News

No. 94

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Sustainability, Security and Resilience: The Next Space

INTERVIEW
Juan Carlos Cortés
Director of the Spanish Space Agency (AEE)

Congratulations ESA!

For five decades, the European Space Agency (ESA) has been a key driver of European space development, driving innovation and international cooperation and inspiring entire generations.

At GMV, we are deeply honored to have contributed to this track journey, collaborating in strategic programs that have set milestones in navigation, Earth observation, exploration, and space security.

Congratulations on these 50 years of excellence in space, and to all the years still to come!

Letter from the president

Now is the time for Europe to shape its future in space. In a context marked by high geopolitical tension and increasing reliance on space-based services for everyday life, the economy, and strategic sectors, space is emerging as a cornerstone of sovereignty, resilience and technological competitiveness.

The upcoming ESA ministerial meeting will be decisive. It will set the tone for Europe's ambitions on the global stage and can transform investment in space into a common strategy that strengthens its autonomy in critical areas such as access to space, Earth observation, secure communications or the protection of its infrastructures.

To position itself as a reliable and ambitious partner in Europe, Spain must step up to its role as a leading space nation, bringing together technological capability, competitiveness and strategic vision. Spain's space sector features a well-balanced business fabric that combines the driving force of major companies with the agility and specialization of small and medium-sized enterprises. This mix fosters talent, knowledge, dynamism and industrial scale, generating a highly competitive ecosystem. Fully leveraging this ecosystem is key to unlocking economic value, accelerating innovation and placing Spain in a leading position in the space economy, shaping and reinforcing Europe's strategic priorities.

At GMV, drawing on our experience as a global player committed to the progress of European space, we know that true competitiveness is built on collaboration, through the ability to harness diverse capabilities to respond with agility, excellence and impact to major global challenges.

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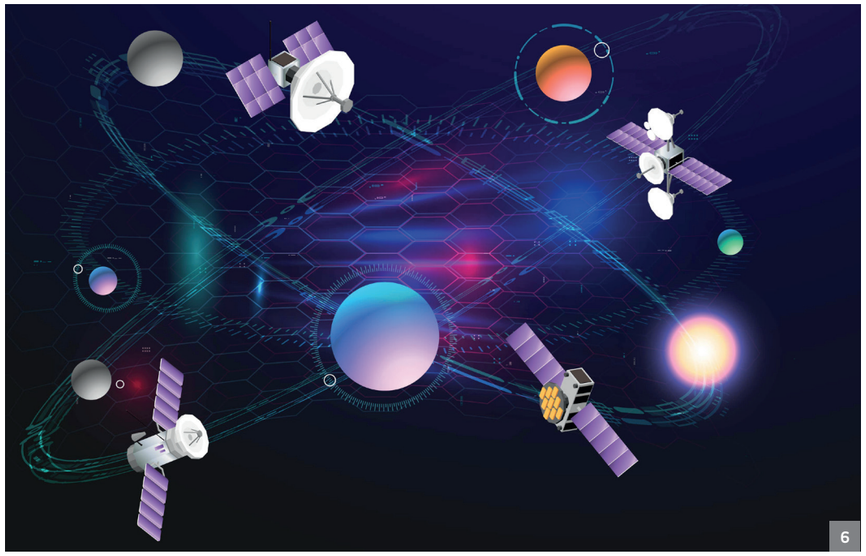
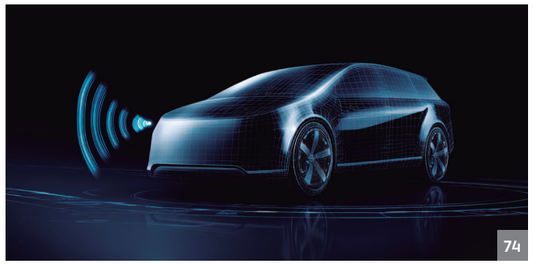
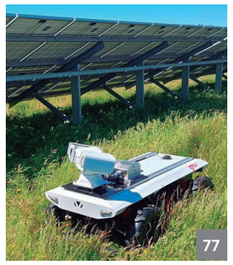
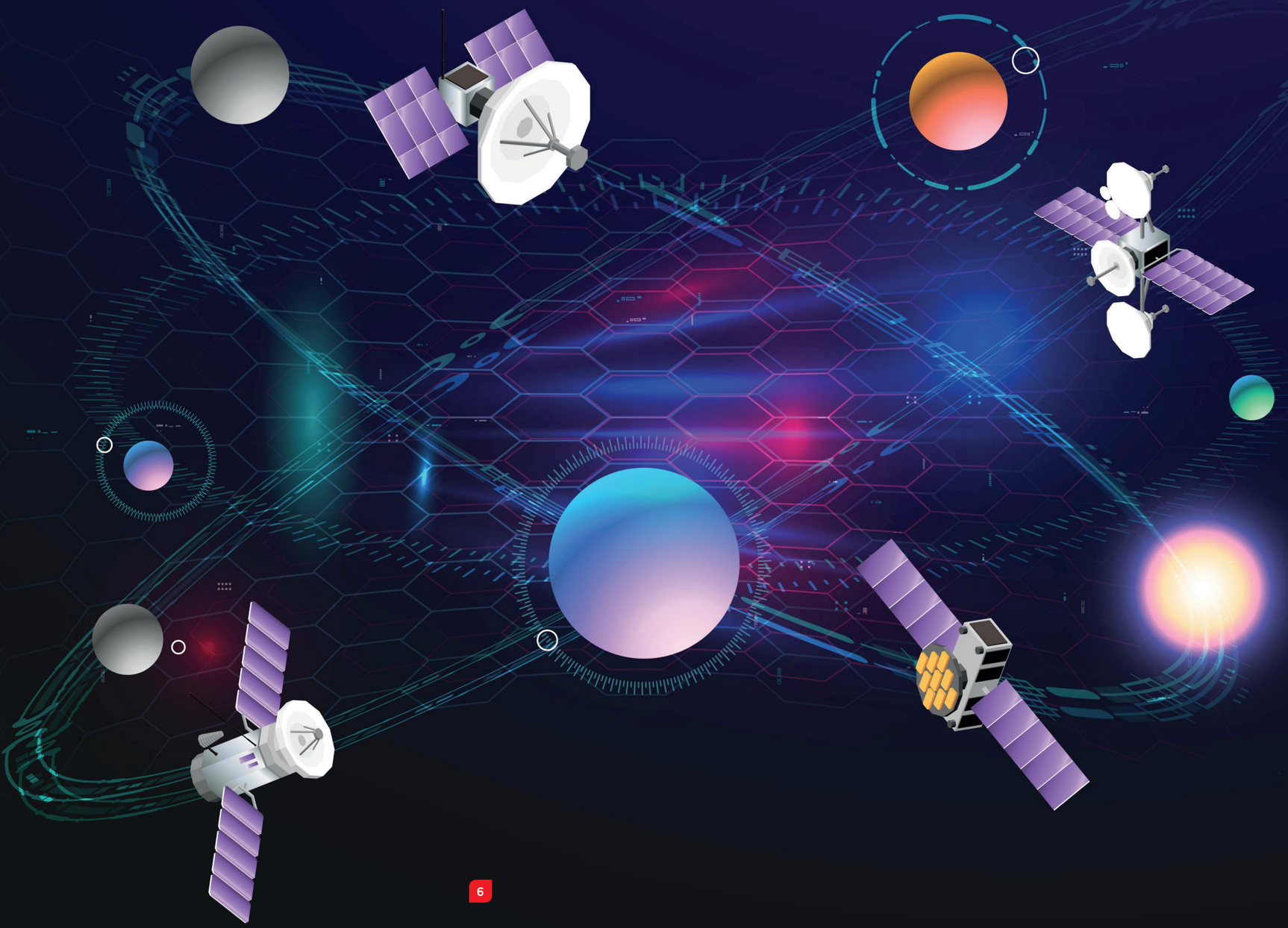






