



Right after the Paris Air Forum, and less than a month before the forecasted launch of Ariane 6, Alba & Cosmos comes back with insights on fundraisings, the future of launchers in Europe, space entrepreneurship, and the evergrowing number of satellites driven by Starlink.

Let's launch right into it.

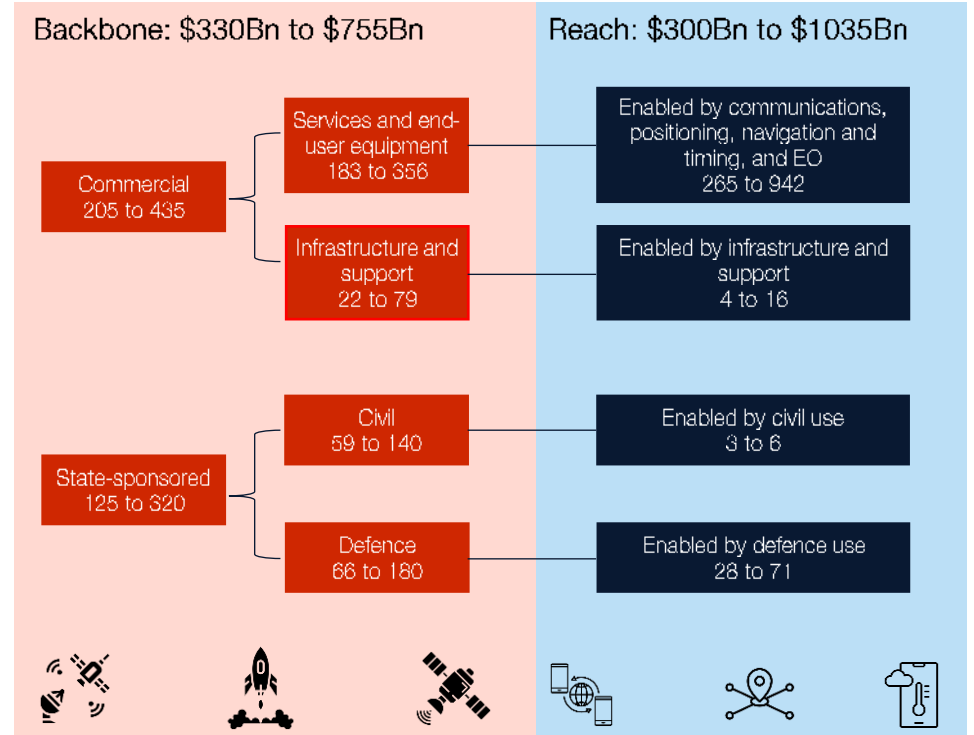
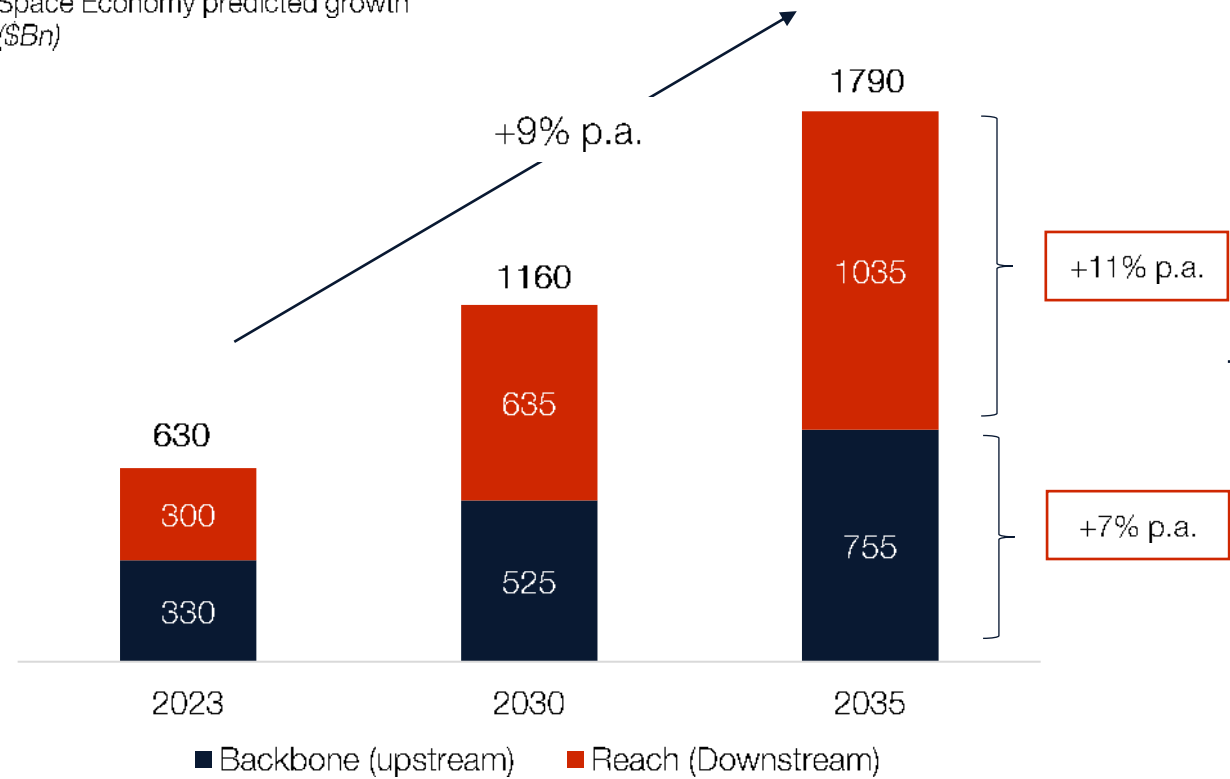
1. The intense forecasted growth of the space industry: a McKinsey/WEF study
2. European space funding and M&A rounds from March to June 2024
3. Who raises: a zoom on AALTO and ICEYE
4. Between collaboration and competition: the future of European launchers
5. Over 10000 in orbit: a look back on satellite trends which led to this milestone
6. Space entrepreneurship: interview with Andromach's Deputy CEO Hugo Verjus
7. Fast facts: what's up with space



