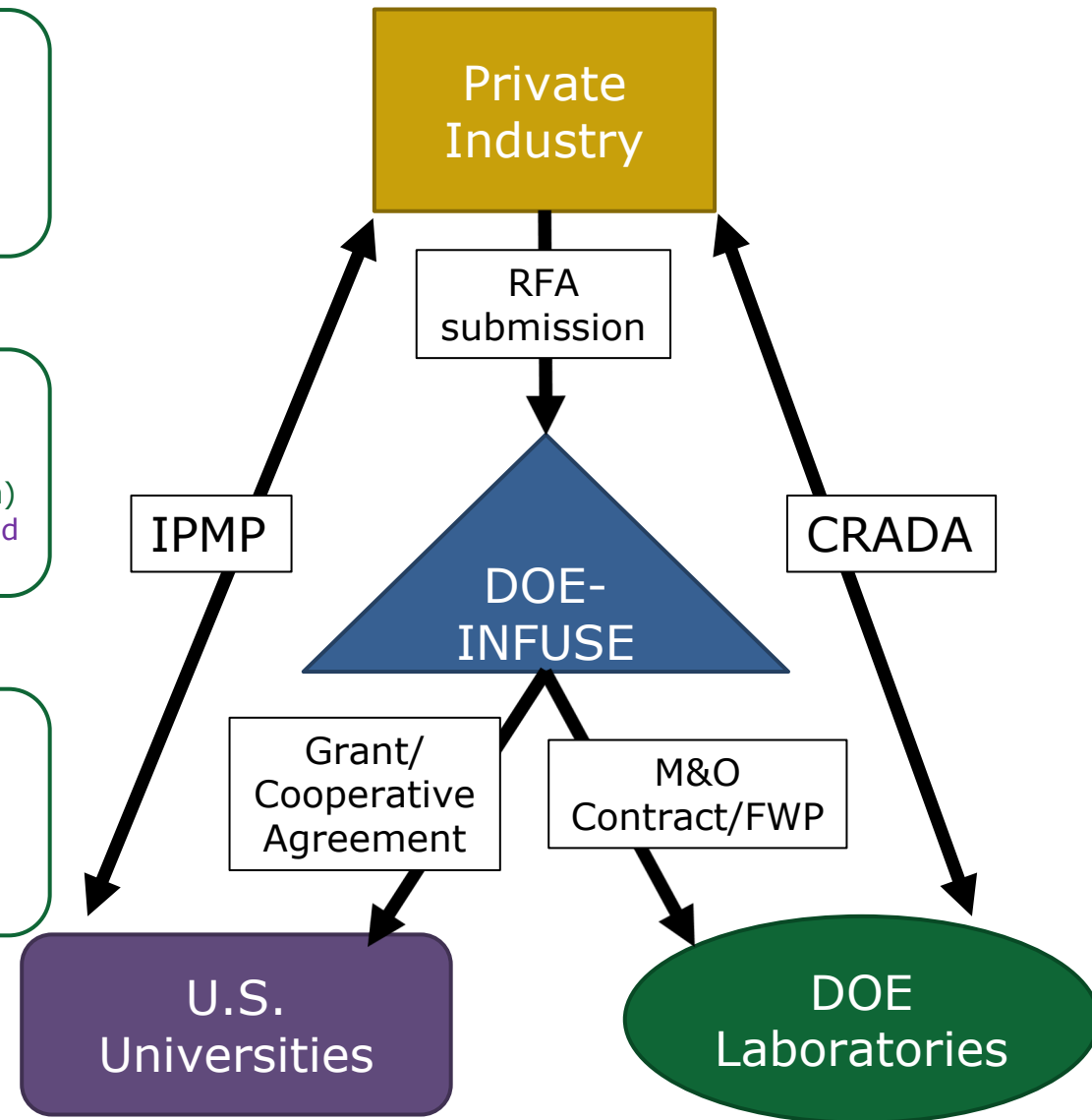
