



# Paolo Bellomi

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**Date of birth:** 30/10/1958 | **Nationality:** Italian | **Gender:** Male | (+39) 3286128385 |

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## ● WORK EXPERIENCE

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01/06/2021 – CURRENT – Colleferro, Italy

**CHIEF TECHNICAL OFFICER – AVIO S.P.A.**

As Chief Technical Officer, he validates the Flight Worthiness of the products and services of Avio, including the Launch System and the mission preparation for Vega family. In the meantime he is in charge of the pre-competitive research, the product strategy and technological roadmap for Avio and takes care of several new initiatives (as the Space Propulsion Test Facility, located in Sardinia). He is the CEO of SpaceLab, an Avio and ASI (Italian Space Agency) company. He supports Avio CEO on a number of tasks, including Merger and Acquisition opportunities scouting and evaluation.

01/01/2013 – 31/05/2021 – Colleferro (RM)

**TECHNICAL DIRECTOR – AVIO S.P.A.**

Managed the directorate of Engineering and Product Development in Avio S.p.A.

As Senior Vice President, he was in charge of the design, development and qualification of Avio S.p.A. products, in both space and defense application domain. He was the owner of the company development process, and as such, he led a 200-persons team; he technically drove a plethora of lower tier contractors or partners.

In this position, he contributed to the European decision making for the space transportation systems Ariane 6 and Vega C: in particular he fostered the need for development of Solid Rocket Motor common, to Ariane 62 and 64 and Vega C and subsequently Vega E family. Consequently to the decision assumed by ESA Member States in the Ministerial Councils 2014,16 he led Avio team through the design, development and qualification of the P120C SRM (in partnership with Ariane Group, through the joint venture Europropulsion), as well as of the Vega C Launch System, both presently in the final phase of qualification. Vega C, whose Maiden Flight is expected by March 2022, will largely contribute to European independent access to Space by largely improved performances, better availability and Payload comfort.

In the meantime he put the basis for the development of an European family of Liquid Oxygen/Liquid Natural Gas rocket engine, starting with MIRA engine in partnership with the Russian company KBKhA, and eventually followed by the Avio M10 engine, currently running the first firing tests. The latter is an expander cycle 10ton thrust class engine, conceived to power the upper stage of the Vega E Launch Vehicle: it is largely based on patents registered by him.

In response to the decision of ESA Ministerial Council 2016 and 19, leading Avio team, he initiated the development of the above-mentioned Vega E Launch System and, in partnership with Thales Alenia Space, of the Space Rider spaceplane; it will enable Europe for orbital download to airport strips of about 800kg of Payloads. Other noticeable achievement of the period was the design of spacecraft propulsion systems (successfully flown in EDRS and SmallGeo mission), the development of a successful new generation of solid rocket motors for defense application, the conception of the Vega light (a mini launch system) and the extension of versatility of European launch vehicles by the SSMS (Small Satellite Mission Service).

In the frame of his mission, he manages the pre-competitive research programs in Avio, through a fair network of international co-operations, academy relations, of internal research programs and investments in promising technology or facilities as well as M&A activities.

01/01/2006 – 31/12/2012 – Colleferro (RM), Italy

**HEAD OF TECHNICAL DEPARTMENT – ELV S.P.A.**

ELV S.p.A., currently renamed as SpaceLab, was a company jointly owned by ASI (the Italian Space Agency) for the 30% and Avio S.p.A (70%). ELV was established in 2001, with the purpose to develop, qualify and operate the Vega Launch System.

Paolo was involved as CTO and Technical Director since the System Preliminary Design Review until the achievement of the full flight qualification. In that timeframe as a Chief Technical Officer, he was almost completely involved in the development and qualification of the Launch Vehicle and of its interfaces versus the Ground Segment.

Development activities in ELV were mostly at system and avionic level: however he and his 100-persons team managed a rather imbricated industrial chain, including the top rated European industries in the Space business, as Astrium, CASA, CRISA, Dutch Space, APP, Pyroalliance (now part of Ariane Group or Airbus), Ruag, Sabca, SAAB, Thales, Leonardo, Zodiac, Avio ... but also non European companies as Aerojet, Yuzhnoye, Lavochkin.

In his role of CTO in ELV he had the advantage of having been previously led the design of the propulsion systems and the structures of the Launch Vehicle as former Avio Chief Engineer: this quite uncommon circumstance made him possible a straightforward synthesis between system and subsystem issues.

He completed his work in ELV by passing the Vega Ground Qualification process and technically driving the Maiden and the second successful Vega Flights.

Later on, in Avio he continued to contribute to Vega flight preparation and campaigns, and was appointed as Avio representative in the Inquiry Boards after the Vega VV15 and VV17 mishaps, successfully recovered by the recent mission VV18.

