

THE EUROPEAN GATEWAY TO SPACE

Avio presentation

Banca IMI Italian Excellences 2023

Paris, 10th October 2023

OCTOBER 10TH, 2023



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Agenda

- **Business Overview**

- Business Update
- Financials
- Appendix

Avio: the European pure player in Space launchers



European heavy launcher (6 tons in LEO)
Avio: Strap-on boosters



200€ Mln
Mkt Cap

1,200
Employees

~40%
Free Float

4%
Mgmt Share

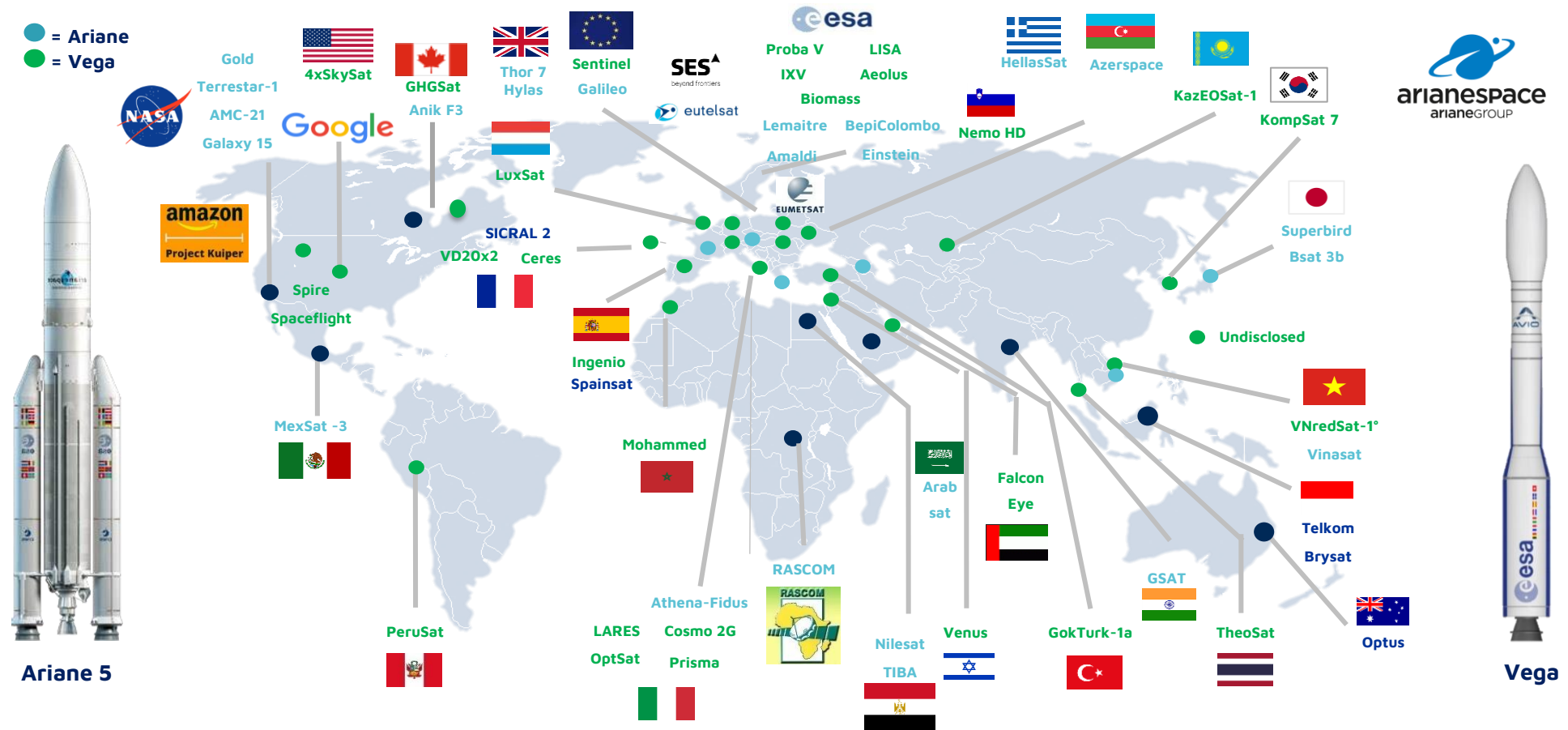


Solid Rocket Motors
for Tactical Missiles



European light launcher (2.3 tons in LEO)
Avio: System integrator

Ariane and Vega : a global customer base



The launch segment : the gateway to the Space economy worth almost 400 \$ Bn

Global space value chain (Yr 2022)



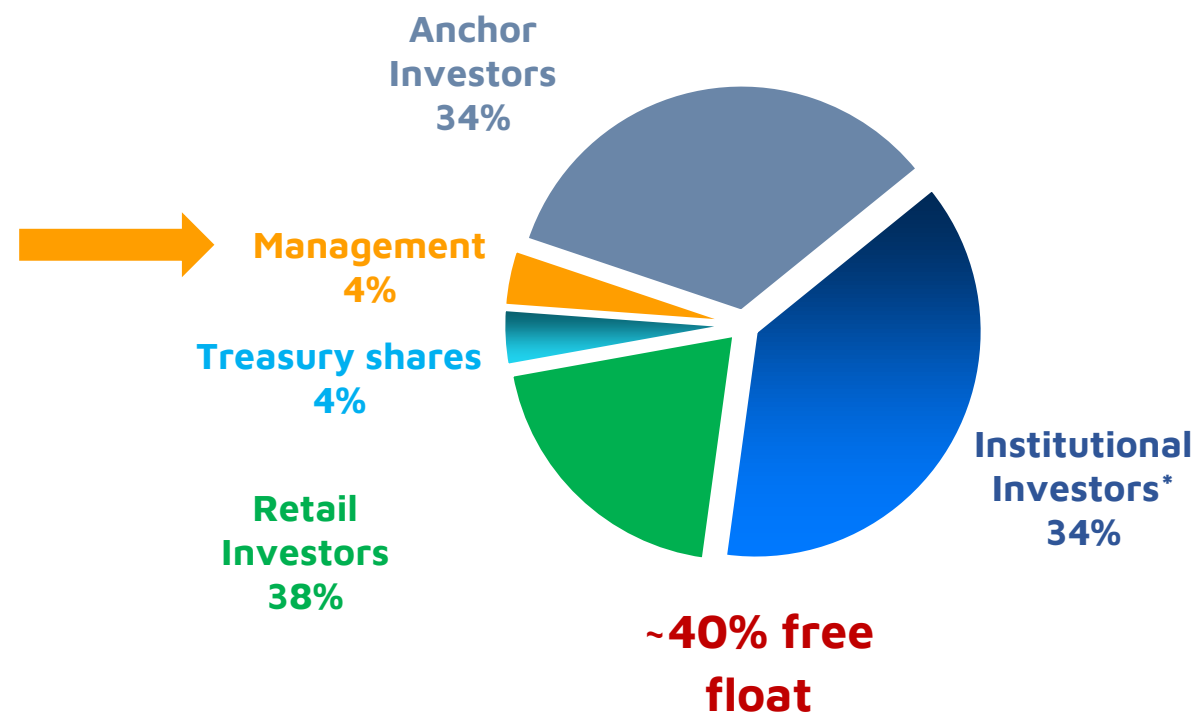
Avio: a public company managed by a team of investors



