

# Alliance Persistent Surveillance from Space (APSS)

## Overview

The evolution in the use of space and rapid advances in space technology have created new opportunities, but also new risks, vulnerabilities and potential threats. The rise of commercial space companies has also drastically changed the landscape, bringing radical technological breakthroughs, often at low costs and great flexibility.

The ongoing war in Ukraine has further underscored intelligence's growing dependence on space-based data and assets.

As highlighted in NATO's 2022 Strategic Concept: "strategic competitors and potential adversaries are investing in technologies that could restrict our access and freedom to operate in space, degrade our space capabilities, target our civilian and military infrastructure, impair our defence and harm our security."

At NATO, space plays an important role in the operational military domain to navigate and track forces, detect missile launches, but also to ensure effective command and control and communications. To continue to ensure effective deterrence and defence while retaining its technological edge, the Alliance needs to leverage on both national and commercial technologies and assets in the space domain.



## APSS Objectives

The new 'Alliance Persistent Surveillance from Space' (APSS) initiative is a multi-year, multi-domain, multinational initiative that aims to:

- achieve 'persistent surveillance', that is allowing NATO to collect data on any location at any given time;
- increase space-based intelligence sharing across the Alliance, leading to a more comprehensive cross-domain intelligence picture necessary to inform political-decision making and military operations;
- improve NATO's overall intelligence through a more effective use of both government-owned and commercial space-based assets, technologies and data;
- increase the speed at which space-based data is collected, aggregated and delivered by leveraging new technologies like AI and machine learning tools;
- ensure that data is in usable formats for NATO decision-makers and military commanders;
- build, through training, education and cooperation, a community of practice among NATO nations that will increase data management efficiency and enhance national and collective resilience.

## What is APSS?

APSS is not about creating NATO-owned and operated space assets. It will make use of existing and future space assets in Allied countries, and connect them together in a NATO virtual constellation called "Aquila".

This is a data-centric initiative. As such, APSS will be 'sensor-agnostic and solution-agnostic'; it will be open to all existing – and future – space assets, regardless of their scope, technologies and specificities. It will bring together both government-owned and commercial space assets.

APSS will also enhance how NATO is collecting, processing, exploiting and disseminating intelligence through more comprehensive cloud solutions and technologies. AI analytical tools will be key to better manage the growing amounts of data.

As such, the initiative is part of NATO's ongoing digital transformation and NATO 2030 agenda.

## Who participates in APSS?

On 15 February 2023, eighteen nations<sup>1</sup> - 16 Allies plus invitees Finland and Sweden -, agreed to join APSS and contribute to its development.

APSS is a multinational initiative and will remain open to other Allies' participation.

Industry will support APSS through the provision of data and services.

## What will Nations contribute?

The initiative builds on an initial investment from Luxembourg valued at 16.5 million euros, which allowed NATO to bring together an expert team and start work on the integration of systems and data.

In the coming months, individual contributing nations, together with NATO, will determine how best to contribute to the initiative.

Several Allies have already indicated potential contributions to APSS in the form of data from national and commercial platforms and funding.

## NATO and space

APSS constitutes an important element in the implementation of NATO's Overarching Space Policy adopted in 2019.

In 2019, Allies recognised space as a new operational domain, alongside air, land, maritime and cyberspace.

<sup>1</sup> Belgium, Bulgaria, Canada, Finland, France, Greece, Hungary, Italy, Luxembourg, Netherlands, Norway, Poland, Romania, Spain, Sweden, Türkiye, United Kingdom, United States.

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