NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Ames Research Center (ARC)

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC)

For: Solicitation 80ARC026P0002

Starling Mission Follow-On

1. FAR 6.104-1(a)(1) – Identification of the agency and the contracting activity, and specific identification of the document as a "Justification for other than full and open competition."

This document is a justification for other than full and open competition prepared by the National Aeronautics and Space Administration (NASA) Ames Research Center (ARC). The procuring agency is NASA, and the contracting activity is NASA Ames Research Center, Moffett Field, California 94035-1000.

2. FAR 6.104-1(a)(2) – The nature and/or description of the action being approved:

This justification provides the rationale for contracting by other than full and open competition to award a sole-source firm-fixed-price commercial contract to EraDrive, Inc. for software development and on-orbit testing services to extend autonomous space-based situational awareness capabilities for the NASA Starling formation-flying mission. This is a follow-on acquisition to predecessor contract 80ARC025CA006 awarded to EraDrive, Inc., which was performed from June 10, 2025 through June 9, 2026 with a total value of $1,000,000. The current action will award a new contract for the continued development of the StarFOX flight software baseline operating on four 6U CubeSats in Low Earth Orbit.

3. FAR 6.104-1(a)(3) – A description of the supplies or services required, to meet the Agency's needs (including the estimated value):

NASA Ames Research Center requires software development and on-orbit testing services to extend the autonomous space-based situational awareness capabilities of the Starling formation-flying mission. The contractor shall modify the StarFOX flight software baseline operating on four 6U CubeSats in Low Earth Orbit to add two autonomous capabilities: (a) onboard conjunction assessment with autonomous risk-mitigation maneuver planning; and (b) multi-satellite autonomous orbit determination using optical sensor measurement exchange among the four spacecraft.

The effort includes development, ground testing, on-orbit upload via NASA-furnished ground station, operational demonstration, and final reporting. The period of performance is approximately seven months from date of award (June 10, 2026) through January 20, 2027, bounded by the scheduled Starling mission end-of-life. The estimated value of this acquisition is [REDACTED].

4. FAR 6.104-1(a)(4) – An identification of the statutory authority permitting other than full and open competition:

The statutory authority permitting other than full and open competition is 41 U.S.C. 3304(a)(1), as implemented by FAR 6.103-1, Only one responsible source and no other supplies or services will satisfy agency requirements. This authority was renumbered from the legacy FAR 6.302-1 to FAR 6.103-1 effective March 2026 under the Revolutionary FAR Overhaul.

5. FAR 6.104-1(a)(5) – A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:

The rationale supporting the use of 41 U.S.C. 3304(a)(1) and FAR 6.103-1 is that EraDrive, Inc. is the only responsible source capable of performing the required software modifications within the schedule bounded by the Starling mission end-of-life on January 20, 2027.

EraDrive developed and integrated the proprietary StarFOX flight software baseline currently operating on the four Starling CubeSats under predecessor contract 80ARC025CA006. EraDrive owns the source code, build environment, and integration interfaces with the Starling spacecraft avionics necessary to perform the work. These proprietary assets are not available to other contractors.

The institutional knowledge of the software architecture, including the autonomous control algorithms, spacecraft interface protocols, and flight-proven ground testing procedures, resides exclusively with EraDrive personnel who performed the original development and integration. Transfer of the proprietary information to an alternate contractor would require EraDrive's consent under the data rights provisions of the predecessor contract and would introduce schedule delay associated with a new contractor learning the existing software baseline, establishing a build environment, and conducting the ground testing necessary to validate flight readiness.

Within the seven-month period of performance bounded by mission end-of-life, no alternate contractor could perform the work without unacceptable risk to mission outcomes. The mission-driven schedule provides no margin for competitive solicitation lead time or contractor transition activities. Award to any other source would result in unacceptable delays in fulfilling the Agency's requirements under FAR 6.103-1(b)(2).

6. FAR 6.104-1(a)(6) – A description of the efforts made to ensure that offers are solicited from as many potential sources as practicable, including whether a notice was or will be publicized as required by Subpart 5.1:

A notice to the Government Point of Entry (GPE) website (SAM.gov) was published on April 13, 2026 (Notice ID 80ARC026R0004) and updated on April 26, 2026, in accordance with FAR Subpart 5.1. This posting informed potential sources of NASA's intent to award this sole-source contract to EraDrive, Inc. and requested capability statements from interested sources demonstrating the ability to perform the requirement within the period of performance constrained by the Starling mission end-of-life of January 20, 2027. The response deadline was April 28, 2026. No responsive capability statements were received establishing an alternative source. The results of this synopsis are summarized in Section 10 below.

7. FAR 6.104-1(a)(7) – A determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable:

The Contracting Officer's signature on this document indicates that the Contracting Officer has determined that the anticipated cost to the Government will be fair and reasonable. The Contractor will be required to submit a proposal to be evaluated and negotiated by the Government. Prior to execution of the contractual instrument, a proposal analysis will be performed to ensure that the final agreed-to price for the contract action is fair and reasonable.

Price reasonableness will be determined through price analysis per FAR 15.404-1(b). The Contracting Officer will compare the contractor's proposed price to: (a) the Independent Government Cost Estimate of [REDACTED] prepared by the Contracting Officer's Representative on April 6, 2026, using a bottom-up methodology with fully-burdened labor rates of [REDACTED] per hour for technical staff and [REDACTED] per hour for project management; and (b) the predecessor contract 80ARC025CA006, which was awarded at $1,000,000 over a 12-month period of performance and provides a direct pricing benchmark for similar work performed by the same contractor. The follow-on monthly burn rate of approximately [REDACTED] is consistent with the reduced incremental scope relative to the predecessor effort.

