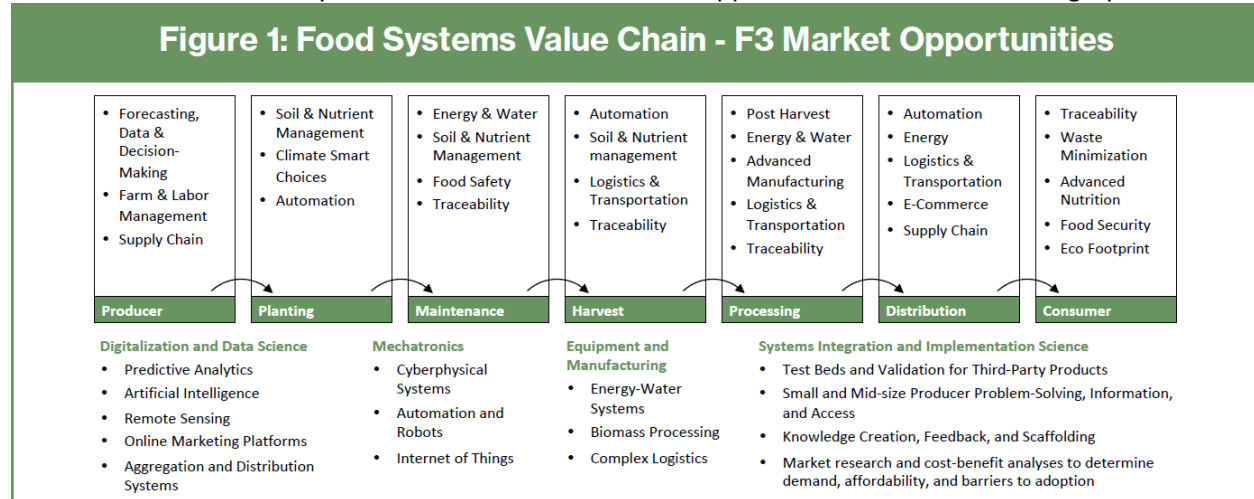




F3 Collaborative R&D Challenge Solicitation

The objective of Fresno-Merced Future of Food Innovation Initiative (or F3) is to leverage the Fresno-Merced region’s industry concentration and expertise to develop a world-class, Climate-Smart Food and Ag Tech Engineering Cluster that develops advanced, sustainable food production and food manufacturing focused on cross-disciplinary engineering capabilities. To help achieve this aim, the *F3 Collaborative R&D Challenge* will provide matching funds and seed funds to affiliated research teams. As an F3 activity, the *F3 Collaborative R&D Challenge* will serve as a catalyst for the ag-food-tech cluster aspirations of F3 through collaboration between CSU Fresno, UC Merced, and UC ANR.

F3’s focus is on the food systems value chain with market opportunities described in the graphic below:



The *F3 Challenge Grant Program* will support collaborative research and development initiatives, enhance cooperation among institutions, and facilitate innovation in ag-food-tech. In the interest of expanding and enhancing collaborative R&D among academics, industry partners, and community stakeholders in sustainable solutions to pressing food system challenges, F3 encourages proposals for early-stage research projects that support **climate-smart food systems** in the following areas:

- Artificial Intelligence, Data Science, Digital Mapping and Data for Decision-making
- Automation, Cyberphysical Systems, Robotics, and Mechatronics
- Food-Energy-Water Systems (e.g., biomass, agrivoltaics, vertical farming)
- Internet-of-Things, Edge Computing, Human-Computer Interaction, and Image Processing
- Advanced Materials, Manufacturing Processes, Digital Twins
- Water Information and Accounting (e.g., precision irrigation, groundwater recharge)
- “Technology Stack” Systems Integration
- Small Farmer Tech Solutions
- Climate Resilience and Regenerative Agriculture

The *F3 Challenge* will seek collaborative proposals for research projects that explicitly articulate how they would spur innovation in ag-food-tech. The *F3 Challenge* will also encourage co-developed



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research and practice projects that are formed in partnership with industry partners as well as local stakeholders. Successful proposals will define their linkages to F3 and will complement F3 thrusts:

- Climate Smart Food Systems
- Inclusive Innovation
- Workforce Development
- Industry Partnerships

Evidence that the applicant can leverage the proposed research into additional funding, either through sponsored research and/or start-up entrepreneurial activity, will be viewed favorably. Early career faculty are encouraged to apply.

Total funds available for 2022: \$600,000; Project Awards: \$10,000 - \$75,000.

