

Pilot Project on Space Traffic Management
Study on the rise of importance of Space Traffic Management

About the Pilot Project

WHY

Support the development of a **comprehensive European approach on STM**

Contribute to **raising public awareness** among policy makers and the wider public

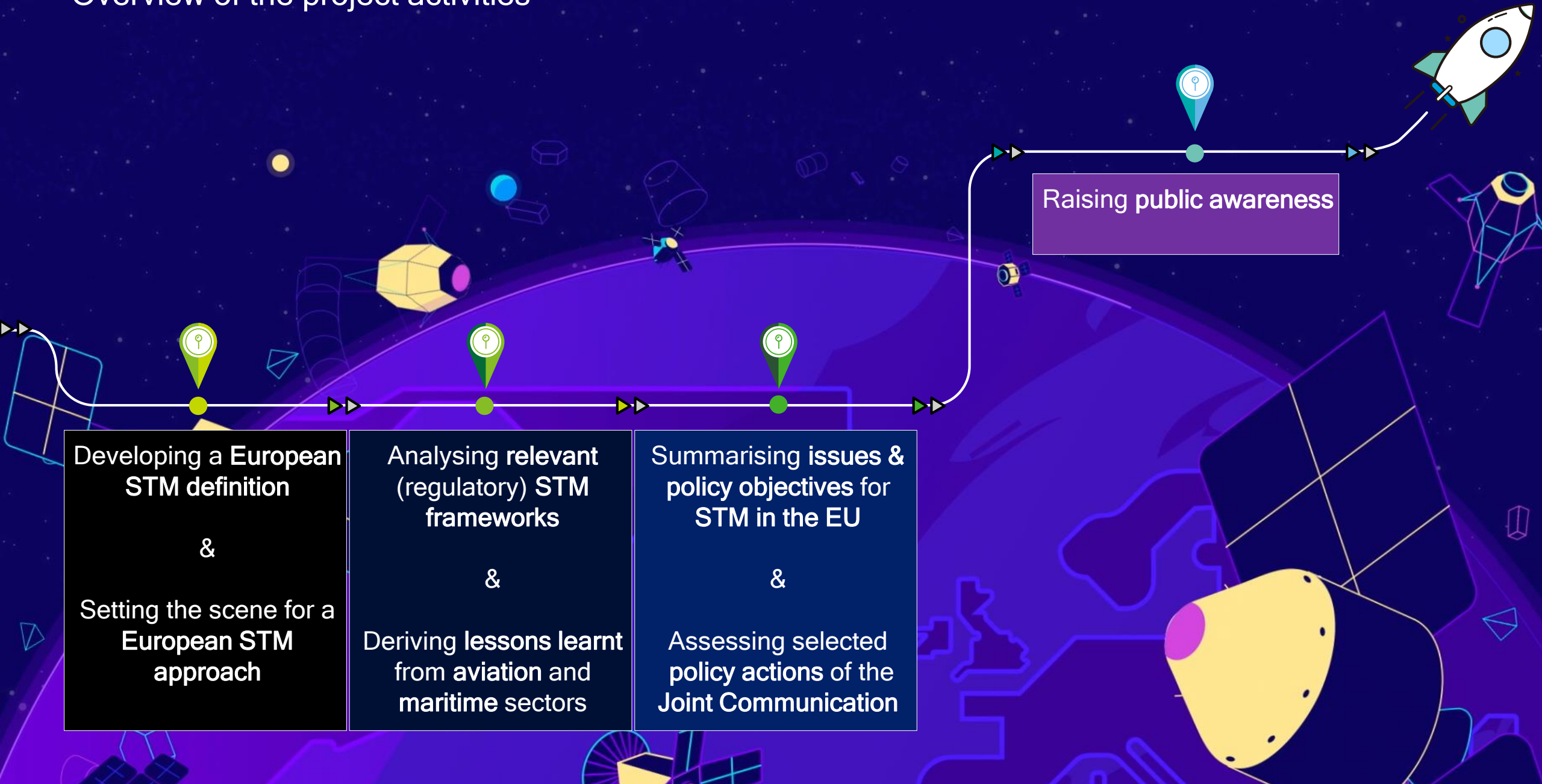
WHEN

START

01/2021 - 03/2022

FINISH

Overview of the project activities



Selected policy actions in the focus of this project, arising from the Joint Communication on an EU Approach for Space Traffic Management

Policy Action 5.c

Possible incentive measures to promote the use of standards

Policy Action 6

Toolbox for assistance around licensing requests

Policy Action 7

Legislative measure ensuring minimum level collision avoidance

Setting the regulatory scene

Orbital space is an international open-access domain that is growing increasingly congested, contested, competitive, and commercial

On-orbit collisions may endanger the safety of operational satellites and may create additional space debris threatening the continued sustainability of space activities.