Milan Stock Exchange (Euronext)
Ticker: AVIO.MI – ISIN: IT0005119810

70 Avio managers

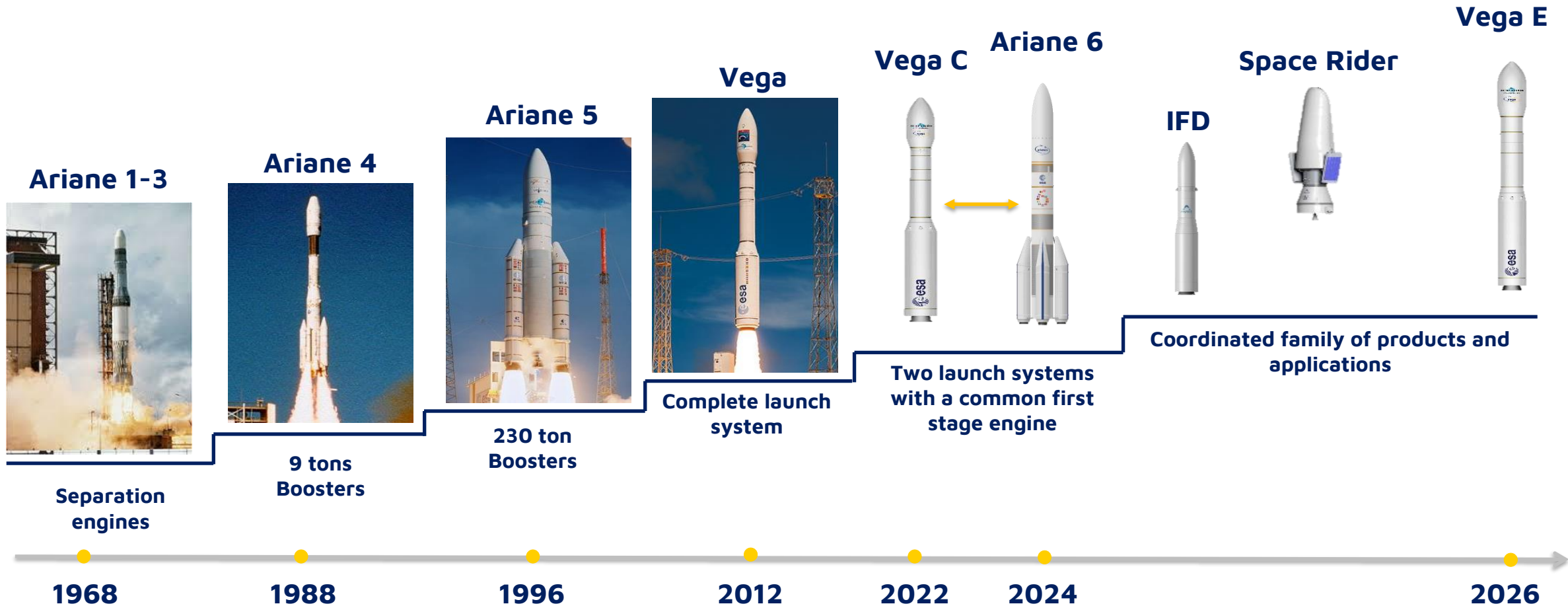
Avio shareholders' breakdown



* Leonardo SpA and Space Holding (Promoters with Management of the listing through a SPAC in 2017)

60 years in Space technologies

Avio Product history



Presence in Europe and French Guyana



Paris
*Headquarters of Europropulsion
(50% Avio and 50% AG)*

Kourou, French Guiana
*Avio runs three facilities at the European
Spaceport located in Kourou, French Guiana*



Colleferro, Rome
*The company's headquarters and
production plants of solid and liquid
propellant motors for LVs*



Sardinia
*SPTF Test Facilities for
Liquid Engines*

Airola
CFRP Facility



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Vega VV23 mission successfully completed on Oct 8th



Kourou (French Guyana)