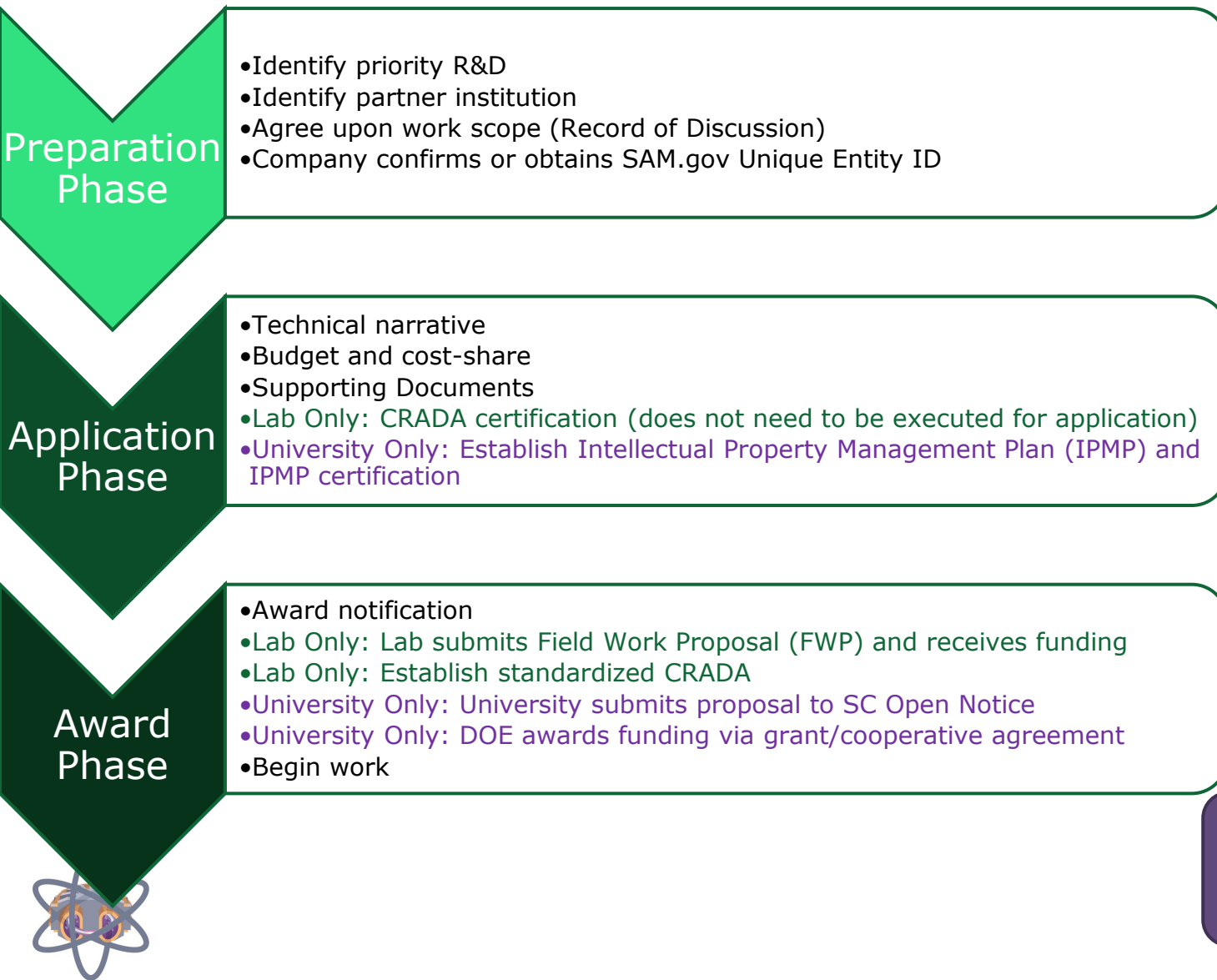
INFUSE Schedule