# From space as a niche to space ubiquity: the space industry could grow to \$ 1.8T by 2035, from around \$ 630Bn in 2023

## THE SPACE INDUSTRY'S GROWTH PERSPECTIVES AND SECTORAL SPLIT

Space Economy predicted growth (\$Bn)










[This study](#), led by the World Economic Forum and McKinsey, highlights four key dynamics to explain said growth: an ongoing decrease in launch costs, commercial innovation driving new applications for space assets and data at a lower price, the diversification of types of investors showing interest in the industry, and renewed general interest in space activities. Follow the [link](#) to read the whole paper.



# European space companies continue to raise substantial amounts since the beginning of the year, with AALTO closing a \$100M investment last week

## EUROPEAN UPSTREAM SPACE FUNDRAISING DEALS<sup>(1)</sup> – MARCH TO JUNE 2024 1/2

	Date	Amount raised / funding type	Round Participants	Total funds raised	Company description
 AALTO	03/06/24	\$100M (~€93M)	NTT Docomo, Space Compass	\$100M+ (~€93M+)	Subsidiary of Airbus developing Zephyr, a High-Altitude Platform Station (HAPS), performing months long flights for Earth Observation and mobile connectivity applications
 ICEYE	17/04/24	€87,3M / Growth funding round	Solidium Oy, Move Capital Fund I, Blackwells Capital, Christo Georgiev, etc.	\$438M (~€410M)	Synthetic Aperture Radar satellite operations for Earth Observation
 iCOMAT	05/06/24	\$22,5M (~€21M) / Series A	8VC, NATO Innovation Fund, Syensqo Ventures, etc.	\$22,5M+ (~€21M+)	Spin-out from the University of Bristol, developing highly optimised lightweight composite structure for aeronautics, space, and automotive.
 Orbex	18/04/24 & 12/06/24	£16,7M & DKK 23,7M (~€22,6M) / Bridge	Scottish National Investment Bank, Octopus Ventures, BGF, Heartcore, and Innovation Fund Denmark	~€121,6M	Micro launcher company. Develops the Prime launcher (180kg capacity to LEO), and its own launch site in Scotland.
 Isar Aerospace	04/06/24 & 20/06/24	\$20M (~€18,6M) / Growth Debt €65M+ / Series C extension	ATEL Ventures NATO Innovation Fund, G3T, Airbus Ventures, etc.	€400M+	Launch service provider developing Spectrum, a 2 stages launch vehicle (1T to LEO and 700kg to SSO).
 Infinte Orbits	13/05/24	€12M / Series A	Newfund Capital, EIC Fund, IRDI Capital Investissement, Space Founders France	€12M+	Develops spacecrafts with rendezvous capabilities for satellite life extension services
 FOSSA	19/06/24	€6,3M / Series A	Indico Capital Partners and Nabtesco	~€10M	Operator of picosatellites, and now larger cubesats for connectivity services for remote monitoring and tracking devices









