

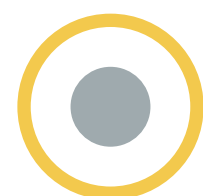


AVIO.COM
**SPACE
IS CLOSER**



WHO WE ARE

A EUROPEAN LEADER IN SPACE



Avio is an international group, leader in the design and production of space launchers and liquid and solid propulsion systems for space transportation. It has 5 sites in Italy, France and French Guiana, and employs around 1000 highly-qualified people, about 30% of whom work in research and development. Avio is listed on the Milan stock exchange in the Star segment; in 2020, it had revenues of 322 million euros

Avio is prime contractor for the Vega program and sub-contractor for the Ariane program, both financed by the European Space Agency (ESA), making Italy one of the very few countries in the world able to produce a complete space launch vehicle

Avio also manufactures the forthcoming Vega C launcher and participates in the development of the Ariane 6 launcher thanks to its new solid propellant engines and the Vinci and Vulcain liquid oxygen turbopumps

The solid propellant engine P120C, which will equip both the European Ariane 6 launcher and the more powerful version of the Vega space launcher, is developed and manufactured by Europropulsion (J.V. 50% Avio, 50% ArianeGroup). A new pre-impregnated carbon fiber composite material is used, made directly by Avio into its research laboratories in Colleferro (Rome) and Airola (Benevento). The composite fiber is also used for the new Zefiro 40 engine - second stage of the Vega C launcher -, fully developed, manufactured and tested by Avio in Italy

Avio has a long experience in the design and production of solid and liquid propellant propulsion systems for space launchers and tactical propulsion. Avio manufactures the liquid oxygen turbopump of the Vulcain cryogenic engine, the two solid propellant boosters of Ariane 5 and the first stage of the Aster 30 anti-missile defense system. To date, Avio solid propellant propulsion technology has been successfully used in all over 100 missions of Ariane and Vega launchers

In the field of satellites industry, the Avio Group has developed and supplied ESA and ASI with propulsive subsystems to put into orbit and control over 30 satellites, including the latest SICRAL and Small GEO

50 years
in Space Launchers

Vega/Vega C
Prime Contractor
(light launcher)

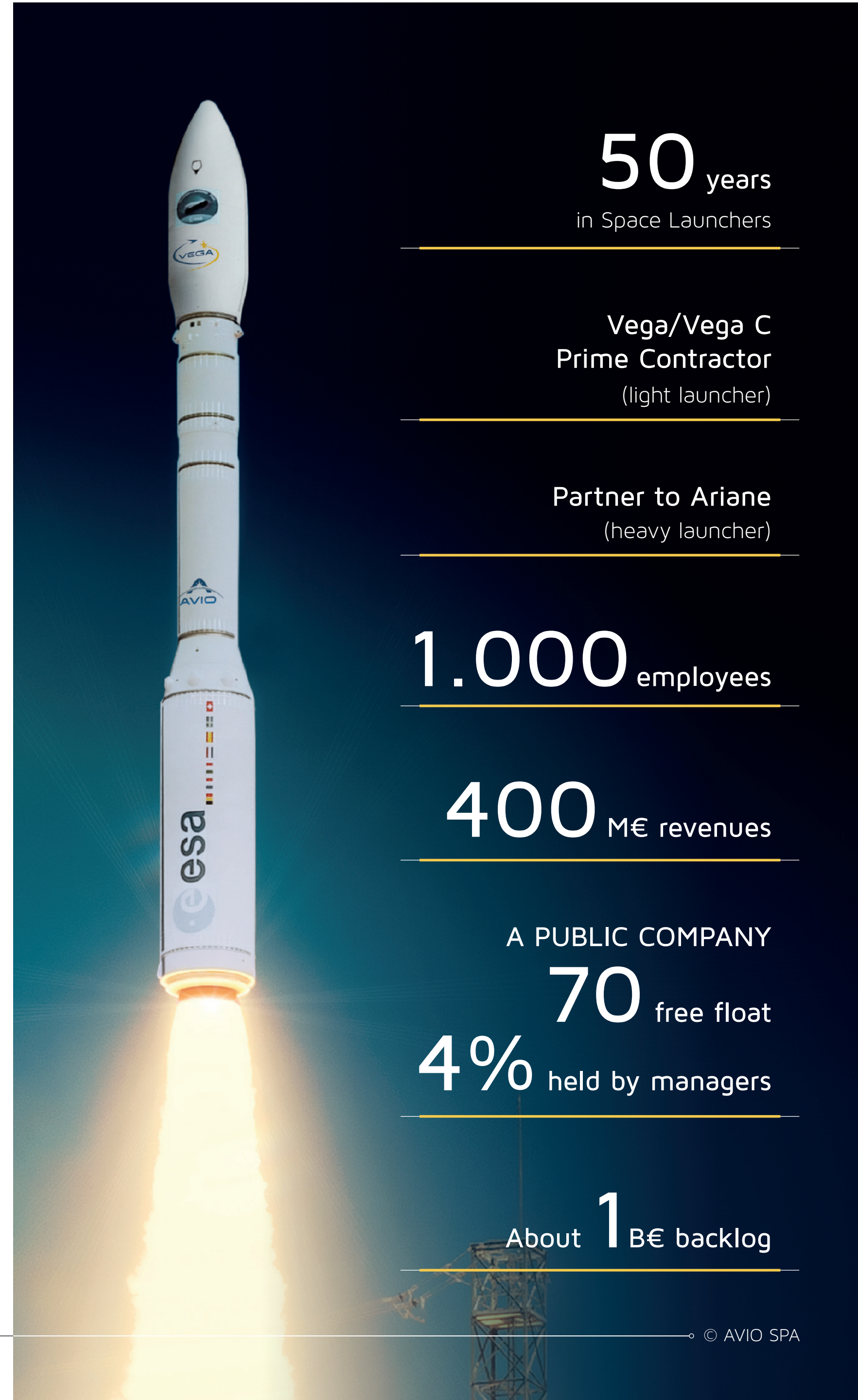
Partner to Ariane
(heavy launcher)