THEOS-2



**FORMOSAT 7R/
TRITON**

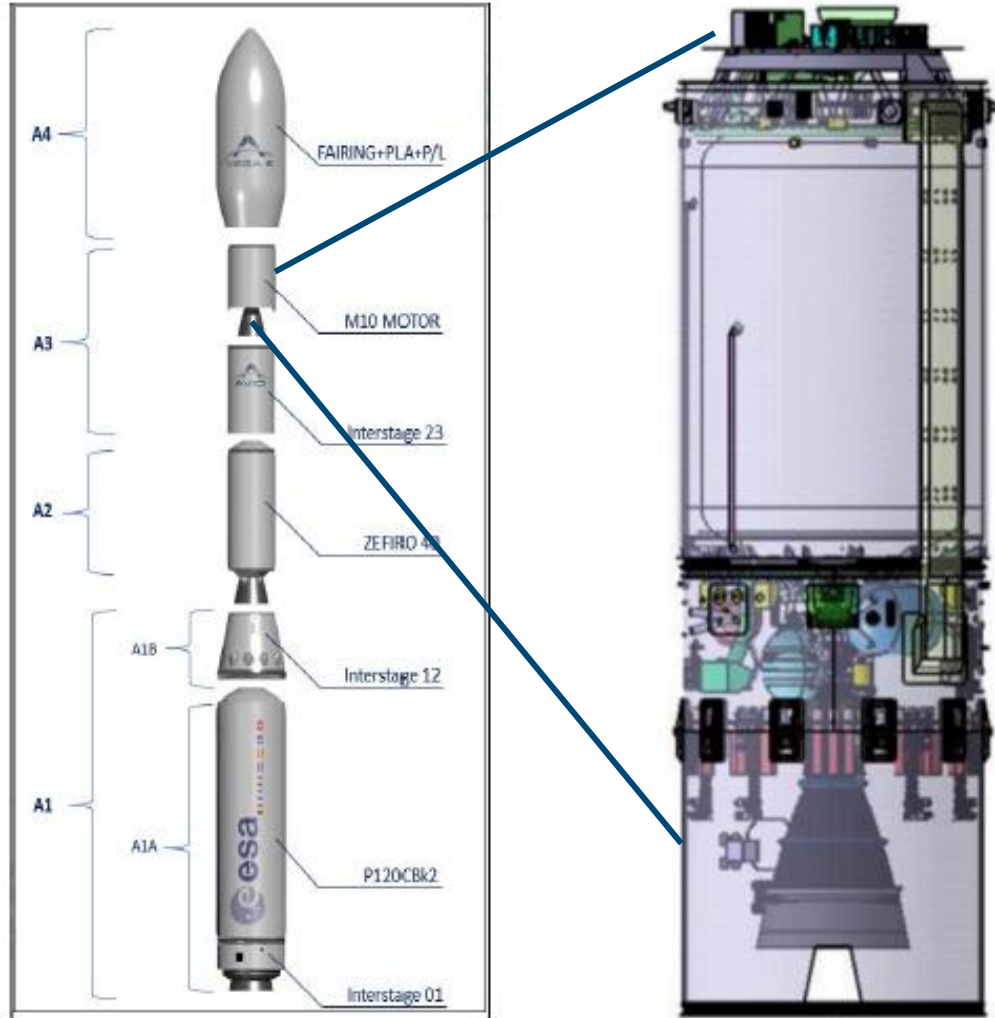
Vega correctly placed into sun-synchronous orbit:

- The payload **THEOS-2** (Thailand Earth Observation System 2), a very-high-resolution earth observation optical satellite (ground resolution imagery of 0.5 meters)
- The payload **FORMOSAT 7R/TRITON**, an experimental satellite designed and manufactured by the Taiwanese Space Agency, equipped with a Global Navigation Satellite System Reflectometry ("GNSS-R") which collects signals reflected by the surface of the oceans, enabling the calculation of wind speeds.
- Ten auxiliary payloads have been also correctly deployed thanks to the innovative Small Spacecraft Mission Service ("SSMS") payload dispenser capable to accommodate multiple microsatellites for rideshare services, used for the first time during Vega VV16 flight in September 2020 ⁽¹⁾

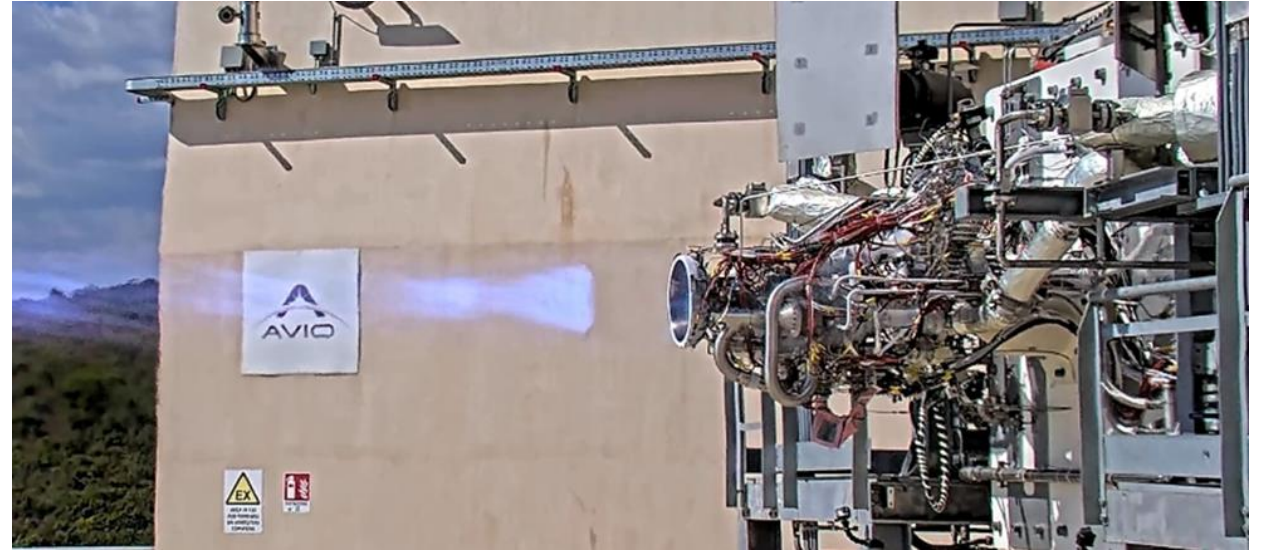
With this 19th successful flight, Vega now scores a **90.5%** success rate over 21 launches.

Next Vega launch coming to Q2 2024.

Vega E's M10 LOX-CH engine (new model DM2) successfully tested



Vega E



The first 5 engine tests for DM2 were completed, introducing a new, enhanced, lighter, and fully throttleable version of Avio's upper stage engine for the upcoming M-10, the upper stage engine of the Vega-E launcher.

The engine is designed and built by Avio with **100kN** of thrust using liquid Oxygen and Methane. It is the first engine of this type in EU.

New technology development projects started to prepare next-gen launchers

Space Transportation Systems: €185 M

- In-flight demonstrator of a LOX-Methane two stage to orbit small launcher
- Two experimental launches (single stage and two stage respectively)
- Composite cryo tanks, simplified Avionics (software-based) and non-pyro separation systems



High Thrust Engine: €100 M

- 60ton thrust class LOX-Methane engine
- Innovative thermo-dynamic cycle, delivering high specific impulse



Multi-Purpose⁽¹⁾ Green Engine: €55 M

- Highly versatile engine for orbital propulsion
- «Green» engine for in-orbit services and logistics



Propulsion for IOS⁽¹⁾ Module: €35 M

- Propulsion techs for an In-Orbit Servicing Mission
- In partnership with TASI, Leonardo, Telespazio, D-Orbit



to be developed within 2026

P160C activities update



The P160C is going to be the booster of **Ariane 6 Block 2**, with the main purpose to meet the needs of **Kuiper's constellation** and the **first stage of the next configuration of Vega Launcher**, to increase its performance, competitiveness and also versatility.