(1): Over €1M; (2): Second funding by Innovation Fund Denmark to establish a Green Propulsion Excellence Centre in Hvidovre, Denmark.  
Sources: Alba & Co, L'Usine Nouvelle, Space Impulse, European Spaceflight, Les Echos, Companies websites

# In total, European upstream space companies have raised at least €657M since the beginning of the year




## EUROPEAN UPSTREAM SPACE FUNDRAISING DEALS<sup>(1)</sup> – MARCH TO JUNE 2024 2/2

	Date	Amount raised / funding type	Round Participants	Total funds raised	Company description
 Dark	18/04/24	€5,6M/ Seed Extension	Long Journey Ventures, Frst Capital, Eurazeo	\$11M+ (~€10,3M+)	Space security startup. Develops notably a space debris removal technology to address any LEO detected threat within 24h.
 Vyoma	10/04/24	€5M/Bridge	Atlantic Labs <sup>(2)</sup>	€16M+	Space object monitoring system, automated satellite operations services
 IENAI	18/06/24	€3,9M	WA4STEAM, DPM, GED Conexo Ventures, and CDTI.	€7M	Develops a space propulsion system and satellite manoeuvres planning software
 Revolv Space	28/05/24	€2,6M	Primo Space Fund <sup>(3)</sup> , Takeoff Accelerator	€2,6M+	Develops an autonomous, fail-safe solar array drive assembly to enable continuous payload operations on smallsats
 Blue Skies Space	24/04/24	£2M+ (~€2,34M+)	Space Frontier Fund <sup>(4)</sup>	~£3M+ (~€3,5M)	Fleet of LEO astronomy and planetary science spacecraft for the research community
 OsmosX	12/06/24	€2M+	Expansion, Rymdkapital	€2M+	Develops reusable orbital service vehicles
 Lithium Lasers	22/04/24	€2M	360 Capital, Primo Space Fund <sup>(3)</sup>	€2,7M	Ultrashort pulse laser technology, for applications including space, aeronautics, medical, etc.
 Ecosmic	23/04/24	€1,1M	Primo Space Fund <sup>(3)</sup>	~€1,1M	Collision avoidance plug and-play technology



## EUROPEAN SPACE M&A DEAL

Target	Date	Amount	Buyer	Company description/ Deal rationale
 Opensci	04/04/24	N.D.	Hemeria	Opensci is specialised in space and ballistic launches detection. This acquisition allows Hemeria to strengthen its defence positioning. Opensci becomes Hemeria Sensing.





# Since its creation in 2014, ICEYE has raised \$ 438M and built the biggest SAR<sup>(1)</sup> satellite constellation, asserting its leadership

## ICEYE COMPANY PROFILE

\$ 438M raised

## COMPANY DESCRIPTION

Espoo, Finland 
 2023 Revenue: \$ 100M+ 
 600 pp. 
 38 satellites 
 5 international locations

ICEYE has grown to own the **largest synthetic aperture radar satellite constellation**, providing **high resolution earth observation data** for governments, insurance, maritime activity monitoring, natural catastrophes response, etc. Their latest funding will support their client portfolio's international expansion, and strengthening of their solutions offer, notably on natural catastrophes management.

