SEPTEMBER 12<sup>TH</sup>, 2022

# Avio HY 2022 Results



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## Agenda

- Highlights (Giulio Ranzo, CEO)
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## Improved long term business outlook, near term challenges

- Successful Maiden Flight boosts Vega C commercial appeal (pipeline full)
- Arianespace strikes historical deal with Amazon for 18 Ariane-64 launches
- Successful ground testing of M10 LOX-Methane engine accelerates the road to Vega E
- PNRR projects provide additional visibility on long-term product competitiveness
- Completed acquisition of TEMIS, a strategic supplier of avionics subsystems
- Agreement with Italian CDP to facilitate startup engagement for open-innovation
- Russia-Ukraine conflict causes sharp rise in energy costs, impacting profits
- FY 2022 guidance adjusted to reflect near-term challenges



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# Successful Vega C Maiden Flight: a boost for its commercial appeal



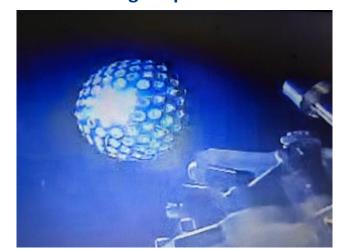




Vega C lift-off



**Stage separation** 



Mobile gantry visit

Mission Success: reached 5,893km altitude







Vega C

**SOURCE: ESA, Web search** 

# New Avio ground-control systems demonstrate full range of capability



The new Avio Launch System Control Bench (Lagrange)



Avio team celebration in Colleferro



The new Avio remote control room (Pandora)



The Vega C development / Maiden Flight team in Kourou



# The Vega C Maiden Flight unlocks significant market opportunity

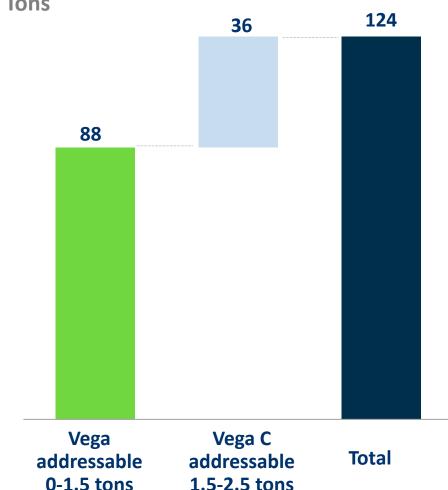


#### **Maiden Flight Takeaways**



- Performance now 2.3 tons in LEO vs 1.5 Vega at the same cost opens up larger addressable market
- Very high orbital injection accuracy (altitude, inclination)
- Sole qualified EU launcher capable of executing Copernicus missions (both optical and radar)
- More flexibility to address smallsat rideshares (selected by US Spaceflight for Sherpa, working alongside SAB for SSMS)
- **Enlarged fairing volume allowing specific scientific missions** and smallsat constellations (e.g. Italy's IRIDE)
- **Total Vega backlog as of today:** 
  - 8 flights already signed by Arianespace
  - 8-10 flights well advanced in commercial pipeline
  - Cadence of 5 flights per year possible by 2025 (potentially 6 flights from 2026/27)

### **LEO launch Addressable Market 2023-2030** Tons

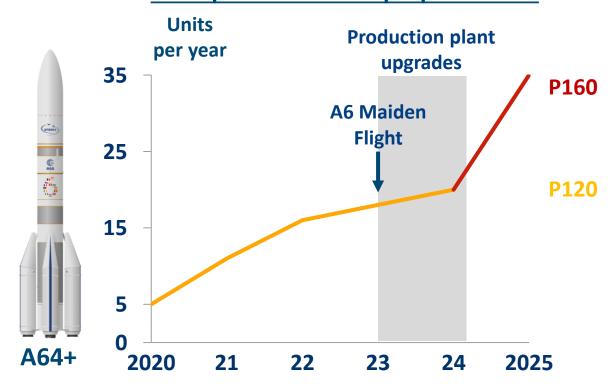




# Long-term visibility for P120 production through Ariane 6 backlog



## P120 production ramp-up schedule







New 4562 Building under construction

- 18 A64 launches booked, of which 16 with the more powerful version A64+ with P120+ engine (dubbed P160)
- Total expected order for Avio of 72 boosters
- P160 development started thanks to initial funding
- Production of P160 starting in 2024
- P160 increasing 10% performance also of Vega C and Vega E