Update of the P160C activities at 30 June 2023:

- procurement of process machines, tools and means
- acceptance and process validation
- QM3 (s/n 01) manufacturing

Next steps:

- **April 2024:** first IMC shipment from Colleferro
- **Mid of 2024:** casting at Regulus plants
- **End of 2024:** static firing test



The new winding machine



The new autoclave

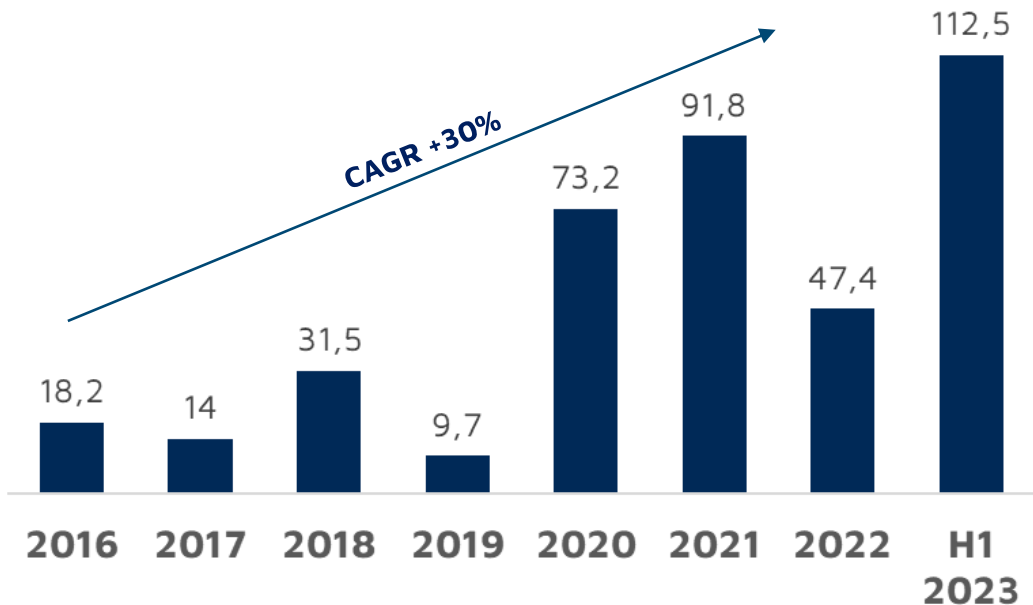


The adaptation of the present lathe

Tactical orders steadily growing, clear future roadmap



Historical Tactical Orders



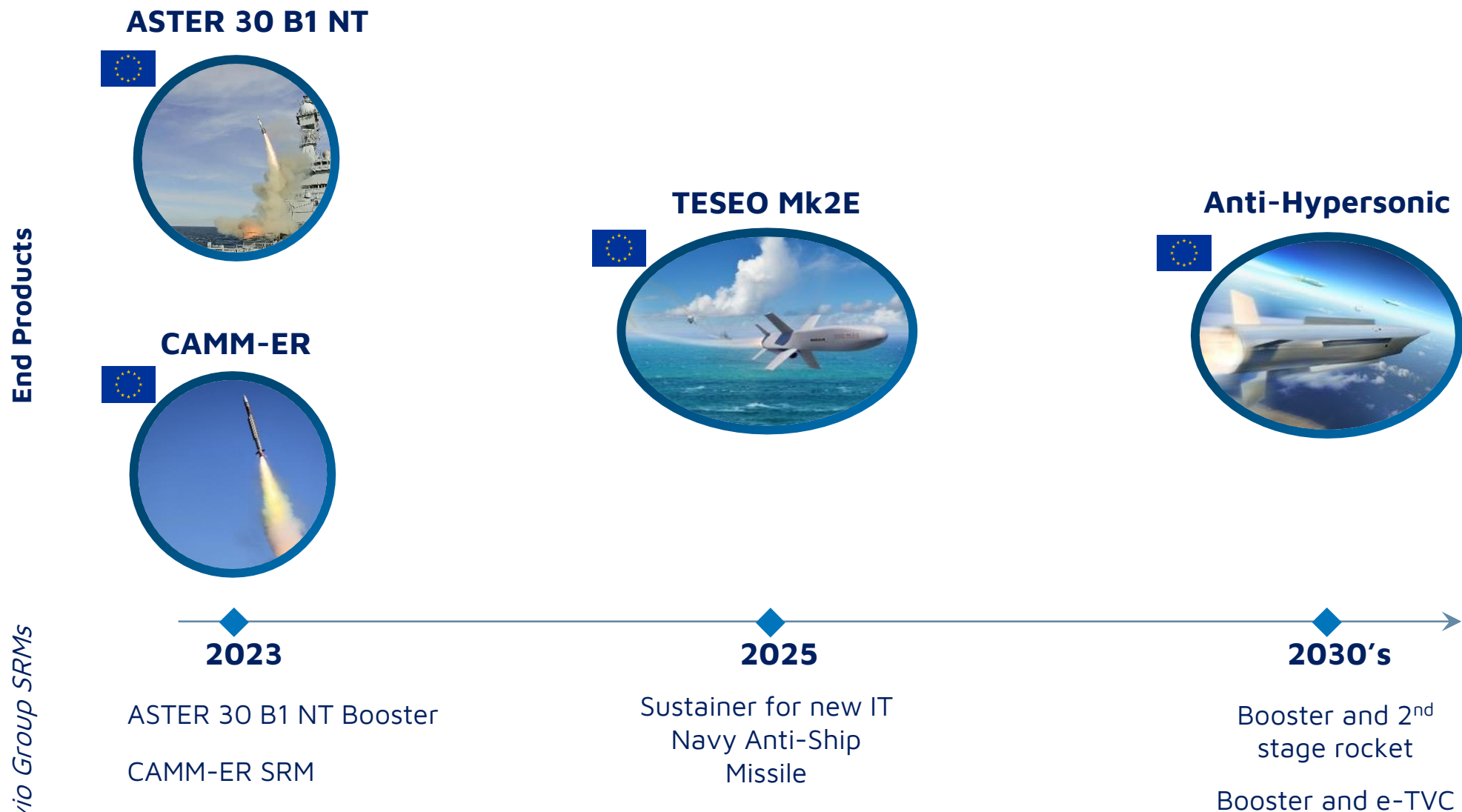
- Signed 90 EUR Million of new contracts for **Aster 30**
- Total orders for defense currently around € 300 Mln providing visibility for the next 5 years

Future Development Roadmap



Avio is partner of the **HYDIS2 consortium** for a new endo-atmospheric interceptor. Avio is part of the consortium with other 18 partners and 30 subcontractors. The company will give its contribution in providing the European Armed Forces with the most innovative **propulsion solutions**.