01/01/1998 – 31/12/2005 – Colleferro (RM), Italy

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**HEAD OF ENGINEERING DEPARTMENT (SPACE BUSINESS UNIT) – FIAT AVIO S.P.A. LATELY RENAMED AS AVIO S.P.A.**

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Although changing different positions in a frequently reshuffled organization, his function was eventually the Head of the Engineering Department. In this role, leveraging on a 100+persons team, he led the design and qualification process for all the products in the Fiat Avio Space Business perimeter: mostly propulsion as Solid Rocket Motors or Storable Liquid propulsion systems, but also structures, fins, thrust vector controls systems, thermal protections and thermal control systems.

In that workframe, he led the development of the Zefiro family of solid rocket motors (Zefiro 16 and, afterward, the Vega SRM Zefiro 9 and Zefiro 23) that ended up as an industrial success, despite few mishaps during the development. As Design Authority of several elements of Ariane 5, he supported flight preparation and exploitation and the Arta accompaniment activities, including several static bench firing of the P230 and its variants.

In the same domain, he participated to several studies for evolutions of the European workhorse Ariane 5, as Propulsion 2000 program, mainly involved in evolution of the Solid Rocket Stage (EAP) and Vulcain LOx turbopump. As a spin-off of that open initiative, Avio fostered, within Europropulsion (Joint venture between Avio and SNECMA) and with the support of several European Agencies (ESA, CNES, ASI) the development of P80FW SRM, as a first stage of a future Launch Vehicle Vega and a technology demonstrator. Eventually, the success of P80FW SRM (so far successfully tested 18 times) paved the way for the development of the P120. In the same timeframe he consolidated the team in several system related disciplines, setting-up competences and validating tool for spacecraft and launch vehicle development cycle.

05/08/1984 – 31/12/1997 – Colleferro (RM), Italy

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**PROPULSION ENGINEER – SNIA-BPD, AFTER FIAT AVIO**

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During such a long period, he worked with different roles and responsibilities as a propulsion engineer in SNIA-BPD, subsequently restructured as FIAT Avio by several changes of control. The period was interrupted three times, for service in the Italian Army as a lieutenant, for refinement of his technical education as an assistant researcher at Von Karman Institute (Bruxelles, B) in 1986, and at University of California Irvine (US) in 1989.

He started his work experience as an analyst engineer in fluid dynamics, facing several newly addressed design problems for solid rocket motors as pressure oscillations and ablation thermochemistry and mechanics. He had the opportunity to participate to the design of several spacecraft propulsion systems (cold gas, storable monopropellant and bipropellant), and to the design of many small SRM for defense application. On Ariane 5 MPS, whose development started in 1987, he was the Chief Designer for the MPS CPP (the internal thermal insulation subsystem of the solid rocket booster, that protects the steel case from the hot combustion gases flowing from the propellant). The development of MPS was in charge of Europropulsion a Joint Venture between FIAT Avio and SEP, thus the teamwork between French and Italian industry was very tight, although not always without struggles. With growing responsibilities he ended up that time frame as Head of Fiat Avio Space Business Design Department, including the relevant Test Center. His competences span from electrical space propulsion, to liquid and solid propulsion.

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**EDUCATION AND TRAINING**

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11/11/1976 – 24/05/1984 – via Eudossiana 18, Roma, Italy

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**MASTER DEGREE IN MECHANICAL ENGINEERING – University of Rome "La Sapienza"**

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**Field(s) of study**

- Engineering, manufacturing and construction

Full Marks and Honours | <https://www.uniroma1.it/it/struttura/facolta-di-ingegneria>

04/10/1971 – 06/1976 – Via M. Massimo, 7 , Roma, Italy

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**HIGH SCHOOL DEGREE (SCIENTIFIC) – Istituto Massimiliano Massimo**

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## ● **LANGUAGE SKILLS**

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**Mother tongue(s):** ITALIAN

**Other language(s):**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C2	C1	C1	C1
<b>FRENCH</b>	B2	B2		B2	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## ● **DIGITAL SKILLS**

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Very good knowledge of MS Office (Outlook Word PowerPoint Excel)

### **Programming skills**

Python | Fortran (professional experience) | C++ | MATLAB

### **CAE**

Ansys FLUENT | OpenFOAM | Code Aster | ESATAN | NASA CEA | CHEMKIN

### **CAD**

autocad | solidworks | FreeCAD

## ● **FAMILY**

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### **Husband, father**

He married Pina on 2000: the two of them try to educate Francesco their seventeen years old son.

The family is completed by Artù, a youngster Fox Terrier, Magò the house cat, and Agata, the turtle. Francesco, Magò and Agata compete for the family laziest.

The clan uses to spend their holidays sailing in Mediterranean sea.