### What is SAR?

Synthetic Aperture Radar (SAR) is a type of active data collection, meaning it produces its own energy and records the amount of said energy reflected back from Earth. With SAR, a sequence of acquisitions from a short antenna are combined to simulate a longer antenna, to obtain higher resolution data.

## MANAGEMENT TEAM

Rafal Modrzewski  
CEO, Co-founder

Pekka Laurila  
CSO, Co-founder

Susan Repo  
CFO

Eric Jensen  
CEO, ICEYE US

## DEVELOPMENT TIMELINES (BY CATEGORY)

### Company Milestones

- 2014**: Creation of ICEYE Spinoff of Aalto University
- 2018**: First launch: ICEYE-X1 and X2 Launch
- Oct. 2019**: Commercialisation Commercial access to 1m radar imaging
- Oct. 2021**: Copernicus Partner Becomes contributor to Copernicus programme
- Jan. 2022**: First launch of a US manufactured satellite
- March 2024**: Constellation reaches 38 and announcement of new satellite product line
- May 2022**: Largest one-off satellite launch (5 in one shot)

### Fundraising Milestones

- Nov. 2015**: Initial Funding: \$5.6M \$2.8M from SME Instrument<sup>(2)</sup>, and \$2.8M from True Ventures<sup>(3)</sup>
- Aug. 2017**: Series A: \$13M Including \$8.5M round led by Draper Nexus.
- May 2018**: Series B: \$34M True Ventures, Draper Nexus, Seraphim Space, etc.
- Sept. 2020**: Series C: \$87M Closed as larger than planned
- Feb. 2022**: Series D: \$136M Led by Seraphim Space. BAE Systems as new investor among others
- Apr. 2024**: Growth Funding: \$93M Oversubscribed
- 2017**: +\$1.2M from Seraphim Space in Sept. 2017

This new funding will be used by ICEYE to build on:

- Strong international momentum in its Missions business with growing interest from allied governments for both defence and civil use cases enabled by next-generation SAR spacecraft
- Rapid expansion of future SAR data offerings to deliver innovative products and reliable data collection capabilities enabling the rapid detection and frequent tracking of changes on the Earth's surface, regardless of time or weather
- Fast-tracked growth in the company's Solutions offering, enabling significant investment in ICEYE's Flood and Wildfire Insights products, as well as future peril-based analysis for governments and commercial organizations.

(1): Synthetic Aperture Radar; (2): Within EU Horizon 2020; (3): Along with participation from Lifeline Ventures and Founder.org  
Sources: Alba & Co, Boeing, Wisk Aero, FutureFlight








# AALTO is bringing its stratospheric aircraft services to Japan, with a \$100M investment from a consortium of Japanese companies

## AALTO COMPANY PROFILE

### COMPANY DESCRIPTION

 Farnborough, England
  2023 Revenue: £5,7M
  ~ 150 pp

Airbus subsidiary AALTO is developing Zephyr, a fixed-wing High-Altitude Platform Station (HAPS), which allows for 5G direct to device connectivity and Earth Observation for disaster response, greenfield connectivity, border protection, etc. Their latest funding from Japanese investors marks the beginning of a strategic alliance on HAPS connectivity and EO services in Japan. The company is undergoing certification processes before its planned entry into service in 2026.

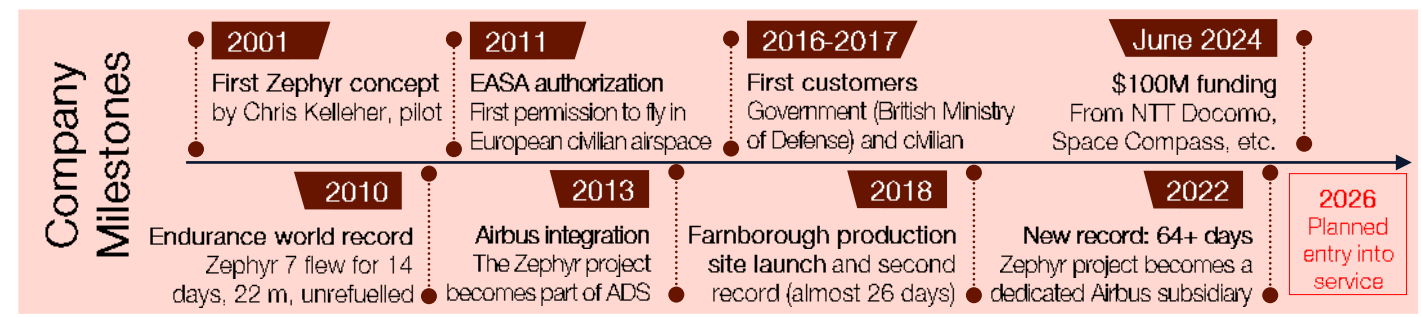
#### What is HAPS?