# PNRR new technology projects support long term competitiveness

## **High Thrust Engine - €120 M**







- LOX-CH expander cycle technology (quantum leap in performance, weight and costs)
- Ideal for upper stage applications
- Scale-up in thrust vs M10, retaining core common technology
- On-ground firing tests by 2026

## **Space Transportation Systems - €220 M**



- Start from small LOX-CH engine knowledge
- Cryotanks and lightweight stage technology
- Simplified Avionics
- Non-pyro separation systems
- Single-stage parabolic flight IFD 1
- Two-stage to orbit launch demonstrator IFD 2



• Development programs to be completed by 2026 as per PNRR requirements



# Ariane 5 on track for 3 missions in 2022, Ariane 6 MF in 2023



#### Flight & Production activity



#### 2022 flight schedule:

- 1 Ariane5 flight expected by 2022
- 2 Ariane 5 flights in 2023 before retiring of the programme

#### **Development & complementary activity**

#### **Ariane 6:**

- Launch Pad complex completed
- Central core and combined integration tests started
- Maiden Flight expected by 2023
- P160 development started







# Vega C next mission in Q4 2022, while work on Vega E continues

#### Flight & Production activity

#### **Development & complementary activity**



### Flight schedule:

- 1 Vega C flight expected by 2022
- 4 Vega/Vega C flights expected in 2023

### Vega E:

- M10 firing tests ongoing: first 18 firings completed
- More than 800s of cumulative testing, all successful
- Development at completion to be agreed at ESA 2022 MC











**SOURCE: Arianespace, ESA** 

# Incremental orders in the defense business anticipate further growth











- Contract extension of product orders by MBDA for further lots of boosters for Aster-30
- Contract for the development of the propulsion of a new tactical missile, the Teseo Mk/2E for the Italian Navy
- Total contracts Value > Euro 40 mln
- Further orders expected to flow in the coming months/years

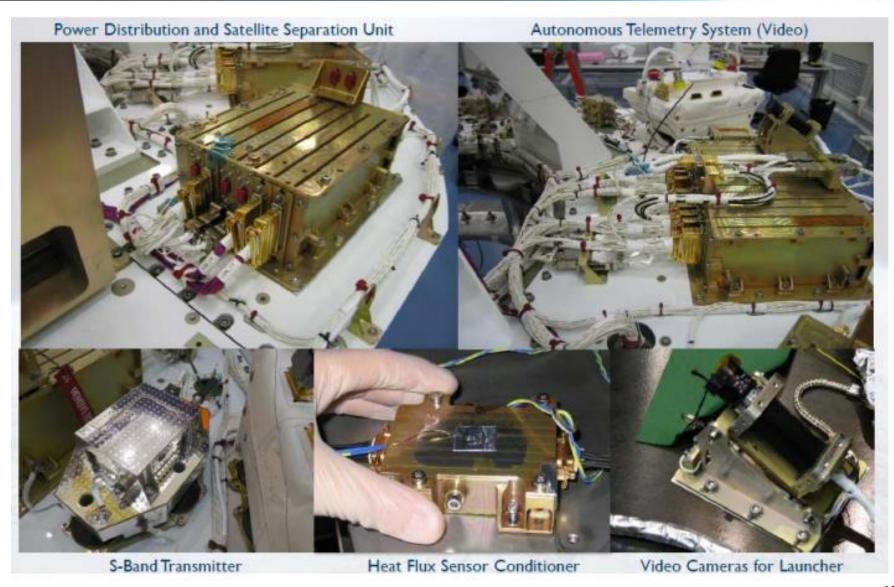


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# Acquired TEMIS, a strategic supplier in telemetry and avionics



- Provider of avionics, on board telemetry and cameras for Vega (since VV01) and Vega C
- 20 employees
- Avio legacy supplier
- Subsidiary of ART Group (active in the sports cars onboard software)
- Acquisition financed partly in cash and partly with own shares
- Signed long-term agreement with ART to secure equipment manufacturing
- Acquired also 5% share of ART