☐ FY2026

- Nov. 6, 2025 RFA posted
- Nov. 5-7, 2025 INFUSE RFA launch workshop
- Nov. 7, 2025 RFA submission opened
- **Jan. 16, 2026 RFA submissions closed (5:00pm EST)**
- June 2026 Award Announcement Expected
- Sep. 1, 2026 Work Start Date

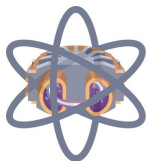


INFUSE Process



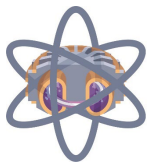
What is Changing for FY2026?

- 1. RFA – more description of topic areas**
- 2. IPMP grace two-week grace period (not new, mentioning again)**
- 3. Cost-share clarification**
- 4. Three application maximum per company (down from four)**
- 5. PIER plan requirement removed**
- 6. Appendix 3 – Foreign affiliation information required for companies with foreign affiliation**



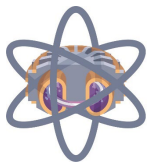
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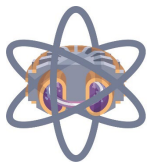
Eligibility Requirements

- **Eligible Applicants:** Private companies incorporated in the United States (can be a foreign owned subsidiary – PI and all cost-share must come from US subsidiary). Must have SAM.gov Unique Identity ID at time of submission.
- **Eligible Partner Institutions:** Any DOE national laboratory or institution of higher education with unique capability that is not available in the private sector. Partners must agree to work (record of discussion).
- **Award size:** \$100K to \$500k with a 20% cost share requirement, 12 months in duration. Requests of higher amounts and up to 24 months will be considered for work deemed to be of critical value to the company.
- **Number of Allowable Applications:** **3** per company per RFA call.
- **Company Certifications:** (1) Cost-share certification; (2) IP Certification (CRADA or IP Management Plan); (3) Conflict of Interest certification (“button push” on submission site). **For partnerships with universities, IP management plan must be submitted at time of award (or within two-week grace period).**



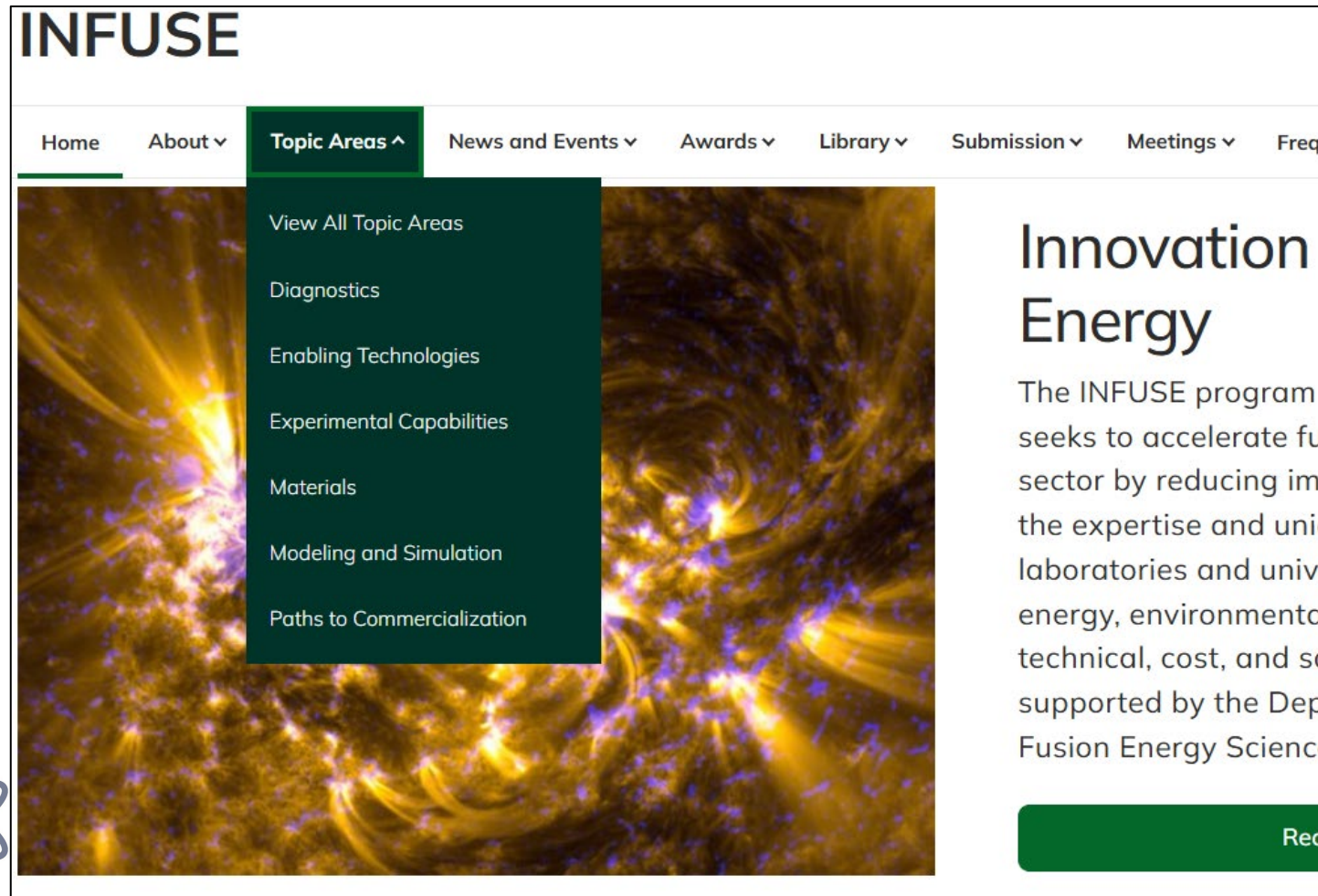
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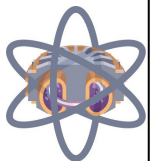