A High-Altitude Platform Station is an unmanned aircraft flying in the stratosphere, above conventional airways, between 20 and 50km altitude. 3 main types of HAPS exist: balloons, fixed wing platforms, and airships. Flying between commercial airways and satellites makes them useful for complementing satellite and ground capabilities for emergency telecommunications and Earth Observation.



### MANAGEMENT TEAM

			
Samer Halawi CEO	Pierre-Antoine Aubourg - CTO	Philip Briggs VP Engineering	Taz Esmail CFO
			

### DEVELOPMENT TIMELINE



### ZEPHYR HAPS

-  **64 days:** longest flight recorded
-  **4000+:** recorded flying hours
-  **100%** solar powered
-  **75kg and 25m** wingspan
-  **200+ days** endurance target



# European launchers are entering a new era, says Josef Aschbacher, one of a combination between collaboration and competition

## THE NEW VISION FOR EUROPEAN LAUNCHERS: PARIS SPACE FORUM INSIGHTS

Josef Asbacher (ESA), Philippe Baptiste (CNES), Martin Sion (ArianeGroup), Toni Tolker-Nielsen (ESA), and many other key figures of the traditional European launcher ecosystem have spoken at the Paris Air Forum last week, along with representatives of the new launchers such as Yohann Leroy (MaiaSpace), Raul Verdu (PLD Space), and Jörn Spurmann (Rocket factory Augsburg). Their allocutions made two things clear: in the past year and a half « **everything that could go wrong, went wrong** », but **2024 is the year Europe gets out of its launcher crisis**; and the 100% collaboration approach with preemptive geographic return applied historically in Europe is in the past. This does not mean that Europe enters an era of full competition, but rather that **space institutions will encourage both collaboration and competition**, to secure legacy launchers and bolster innovation in all launcher segments.

## EUROPEAN COLLABORATION ON LEGACY LAUNCHERS



### Ariane 6:

The long-awaited replacement to Ariane 5 will launch on the 9th of July.

It was agreed in Seville that Ariane 6 would receive € 340M/year from ESA Member States, which ensures the first 56 launches according to Martin Sion. The launcher should take off 9 times a year, with 4 dedicated to institutional/governmental payloads. Filling the 5 others per year won't be an issue, with high demand for a European heavy launcher, notably from telecom operators who sent a letter of support for Ariane 6 to ESA before the Seville summit.

### Vega-C

Although the Italian middle launcher was not the focus of the Forum, Aschbacher did insist on the key role the Italian launcher will play in getting Europe out of its dark launcher period.

The Italian launcher is expected to come back by the end of the year. The first of Avio's redesigned Zephiro 40 second stage has been shipped for testing in Sardinia in May.

It could receive additional financial support for operations, if necessary, once back into service, which could amount to up to € 21M per year from the 26th to the 42nd launch.



## COMPETITION FOR NEW LAUNCHERS, MICRO AND OTHERS

### ESA has a challenge for launch companies! (and some questions)

The European Space Agency is advancing in the launch of its **European Launcher Challenge**, a project announced at Seville, and which should start in 2025, putting in competition European launcher companies to serve **European institutional launch demands**. The main goal of this challenge, according to Aschbacher, is to “be an anchor for [launch companies] to develop their capabilities”. But the Agency has not **disclosed what the objectives and content of the Challenge** will be and posted a **Request for Information to launcher companies**. A big question that launch companies can answer [here](#) !