1.000 employees

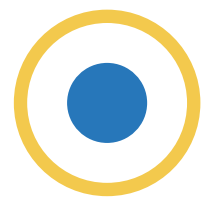
400 M€ revenues

A PUBLIC COMPANY
70 free float
4% held by managers

About **1** B€ backlog



VEGA



Vega is the ESA's satellite launch vehicle designed to send small satellites into Low Earth Orbit (LEO). It provides great flexibility of mission at an affordable cost. Together with the Ariane launcher family, it represents the European solution for space accessibility

Vega can carry up to multiple payloads at a time in any orbit up to

1,500 km

(reference performance is 1,500 kg at a circular polar orbit of 700 km)

Vega is a four stages vehicle powered primarily through solid propulsion

30 m

High

137 tons

Weights

It hosts a payload dynamic envelope of

2.3 m

Diameter

7.88 m

Height

A SMALL COMPETITIVE LAUNCHER

Since its maiden flight in February 2012, Avio's new small, flexible launcher Vega has gained more and more esteem in the launchers' and satellite industry

01 ● Competitiveness

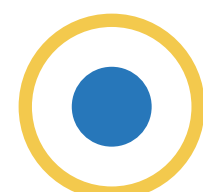
02 ● Versatility

03 ● Efficiency

are characteristics which make the Vega a real benchmark for both public and private competitors. Up to date, Vega successfully placed dozen of satellites into orbit, making this program a great success for both Avio and the over 40 companies that contributed to the project



ITALIAN TECHNOLOGY AT THE HEART OF THE NEW EUROPEAN LAUNCHERS



Avio is the prime contractor and systems integrator of VEGA, a light launcher of satellites whose qualification launch took place successfully in February 2012. Since its first commercial flight in 2013, Vega scored an unprecedented series of successful launches that make it highly reliable and precise