Sustainability, Security and Resilience: The Next Space



Space exploration and utilization are entering a new era. Humanity is crossing a new frontier. Easier access to orbit, the growing presence of commercial players, the rapid expansion of the space economy, the current geopolitical situation, are transforming how humans conceive of activities beyond Earth's atmosphere. It's no longer just Low Earth orbit (LEO) that is being populated with satellites, sensors and complex but vital space infrastructures. The entire space economy is experiencing unprecedented growth.

From global communications to defense, from Earth observation to navigation, from ISS to cislunar, Moon and beyond, space has become an invisible yet essential action domain.

Thus, the urgency to be able not only to access and observe space from and to Earth, but also to act, build and, in some cases, react, in space.

And yet, as opportunities multiply, so do vulnerabilities and needs for regulations, coordination and key collaborations.

As a consequence, sustainability, security, and resilience are no longer desirable values: they are essential conditions for the survival of "Next Space" and strategic pillars for space enterprises, governments, and international organizations.

Next Space, a paradigm shift

In this context, "Next Space" is not just a technological evolution, it is a paradigm shift. It is about building a space ecosystem that can endure over time, that is protected from growing threats, and that can adapt to unexpected events, both natural and/or artificial.

Similarly, space is no longer just a scientific or applications endeavor or the business of a few superpowers. It has become fertile ground for bold startups, billion-dollar private investments, and "a new geopolitics encompassing Low Earth Orbit, cislunar space, the Moon, Mars, and even near-Earth objects (NEOs)

"Next Space" will not be defined solely by the technologies we deploy, but by the systemic choices we make today:

- What kind of presence humans want to build around and beyond Earth?
- How we regulate access to orbit?
- How we build efficient infrastructures?
- How we protect space assets?
- How we fairly distribute the benefits of the use of space and the "outcome" of space economy?
- How we spread key scientific data to facilitate knowledge and protection/preservation of Earth? How we extend this to the Moon, NEO and Mars?
- How we make requirements about living together from many and quite different perspectives: institutional, commercial, scientific, inspirational, military?
- How we inspire young talents and inform the worldwide population?
- If we happen to break the taboo of the Peaceful use of Outer Space?

At stake is not just the future of the space industry, but the quality of our future as an interconnected civilization, on this planet and beyond.

Sustainability: beyond Earth, also in orbit

Space is still frequently an invisible dimension of everyday life. Without realizing it, most people benefit from the services of over 100 satellites daily, from navigation and weather forecasts to communication and financial transactions. Yet, as space activity intensifies, so too do the challenges of ensuring its long-term viability.

Space sustainability, on Earth through space, but also in/on orbit and from space to Earth, is no longer optional; it is an obligation that encompasses environmental, economic, political, and ethical dimensions.

Earth's orbit is increasingly congested. Today, there are over 11,000 active satellites and more than 40,000 trackable debris objects, the remnants of launches, mission failures, and collisions, with an estimated 140 million pieces smaller than 1 cm. These fragments, traveling at speeds above 28,000 km/h, pose serious threats to access space and to orbiting vital infrastructure.

The rise of mega-constellations has clearly revolutionized connectivity, yet the low cost and speed of satellite deployment risk market saturation and unfair competition. Smaller or emerging space actors may be pushed out, and the lack of clear global regulations creates an environment where commercial success could come at the cost of long-term sustainability.

While the Outer Space Treaty of 1967 proclaims that space is the province of all mankind, it lacks binding enforcement, and existing voluntary declarations remain weak. New frameworks and regulatory mechanisms are needed to ensure transparency, safety, and fair access to orbital resources. Governments, space agencies, and private actors must work together to harmonize standards and promote responsible behavior. The current geopolitical situation unfortunately adds complexity to the overall system.

Beyond orbit, the environmental impact of launch operations and manufacturing activities must also be addressed. The space industry is beginning to adopt greener technologies, including reusable launch vehicles, non-toxic propellants, and recyclable materials. At the same time, satellites and other space-based infrastructure provide critical support for climate monitoring, disaster response, agriculture, water management, and sustainable urban planning. These contributions directly support global development efforts and demonstrate how space can be a driver of positive change on Earth.

Looking forward, the space economy is evolving to include in-space servicing, assembly, and manufacturing capabilities that extend satellite lifespans, reduce launch needs, and enable the building of complex orbital structures. This reduces waste, lowers costs, and enhances mission flexibility.