# Temis & ART deal structure

# Financial investor

Avio

- PCB Production
- Testing and verification

95% ADVANCED SOLUTION 5%\*

Long-term agreement to secure procurement and testing



100%

- Design of avionics subcomponents
- Integration
- Testing and verification





Consideration paid partly in cash and partly using own shares



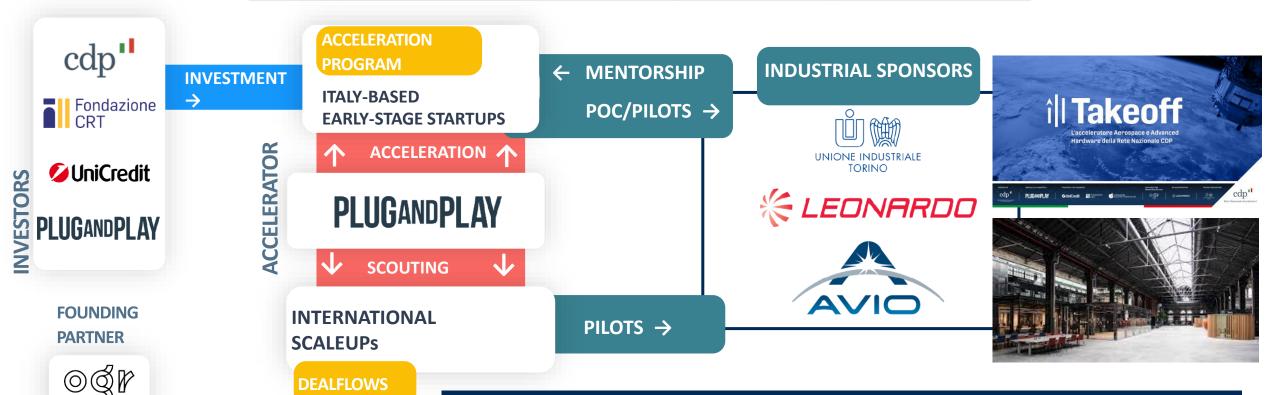






# Enabling open-innovation through participation to CDP space startup accelerator

## Participation to Turin CDP aerospace start-up "Accelerator"



#### **Benefits for Avio**

- Explore the Italian start-up ecosystem with a structured approach
- Additional access to worldwide selected start-ups according to Avio's needs through customized dealflow service
- Access new technologies and outsource development and research projects



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# Order backlog stable at FY 2021 year-end level

#### Order Backlog evolution FY 2021-HY 2022 (€ - M)



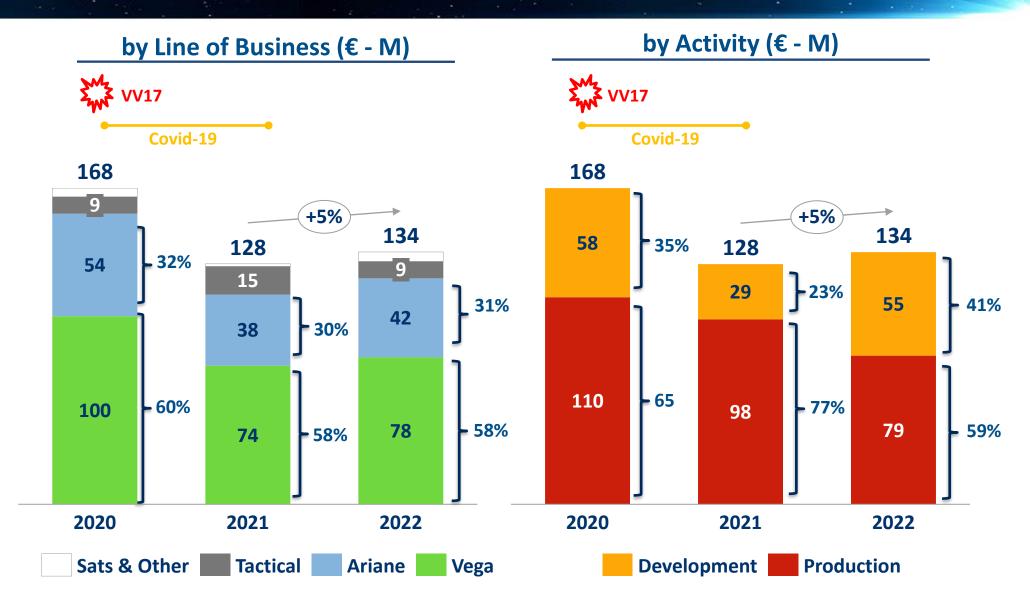
#### Comments

#### Order intake in HY 2022 include:

- P120 production (~35 M)
- Vega development (~25 M)
- Tactical development for Teseo defense system (~€10M)
- First tranche of PNRR contracts (~€10M)