Certified cost or pricing data is not required because the acquisition is below the $2,500,000 threshold at FAR 15.403-4(a)(1) and the commercial exception at FAR 15.403-1(b)(3) applies. The Contracting Officer will obtain data other than certified cost or pricing data per FAR 15.403-3 to support price analysis.

8. FAR 6.104-1(a)(8) – Description of the market research conducted, and the results:

Market research was conducted in accordance with FAR Part 10 to identify potential sources capable of performing the required software development and on-orbit testing within the mission end-of-life bounded period. The research included: (a) review of available commercial sources of autonomous spacecraft flight software capable of operating on the existing Starling 6U CubeSat hardware; (b) review of NASA technical literature regarding alternative approaches to autonomous conjunction assessment and multi-satellite orbit determination; (c) consultation with NASA Ames technical personnel familiar with the Starling spacecraft architecture and prior contract performance; and (d) publication of a Notice of Intent to Sole Source on SAM.gov (April 13, 2026, updated April 26, 2026) requesting capability statements from interested sources.

No responsive capability statements were received from any alternative source establishing the capability to perform within the mission end-of-life bounded period. Independent assessment by the technical office confirmed that no other contractor possesses the proprietary StarFOX flight software baseline or the institutional knowledge of the Starling spacecraft software architecture necessary to perform the work within the available schedule. The Rule of Two test at FAR 19.502-2 is not satisfied; only one responsible source has been identified.

9. FAR 6.104-1(a)(9) – Any other facts supporting the use of other than full and open competition:

This is a follow-on acquisition to predecessor contract 80ARC025CA006, which was awarded to EraDrive, Inc. as a sole-source under similar authority. The predecessor contract established the StarFOX flight software baseline and integrated it with the Starling spacecraft avionics. The current acquisition builds incrementally on that baseline by adding two autonomous capabilities to the existing on-orbit software.

In accordance with FAR 6.104-1(a)(9)(i), when FAR 6.103-1 is cited for follow-on acquisitions as described in FAR 6.103-1(c)(2), an estimate of the cost to the Government that would be duplicated and how the estimate was derived must be provided. If awarded to an alternative source, the duplicated cost is estimated at approximately [REDACTED], representing the cost an alternative contractor would incur to replicate the StarFOX baseline development, build environment establishment, and ground qualification activities already performed under predecessor contract 80ARC025CA006. This estimate was derived by applying a [REDACTED] duplication factor (reflecting partial reuse of available technical documentation) to the predecessor contract value of $1,000,000. The duplicated cost would not be recovered through competition because (a) the Starling mission terminates on January 20, 2027 with no follow-on procurements anticipated, and (b) the duplication activities would consume the entire available period of performance, precluding completion of the actual software upgrade work.

The Starling constellation will terminate operations on January 20, 2027, after which no follow-on Starling acquisitions are anticipated. This contract is the final acquisition for the Starling mission.

The acquisition is being conducted under FAR Part 12 procedures for commercial services. The services constitute a commercial service under FAR 2.101: services in support of a commercial product (EraDrive autonomy software), where the source provides similar services to the general public under terms and conditions similar to those offered to the Government.

10. FAR 6.104-1(a)(10) – A listing of the sources, if any, that expressed an interest in writing in the acquisition:

A notice of NASA's intent to award this sole-source action was synopsized on the SAM.gov GPE website on April 13, 2026 (Notice ID 80ARC026R0004) and updated on April 26, 2026, per FAR Subpart 5.1. The synopsis closed on April 28, 2026. No companies were found to have the capabilities required.

11. FAR 6.104-1(a)(11) – A statement of actions, if any, the agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required:

Future Starling mission software acquisitions are constrained by mission lifecycle: the constellation will terminate operations on January 20, 2027, after which no follow-on Starling acquisitions are anticipated. This contract is the final acquisition for the Starling mission. Accordingly, no specific actions are practicable to enable competition for subsequent Starling acquisitions.

Future autonomous spacecraft software acquisitions on different platforms would not face the same barriers because they would not be bound to the proprietary StarFOX baseline or the existing on-orbit hardware. NASA Ames will incorporate lessons learned from the Starling mission into future acquisition strategies, including consideration of Government-purpose rights or unlimited rights to flight software baselines on future missions to preserve competitive options. DRD 005 (Final Rights Assertion and Restricted Computer Software Schedule) under this contract documents the contractor's data rights assertions and provides the Government with visibility into the extent of proprietary restrictions for future acquisition planning.

The Agency will continue to examine the market in the future for alternative solutions or new sources before executing any subsequent acquisitions for similar requirements.

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SIGNATURE PAGE

Signature authority for proposed actions less than or equal to $900,000, per FAR 6.104-2 and NFS 1806.104.

Technical Representative: I certify that the facts presented in this justification are accurate and complete.

[REDACTED]

Contracting Officer's Representative / Technical Representative
NASA Ames Research Center
Date: May 15, 2026

Contracting Officer: I hereby certify that the above justification is accurate and complete to the best of my knowledge and belief.

[REDACTED]

Contracting Officer, Code JA
NASA Ames Research Center
Date: May 15, 2026

— END OF JOFOC —