As human activity extends to the Moon and Mars, the responsible use of space resources, the preservation of planetary environments and the legal regulations of responsibilities and properties become vital. The industry is exploring ways to extract and use extraterrestrial materials without repeating the mistakes made on Earth. Ethical planetary protection and better tracking of spacecraft and debris are also gaining importance. These developments signal a shift from short-term missions to a lasting and responsible presence in space.

Ultimately, space sustainability must become a core value across the entire space sector. This means integrating sustainable practices into every phase of activity, from mission design and manufacturing to operations and decommissioning. It requires collaboration between nations, companies, and international organizations to ensure that space remains a safe, equitable, and accessible domain.

But sustainability shall also be financial. While technological innovation and regulatory frameworks play critical roles in achieving environmental sustainability, financial sustainability is the linchpin that ensures these efforts are viable, scalable, and enduring. It is the must that allows space industries to innovate, create added value and effectively operate.

As with other industries facing sustainability challenges, progress will require long-term commitment, stable regulations, and shared responsibility.

But the stakes are clear: ensuring the future of space means preserving its potential to benefit life on Earth and beyond.

Security: a vulnerable orbital infrastructure and a new action domain

Security, meanwhile, is becoming an increasingly complex concept. It's not just about protecting satellites from cyberattacks or physical interference, but also about ensuring the reliability of critical infrastructure on which civilian, military, and commercial services depend. Space has become an extension of the digital network: the security of communications, navigation, and satellite observation relies on the integrity of the systems orbiting above our heads. And as political balances grow more unstable, orbits themselves become contested, often opaque, rarely regulated.

In 2022, a satellite was targeted by a cyberattack just before Russia's invasion of Ukraine. This incident, unfortunately not isolated, offered concrete proof that space has become an integral part of national and global security. Satellites are no longer just tools for observation or communication, they are strategic nodes in a vast, interconnected network. A malfunction or attack in orbit can disrupt terrestrial infrastructure, from transportation to finance, to disaster response systems.

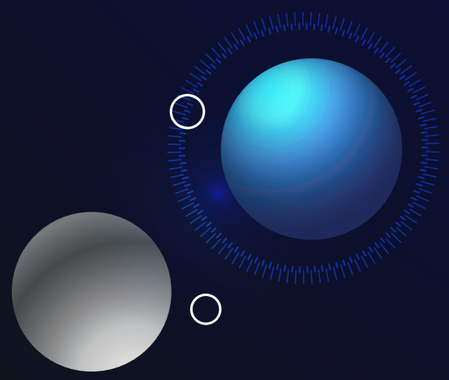
The United States has issued Space Policy Directive-5, providing guidelines for space cybersecurity. Europe, with its EU Space Strategy for Security and Defence (2023), emphasized the need to protect orbital assets and ensure the continent's strategic autonomy.

But the race toward the militarization of space is already underway: China, the U.S., Russia, and India have all tested or threatened anti-satellite (ASAT) capabilities. Europe is preparing for the same globally and at Member State levels. European governments are coordinating with their space agencies. The absence of a modern treaty banning weapons in space leaves room for alarming scenarios.

This isn't just a problem for governments. Private companies must also face these realities. Commercial missions need protection against interference, spoofing, cyberattacks, and collision risks, while attempting to preserve their global competitiveness. In a context where commercial satellites provide highly sensitive data, from ship movements to agricultural conditions, space security becomes a matter of data governance and digital sovereignty.

Resilience: enduring change, evolving through complexity

Resilience, finally, is what separates short-term strategies from long-term vision. Launching a satellite is not enough: we must design systems that can adapt, that can withstand failures, attacks, climate disruptions, or regulatory shifts. Resilience is indeed technological, with modular, upgradable, autonomous platforms, but it is also economic: it means building flexible business models capable of weathering financial crises or market fluctuations. And it has a political dimension, perhaps the most delicate: building alliances, promoting shared standards, and developing global space governance not based on power, but on cooperation.

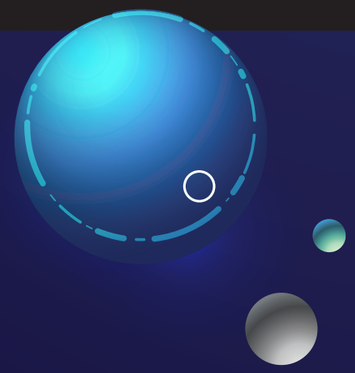


Resilience allows systems to withstand stress and, more importantly, to adapt and evolve. In space, this translates into modular technologies, distributed architectures, and operational redundancy.

New CubeSats, for example, enable surveillance and communications to be distributed across thousands of small units, reducing vulnerability to single points of failure. But resilience is also a system-level strategy.

NASA's Artemis program, which aims to return humans to the Moon and build a lunar space station (Gateway), was conceived as an example of resilience as international partnership, open standards, sharing of data, and operational flexibility. Similarly, the African Space Agency and the UN's Skylight project for satellite-based humanitarian monitoring show that resilience means global inclusion: we cannot build a sustainable space ecosystem by leaving half the planet behind.

Resilience is also economic. Space investments, which reached over $500 billion in 2023, according to the Space Foundation, are exposed to geopolitical volatility, technological failures, and regulatory shifts. New tools are needed: patient capital, public guarantee funds, and incentives that support innovation without crowding out smaller actors. The future space economy must not only shine in times of growth, but it must also be built to weather crises.



What about talent?

In this evolving Next Space, shaped by the imperatives of sustainability, security, and resilience, many resources are needed, but one resource is more vital than any other: talent. As new technologies emerge and the demand for orbital infrastructure grows, the ability to inspire, attract, educate, and retain highly skilled individuals becomes a strategic priority. This is not just a question of workforce planning; it is about cultivating the next generation of thinkers, engineers, policymakers, and leaders capable of navigating a sector that is increasingly complex, interdisciplinary, and global. We need diverse and inclusive pipelines that encourage young people to see themselves in space-related roles. Moreover, retention requires more than salaries or mission success: it demands purpose, flexibility, and lifelong learning opportunities in environments where personal growth and technical excellence go hand in hand.

In this Next Space era, talent is not a byproduct of investment, it is its very foundation, it is the future.

