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## INTERVIEW

# #SSSIF2024

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### LUIS GUERRA

HEAD OF AIRBUS SPACE DIVISION IN SPAIN.  
PRESIDENT OF THE SPANISH AEROSPACE  
PLATFORM PAE



SSSIF INTERVIEWER

We are with Luis Guerra, Head of Airbus Space Division in Spain and President of the Spanish Aerospace Platform (PAE). Thank you for being with us.

LUIS GUERRA

Thank you, it's a pleasure.

SSSIF

Luis will be a keynote speaker at the Small Satellites and Services International Forum in Malaga in February. What do you think of this year? What importance do you give to the SSSIF?

LUIS

I believe that the relevance of SSSIF resides in the fact that it is a forum that brings together the various key international players in space technology development, whether from the scientific community, industry or universities. This provides a unique opportunity to share knowledge about the small satellite sector and future space technology trends. This is the second year that we are Platinum sponsors. For Airbus, it is an ideal platform to engage with all these players to further underpin its pioneering ability to develop future space technologies for the benefit of society.

Last year Airbus focused on how mega constellations are changing the industry and how small satellites play an important role in this paradigm shift, complementing and not replacing large satellites and the role Airbus plays in this new ecosystem and discussing the challenges of these new constellations. In 2024, we will focus on discussing the large European constellations under development such as IRIS2 and OneWeb Gen2 and the applications of our platforms to this new space ecosystem.

SSSIF

As head of the Spanish space division of Airbus, could you tell us how the new Airbus facilities in Getafe are developing?

LUIS

At the end of 2023, we closed the Barajas plant permanently and we completed the transfer and set-up of all industrial facilities at the new Getafe plant, which is dedicated to the production of space structures and satellites with more than 14,000m<sup>2</sup> that join the existing capabilities of manufacturing launcher structures, adapters and satellite dispensers. In these new facilities we have an ISO-8 clean room with the capacity to reach ISO-5 of 3500 m<sup>2</sup>, which will allow us to take on large space projects.



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SSSIF That is very interesting. Now that you mention satellites, could you give us your views on what is the specific importance of lunar exploration and cislunar navigation?

LUIS Lunar exploration and cislunar navigation are of particular importance in the advancement of space exploration and the development of space technology. Lunar exploration is crucial to better understand the history and formation of the solar system, as well as to identify resources that could be useful in future Airbus Amber classified per A/M1044 space missions. In addition, the Moon serves as a test environment for technologies and systems that could be used in missions beyond Earth orbit.

We are currently, for a number of reasons, witnessing and starring in a space race to get to the Moon again, but this time to stay. The significance of this is enormous, as this new feat will generate a wealth of new technologies to sustain life on the Moon that will have a major impact on our lives on Earth, thanks to technology transfer from the space domain to all industrial sectors. The creation of a continuous human presence on the Moon will be crucial to accumulating operational experience in reliably sustaining life far from Earth. The technological boost this would bring to Earth could be phenomenal, as was the case with the Apollo missions, which eventually led to the birth of Silicon Valley and the computers and smartphones we use today.

On the other hand, cislunar navigation, or navigation in the space between the Earth and the Moon, is essential for the development of manned and unmanned missions beyond Earth orbit. This region of space presents unique challenges in terms of radiation, communications and navigation, and understanding and overcoming these challenges is fundamental to the advancement of space exploration.

Similarly, the Moon, our closest neighbour, is the perfect escape route from our solar system, with enormous potential to be a source of scientific breakthroughs and economic growth. Over the next decade, the Artemis programme will lay the foundation for a long-term sustained presence on the lunar surface and use the Moon to validate deep space systems and operations before embarking on the much longer journey to Mars. The creation of a new Lunar space station - Gateway - is fundamental, both to take that next step to colonise the Moon, and to make the leap to other planets such as Mars. Airbus is already present on both Artemis and Gateway.



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SSSIF Therefore, what exactly is Airbus Spain's role in space development?

LUIS Ever since Europe took its first steps in space development, Airbus has been a pioneer in space activities. Airbus has always been present as a pioneer in space activities, leading the way in the production of observation, navigation and telecommunications satellites, as well as exploration space probes and, most importantly telecommunications satellites, as well as space probes for exploration and, above all, providing a means of transport to space. providing a means of transport to space such as the Ariane launchers, which underpin sovereignty of access to space. underpin Europe's sovereignty of access to space. The technological firsts generated by Airbus in Spain are innumerable. We could highlight a very present one that is helping the Orion capsules to reach the moon. to reach the Moon. This is the European Orion service module, which provides the Airbus Amber classified per A/M1044 propulsion and controls the thermal environment of the various units and the crew. crew. It is of absolute importance because it is the first time that NASA has entrusted a non-US company with a mission such as this. a non-US company with a mission of such significance.

SSSIF Impressive, the truth is that it is a milestone for Spain. To conclude this fascinating interview, could you tell us what will be the next steps of Airbus in Spain in space exploration?

LUIS At the forefront, as mentioned above, are the Artemis missions to the Moon. Airbus in Spain is participating in the Orion spacecraft service module, developing the Thermal Control Unit (TCU), crucial for crew life support as part of Orion's avionics and thermal control system, one of the key services of the European Service Module (ESM). It provides astronauts with a habitable environment, protecting them from outside temperatures that can reach -270°C, and ensuring vital air and water supplies. Airbus will deliver a total of 12 units for the six ESMs in the Artemis programme.

Another step in this direction is that Airbus is developing the PMAD power management and distribution system for the HALO module, key to the Lunar Gateway station. This system has four power units and manages the electricity from the solar panels and distributes it to the on-board equipment and the rest of the station as required, while ensuring the safety of the crew on board. It will power the life support system, interior lighting, communication systems and science experiments. It will ensure that HALO's battery is maintained at optimal levels and is ready for use when the panels do not receive sufficient sunlight. It will also provide power to the visiting vehicles when they dock.



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This year will see the launch of the Proba-3 mission for which Airbus has supplied the platforms for the two satellites. This is the realisation of a high-precision formation flight between two platforms in space, a pioneering feat that will demonstrate the feasibility of fundamental technologies for the development of large telescopes with spatially separated elements.

We are also working with our colleagues in Bremen on the Starlab project. Just on 9 January we have reached an agreement with Voyager Space to create a company called Starlab Space LLC that will develop and operate the Starlab commercial orbital space station.

Finally, we are working on the SMILE mission to monitor space weather. By the end of the year, the flight model of the payload module that Europe is contributing to this joint mission with China will be delivered. It will study the interaction between the solar wind and the Earth's magnetosphere, the impact of which affects the life of satellites and astronauts in orbit and telecommunications on Earth.

SSSIF

Thank you very much for being with us, Luis. As said before, Luis Guerra will be a Keynote speaker during the congress of the Small Satellites & Services International Forum in Malaga. We are very excited and look forward to meeting you personally in Malaga.

LUIS

It will be a pleasure as always. Thank you so much.