There are two types of awards:

Match Funds:

- Up to \$15,000 awards are available to augment existing projects in the key *F3 Challenge* areas.
- Existing projects can be newly funded and used as match, or can be used as continuation “top off” funds. They cannot be used as match for *potentially* funded projects.
- These funds will be for work at one or more F3 partner institutions, but must include at least one community partner (industry or stakeholder).

Seed Funds:

- Up to \$75,000 awards are available to seed new collaborations involving two or more institutions (CSU Fresno, UC Merced, UC ANR) and include at least one community partner (industry or stakeholder).
- Funds must reside at two or more institutions.

All funds must be spent by December 31, 2022. No-cost extensions will not be granted. All public presentations, publications, and disseminated data emanating from these funds will acknowledge the Fresno-Merced Future of Food Innovation Initiative. Recipients will present findings at the F3 supported California Ag Robotics Forum to be held in Fresno, October 18-20, 2022.

Timeline:

2/24/2022	Solicitation for 2022 F3 Collaborative R&D Challenge Grant proposals announced (view Solicitation online here)
4/18/2022, 11:59:59 PDT	Submission Deadline for proposals
5/6/2022	Final judging and selection of awards
5/6/2022 – 5/31/2022	Disbursement of award funds
10/18/2022	Participation in California Ag Robotics Forum (mandatory)
2/28/2023	Closeout



Requirements

Match Funds

Proposed project must be an existing project for which funding has been secured, with funding in place or to be expended during the project period for the proposed *F3 Challenge* Match Fund award. While the F3 project can be a collaboration among investigators outside the F3 consortium, it can also be a single-investigator project but in collaboration with community partner (e.g., industry or stakeholder). Funds are intended to benefit existing activities as non-federal match, or continuation through augmentation. Funds will not be disbursed to any non-F3 entity. *F3 Challenge* Match Fund projects must address F3 R&D priorities.

Seed Funds

A proposed project must be a collaboration among investigators on at least two F3 institutions, and at least one community partner (e.g., industry or stakeholder). Funds will not be disbursed to any non-F3 entity. Collaborations between investigators can be existing, though new and novel collaborations are encouraged. Proposals focused on interdisciplinary approaches, or cross-cutting themes, are also encouraged. *F3 Challenge* Seed Fund projects must address F3 R&D priorities.

Limitations

F3 Challenge Grant Funding may not be used for additional faculty salary during academic term, but could be used for one course buyout; Up to one month of summer salary for a PI may be included in the project budget if justified. Funds shall not be used to cover non-resident tuition. Investigators may participate in no more than two *F3 Challenge* Grant proposals and serve as lead researcher on no more than one. Indirect cost recovery is not allowed.

Online Submission:

Apply through [F3 online submission portal](#), to submit the following:

Online Project Proposal Form

- Project Title
- Abstract (250 words, text field, written for a non-expert reviewer)
- Primary R&D Area
- Match or Seed program
- PI name, campus, home department
- Two page, [NSF-style biographical sketch](#) (CV) for lead investigator
- Co-investigator information (*space for two co-investigators; not required*)
- Community Partner(s)
- Proposal description (3 pages, 12-point font, PDF format)
- [Budget form](#) (Excel format)
- Ability to attend the California Ag Robotics Forum (yes/no)

Proposal contents:

- Title and Investigator(s)
- A description of the work to be undertaken
- A description of the R&D context this research will contribute to
- An assessment of the project's intellectual merit, innovation, and potential for broad-scale impact in helping achieve aims of F3
- Plans for requesting large-scale funding from government agencies, industries, or private foundations and/or entrepreneurial activity to follow



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- An outreach plan for project outcomes and a data management plan
- Evidence of collaboration with other investigators and/or community partners
- Impact to improving the region's vibrant and inclusive economy

Budget Form

Completed Budget Form (Excel) and upload at the end of this application form with detail and justification on salary, benefits, tuitions, materials, travel, etc. as needed.

Evaluation Criteria:

F3 Challenge Grant Funding proposals will be evaluated by F3 administrators according to the following criteria:

1. The scientific and technical merits, novelty, and rigor of the proposal.
2. Contribution to the F3 Collaborative R&D mission. That is, the likelihood that the project will have a tangible and positive impact on ag-food-tech innovation and climate-smart food systems, and that it will lead to significant societal or scientific results.
3. Demonstrated industrial application or commercialization potential.
4. Evidence of collaboration among researchers and community partners.
5. Evidence of "Inclusive Innovation."
6. Inclusion of pre-tenured faculty is encouraged but not required.
7. Inclusion of underrepresented faculty and students is encouraged but not required.