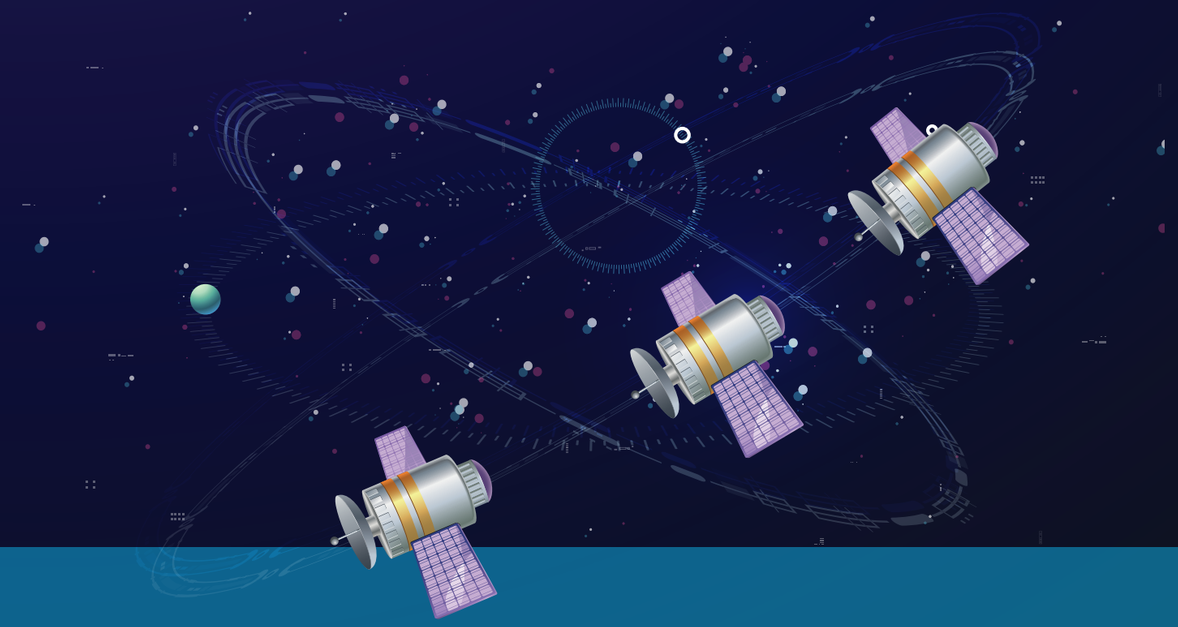
Conclusion: a shared vision for the space ahead

"Next Space" won't be shaped by a single nation, a single technology, or a single corporation. It will emerge from collective choices that weave together science, innovation, economics, politics, and culture.

Sustainability, security, and resilience are not isolated priorities, they are guiding principles for a human presence in space that seeks not merely to "conquer," but to inhabit, protect, and share.
Building this future demands responsible leadership, multilateral governance, and distributed innovation.

It also calls for bold, long-term investment in talent, to inspire, educate, and empower the people who will imagine, design, and lead this new era. Above all, it requires a new ethics of space-making, one grounded not only in technological progress, but in justice, cooperation, and responsibility toward future generations.

Next Space: For a space that not only conquers but inhabits.



The Role of GMV in the Next Space Ecosystem

In the emerging paradigm of Next Space, GMV plays a central role in shaping a space environment that is not only technologically advanced, but also secure, sustainable, and resilient. As one of Europe's leading space technology firms, GMV contributes critical capabilities to ensure safe access and acting to/in orbit, protect strategic infrastructures, and promote responsible use of space resources.

GMV's expertise spans space traffic management (STM), space situational awareness (SSA), active debris mitigation, in orbit servicing, including refuelling and assembly, mission operations, cybersecurity, making it a key enabler of Europe's efforts to safeguard orbital assets and reduce environmental risks. Its active participation in flagship missions and programs underscores its strategic importance, particularly in shaping operational standards and technological pathways for a more coordinated and secure use of space.

Beyond technology, GMV embraces a systemic approach to the space economy, advocating for collaborative governance, open standards, and the integration of ethical and regulatory frameworks that balance commercial innovation with long-term planetary stewardship. The company also invests in attracting and retaining next-generation talent, recognizing that human capital is fundamental to building a space sector capable of adapting and thriving in a rapidly changing geopolitical and technological context.

In short, GMV's role in Next Space is not only that of a provider of advanced systems, but of a committed architect of a sustainable, secure and resilient space future.

Juan Carlos Cortés

Director of the Spanish Space Agency (AEE)

Juan Carlos Cortés studied Aeronautical Engineering at the Technical University of Madrid (UPM), with a specialization in aircraft and jet propulsion. He later earned an MBA and completed an Executive Development program at the IESE Business School. He has also completed a National Defense program at Spain's Center for Advanced Studies in National Defense (CESEDEN), and he holds various other qualifications in program management and innovation.

He began his professional career in 1990, and after working in the private sector in the aerospace industry, he was hired by Spain's National Institute for Aerospace Technology (INTA). In that position, he worked as a flight testing engineer in the Eurofighter program and on projects developing remotely piloted aircraft (drones), and he also spent time at the Spanish Air Force's Logistics Center for Armaments and Experimentation (CLAEX).

Mr. Cortés has led the Spanish Delegation at the European Space Agency (ESA) and has also served as Vice Chair of that agency's Council, Vice Chair of its International Relations Committee, and Chair of the preparation committee for ESA's 2019 Ministerial Council meeting held in Seville. In addition, he has served on the Board of Trustees for the Compound Materials Research and Development Foundation (FIDAMC).

He is currently a delegate on ESA's Council, and he is representing Spain on the General Management Committee for the EU Space Programme (2021 2027). He is also a member of the Board of Directors of the company Hispasat S.A.

When you were appointed as Director of the Spanish Space Agency (AEE), how did you feel, and what were your first priorities upon taking office?
I felt very enthusiastic, but I also felt an enormous sense of responsibility. I knew that the AEE was becoming a key institution for Spain's technological and strategic future.