Detailed international regulation concerning crucial aspects of these global challenges is currently lacking or absent.

- e.g., collision avoidance, space debris mitigation, space traffic management, responsible behaviour in space, etc.

EU action on STM can contribute to addressing these global challenges while also

- strengthening the strategic autonomy and industrial competitiveness of the Union;
- increasing the resilience of European space infrastructure; and
- cementing the EU's role as a global leader in the space domain by setting the course towards more effective and concerted international action on STM in line with EU principles and objectives.

EU STM: Definition & Scope

European Union 'Space Traffic Management'

The means and rules to access, conduct activities in, and return from outer space safely, sustainably and securely.

Space traffic management involves many closely related elements, each requiring suitably aligned regulation at various governance levels:

- Space Situational Awareness (SSA) and Space Surveillance and Tracking (SST)
- Orbital debris mitigation and remediation
- Management of space orbits and radio spectrum
- The life-cycle of space operations (launch, in-orbit operation, end-of-life, de-orbit)
- Controlled and uncontrolled re-entries into air space

The global challenges that STM aims to address are characterised by:

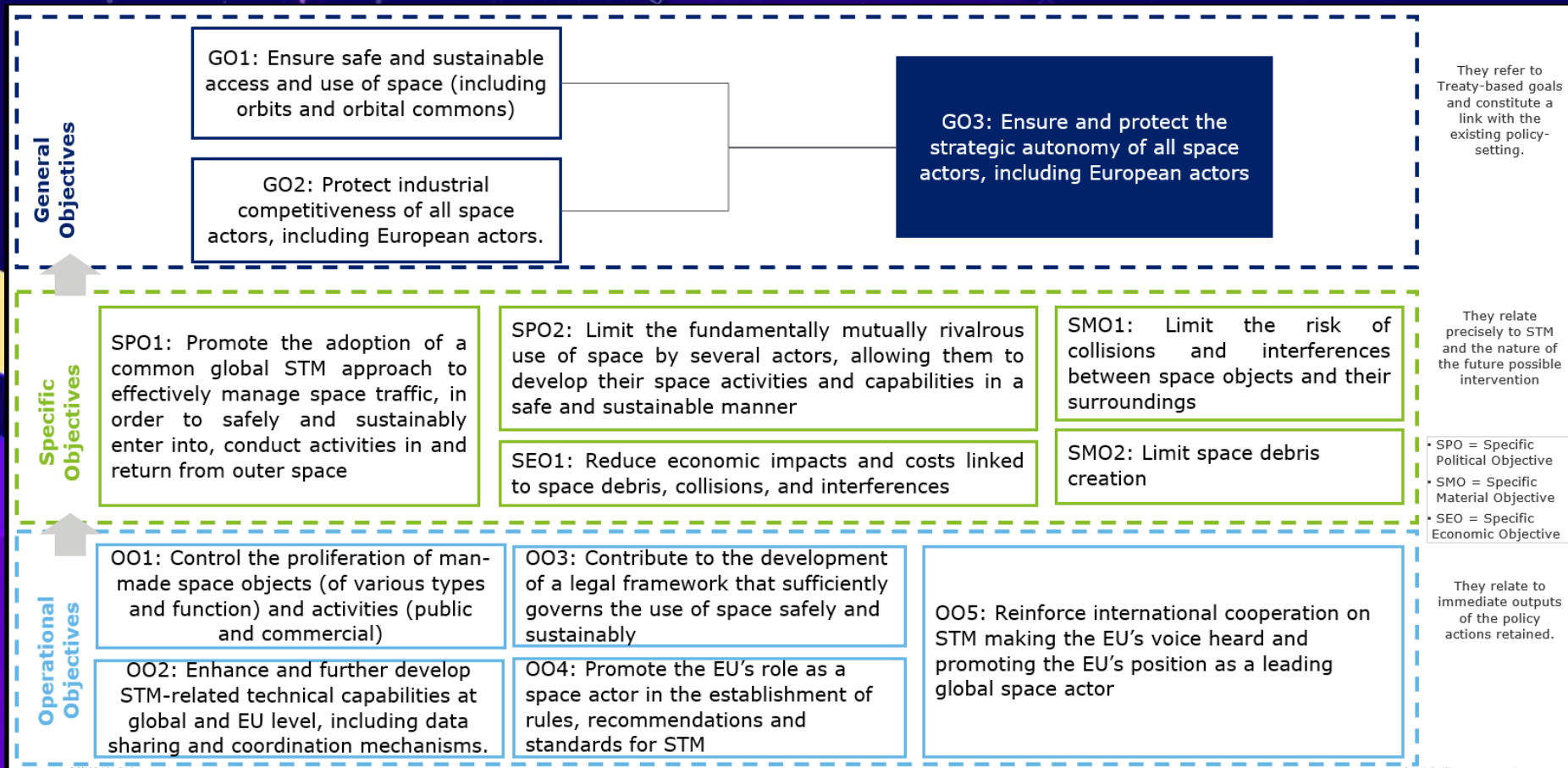
- a large array of disparate or lacking national and international regulatory frameworks;
- varying standards and best practices emanating from different institutions, forums and actors;
- the absence of an overarching international regulatory framework of sufficient precision or clarity.