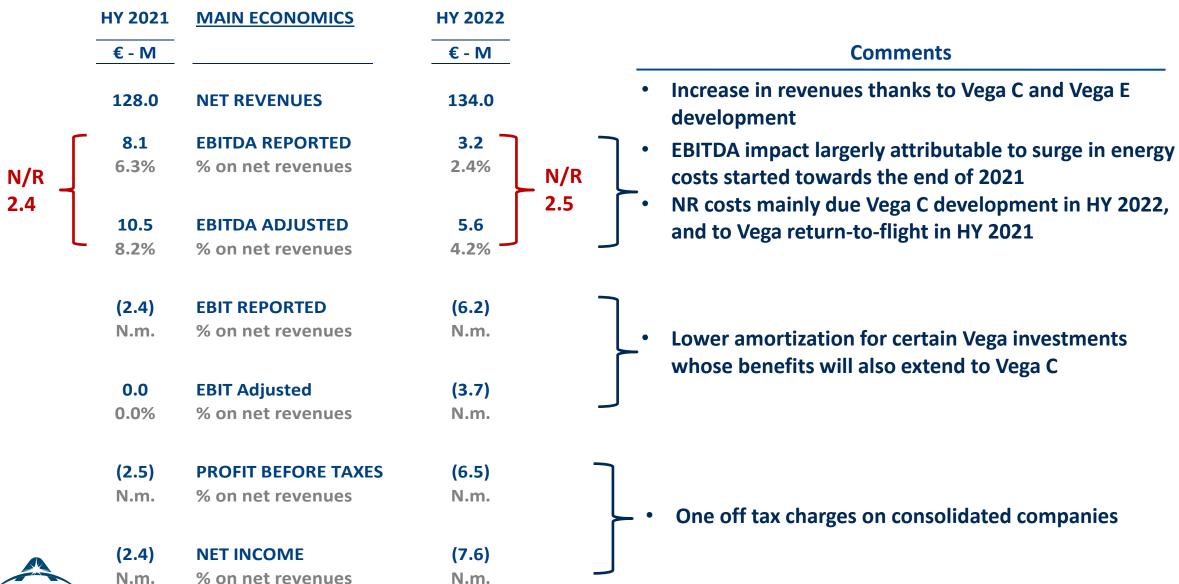
In addition in August 2022 further orders for more than €40M have been awarded for the production of boosters for Aster 30 defense system, confirming tactical propulsion strengthening a key factor for Avio future growth

# Revenues growing thanks to Vega C and Vega E development





# HY 2022 results impacted by rising energy costs



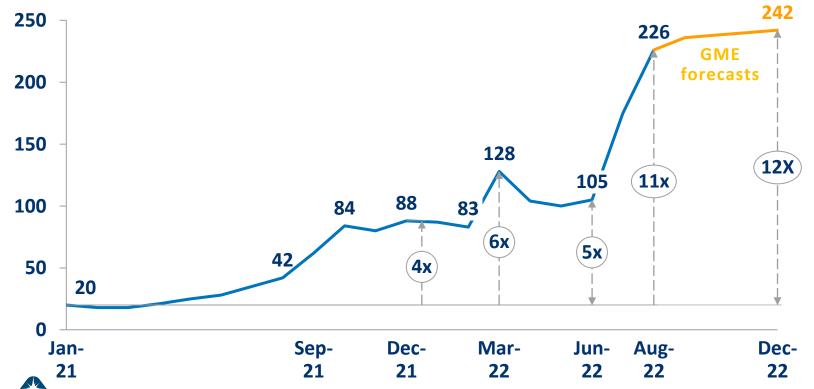


# Gas prices rapidly increasing due to current geopolitical situation

## **Italian average monthly gas purchase prices (€/MWh)**

#### **Relevance for Avio**

- Secured supplies for the future in a domestic and international shortage scenario
- Guaranteed best economic conditions for future ind. activities



### **Actions already implemented**

 New partnership since December 2021 with Cogenio/EnelX for Termica Colleferro project financing (Cogenio/EnelX 60% and Avio 40%) to economically manage a thermoelectric generation plant