At that time, the agency had only been in existence for about a year, so my first priority was to solidify an effective organizational structure, and to lay the groundwork for coordinating and strengthening all of the country's activities related to space. I did this in line with the by laws that had been established for the agency, with the aim of unifying everyone's efforts and optimizing our resources, in order to develop an effective strategy.

The agency's main purpose was – and still is – to strengthen the role that Spain plays in the space industry, while also encouraging innovation and talent, solidifying the technological and industrial foundations of that industry, and helping the Spanish space industry become more competitive and sustainable. But above all, we wanted to make sure that our activities in space were making a contribution to our society, and we did this by adapting the industry's transformation to our country's needs, to maximize the positive impact that space activities would have for the people of Spain.

What were the most immediate challenges you had to face, and how did you do this?
Our biggest challenge was the need to meet the expectations of the space industry.

We started with a situation where that industry had become fragmented in Spain, and where the Spanish government had eleven ministries with some sort of authority over the subject. Efficient management was difficult in that scenario, and it was also hard to make efficient use of our resources. We therefore developed mechanisms for cooperation and coordination among various public-sector entities, to facilitate organized knowledge transfer and streamline their functions and capabilities. Establishing our agency's by laws was part of that effort.

Another priority for us was the need to create a modern regulatory framework, in line with the European laws and regulations being developed for the future. Now we're working on draft legislation for the Spanish Space Activities Act, which will give us improved legal certainty, while also acting as a catalyst for innovation and sustainability. We've also started working on a National Space Strategy for Spain, which will lay out our strategic roadmap for the upcoming years. We expect to have this completed by the end of 2025.

Finally, to ensure that we could continue to support research, innovation, and competitiveness in the Spanish space ecosystem, we quickly put into practice some important operational instruments for the space industry, like the Space Technology Plan (PTE), and we began participating in ESA's scientific experimentation program, known as Prodex.

What about your agency's current priorities? What types of plans and objectives are you working on? Do you have new initiatives to support development of the space industry in Spain?
Our current objectives are focused on several areas, such as encouraging research and technological development, strengthening our space industry as a whole, promoting STEM careers, and maximizing our industry's participation in international programs. And there is a clear vision behind all of this: to ensure security, sustainable development, and strategic autonomy for Spain, in this industry that is so important for the future.

Some of our specific priorities include developing our own capabilities for positioning, navigation, and timing (PNT) and Earth observation, developing our own launching capabilities, and continuing to expand the value chain for space surveillance and tracking. Our aim is to reduce our dependence on other countries and institutions, by developing these critical technologies. We also want to enhance the security and resilience of the space industry, and help defend Spain's national interests by renewing and improving our current capabilities. In addition, we're promoting the development of dual use technologies, and we're taking into account the

> "The objectives we have set focus on encouraging research, fostering technological development, strengthening the space industry as a whole, promoting STEM careers, and maximizing the industry's participation in international programs"

requirements of Spain's Ministry of Defense, for programs and projects where it also has a role to play. Our focus is always on the people of Spain, and their security and welfare.

To do all of this, we need to develop some key capabilities, like surveillance and tracking for objects in Earth orbit, to identify threats and keep our operations secure. There is also space meteorology, to mitigate the impact of solar phenomena on our infrastructure, and monitoring of near Earth objects for planetary defense. We're also developing technologies and services focused on mitigating space debris and its effects. All of these efforts are a fundamental part of ensuring that Spain can make use of space in a safe, secure, and sustainable way.

We also want to encourage the growth of the New Space industry in Spain, by becoming a magnet for startups, and for companies that want to innovate.

As I mentioned, we're making a strong commitment to technological sovereignty, which means promoting the development of our own capabilities. This is preferable to just acquiring solutions from other places, although it often requires higher levels of initial investment. One good example of this is the Atlantic Constellation, where it has been specified that the multispectral camera, the GNSS R sensor, and the IoT system must all be of Spanish origin. Now we also have plans to develop the Atlantic Constellation Plus, which will add at least two more interoperable and controlled satellites, equipped with high-resolution optical and infrared sensors.

In terms of R&D initiatives, we've already been making a significant amount of targeted investment in these, with more

than €160 million dedicated to research and development in 2024. This is for initiatives with immediate applications, such as for lunar exploration, quantum key distribution in the space segment, and optical communications between satellites. In addition, during the next few months leading up to ESA's ministerial meeting, we have plans to make an additional €30 million available for R&D contracts.

We want to make Spain a leader in space sustainability, by heading ESA's first program on that subject. Fortunately, the agreement we've signed with that agency for the CAT IOD active debris removal project has already put us in a very advantageous situation.

In relation to launching spacecraft, we've decided to position ourselves as one of the few countries with the ability to put payloads into orbit, and for this reason, we're actively promoting the development of small launchers in Spain. One important step towards achieving this goal has been our successful negotiations on shared use of the spaceport in French Guiana for launches of this type.

Another initiative that we'll be starting up, with the aim of enhancing our ground infrastructure, is focused on creating a space weather center. We're planning to do this by following the same approach as with the space surveillance and tracking (SST) system, that is, by adding a Spanish node to the European network. We also have plans to offer specialized services in this field. The Spanish space surveillance and tracking operations center (S3TOC) in Torrejón de Ardoz, near Madrid, will be a core element of this initiative. We want to transform this facility into a space traffic control center, with the aim of making it the top planning site for the European system, as well as a digital twin for the entire space system.

> "We are promoting an ambitious scientific agenda, both in Spain and internationally, focused on implementing a new scientific plan for ESA"

We're also promoting an ambitious scientific agenda, both in Spain and internationally, focused on implementing a new scientific plan for ESA. This will require some complex management for the European exploration program, especially in the context of increasing levels of transatlantic collaboration.

In Spain, we've taken on a central role in relation to funding for space research. This year our agency will be issuing a call for proposals for the country's National Plan, which has the aim of unifying management of all scientific activities related to space.

ESA is still the most natural context for collaborating with other agencies, and for the last 50 years Spain has been participating in major projects in that way. In terms of bilateral agreements, the Spanish Space Agency is now establishing the legal framework for collaborations with other space agencies by signing memorandums of understanding (MOUs), and the next step will be solidifying bilateral collaborations and starting up cooperative projects, especially with the African Space Agency and space agencies from Latin America and the Caribbean.