Topic Areas

- Web site is a good location to learn more about what is included in Topic Areas.
- The RFA call lists more subtopics than in the past.

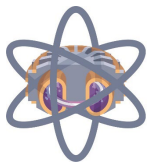


- Enabling technologies
 - Magnets and magnet materials for LTSC, HTSC including HFSC
 - Blanket and shielding evaluations, neutronics and volumetric heating
 - Tritium processing and control
 - Target injection, tracking, and engagement technology for IFE
 - Pellet fueling, pumping and disruption mitigation for MFE
 - Plasma heating systems including ICH, ECH, LHCD, helicon and gyrotron sources, Neutral Beam Heating, both positive and negative ion beam
 - Advanced plasma facing components (PFCs) for first wall and divertor applications
 - Advanced in-vessel components (IVCs) like faraday shields and antenna guard armor
 - Remote handling and RAMI
- Materials science
 - Neutron irradiation
 - Material characterization
 - Development of engineered materials, advanced manufacturing applied to fusion systems, joining processes
 - Documentation of physical properties, compilations of government reports and literature surveys
 - Safety analysis involving materials compatibility for both solids and liquids
 - Corrosion and wear, liquid metal embrittlement, tritium permeation
- Diagnostics
 - Joining processes,
 - Plasma surface interactions involving erosion, redeposition, wall conditioning, dust formation,
 - Waste handling and decommissioning
- Modeling and simulation, including but not limited to:
 - Design and/or deployment of plasma diagnostics
 - Design and/or deployment of engineering diagnostics
 - Physics, engineering and/or materials modeling/simulation
 - High-fidelity, exascale simulations
 - Digital twins of fusion facilities
 - Training of AI/ML models with experimental and simulation datasets
 - Surrogate models
 - Technoeconomic modeling
- Unique fusion experimental capabilities
 - Use of facilities at U.S. public institutions to utilize already existing, unique facilities to qualify materials or test engineering concepts
- Activities to support eventual fusion commercialization including but not limited to:
 - Accident and safety analysis in support of eventual licensing
 - Public engagement
 - Fuel supplies
 - Advanced manufacturing
 - Waste disposition and recycling



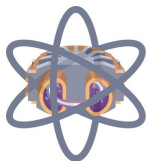
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Cost-share & U.S. Presence

- **Cost-share clarification**
 - “If the company is foreign owned, in-kind cost share may only be attributed to staff of the U.S. subsidiary.
 - This has always been the rule, but is now stated explicitly in the RFA call.
- **Appendix 3 – U.S. Presence**
 - Foreign affiliation information required for companies with foreign affiliation.