The novel regulatory element in STM concerns the development of effective regulation regarding the physical and navigational behaviour of space objects, including operational satellites as well as space debris, as necessary to avoid collisions and potentially harmful re-entries in order to safeguard space safety, security and sustainability.

EU STM: Objectives

Coherence with related EU policies and objectives

- Applicable primary and secondary EU legislation
- 2016 Communication COM(2016)705 on the Space Strategy for Europe
- 2016 Global Strategy for the European Union's Foreign and Security Policy
- 2020 EU Security Union Strategy of 2020
- 2022 Strategic Compass for the EU
- 2022 Joint Communication on an EU Approach for Space Traffic Management



EU Legislative measure ensuring minimum level collision avoidance

Policy Action 7: An EU Legislative measure ensuring minimum level collision avoidance services

A legislative measure that will contribute to a level playing field and to enhanced space safety and STM by ensuring all public and private satellite operators providing services within the EU are to be registered with a collision avoidance (CA) service of their choice that, at a minimum, is equivalent in performance to similar services offered by EU SST.

Central regulatory aspects

- Ensuring conformity with Article 4(3) TFEU, Article 189 TFEU and other relevant EU regulations
- Ensuring conformity with applicable international frameworks
- Anticipating ongoing developments
- Identifying an appropriate EU legal basis, or legal bases, for regulatory action in question

Action in line with Regulation 2021/696 establishing the Union Space Programme, e.g.:

- Article 3(2) on the components of the EU space programme: *“The Programme shall include additional measures to ensure efficient and autonomous access to space for the Programme and to foster an innovative and competitive European space sector, upstream and downstream, to strengthen the Union’s space ecosystem and to reinforce the Union as a global player”*.
- Article 4 on the objectives of the EU space programme, including i) *“enhancing the safety and security of the Union and its Member States”* *“enhancing the safety, security and sustainability of all outer space activities pertaining to space objects and debris proliferation, as well as space environment, by implementing appropriate measures and reinforce the autonomy of the Union”*; as well as ii), *including development and deployment of technologies for spacecraft disposal at the end of operational lifetime and for space debris disposal*’.

EU Legislative measure ensuring minimum level collision avoidance

EU action appears desirable and necessary in this domain:

- Lack of regulatory alignment and/or interoperability between EU Member States regarding general STM frameworks, and collision avoidance in particular;
- Space assets often constitute critical infrastructure that require suitable protection;
- Strategic importance of protecting space assets from kinetic interference (collisions) and/or radio frequency interference;
- High individual and collective socioeconomic impacts/costs of space collisions;
- Actions by single State, or a few States, unlikely to be effective due to physical environment in orbital space;
- Need to address significant existing gaps in national and international frameworks.

Article 114 TFEU as a legal basis for a legislative instrument establishing a minimum standard for collision avoidance?

- Article 114 TFEU allows EU to adopt measures which have as their objective the establishment and functioning of the Single Market, on the condition that
 - there are significant disparities between national laws, regulations or administrative provisions of the Member States;
 - these disparities obstruct the fundamental freedoms and thus have an adverse effect upon the internal market;
 - there is a genuine link between the adopted regulatory measure and the removal of existing obstacles in the internal market.

**Thank you for
your attention!**