How would you describe the role that Spain is now playing in the European and global space ecosystems? What mechanisms does the AEE have available for collaborating with other space agencies and promoting innovation?

The Spanish Space Agency has a firm commitment to keeping Spain in its current strategic position, in terms of developing and operating Europe's space systems. We're promoting dual use activities in space, meaning civilian and military, in accordance with the European guidelines. We're also structuring our collaborations by supporting participation by the Spanish space industry in funding instruments such as Horizon Europe, the European Defence Fund, and the EU Space Programme.

We're focusing our efforts in many directions, including the need to ensure that the EU's new space program will be strengthening the innovation ecosystem and enhancing the competitiveness of Europe's space industry, while also facilitating autonomous access to space and developing strategic capabilities in areas such as launchers, Earth observation, satellite navigation, and secure telecommunications.

Fortunately, we have a wide range of mechanisms available to exercise our influence and collaborate with other agencies. Our most logical channel for collaboration is through the European Space Agency (ESA), where we have been carrying out major projects for 50 years, and also through the EU Agency for the Space Programme (EUSPA).

The AEE is now representing Spain on top-level committees at both of those agencies, and we're participating in their expert working groups. In addition, we're overseeing the development and operation of key European space projects such as Galileo, EGNOS, Copernicus, EU SST, GOVSATCOM, and IRIS2. We also have negotiations in progress to align Spain's objectives with development of the EU's next funding instrument for space programs, which will cover the period from 2028 to 2034.

We also think that promoting the success of startups and SMEs is essential, by developing incubators and other tools that can support their technologies and industrial capabilities. In relation to this, three new ESA Business Incubation Centers (BICs) will be launched in Spain in 2025, to produce a total of eight.

We're also taking part in the discussions around creation of Europe's first legislation to regulate space activities. Meanwhile, in Spain, we're signing memorandums of understanding to establish the legal framework needed for bilateral collaborations with other space agencies, and we already have some collaborative projects in progress.

Sustainability and security have now become major challenges for the space industry. How does your agency plan to address these challenges? What kind of strategies do you think are needed to improve the resilience of Europe's space infrastructure?

Sustainability and security are undoubtedly two essential elements for the future of space, especially in view of the current geopolitical situation.

In terms of sustainability, our priority is to minimize space debris and ensure the long-term viability of space operations. This involves aspects like supporting debris removal technologies and encouraging sustainable satellite design. We're also promoting international regulations that will lead to a more responsible use of space.

In relation to security, we all have a growing dependence upon space infrastructure, so protecting it has become more important than ever. This is why we're promoting the development of detection and tracking systems for objects in orbit. We're also putting a focus on space cybersecurity to protect our systems, as well as on resilient communications and navigation, and redundancy for critical services.

I think that several key strategies are needed in order to improve Europe's resilience: infrastructure diversification and decentralization, which is essential to prevent single points of failure; system redundancy and reserve capacity; stronger international cooperation, to help ensure timely, coordinated responses; and finally, investment in protection and mitigation technologies for our space assets, which includes developing components that are more resistant to extreme conditions and attacks.

What are your views regarding the future of space exploration, and the role of Spain's space industry in this area?

I see space exploration as an important driver of innovation and an inexhaustible source of knowledge. The Spanish scientific community and space industry have gained a strong reputation for their participation in major space missions and the leadership role they have played. Our country actively contributes to ESA's exploration missions, especially by supplying critical technologies, advanced instrumentation, and space operations. We're also collaborating with NASA on missions to Mars. I'm very enthusiastic about the future, when I see the major efforts being dedicated to Moon and Mars missions, along with development of space resource extraction, and growing participation by the private sector, even in the area of space tourism. This future will be complex, but also filled with opportunities.

Spain's role in space exploration will surely continue to grow, given the country's solid technological and industrial base and its outstanding scientific community. In this scenario, the importance of the Spanish space industry is also increasing. We already have companies that are leading the way in terms of components, payloads, and development of subsystems and integration for complex, high technology missions. I'm sure that these companies will become active participants in Moon and Mars missions, by contributing their expertise in robotics, instrumentation, and telecommunications. They're also developing the ability to provide in orbit services, and taking on a leadership role in relation to very specific niche technologies. Not long ago, some of those technologies were considered disruptive, but now they've become part of our everyday lives, such as artificial intelligence applied to space. Our agency will continue to support these activities, by investing in R&D projects that will lead to new capabilities. We'll also be encouraging participation by these Spanish companies in international programs, so they will remain competitive and can address these challenges in the near future, all as a way of maintaining their global leadership in this context.

ESA's Ministerial Council meeting (CM25) is just six months away. What kind of a role do you think Spain will be playing at this event, and what priorities should the country be promoting to strengthen its position in Europe's space ecosystem?

We see this meeting as a very important strategic event for our agency, and we're preparing to play a leadership role when it takes place in November in Bremen, Germany. Our main focus will be on the presentation of programs that integrate sustainability solutions throughout the entire life cycle of the capabilities achieved. This will help us avoid dedicating our efforts to developments that will have to incur additional costs later, just to remain in compliance with the operational conditions.

In any event, this meeting will be a critical moment for the future of Europe's space programs, and Spain needs to be a proactive, ambitious partner. I think that our primary role should be focused on making a decisive contribution to a stronger and more autonomous European space strategy.

However, as far as strengthening our own position, we plan to advocate for several key priorities. Firstly, we want to expand our contributions to ESA, while ensuring that Spanish companies are receiving their fair share of the industrial and technological benefits. Secondly, we want to lead or co lead strategic programs in areas where Spain has already demonstrated its strength, such as PNT, Earth observation, secure communications, and safety and security for space activities. Thirdly, we'll be promoting Europe's strategic autonomy, such as by developing its launching capabilities and improving the resilience of its infrastructure. We'll also be acting as strong advocates for space sustainability and security, while also supporting the New Space economy and participation by startups. Finally, we want to ensure that Spain will be able to participate in the most ambitious exploration programs.