Our Tactical Products Development Roadmap



Investment in T4i Technology for Propulsion and Innovation



2,5M

Investment in
T4i

17%

Shares of T4i
acquired

On 4th September 2023 Avio invested ~**2.5 M€** in T4i's capital, equal to approximately **17%** of the shares of T4i.

T4i, spin-off of the University of Padua, was founded in 2014 and it is specialized in **'green' storable chemical propulsion systems, electric propulsion systems, and attitude control thruster.**

The agreement will enhance the effectiveness and time-to-market for the introduction of new functional propulsion systems in our strategic plan for application on:

- GEC/MPGE Engine
- IOS propulsion module
- Vega upper stage propulsion

IEC conclusions on Vega-C Zefiro 40 test anomaly

- ❑ IEC concluded that in the current design of the nozzle, the combination of the geometry of the throat insert and the different thermo-mechanical properties of the new Carbon-Carbon material used for this test caused progressive damage on other adjacent nozzle parts and a progressive degradation eventually leading to the nozzle's failure. This phenomenon is not linked to those observed on VV22 with the previous Carbon-Carbon material
- ❑ A task force steered by ESA and Avio has been set up and will immediately start to implement the recommendations proposed by the IEC
- ❑ **ESA will support such program, drawing from already available resources**
- ❑ 2 firing tests Z40 in Q2 and Q3 2024
- ❑ Vega-C is expected to return to flight in the fourth quarter of 2024

Ariane 6 and Vega-C flight schedule



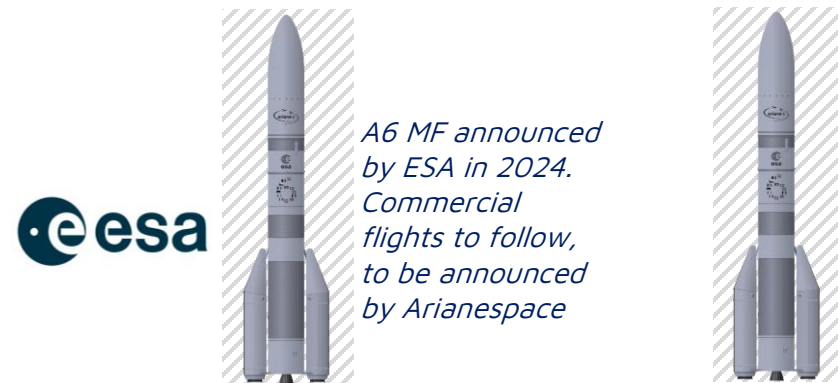
2023

2024



VA260
April

VA261
July



A6 MF

Ariane



Z40 Firing test
June



VV23
October



Z40 firing test **VV24**
Q2 2024



Z40 firing test
Q3 2024



VC03
Q4 2024

Vega



Outlook

Avio Outlook

Guidance confirmed

Launch



Ordinary production rate



Vega-C⁽¹⁾ missions

{ 4 baseline
5/6 with potential upside

Defence and Dev. Tech Projects



Processing of orders

Currently in Backlog:

- 1 Vega
- 16 Vega C

2023



VV23
October 6th

2024



Z40 firing test VV24

Q2 2024



Z40 firing test

Q3 2024



VC03

Q4 2024

2025



VC04-VC09

Outlook

- Vega C very busy up to 2028 with cadence 4/5 per year

**Vega, Vega-C
Flight manifest**



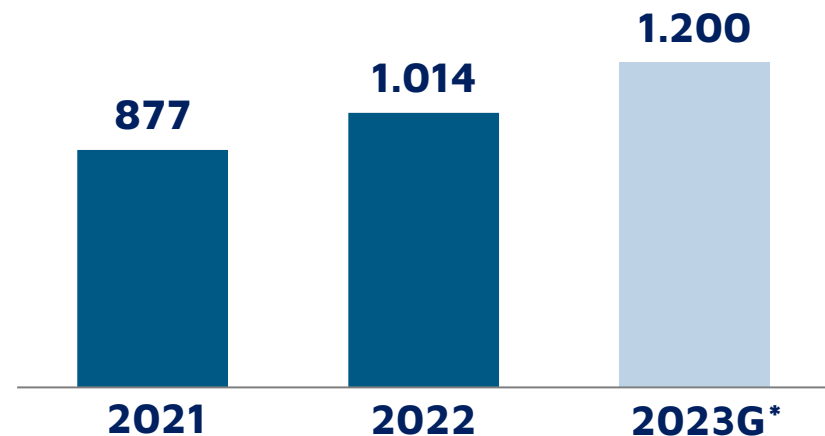
(1) As announced by Arianespace

Agenda

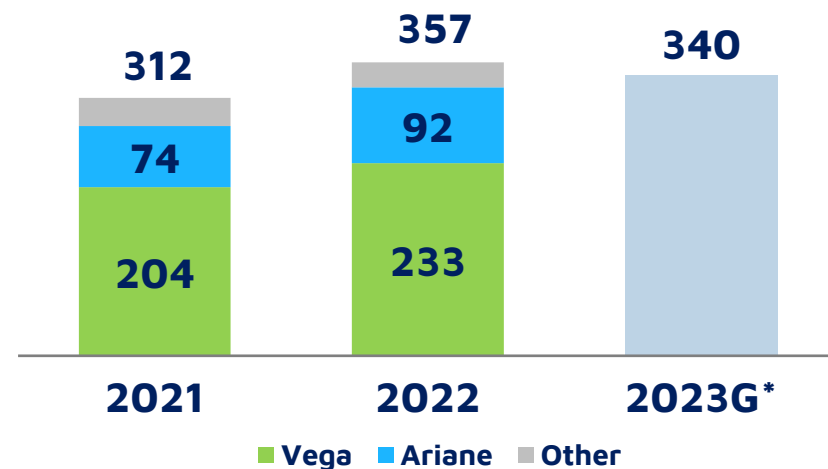
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KPI's historical trend