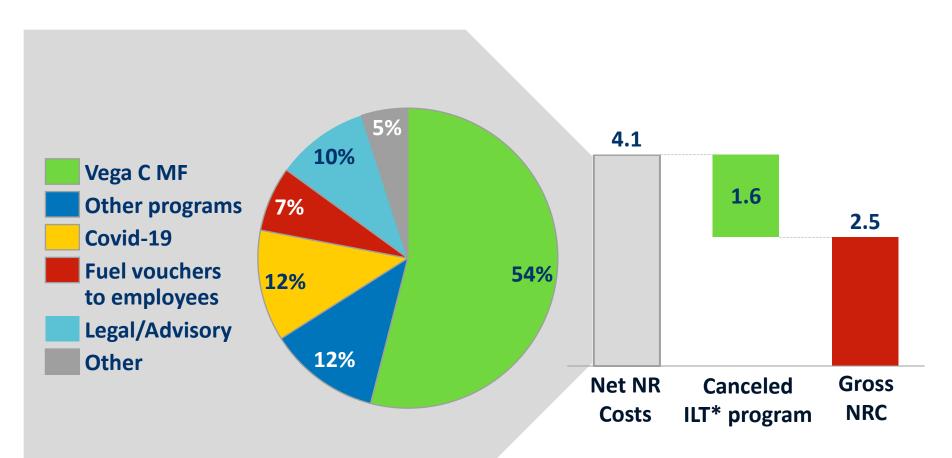




Source: GME (Gestore Mercati Energetici)

# HY 2022 non-recurring costs limited through elimination of LTI

## **HY 2022 non-recurring Items in € M**









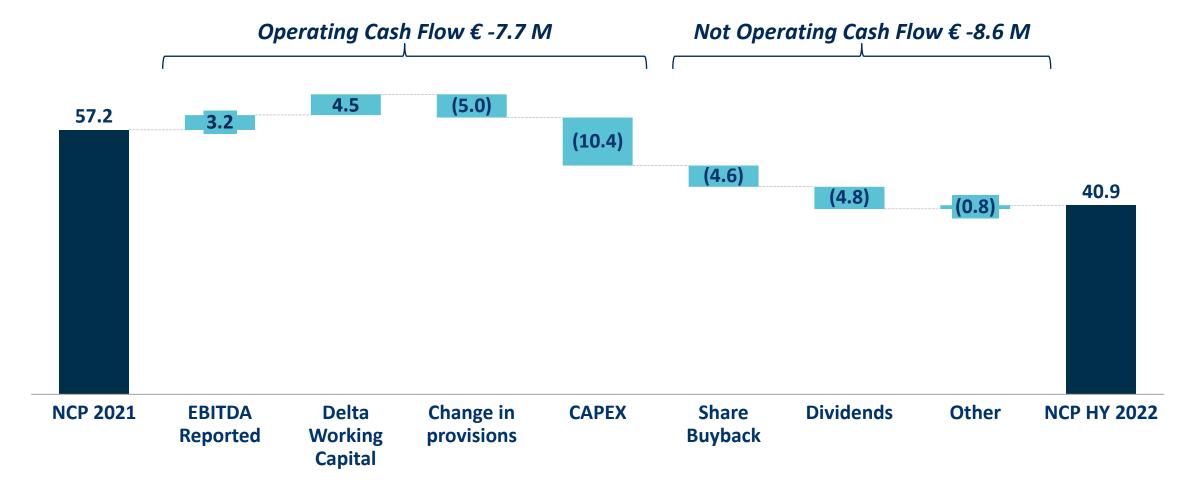
# Stable cash contributes to a strong financial structure

31 DEC 2021	MAIN SOURCES AND USES	30 JUN 2022	DELTA	Comments
€ - M		€ - M	€ - M	
(131.9)	WORKING CAPITAL	(136.4)	(4.5)	Working capital structurally negative with positive trend
	PROVISIONS (EMPLOYEES' BENEFITS		5.0	persisting in HY 2022
(38.6)	AND RISKS)	(33.6)		
79.4	DEFERRED TAX ASSETS	79.7	0.3	
61.0	GOODWILL	61.0	-	
30.6	CUSTOMER RELATIONSHIP ASSET	29.1	(1.5)	
246.2	FIXED ASSETS	246.9	0.7	Mainly for capex for P120 Vega cadence and development
6.4	FINANCIAL RECEIVABLES	6.5	0.1	of Vega E, net of depreciation
253.2	NET INVESTED CAPITAL	253.2	0.1	<del>-</del> -
57.2	NET CASH POSITION	40.9	(16.3)	Better than typical seasonal trend
(310.3)	EQUITY	(294.1)	16.2	Dividends distributed in May 2022 (€ 4.8M), share buyback
(253.2)	TOTAL SOURCES	(253.2)	(0.1)	(€ 4.6M) and HY 2022 result



# Net Cash better than typical seasonal trend for working capital performance, notwithstanding dividends, share buyback and sustained capex