We'll be promoting the idea that ESA's programs should be more efficient and results-oriented, while also encouraging a balanced distribution of the benefits for industry. We'll be promoting dual use missions, sustainability, autonomous access to space, and technological innovation, with a special emphasis on initiatives that can further solidify our industry's competitiveness, while in turn strengthening its strategic technological and industrial foundations. And we'll be doing all of this while taking into account the views and recommendations of the Spanish government and all pertinent public-sector bodies.

The CM25 meeting should also be an opportunity to establish additional synergies between the space policies of ESA and the European Union, while strengthening our own position within that cooperative framework. In relation to this, I think that consistency and an emphasis on complementary interests are both fundamental, in view of the complex international scenario that we're now experiencing.

BRIMAR successfully completes operational training for Seeker UAS

Spain's Tercio de Armada Marine Corps Brigade (BRIMAR) has officially received the latest version of the Seeker UAS, a fixed-wing system produced in Spain, after successfully completing the intensive, specialized training process for its use. Specifically, the system has been received by operators belonging to the RECON unit. This marks the completion of a very important phase of the CIMSEE-22 project, led by the Spanish Sub-Directorate-General for Planning, Technology and Innovation (SDG PLATIN), which is part of the RAPAZ program, with the purpose of enhancing the ISR (Intelligence, Surveillance, and Reconnaissance) capabilities of military units under demanding operational circumstances.

The training combined theoretical and practical sessions, and it took place at the Tercio de Armada base in San Fernando in the province of Cádiz, and at the El Retín Military Training Area. The training carried out in the latter location gave the operators a chance to develop their capabilities under real operating conditions, and it included exercises such as nighttime and long-range operations, intelligence gathering for targets, maneuvers using special modalities, and launching operations under complex conditions, among others.

The Seeker UAS is an autonomous fixed-wing system with an endurance of 120 minutes. Its weight of 3.5 kilograms puts it at the light end of the Mini UAS category (between 2 and 15 kilograms MTOW). The characteristics of the Seeker UAS reflect the existing ISR needs in an essential drone segment. The Seeker UAS has been developed with the ability to operate in land and coastal scenarios under adverse weather conditions, including rain, and it has demonstrated exceptional reliability during previous evaluations carried out by BRIMAR itself.

The system was delivered on May 21st, following successful completion of the training, and it has been highly rated by the operators, who have emphasized its ease of use, wide range of applications, and technological robustness.

With this project, Aurea Avionics and GMV are strengthening their commitment to national sovereignty, through technological solutions designed and manufactured entirely in Spain, in collaboration with those operating on the ground.

GMV showcases its latest innovations in aeronautics, space, and defense at Paris Air Show

The company presented its advanced solutions in defense, navigation and simulation, and strengthened its commitment to space sustainability and quantum innovation at the world's largest aerospace exhibition

GMV has participated in the latest edition of the Paris Air Show, which was held from June 16th to 22nd at the Paris-Le Bourget Airport. The company attended as part of the Spanish pavilion organized by the association TEDAE, with support from the Spanish Institute for Foreign Trade (ICEX) and the Spanish Ministry of Defense; Ministry of the Economy, Trade, and Business; Ministry of Industry and Tourism; and Ministry of Science, Innovation, and Universities.

Some of the solutions that GMV demonstrated at its stand included ***ISNAV Micro***, which is an advanced navigation and synchronization system for military vehicles that provides precise positioning, speed, and time data, and ***NERVA***, a solution designed to operate with unmanned aerial platforms in GNSS denied environments, intended for integration into the SIRTAP system. GMV also gave the show's attendees a look at ***CRANE***, which is the crane control unit for the A400M aircraft's loading system, along with the company's high-precision simulator for the L3Harris ***WESCAM MX™*** cameras, as a key training tool for tactical observation capabilities.

Also, on Wednesday, June 18th, the company attended the official signing act for development of the initial phase of Q Design. This is a European Space Agency (ESA) project led by Hispasat, with participation by GMV. It is the world's first project designed to integrate quantum key distribution (QKD) via satellites in geostationary and low Earth orbits, supported by the corresponding ground infrastructure. GMV also ratified the Statement for a Responsible Space Sector during the event. This is an ESA initiative launched in 2022, with the aim of providing a foundation for sustainable development of the space industry.

On Thursday, June 19th, at 11:30 AM, GMV's Deputy General Manager for Space Systems, Miguel Ángel Molina, participated in a panel discussion at the Paris Space Hub, which was the site of an entire program of discussions during the five-day event. His session was focused on science and the role played by European industry in space exploration missions.

SPACE

Hi-Target and GMV Sign Strategic Alliance to Implement High-Precision Positioning Solutions

The collaboration between these two companies is focused on designing unique integrated services dedicated to automated applications, in industries such as automotive, robotics, UAVs, and precision agriculture

Hi-Target, a renowned Chinese leading high-precision positioning enterprise and manufacturer of high-end GNSS equipment, and GMV have established a strategic alliance to jointly develop integrated differential positioning service solutions. Through this partnership, Hi-Target and GMV support a wide range of automation-driven positioning applications—including ADAS, robotics, UAVs, precision agriculture, smart infrastructure, and intelligent mobility systems.

As industries progressively adopt automated technologies, precise and reliable positioning has become a foundational requirement across application domains. From today's L2 and L2+ driver assistance systems (ADAS) in vehicles to autonomous UAV operations, robotic platforms, and the emerging needs of Level 3+ mobility solutions, the demand for scalable and high-accuracy positioning continues to grow. The strategic alliance between the two companies leverages HiTarget's strengths in high-precision satellite navigation and user-grade GNSS systems, along with GMV's extensive global expertise in precise navigation algorithms and satellite-based augmentation services. The result will be a high-availability, low-latency positioning service with global reach.

By combining their complementary technologies, including user-grade GNSS hardware, correction services, and augmentation infrastructure, Hi-Target and GMV will facilitate the adoption of high-precision positioning across various industries and geographic regions. Their collaboration will support system integrators, OEMs, and solution providers in accelerating the development and deployment of automation in sectors with increasing levels of autonomy.