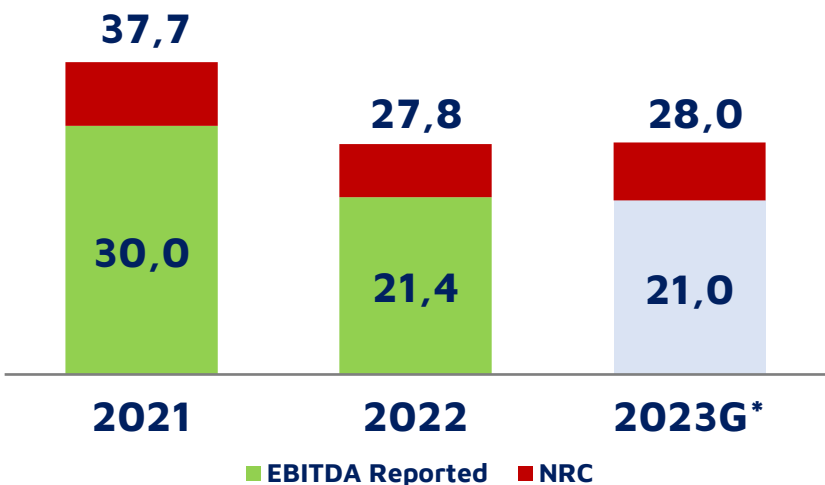
Backlog (€ M)



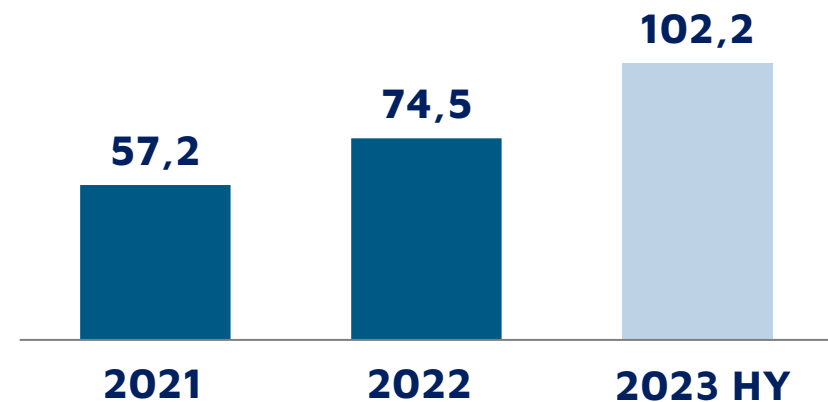
Revenues (€ M)



EBITDA (€ M)



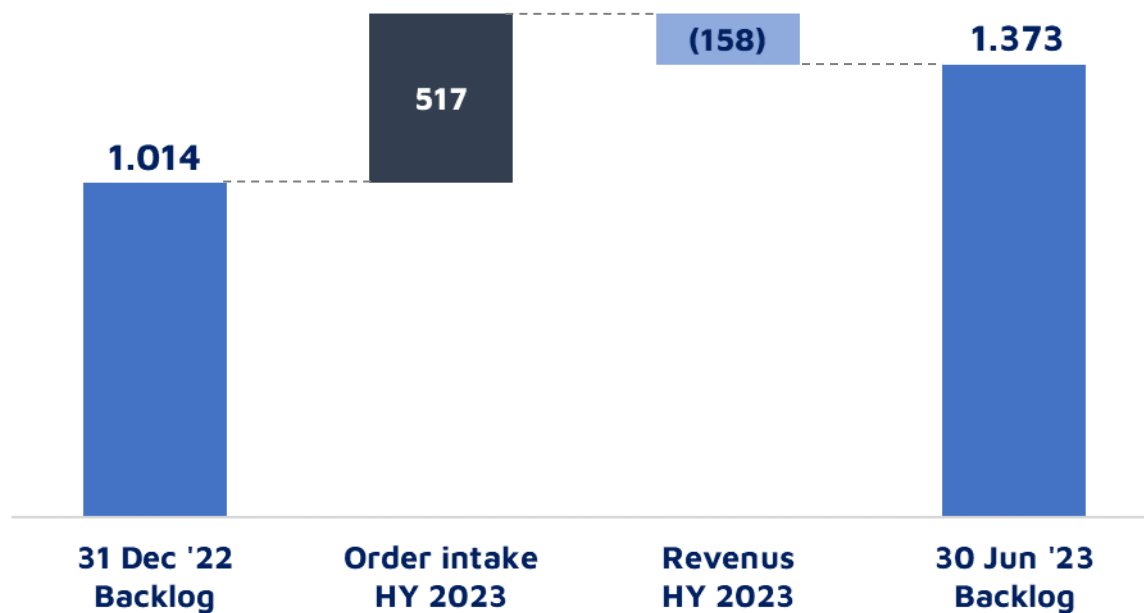
Net Cash Position (€ M)



* = 2023 Guidance Midpoint

Record Order Backlog thanks to development technology projects earlier than expected

Order Backlog evolution FY 2022-HY 2023 (€ - M)



Comments

Order intake in HY 2023 mainly include:

- Technology development projects (~370M)
- Defense Production (~110M)