Appendices

1. Images and tables (if necessary)

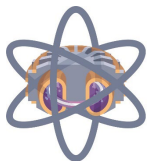
- Maximum of 2 pages.

2. Project distinction from other DOE support

- Applicants with ongoing DOE funded projects may include information to explain how the proposed INFUSE project is distinct from other ongoing funded awards.
- Maximum 1 page.

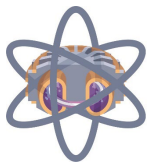
3. U.S. presence

- Companies with a foreign affiliation **must** describe the nature of the U.S. presence, including approximate number and type of employees (engineers, technicians, etc.), the location of lab or office space in the U.S. and the nature of the work undertaken there (e.g., research, development, design).
- The role of the PI in the U.S. company **must** also be indicated. **Applications that do not include this information will be returned without review.**
- Maximum 1 page.



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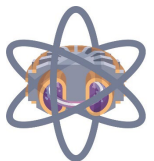
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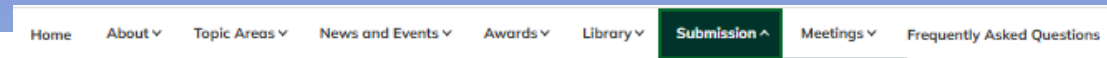
FY2026 Submission Tips

A few tips on proposal submission:

- You will need to go through the vetting process to get access to the submission site (see following slides). This process can take several days and so should be started as soon as possible.
- Make sure to give sufficient detail outlining the cost share split between private / national lab partners.
- Also see “Tips on writing a successful proposal” document under “RFA Submission Information and Templates” on submission page (<http://infuse.ornl.gov/wp-content/uploads/2020/02/INFUSEhints.pdf>) or the “Frequently Asked Questions” page.



Submission Process – go to “submission” on menu



RFA Submission Access

All RFAs must be submitted electronically by the deadline by the company and submitted as a package on the INFUSE SharePoint site. All submissions are timestamped and certified by the submitters AZURE account to be complete and accurate. E-mailed RFAs are not accepted.

Access to Submission Site (Open)

ORNL has a security procedure for guest access. If you are planning on submitting an RFA, please fill in your information below. You will be contacted with further instructions. Even if you have a vetted account and password from a previous cycle, you will still need to fill out this form to gain access to the submission site for this round. (NOTE: If you have been vetted before and you enter a different email below, then you will need to be vetted again). Anyone needing access to the site should complete this form, whether a company Point of Contact or company Principal Investigator. Once you receive confirmation, you may log into the protected SharePoint [site](#) here to begin your submission.

Guest Access

When you submit this form, it will not automatically collect your details like name and email address unless you provide it yourself.

* Required

1. Name *

Enter your answer

2. Primary Email *

Enter your answer

3. Alternate Email *

Enter your answer

<https://infuse.ornl.gov/rfa-announcement-and-submission/>

- You may begin the process now.
- This is the first step of the “vetting” process to gain access to the RFA application site.

INFUSE questions: infuse@ornl.gov

Arnie: lumsdainea@ornl.gov

Erik: egilson@pppl.gov

Jessica: blackbl1@ornl.gov



Submission – Vetting Process for Guest Access (New for FY2026)

To request guest access for submitting an RFA Application, please visit <https://infuse.ornl.gov/rfa-announcement-and-submission/> and fill out the form under “Access to Submission Site” at the bottom of the page. An automated process will check if you have already been vetted and your email is in our system.