Data in €-M





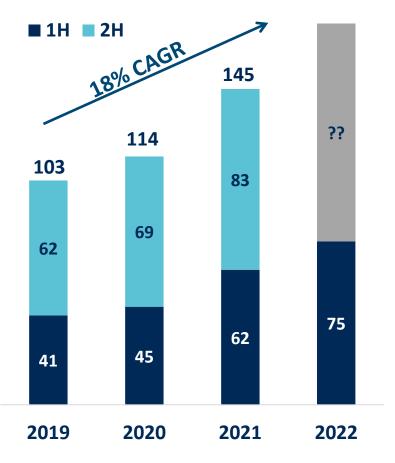
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# Launch demand grows high double digit, driven by new applications

## # of global Space launches



## **Telecommunication (example)**



- Apple to start using LEO satellites from Globalstar for emergency services on future Iphone 14
- LEO telecommunications because consumer applications (e.g. Starlink & T-Mobile, Amazon Kuiper, Apple & Globalstar)
- Launch demand concentrated in LEO

## **Earth Observation (example)**



- First example in the world of a country-wide observation network
- Optical and radar technology combined to ensure night/day monitoring on Italian territory
- Vega C to support the deployment of the satellites



SOURCE: Press search 25

# FY 2022 Guidance adjusted to reflect new global energy scenario



- New orders expected for both development and production
- ESA MC 2022 subscriptions (although not to be in backlog by 2022 year-end)
- Production activities ramp-up (P120)
- New development projects ramp-up (Vega E, Space Rider, VegaC+, liquid propulsion)
- Higher than expected impact of energy costs (hardly predictable), pending mitigation measures
- Estimated impact of 5M non-recurring costs\*
- Strong performance focus on Q4 (Q1 and Q2 soft) as in 2021
- One-off taxation effects



# Beyond 2022



Strong backlog and net cash position (now de-risked after Vega C MF, Amazon contract and PNRR contracts) point at robust long-term growth



Market and commercial **opportunities growing more than anticipated** (both in Space and Defense), evident from full commercial pipeline



**EU institutional demand** across the decade addressable by Vega C (the sole qualified EU LEO launcher with full and flexible capability for EO satellites



2022 PNRR opportunities to support **incremental technological advances** in the period 2022-2026, now underway and securing long-term competitiveness



Preparing the 2022 ESA Ministerial Council in November **to secure new development contracts** for Vega E, Space Rider and P160 to further extend product roadmap

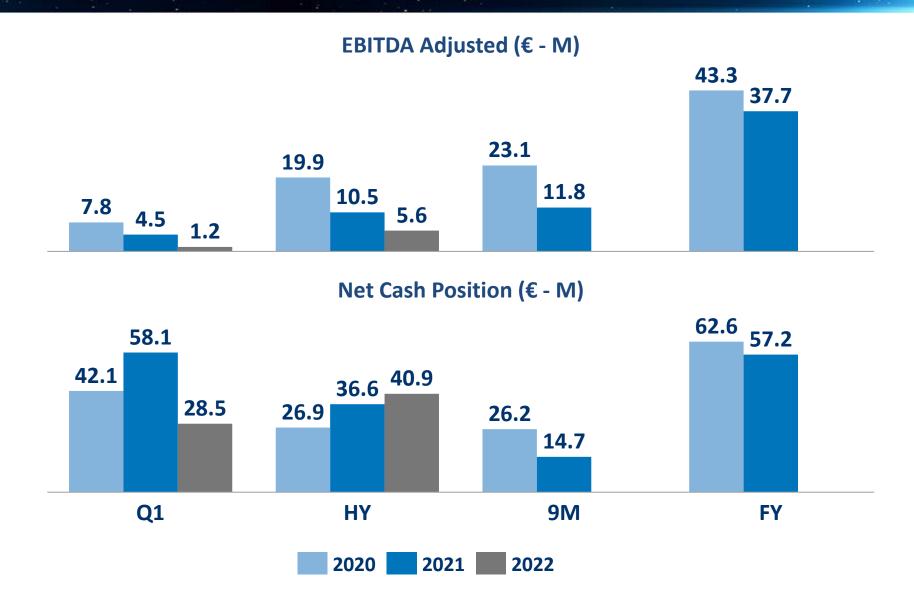


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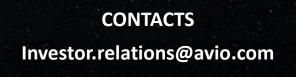
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## EBITDA and Cash generation heavily concentrated on Q4s









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