

Call for M8, F3 and mini-Fast mission proposals

Briefing meeting, 11 December 2024

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Call for M8 mission candidates

- Aims at M8 mission (part the Voyage 2050 plan), process similar to M7
- < 15 years from early selection to launch
- ESA Cost at Completion (CaC): 650 M€ in e.c. 2024. Launch in ~ 2041

Call for F3 mission candidates

- Aims at F3 fast mission (part the Voyage 2050 plan)
- < 8 years from early selection to launch
- ESA CaC: 200 M€ in e.c. 2024. Launch in ~ 2034

Exploratory Call for “mini-Fast missions”

- Aims at assessing the potential of mini-Fast missions in the Programme
- Ballpark ESA CaC 50 M€ in e.c. 2024, 4-5 years from early selection to launch

All missions in the Science Programme are science-driven and selected through open Calls towards the scientific community

- Science case is open
- Competitive process aims at scientific excellence within the programmatic boundary conditions
- Pure technology demonstrators with low science return are not targeted

Calls are planned in two phases, to limit nugatory work to all parties

- Short Phase 1 proposals (≤ 10 pages)
- Only Phase 1 proposals that are judged scientifically compelling and potentially feasible will proceed to Phase 2
- No limitation on the number of Phase 2 proposals

- **Science objectives description**
 - What do you propose to achieve? Need for space? Why now?
- **Mission profile**
 - Proposed destination & launcher
- **Instrumentation for achieving the science objectives**
 - Measurement concept
 - Instrumentation description: Hardware description, heritage, technology assessment, expected resources (mass/volume, power, data volume)
- **Preliminary requirements for the platform (any specific needs?)**
- **Concept of operations: mission scenario, measurement phases, lifetime**
- **Proposed responsibility scheme (preliminary)**

From Call release to selection of mission candidates



Step	M8	F3	Comments
Information session	Today	Today	Early warning allowing the community to get prepared
Call release	Mar-25	Mar-25	
Phase 1 proposal deadline	May-25	May-25	> 2 months for Phase 1 proposals
Phase 1 shortlist	Sep-25	Sep-25	
Maturation phase (F3 only)	N.A.	Dec-25	Intended to consolidate Member States contributions for F3
Workshop with Phase 2 proposers	Oct -25	Jan-26	ESA-proposers one-to-one sessions
Phase 2 proposal deadline	Mar-26	Apr-26	> 4 months for Phase 2 proposals
Letters of Endorsement	May-26	Jun-26	For Member States and international contributions
Evaluation completed	Sep-26	Oct-26	Scientific ranking & feasibility assessment
Selection of candidates	Nov-26	Nov-26	For M8: Up to 5 candidates for the Phase 0, downselection to 3 candidates at the end of Phase 0 For F3: Nominally one candidate mission + one back-up



The fast schedule for F3 imposes a swift start of payload activities in Phase 0

- Early commitment needed from the Member States => proved difficult for some F2 proposals

The maturation phase is intended to ease the Member States provision to the F3 candidates, by initiating early discussions

Objective: Maximise the number of proposals with high-quality science and robust Member State contribution scheme, while minimising schedule impact on the overall selection process

F3 Maturation Phase		
Phase 1 shortlist	Sep-25	Following scientific ranking & feasibility assessment
(1st) F3 workshop	Oct-25	Member States (MS) will be invited Open session (ESA + MS + all shortlisted proposers) + restricted sessions (ESA + MS + proposers for each shortlisted mission)
Maturation Phase	Oct-Dec 25	Time provided to the proposers to consolidate their approach on the payload development. No or little ESA involvement.
(2nd) F3 workshop with Phase 2 proposers	Jan-26	ESA-proposers one-to-one sessions, prior to initiating Phase 2. ESA is updated on the way forward and provides feedback to each proposing team.

As for previous Calls, a technical annex will be attached to help the proposers

- Guidelines for the space segment, e.g. mass vs launcher and destination, TRL etc.
- Background information for the space segment & ground stations
- Some useful indicative cost elements

Proposers can already benchmark their proposals with recent developments

- The M-mission platform class is comparable to that of PLATO (M3), ARIEL (M4) or EnVision (M5).
- The F-mission platform class is comparable to CHEOPS or ARRAKIHS, or somewhat larger (depending on the destination and ESA involvement on the payload)

New generation launchers (A62 and Vega-C) are much more capable

- For several destinations, design limited by cost rather than launcher
- Avoid presuming co-passengers to reduce launcher costs (will be possibly done by ESA, if feasible)
- For M missions, both A62 and Vega-C are feasible (flexibility on S/C cost)

Design to cost approach will be enforced for selected candidates

- Iterative process, aiming at optimum science within cost boundary
- Define in the proposal the core science measurement objectives and think of true flexibilities and fall-back scenarios for coping with TRLs and cost

Member States contributions expected on the payload and Science Ground Segment

- For large payload (e.g. for some astrophysics mission) that are not commensurate with a single Member State capability, ESA will be in charge of the overall payload system engineering and interface management

Mini-Fast missions would feature several advantages to the Programme

- Financial volume (50 M€ ballpark) allows a higher involvement and visibility for many Member States
- Increase the Programme diversity and promote new generations in the scientific community, industry and ESA
- Increase the cadence of missions, explore new implementation schemes

Tentative boundary conditions

- ESA CaC ballpark 50 M€ (can be tuned following the Call outcome)
- Very fast schedule: < 2 years from early selection to adoption, < 3 years from adoption to launch

Can we achieve innovative science with mini-F missions?

Do we have enough cases to envisage a line of mini-F missions?

The Call for mini-F proposals will request Phase-1 type proposals to assess the scientific merit of the concept and the technical feasibility

- Follow-on workshop with the SPC to analyse the Call outcome and discuss the way forward

Mini-Fast missions: Timeline, scenarios and next steps

The Call will target a regular self-standing ESA mission, however without ruling out other scenarios

- ESA-funded contributions are flexible
- The spacecraft could be passenger to some other mission

Example of concept that could fit the boundary conditions

- S/C mass class below ~100 kg, in LEO with recurring platform and payload mass below 15-20 kg
- Existing payload, quasi-recurring from previous developments

Alternative follow-on steps, following the Call outcome

- Proceed in Phase-2, leading to the selection of the first mini-F(s)
- Adapt the boundary conditions of the Call and re-issue the Call in two phases
- Investigate a few interesting mission concepts to decide on the relevance of mini-F missions for the Science Programme
- Implement a dedicated work plan for later enabling a series of mini-F missions
- Abandon the mini-F concept in the science programme

Mini-F Call for ideas	
Information session	Today
Call release	Mar-25
Phase 1 proposal deadline (same quality as for F & M)	May-25
Assessment of mini-F proposals (scientific merit and feasibility)	Sep-25
Mini-F workshop with SPC	Oct-25
Next steps	TBD

The end