If you are in the system, you will receive an invitation to the RFA Application site along with log in instructions. ***Note that if you have changed software (i.e. reinstalled Authenticator) or hardware (i.e. new cell phone) you may need to email infuse@ornl.gov in order to reset your MFA.***

If you are not in our system, you will receive the email below:

Follow these steps to request access to ORNL as a guest:

1. Install the Microsoft Authenticator App

Download and install Microsoft Authenticator from the app store on your phone.

2. Create Your ORNL Guest Credential

On your phone, go to [ORNL Verified](#) and follow the steps to set up your guest credential.

If you've already done this before, you can skip this step.

3. Visit ORNL My Access

Open a web browser on your computer and go to [ORNL My Access](#).

4. Sign In

When prompted, log in using your work or school email from your home organization.

5. Request Access

Follow the on-screen instructions to request access to the ORNL resource you need.

6. Verify Your Identity

Open the Microsoft Authenticator app on your phone.

Tap “Verified ID”, then tap the QR code button in the top right corner.

Use your phone to scan the QR code displayed on your computer screen.

What Happens Next?

You and your ORNL contact will receive an email notification once your access request is approved.

Once you have been vetted, you will receive an email invitation to the RFA Application site along with log in instructions.

Submission Notes

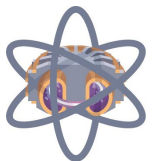
A few notes on proposal submission:

- You may make any changes to your application while it is in “Draft”.
- When you change to “Submit” and press save:
 - You will be notified if any required fields are not completed.
 - You will be sent a confirmation email including a PDF of your submission.
- You can continue to modify your application until Jan. 16 at 5:00pm (EST)
- The system times out after 30 minutes!

You may submit once required fields are completed. *

☒ Draft ☐ Submit

Important! Submitted applications can continue to be modified until the application close date. No applications are reviewed until that time. After submitting, you will receive a PDF copy of the form for additional review (allow 5 minutes).



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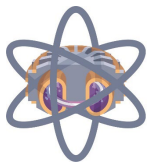
Save

Cancel

INFUSE is asking for brief quarterly reports

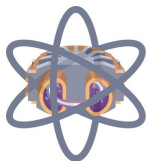
We will be asking for quarterly updates from both company and partner PI's.

- One-page forms will request the following:
 - Status of CRADA
 - Progress towards project goals
 - Any issues or concerns?
 - Is cost share (company) and budget/schedule (partner) on track?
- These are expected to be “short answer”.
- Due dates in 2026 – January 31, April 30, July 31, October 31.



What We Need From You

- In order to communicate INFUSE success stories to stakeholders we are needing **final reports** and **project summary slides**. The slides should:
 - Describe technical impact
 - Artifacts generated (papers, patents, etc.)
 - Technical readiness demonstrated / matured
 - Risks mitigated
 - Describe business impact
 - Progress towards company objectives
 - Input into other funding opportunities
 - Risks mitigated



Divertor Component Testing

Topic Area:
Experimental
Capabilities

Partner	Company
Oak Ridge National Laboratory	Commonwealth Fusion Systems
Dr. Travis Gray	Dr. Adam Kuang Dr. Matthew Reinke

Project Summary:

