

ESA
Director General's Office

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ESA Space Debris Mitigation Policy

1. INTRODUCTION

As a consequence of space activities, the number of functional and non-functional human-made objects in Earth orbit continues to grow. To minimise the impact of space operations on the orbital environment, to reduce the risk of collisions in orbit and to ensure the safety of the population on the ground during re-entry, mitigation and safety measures must be anticipated as from the conception of a space system.

This document defines the Agency's Policy for pursuing space sustainability and space debris mitigation in compliance with the 'ESA Agenda 2025' and in line with the encouragement from the ESA Council at its meeting held at ministerial level in Paris, France, on 22-23 November 2022, to the Director General to "promote the Agency as a responsible and inclusive vanguard organisation", to "implement [...] a zero-debris approach for its missions" and "to encourage partners and other actors to pursue similar paths".

2. POLICY

With the objectives of carrying out space activities in an environmentally sustainable manner, preserving space for future generations and working towards "zero debris" by 2030, it is the Agency's policy and commitment to:

- (i) mitigate Space Debris, in particular by:
 - (a) limiting the amount of Space Debris created as a result of normal operations;
 - (b) minimising the risk of in-orbit break-ups;
 - (c) preventing in-orbit collisions; and
 - (d) implementing post-mission disposal;

- (ii) implement the Space Debris Mitigation Guidelines of the United Nations Committee On the Peaceful Uses of Outer Space (UNCOPUOS), endorsed by the United Nations General Assembly in its Resolution 62/217 of 22 December 2007, as well as, to the extent applicable, the Guidelines for the Long-term Sustainability of Outer Space Activities (ref. UN document A/74/20, paragraph 163 and Annex II);

- (iii) when cooperating with international partners, consider Space Debris mitigation measures in line with this Policy and consistent with the aforementioned Guidelines; and
- (iv) promote technologies, services and procedures that are compatible with, and aim to go beyond, the current state of the art while preserving the competitiveness of Member States' industry and contribute to updating the associated standards and guidelines accordingly.

3. SCOPE OF APPLICATION

This Policy applies to:

- (i) the procurement of Space Systems by ESA;
- (ii) the procurement of ESA contributions to international collaborations on Space Systems;
- (iii) operations, under the responsibility of ESA, of Space Systems; and
- (iv) the procurement of launch services for Space Systems.

4. IMPLEMENTATION

This Policy shall be implemented for all projects within its scope, end to end throughout their lifetime, starting with Phase 0, by applying the ESA Standard for Space Debris Mitigation Requirements, ESSB-ST-U-007.

Any departure from this Policy, including when required for the implementation of an activity for a requesting party or with a collaborating party, is subject to a waiver by the Director General pursuant to the procedure defined in Section 5.

5. REQUEST FOR WAIVER

The procedure for a request for waiver is as follows:

- the Director concerned shall submit a request for waiver to the Head of the Independent Safety Office;
- the Head of the Independent Safety Office shall convene an independent expert panel to analyse the request and provide its technical analysis as input to the Space Debris Mitigation Assessment Board;
- the Space Debris Mitigation Assessment Board shall, on the basis of the input received, conclude an end to end assessment of the request and provide a recommendation to the Director General; and
- the Director General shall take a decision.

6. ROLES AND RESPONSIBILITIES

The roles and responsibilities regarding the implementation of this Policy are as follows:

6.1. Director General

The Director General is responsible for taking decisions in respect of requests for waiver based on the assessment and recommendation of the Space Debris Mitigation Assessment Board.

6.2. Inspector General

The Inspector General is responsible for verifying the implementation of this Policy, in particular in the frame of project reviews.

6.3. Directors

Directors are responsible for the implementation of this Policy within their respective areas of responsibility, from the mission analysis and feasibility phase through the development phase until the end of mission operations/utilisation phase.

They shall ensure:

- the preparation of the Space Debris Mitigation Plan (SDMP) and the Space Debris Mitigation Report (SDMR);
- the submission of the Plan and the Report to the technical project reviews, as required; and
- the availability of a project representative in support of the Space Debris Mitigation Assessment Board, as required.

6.4. Head of the Department of Product Assurance and Safety

The Head of the Department in charge of Product Assurance and Safety is responsible for:

- the management of the implementation of this Policy;
- the approval of the Space Debris Mitigation Plan (SDMP) at the time of the System Requirements Review; and
- the approval of the Space Debris Mitigation Report (SDMR) at the time of either the Acceptance Review or the Qualification and Acceptance Review.

6.5. Head of the Independent Safety Office

The Head of the Independent Safety Office is the technical authority responsible for:

- overseeing the development, implementation and maintenance of this Policy, including the ESA Standard for Space Debris Mitigation Requirements;
- verifying the compliance of project requirements with this Policy;

- assessing and appraising the Space Debris Mitigation Plan (SDMP) and Space Debris Mitigation Report (SDMR) submitted by the respective projects in the frame of technical project reviews;
- periodically compiling a report on the status of implementation of this Policy;
- convening the independent expert panel to analyse request for waivers and contribute to requests for mission extensions; and
- chairing the Space Debris Mitigation Assessment Board (see Section 6.7).

6.6. Head of the Space Safety Programme Office

The Head of the Space Safety Programme Office is responsible for contributing, as a standing member, to the independent expert panel and the Space Debris Mitigation Assessment Board.

6.7. Space Debris Mitigation Assessment Board

The Space Debris Mitigation Assessment Board is responsible for:

- reviewing space debris mitigation aspects in the context of mission extension requests;
- assessing requests for waiver and providing a recommendation to the Director General on such requests; and
- providing support to technical project reviews at the request of the Chair.

7. EVALUATION OF THE POLICY

The effectiveness of this Policy shall be evaluated by the Director of Technology, Engineering and Quality on a periodic basis, or at the request of the Director General.

No later than nine (9) months before the end of its period of effectiveness, this Policy shall be subject to review to establish whether it should be extended, modified or revoked. This review shall be carried out in compliance with the procedure applicable to the review of Administrative Instructions of the Director General.

8. PUBLICITY

This Policy shall be made publicly available through appropriate means.

9. SUPERSEDED INSTRUCTION

This instruction supersedes ESA/ADMIN/IPOL(2014)2,add.3: Space Debris Mitigation Policy for Agency Projects.

10. ENTRY INTO FORCE

This instruction enters into force on the day of its publication and shall be effective for a period of four (4) years as from the date of its entry into force, unless subject to prior revocation or revision.

The Director General

Annex

TERMS AND DEFINITIONS

Space Debris	Any human-made space object, including fragments and elements thereof, in Earth orbit or re-entering the Earth's atmosphere, that is non-functional (IADC definition).
Space Debris Mitigation Plan or SDMP	Space Debris Mitigation Plan as defined in the ESA Standard for Space Debris Mitigation Requirements.
Space Debris Mitigation Report or SDMR	Space Debris Mitigation Report as defined in the ESA Standard for Space Debris Mitigation Requirements.
Space System	Any system that contains at least a space segment, a ground segment or a launch segment, including, e.g., launchers, satellites and inhabitable or robotic vehicles.