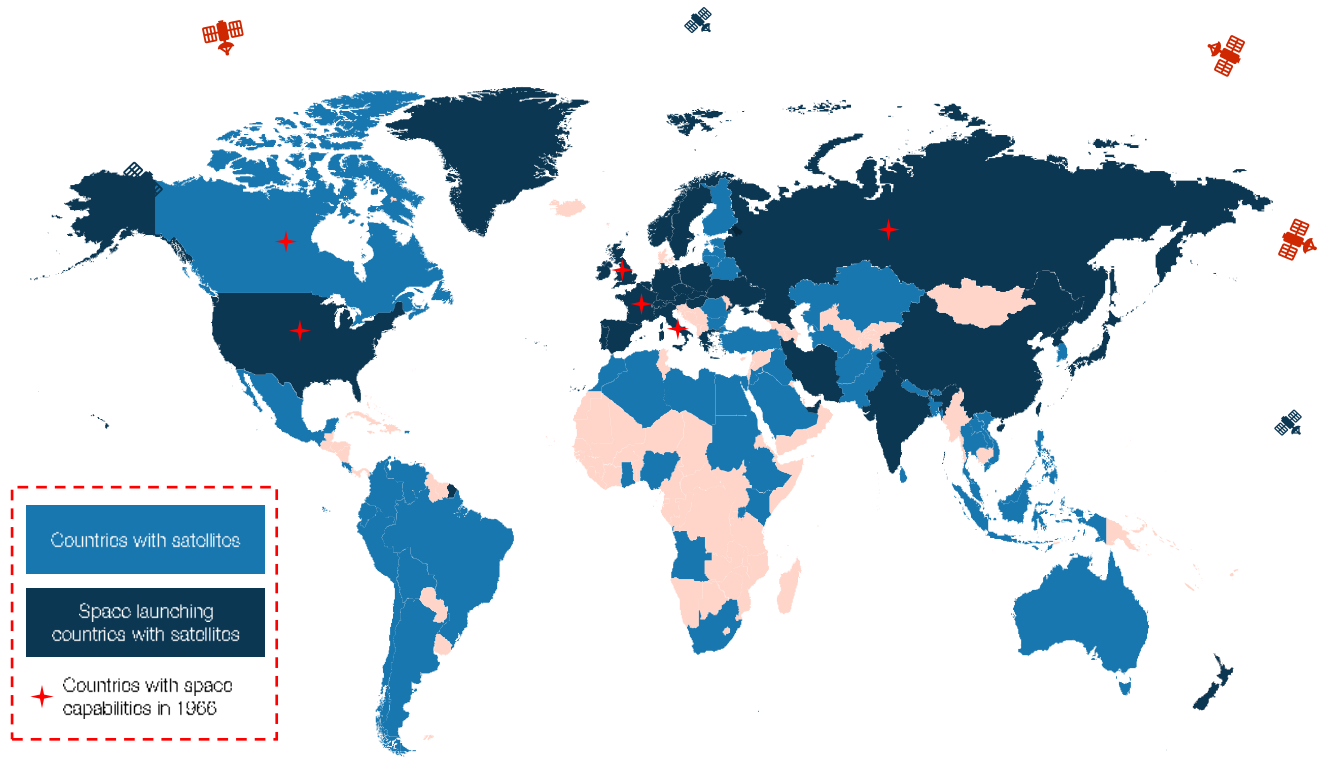
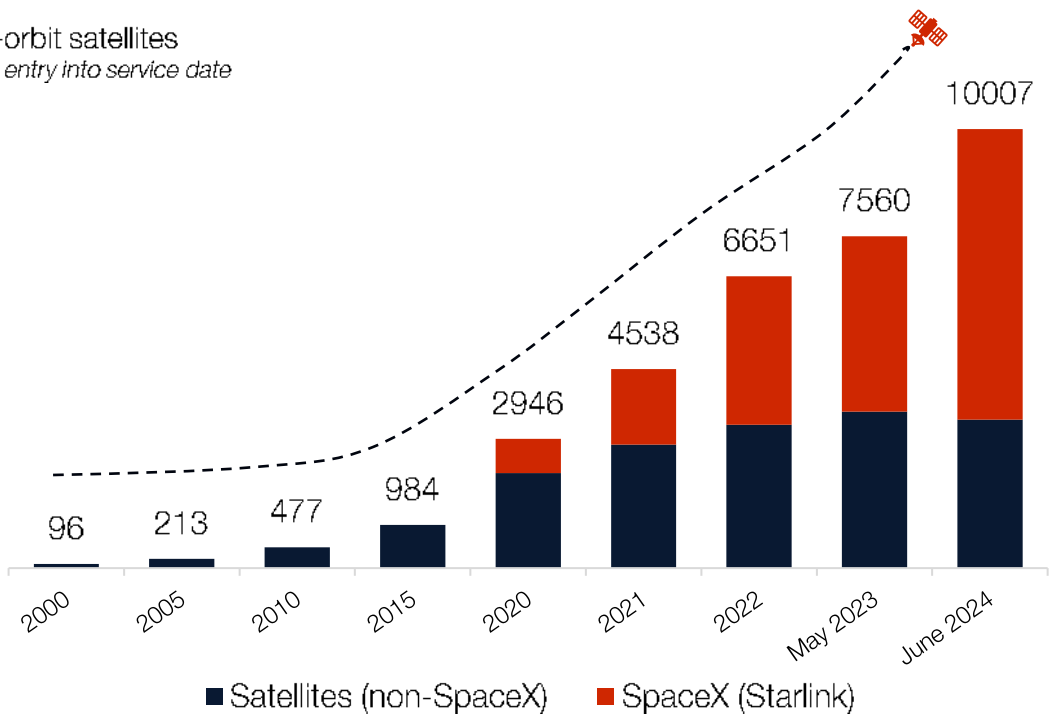




