



Pre-Proposal Briefing for
Leading Edge Aeronautics Research for
NASA (LEARN) Solicitation
NNH15ZEA001N-LEARN3

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LEARN3 Key Information

- Award Information
 - Expected Number of Awards 4
 - Max Award Size \$800K per Team
 - Procurement Type Cooperative Agreements
 - Phase I Period of Performance 6/1/2016 to 5/31/2017
- Proposal Schedule
 - Due Date for Step-A Proposals 12/08/2015
 - Due Date for Invited Step-B Proposals TBD (30 days after invitation)
 - Award Announcement April 2016
- Proposal Submission Website
 - NSPIRES <http://nspires.nasaprs.com>
 - Helpdesk nspires-help@nasaprs.com or (202) 479-9376
- Detailed Instructions for Proposal Preparation
 - NASA 2015 Guidebook for Proposers, <http://www.hq.nasa.gov/office/procurement/nraguidebook/>
- E-mail LEARN3 questions to: nasa-learn@mail.nasa.gov



NASA Aeronautics Vision for Aviation in the 21st Century



6 Strategic Thrusts



Safe, Efficient Growth in Global Operations



Innovation in Commercial Supersonic Aircraft



Ultra-Efficient Commercial Vehicles



Transition to Low-Carbon Propulsion



Real-Time System-Wide Safety Assurance



Assured Autonomy for Aviation Transformation

<http://www.aeronautics.nasa.gov/strategic-plan.htm>



NASA Aeronautics Organization

Airspace Operations and Safety Program

MISSION PROGRAMS

→

- Safe, Efficient Growth in Global Operations
- Real-Time System-Wide Safety Assurance
- Assured Autonomy for Aviation Transformation

Advanced Air Vehicles Program

→

- Ultra-Efficient Commercial Vehicles
- Innovation in Commercial Supersonic Aircraft
- Transition to Low-Carbon Propulsion
- Assured Autonomy for Aviation Transformation

Integrated Aviation Systems Program

→

- Flight research-oriented, integrated, system-level R&T that supports all six thrusts
- X-planes/ test environment

Transformative Aeronautics Concepts Program

SEEDLING PROGRAM

→ TACP

- High-risk, leap-frog ideas that support all six thrusts
- Critical cross-cutting tools and technologies development



LEARN Project

- LEARN Project invests in innovative, early-stage, and potentially revolutionary aeronautical concepts and technologies from outside of NASA
 - This NRA belongs to one of LEARN's four portfolio items, New Concepts Research. Short duration activities for feasibility assessment of proposed concepts. LEARN proposals must address any one or more of the six NASA Aeronautics Strategic Thrusts
- NASA Aeronautics Research Institute (NARI) is a virtual collaboration institute
 - For more info: <http://nari.arc.nasa.gov>
 - Upcoming events and LEARN solicitations
 - Past awards

NASA Aeronautics Research
Six Strategic Thrusts

- Safe, Efficient Growth in Global Operations**
 - Enable full NextGen and develop technologies to substantially reduce aircraft safety risks
- Innovation in Commercial Supersonic Aircraft**
 - Achieve a low-boom standard
- Ultra-Efficient Commercial Vehicles**
 - Pioneer technologies for big leaps in efficiency and environmental performance
- Transition to Low-Carbon Propulsion**
 - Characterize drop-in alternative fuels and pioneer low-carbon propulsion technology
- Real-Time System-Wide Safety Assurance**
 - Develop an integrated prototype of a real-time safety monitoring and assurance system
- Assured Autonomy for Aviation Transformation**
 - Develop high impact aviation autonomy applications



LEARN3 Objective

- Seeking innovative, multi-disciplinary, multi-institutional, team-based Phase I proposals of aeronautical concepts (for the future)
- Providing efficient, safe, secure, sustainable and improved people mobility
- That will use the distributed airport infrastructures and complementary air vehicles at existing small and medium airport locations in the USA



Scope (1)

- Expand mobility using aviation
- Utilize small to medium airports
- Introduce a significantly unique or innovative concept
- Concepts and technologies developed should be complementary to the US aviation system
 - Not looking for a complete redesign of the whole National Airspace System or changing the design of existing aircraft
 - Proposed concepts must overcome current airline route planning and economic issues that result in the underutilization of small and medium airports
- Concepts must be aligned to one or more of the six NASA Aeronautics strategic thrusts
- Research addressing more aspects of the “big question” are preferred over research that have a narrower focus





- Team-based, multidisciplinary, integrated research addressing multifaceted questions
 - Bring together broadly based expertise from more than a single institution and technical discipline
 - Conduct collaborative, cross-disciplinary research, and enhance innovative communication between disparate researchers
- After two phases, the proposed research should result in a desire for Industry or NASA to develop/continue the concept
 - LEARN will not fund beyond Phase II
 - LEARN project understands that not all high-risk high-payoff concepts, even if successfully developed through two phases, can be successfully transferred to industry or NASA for further technology development