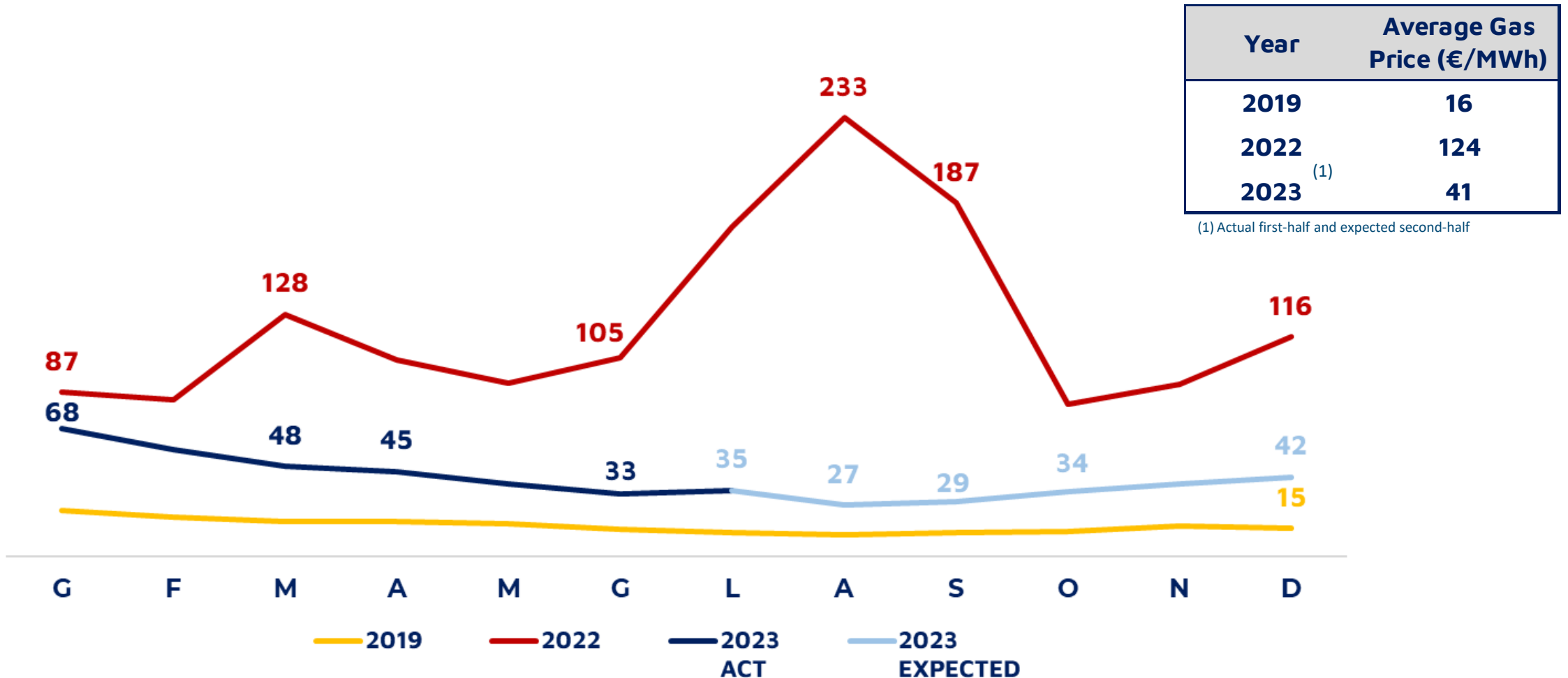
Increase in share of defense and technology development contracts

Improved results driven by development and defense activities, with decreasing energy costs

HY 2022		MAIN ECONOMICS	HY 2023		Comments
€ - M			€ - M		
	134.0	NET REVENUES	157.7		Increase in revenues thanks to technological development projects and defense production activities
N/R 2.5	3.2 2.4%	EBITDA REPORTED % on net revenues	5.2 3.3%	N/R 5.3	Improved EBITDA driven by higher revenues and relief of energy costs
	5.6 4.2%	EBITDA ADJUSTED % on net revenues	10.5 6.6%		Higher non-recurring costs mainly due to provision for the Zefiro 40 anomaly
	(6.2) N.m.	EBIT REPORTED % on net revenues	(3.9) N.m.		Depreciation unchanged
	(3.7) N.m.	EBIT ADJUSTED % on net revenues	1.4 0.9%		
	(6.5) N.m.	RESULT BEFORE TAX % on net revenues	(3.7) N.m.		Positive contribution from financial items
	(7.6) N.m.	NET RESULT % on net revenues	(3.9) N.m.		Almost neutral tax burden

Gas price decrease in HY 2023 compared to HY 2022 with positive effect on industrial production costs

Italian average monthly gas prices HY 2023 (€/MWh)

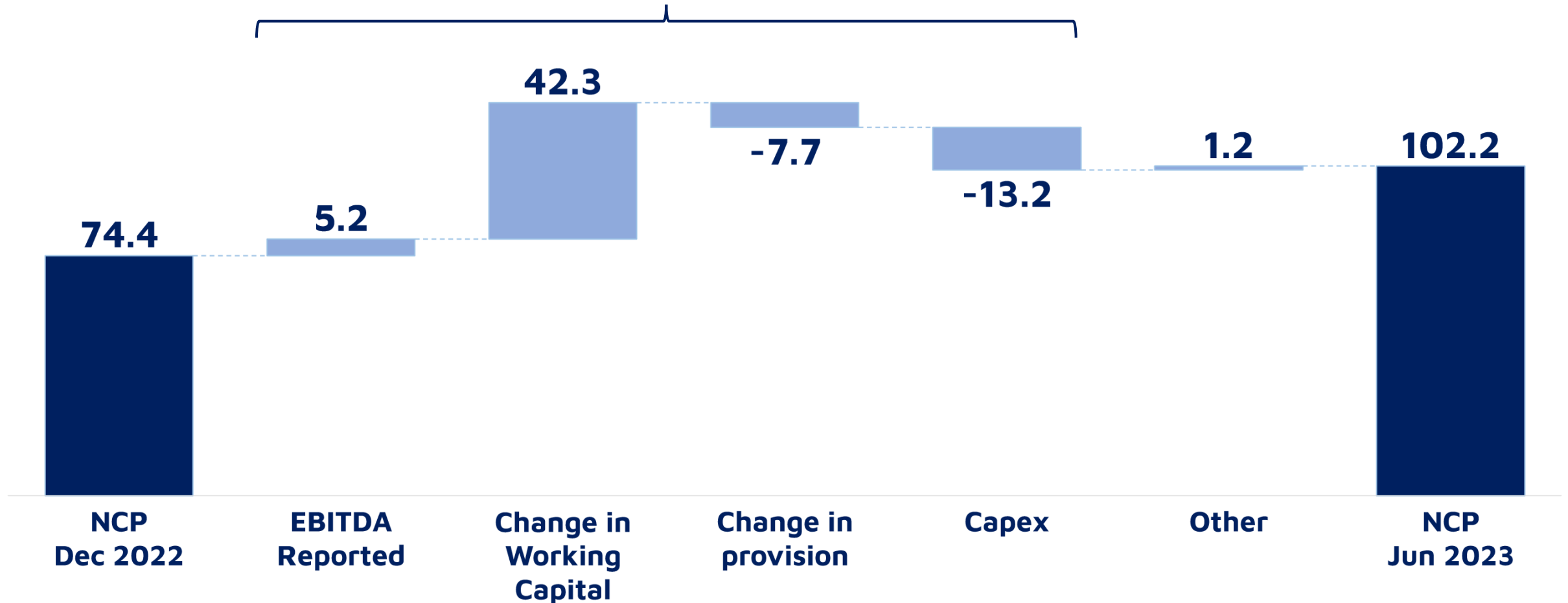


Source: GME (Gestore Mercati Energetici)