# Over 10 000 satellites: A look back on the satellite evolution in the past 30 years, which prompted the drafting of the Zero Debris Charter

## SATELLITE GROWTH AND SATELLITE FARING COUNTRIES

In-orbit satellites  
by entry into service date



The satellite environment has radically changed, with almost all countries on Earth at least owning a satellite, against 5 in 1968. Of the over 10 000 satellites currently orbiting Earth, **over 9 000 have been launched in the past 5 years**, with **2 447 launched in the past 13 months**. This radical spike comes very visibly from the democratization of megaconstellations, with **Starlink alone concentrating the 2/3 of satellites in orbit**. The space industry is becoming aware of the risk of collisions posed by this crowded space, and European space companies are taking measures. **ESA has launched a [Zero-Debris Charter](#) signed by [12 countries](#) and over [40 companies](#)**, aiming at becoming debris-neutral in space by 2030. Your company can [sign it too](#), to protect the future of space access.





# Space entrepreneurship: an interview with Andromach, the French newcomer in spaceplanes for microgravity and components testing

We sat down with Hugo Verjus, Deputy CEO of Andromach, to discuss how space startups are created, and Andromach's trajectory from inception to their recent entry in the ESA BIC Nord France, Agoranov, and Bordeaux Technowest. Here is a snapshot of how 8 students from IPSA went from classmates to space entrepreneurs.

**2019 The inception and the association:** Julien Senon, in their first year, "woke up one day with an idea for an adaptative launcher nozzle" and came to the 7 others for support. The 8 joined forces to create the "[Innovative Propulsion Laboratory](#)", an IPSA association, to train in propulsion and bring Julien's idea to fruition.

**2022-2023 The competition:** After 4 years in IPL, the team decides to continue outside of school and pursue their project for a spaceplane as a final project. They entered the CNES competition [Lance le Futur](#), and pitched at Le Bourget in 2023. This marked the switch from student dream to commercial opportunity, and officially launch Andromach in September.

**2023 The acceleration:** Andromach enters the BLAST Accelerator by Starburst. Julien and Hugo follow the program, and "reshape the commercial side of the project". The technical project materializes further. They agree on a 4m long suborbital spaceplane, for microgravity experiments. From September, they led feasibility studies which continued onwards to April 2024.

**2024 The incubation:** The company is now part of 3 incubators: the ESA BIC Nord, Agoranov, and Bordeaux Technowest. Having joined in March (ESA BIC) and May (Agoranov), the incubators' support will allow the team to continue their development towards entry into service. Entry into the ESA BIC also means a subvention of €25 000 for two years, an access to experts and the ESA BIC network of startups.