Eligibilities and Funding

- Proposals submitted by the business office of the Principal Investigator's (PI's) organization
 - Participation is open to all categories of organizations
 - Domestic industry, educational institutions, nonprofit organizations
 - Not open to FFRDCs, NASA and other Government agencies
 - The intent of this solicitation is to provide funding to U.S. institutions; non-U.S. organizations are eligible to propose, but are not eligible to receive research funding from NASA
- 4 team awards of up to \$800K (one-year)
 - Smaller award amounts may be proposed
 - All proposed budgets must be justified
 - Cost sharing by organizations is not required, but NASA may accept cost sharing if voluntarily offered



Proposal Process

- Submission site: NSPIRES <http://nspires.nasaprs.com>
- A two-step proposal process
 - Step-A proposal (3-page white paper)
 - Notice of Intent (NOI) not required
 - Due December 8, 2015
 - Step-A proposals are reviewed and a down selection performed
 - Only proposers who submit a Step-A proposal and are selected will be invited to submit a Step-B proposal
 - Step-B proposal (15-pages + budget + resumes + letters)
 - Due 30 days after notification from NSPIRES
 - Step-B proposals reviewed for final selection decisions
- Format and Contents
 - See Step-A and Step-B details in solicitation document
 - Concept, Innovation, Relevance, Impact and Technical merit



3-Step Evaluation Process

- Proposals will be reviewed by government employees/NASA civil servants
- Step-A Review Panel
 - Removes out-of-scope proposals
 - Down selects among the rest for highly rated proposals
 - Relevance to LEARN3's objectives and Impact to aviation
 - Technical Merit
- Step-B Review Panel
 - Strengths and Weaknesses
 - Recommended (two categories: with and without reservations) and Not Recommended
 - Relevance and Impact (weight 20%)
 - Technical Merit (weight 35%)
 - Effectiveness of the Proposed Work Plan (weight 20%)
 - Cost (weight 15%)
 - Collaboration (weight 10%)
- LEARN Oversight Committee
 - Discusses and recommends proposals to be awarded
 - Selecting Official is Transformative Aeronautics Concepts Program Director

Evaluation criteria details are in the solicitation document



Project Reporting Requirements

- Virtual quarterly meetings
- Midterm technical status report
- A final written technical report (journal submission format) within ninety days after the conclusion of task
- PI presenting status and findings during a “virtual” NARI seminar open to the public near the end of the period of performance (TBD)
- Copy of any conference or journal publication and/or invention disclosure



Questions and Answers for LEARN3

Aeronautics Research Mission Directorate

NASA Research Announcement

D.2 Leading Edge Aeronautics Research for NASA Project (LEARN3)

Solicitation: NNH15ZEA001N-LEARN3

Dates

Release	Oct 20, 2015
Step-A Proposals Due	Dec 08, 2015

Announcement Documents

- › [ROA 2015 Complete Solicitation as of Oct 20, 2015](#)
- › [ROA 2015 Complete Solicitation as of Oct 13, 2015](#)
- › [ROA 2015 Complete Solicitation as of June 19, 2015](#)
- › [ROA 2015 Complete Solicitation as of May 18, 2015](#)
- › [ROA 2015 Complete Solicitation as of April 29, 2015](#)
- › [ROA 2015 Complete Solicitation as of April 22, 2015](#)
- › [ROA 2015 Complete Solicitation as of April 10, 2015](#)
- › [ROA 2015 Complete Solicitation as of March 9, 2015](#)
- › [ROA-2015 Complete solicitation as of February 11, 2015](#)
- › [ROA 2015 NRA Main Body as of October 20, 2015](#)
- › [D.2 Leading Edge Aeronautics Research for NASA Project \(LEARN3\)](#)

Q&A →

Other Documents

- › [Questions and Answers for LEARN3 \(Updated 30 October 2015\)](#)
- › [ROA 2015 Questions and Answers](#)
- › [NRA Proposers Guidebook](#)
- › [NASA Grants and Cooperative Agreement Handbook](#)
- › [NSPIRES Registration Link](#)
- › [NSPIRES Organization Registration Info](#)

Program Element Information

- › [NASA ARMD Research Opportunities in Aeronautics \(ROA 2015\)](#)

- In NSPIRES at the NNH15ZEA001N-LEARN3 page
- Q&A will be updated through the solicitation process for questions of general interest
- E-mail: nasa-learn@mail.nasa.gov



Q&A for LEARN3

Example questions now in Q&A

- Is LEARN3 a separate entity from LEARN1 and LEARN2 funding opportunities? *Yes*
- Will you release a recording and/or transcript of the pre-proposal briefing on a web page? *Links to Charts and Recording will be provided in NSPIRES*
- Our organization has worked an early stage concept, will proposing this concept be non-responsive in terms of innovativeness? *Reviewers will judge*
- What should we use as period of performance for proposal resource planning purposes? *Use 6/1/2016 to 5/31/2017*



Q&A

E-mail: nasa-learn@mail.nasa.gov



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