Increase for advances from development contracts

Data in €-M

Operating Cash Flow €26,6M

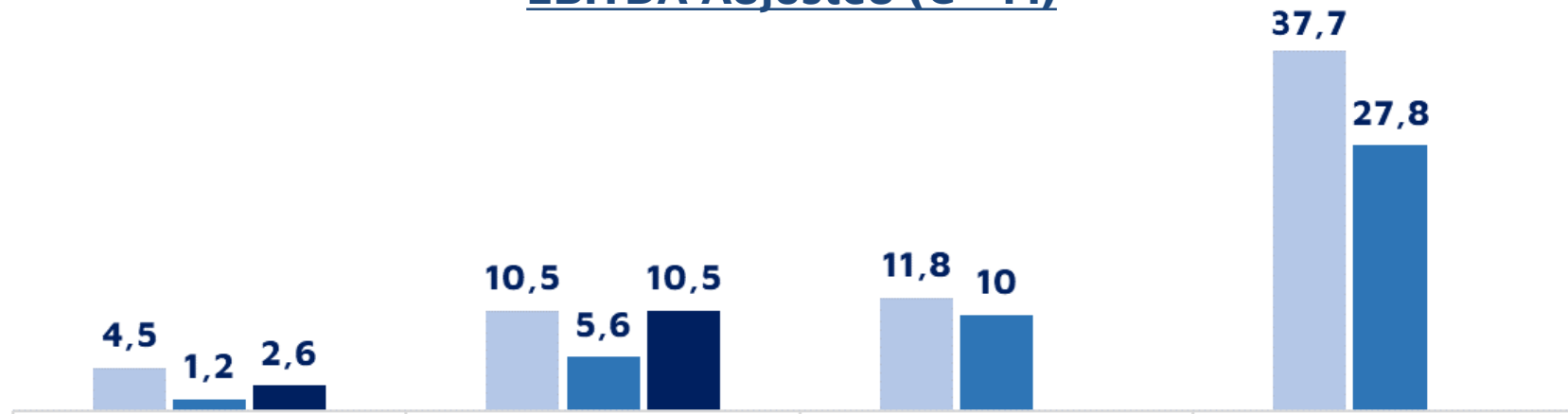


FY 2023 Guidance confirmed

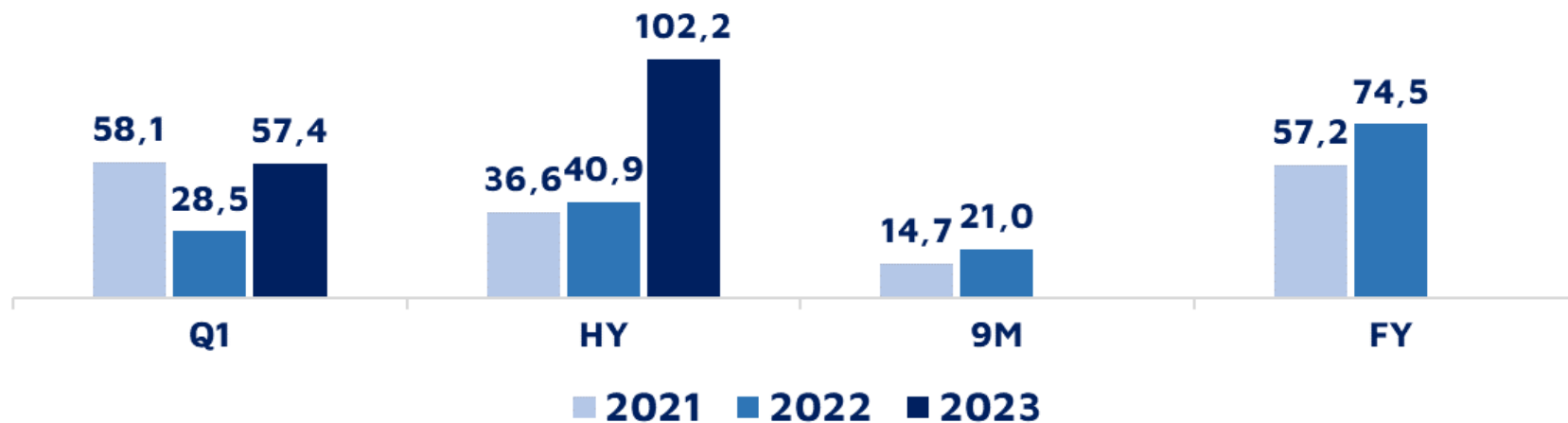
• Net Order Backlog	<ul style="list-style-type: none">• Min €1,150M• Max €1,250M	<ul style="list-style-type: none">- New orders expected for both development and production- ESA MC 2022 subscriptions and new Technology projects contracts to turn into backlog
• Net Revenues	<ul style="list-style-type: none">• Min €330M• Max €350M	<ul style="list-style-type: none">- New technology development projects ramp-up (Vega E, Space Rider, VegaC+, liquid propulsion)
• EBITDA Reported	<ul style="list-style-type: none">• Min €19M• Max €25M	<ul style="list-style-type: none">- Enduring impact of inflation and under-absorption of fixed costs due to reduced level of production- Estimated impact of 6M non-recurring costs*
• Net Income	<ul style="list-style-type: none">• Min €2M• Max €6M	<ul style="list-style-type: none">- Margin net effect of financial charges and taxation

EBITDA and Cash generation heavily concentrated on Q4s

EBITDA Adjusted (€ - M)



Net Cash Position (€ - M)



CONTACTS

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