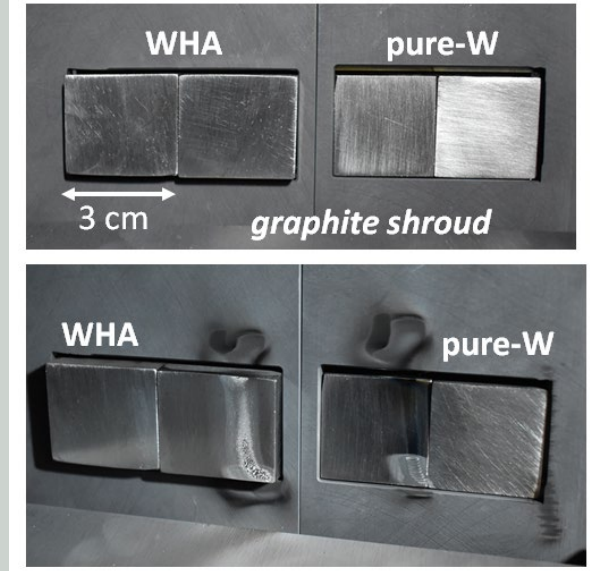
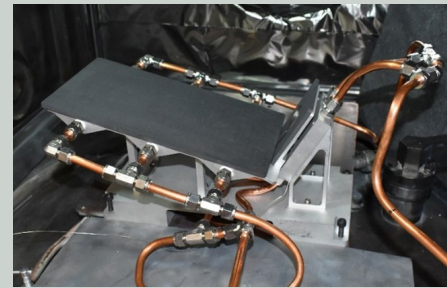
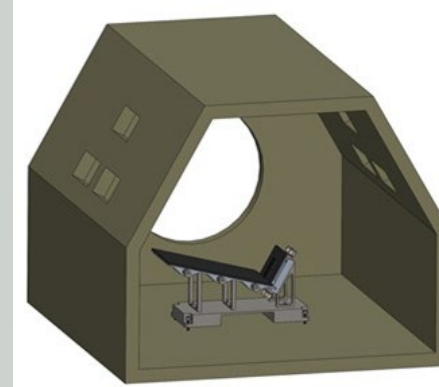
Execute high heat flux testing of the base material being considered for SPARC at representative loads.

Fusion Impact:

Qualified the use of tungsten heavy alloy (WHA) - 97% W, 2% Ni, 1% Fe by weight, for use in tokamaks under higher heat fluxes than previously assessed and documented failure mechanisms relative to pure tungsten.

Business/Market Impact:

Potential cost savings to future devices as tungsten heavy alloy has significantly lower machining cost relative to pure tungsten. Material properties also enable larger components, thus reducing part count.