**2024 The engine and subsystems :** They are now leading a preliminary conception phase, developing the plane's subsystems. Alongside this conception phase, they are testing the rocket engine's subsystems on their own testbench developed in-house. They are aiming to perform a fire test of the engine on the ground, hopefully before the end of the year, in a place that remains to be selected.

**2025-2026 The fundraising and commercialisation** After proof of the engine's efficiency, Andromach plans to raise money, to develop a complete prototype by early 2026, and start commercialisation in 2026.

**Later The launch to space:** Having proven its concept and capacity to commercialise, the team will adapt the plane to make it orbital worthy, to be launched from the top of a microlauncher, and conduct tailor-made missions up to 12 months in orbit with a payload of 50 to 150kg for production or defence applications.



	<i>In development</i>	<i>Post-2026</i>
Type	Suborbital spaceplane	Orbital spaceship
Use cases	Microgravity experiments, components & hypersonic technologies testing	In-Orbit validation, demonstration & production Defense applications
Microgravity time	5 minutes	Up to 12 months
Length	4m	4m
Payload	10kg	50 to 150kg



Hugo Verjus  
Deputy CEO



Julien Senon  
CEO



Simon Allardet  
Propulsion Engineer



Antoine Hureau  
Embedded Systems Engineer



Elwin Silvestri  
Mechanical Engineer



Hippolyte Malleveys  
Mechanical Engineer



Julien Simon  
Aerospace project lead



Emrys Buisson  
Propulsion Engineer



# Fast facts: some selected tidbits about the state of the space industry

## Space will be honoured at Le Bourget 2025

In an [April 2024 press release](#), The GIFAS<sup>(1)</sup> has announced that the 2025 Paris Air Show will be reinforced in its focus on the space industry. The French upstream space ecosystem is facing important transformation challenges and intense international competition, and represented €4,8Bn in revenues in 2023, around half of the 2023 European space industry revenue.

## Welcome to ESA, Slovenia !

On the 18th of June, Slovenia's PM Dr Robert Golob, and ESA Director Josef Aschbacher signed the Accession Agreement to the ESA Convention. Slovenia now enters the ratification process which will make it the 23rd member state of the European Space Agency. It is the first to join since 2015, when Estonia and Hungary entered.

## Hylmpulse launches from down under, in Australia

The German launcher company launched their first suborbital SR75 rocket from the Southern Launch Koonibba Test Range in Australia, after delays in Saxavord, Scotland forced the company to change their launch plans. On the 6<sup>th</sup> of June, Hylmpulse and Southern Launch announced they signed a Memorandum of Understanding for the launch of additional SR75 missions in Kooniba.

## The Exploration Company reaches for the Moon

The Franco-German company has completed its hot fire test campaign for the second prototype of the Huracan engine, which should equip Nyx Moon, the company's reusable spacecraft designed for missions in lunar orbit and surface. The spacecraft is expected to be able to deliver 5T in cargo to the Lunar Gateway space station, and return up to 2T back to Earth.

## Need a space themed gift? Look no further

Tom Syndercombe, Flight Dynamics Engineer for Telespazio at ESA/ESOC, has designed the perfect t-shirt for European space fans, especially if you like to send a little playful dig at NASA in the process. Find it [here!](#)

## D-4 before Les Assises du NewSpace Season 3

In just a week, the French NewSpace ecosystem is meeting in Paris-La Défense for 2 days of conference on 4 key topics: New uses for space; Space innovation; Economy, politics and funding; and Europe in space. The registration is still open, so grab your ticket [here](#) to hear from institutions, investors, startups and industry leaders.

# Alba & Co<sup>smos</sup>: March 2024 | 7



Thank you for your read and support from the whole Alba & Co team!

I remain at your disposal for any question, suggestion, and space related strategic need at [constance.griton@alba-andco.com](mailto:constance.griton@alba-andco.com) .

To finish on a poetic note, Interstellar Lab plans to give us a trip back to childhood with their Mission Little Prince. The goal: send a rose in bloom in a transparent pod to the Moon's surface and snap a picture to send back to Earth.