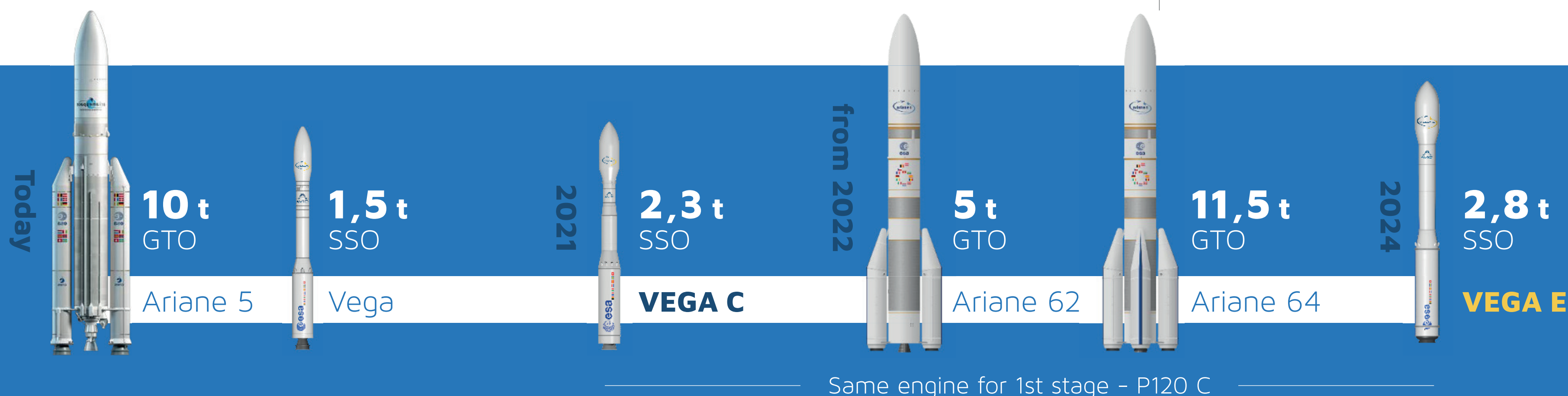
VEGA C

is an evolutionary development of the current Vega launcher, the smallest among European launchers, and will enable significant advances to be made in terms of performance and costs. With Vega C, the load capacity will increase from Vega's current 1,500 kg to 2,200 kg (+60%) in Low Earth Orbit. Vega C will deliver improved performances compared to its predecessor, and at a more competitive cost

VEGA E

Currently in its initial stages of technological development, VEGA E will be the ideal product for small satellites, starting in 2024. Thanks to its innovative three-stage architecture with revolutionary liquid oxygen/methane engine for the upper stage, it will be capable of releasing multiple satellites into different orbits during a single mission at a competitive cost, while maintaining the remarkable reliability and precision standards of the Vega family

The innovative Filament Winding technology is common to the Vega family and Ariane 6 launchers. This technology allows to building solid propellant motors from pre-impregnated epoxy sheets of carbon fiber through filament winding and automatic fabric deposition. It makes Avio manufacturing site in Colleferro a world's technological center of excellence



CHIEF EXECUTIVE OFFICER



GIULIO RANZO



Giulio holds a Laurea cum laude in Civil Engineering from the University of Rome and a PhD in Structural Engineering from a joint program between the University of Rome and the University of California San Diego (UCSD)

Giulio started his career in Booz Allen Hamilton, a global strategy consulting firm where he worked in the period 2000-2007 as Associate, Senior Associate and Principal within the Global Aerospace&Defense practice for several clients in Europe, US and Middle East

Giulio is CEO of Avio SpA

since October 2015.

He is also a board member of Arianespace SA, Europropulsion SA and Regulus SA in France

In 2014-2015 he supported the post-merger integration with GE Aviation

From 2011 to 2015 he was Senior Vice President Corporate Strategy of the Avio Group and worked on the de-merger of the aero-engine business, which was sold to General Electric in 2013

In 2016 he founded In-Orbit SpA, and investment vehicle through which he co-invested with 50 Avio managers, acquiring a 4% share of Avio's capital

1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

Between 1996 and 1999 he was a Graduate Research Assistant and Development Engineer at the University of California San Diego and he has co-authored a number of scientific publications on international journals in the domain of Structural Engineering

Between 2007 and 2011 he was Co-General Manager and CFO of the Italian activities of Cementir Holding, an international group operating in the building materials industry

In 2017 he listed Avio on the Milan Stock Exchange on the STAR segment with over 70% free float