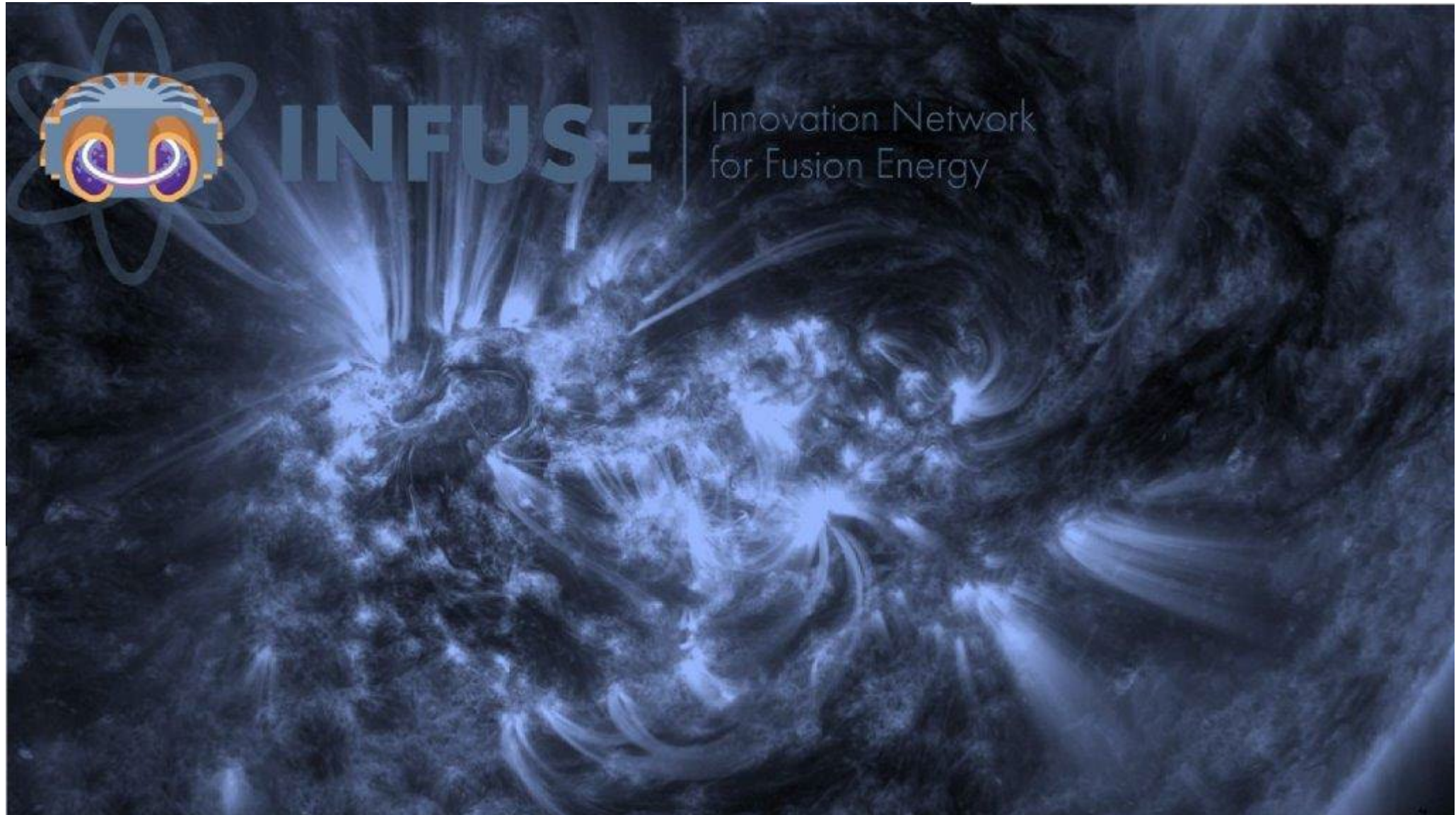


Left: Model and actual test stand. Top: Before and after images of the test samples.

Period of Performance:

3/2020 - 3/2021

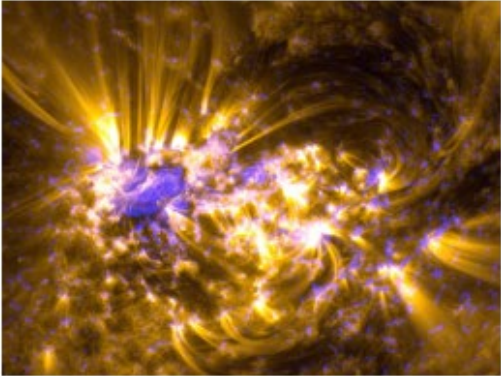
Questions?



Discussion

INFUSE

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Innovation Network for Fusion Energy

The INFUSE program is jointly led by ORNL and PPPL and seeks to accelerate fusion energy development in the private sector by reducing impediments to collaboration involving the expertise and unique resources available at DOE laboratories and universities. This will ensure the nation's energy, environmental and security needs by resolving technical, cost, and safety issues for industry. INFUSE is supported by the Department of Energy, Office of Science, Fusion Energy Sciences program.

[Read more](#)

<https://infuse.ornl.gov/>

INFUSE News



DIII-D National Fusion Facility

Join the webinar: Reducing Plasma-facing Material Requirements and Advancing Core-edge Integration using a Closed Divertor with Mid-leg pumping on October 2, 2025 at 9:00am Pacific. Registration is required through this link: https://fusion.zoom.us/webinar/register/WN_VfVole
Announcement flier for webinar

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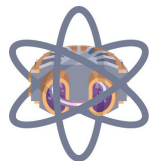


DOE announces \$134 million to advance fusion

On September 10, 2025 the U.S. Department of Energy announced funding for two program: Fusion Innovation Research Engine (FIRE) and Innovation Network for Fusion Energy (INFUSE). [Read full announcement here.](#)

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