GMV completes first Galileo G2 testing campaign for system compatibility with Airbus satellites

In February, GMV achieved a new milestone in the Galileo G2 program, by completing the first System Compatibility Test Campaign (SCTC) with the satellite family developed by Airbus Defence & Space. These were the first tests performed on those Galileo second generation satellites, and their successful completion will now allow GMV to make further progress in developing the new generation of the ground control segment (GCS) for that European navigation system.

The SCTC campaign was carried out over the course of several days at the Airbus facilities in Friedrichshafen, Germany, where GMV's team deployed the portable version of the GCS G2IOV ground control segment. The tests included sending commands to the satellite, verifying proper interpretation and execution of those commands, and receiving and decoding telemetry data that reflect the operational status of the orbital platform. All tests performed were successfully passed, which confirmed full interface and protocol compatibility between the two infrastructures.

This milestone is equivalent to the one achieved in September 2024 with the satellite family produced by Thales Alenia Space, which further demonstrates the versatility and solidity of GMV's solution. From now on, the compatibility testing campaigns will be carried out simultaneously with both satellite families, with the ultimate objective of completing full qualification of the ground control segment for this first version of Galileo's second generation. This will ensure the availability and robustness needed in order to provide the most demanding positioning, navigation, and timing (PNT) services.

In 2023, the European Space Agency (ESA) awarded GMV the contract for developing the second generation of the ground control segment for the G2G in orbit validation (IOV) system, and achieving this new milestone further demonstrates the company's commitment to innovation, agility, and technical excellence. With entry of the second generation of Galileo into service , GMV is helping to ensure that over 4 billion users will be able to benefit from new advanced positioning services with a level of precision that can reach 20 centimeters.

Successful 5th edition of Space Law Congress held in Tres Cantos

On June 5 and 6, the 5th Space Law Congress was held at the Adolfo Suárez Cultural Center in the city of Tres Cantos near Madrid. This is a leading event organized by the Spanish Association of Aeronautical and Space Law (AEDAE), in collaboration with the Tres Cantos municipal government.

The year's gathering brought together legal, governmental, and industry experts to discuss the main legal challenges facing the space industry. Some highlights of the topics discussed included the need for specific national regulation, space sustainability, orbital debris management, and coordination between public-sector and private-sector organizations.

During the two-day event, panel discussions were held on specific subjects, with participation by representatives of the Spanish Space Agency (AEE), the Ministry of Science, the Science Committee of the Spanish Congress of Deputies, and several leading companies from the aerospace industry. Important issues were addressed, such as space regulation, public-private collaboration, and legal perspectives on the future of the space industry.

Discussion Panel 5, entitled "Satellite Integration, Certification, Manufacturing and Operation", featured participation by Mariella Graziano, Manager of Strategy and Business Development for GMV's Science, Exploration, Transportation and Space Systems EST sector, who shared some of the company's expertise in technological and regulatory developments related to complex space missions.

GMV completes installation of the Galileo program's tracking and control station in Italy

GMV has achieved a new milestone in the Galileo program, by finalizing deployment of the eighth tracking, telemetry, command, and control facility (TTCF) in Fucino, Italy. This has taken place as part of the GCS FOC2 contract for Galileo's first generation, which was awarded to GMV by the European Space Agency (ESA) and EU Agency for the Space Programme (EUSPA). Achieving this milestone now allows advancement into the integration and operational validation phase, which has the aim of confirming the new station's ability to meet the demanding performance and reliability requirements for this European satellite navigation system.

The new TTCF station is located in Telespazio's historic headquarters in Fucino, and it has been built by GMV to provide continuous, secure connectivity between Galileo satellites and the ground control segment. Once the mechanical and electronic structure had been assembled by the subcontractor CPI Vertex Antennentechnik, the acceptance testing began for the mechanical and radio frequency (RF) parts of the antenna, with those tests being successfully completed in early June.

During that testing, the antenna correctly contacted the Galileo satellites and received telemetry data from them, and GMV's personnel were on hand to confirm that the antenna complied with the required performance figures.

The next tasks that GMV's engineers will perform include network system configuration testing, redundancy testing, validation of the antenna's monitoring and control system, and integration of the antenna with the rest of the ground control segment developed by GMV.

In addition, to ensure that the antenna will be able to go into operation this year, validation of the various subsystems and interfaces will then be performed with the control center in Oberpfaffenhofen, Germany, and also with the rest of the stations in the Galileo network, to confirm proper time synchronization and accurate transmission of critical data.

Completion of that phase will confirm that the eighth TTCF is ready to enter into service as a key node in the Galileo G1 infrastructure, increasing the system's robustness and expanding its coverage. Delivery of this station is further solidifying the commitment that ESA, EUSPA, and GMV have made to technical excellence and security, for one of the world's most advanced navigation programs.

GMV participates at ENC 2025

GMV recently attended the 2025 edition of the European Navigation Conference (ENC), which was held from May 21st to 23rd in the city of Wrocław, Poland. The event was organized by the Polish Navigation Forum (PNF) and European Group of Institutes of Navigation (EUGIN), and sponsored by the European Space Agency (ESA). The conference brought together researchers, experts, and professionals from around the world, to discuss the latest advances and trends in the field of navigation.

As a major player in the area of satellite navigation, GMV was an active participant, with several presentations contributed to various thematic sessions. Experts from GMV's companies in Spain, the UK, and Romania gave presentations in the sessions on "Automotive Applications and the Urban Environment", "GNSS Jamming and Spoofing Mitigation", "GNSS Jamming and Spoofing Detection", and "Receiver Autonomous Integrity Monitoring and GNSS Meta Signals". Irma Rodríguez, GMV's Manager of Navigation Products and Services (NPS), also joined the panel discussion entitled "Future Trends in Navigation", which addressed the future of navigation from technological, operational, and institutional perspectives.

GMV has been contributing to the development of satellite navigation for more than 40 years, which has made the company one of the main participants in implementing Europe's satellite navigation strategy. The experience that GMV and its professional teams have gained in this field have given the company a leading position in developing navigation systems and various global navigation satellite system (GNSS) applications, and it has also been a pioneer in the use of GPS, GLONASS, EGNOS and Galileo signals.

GMV completes design of the second generation of the Galileo GNSS Service Center

■ In March, GMV successfully completed its detailed design for the second generation of the Galileo GNSS Service Centre (GSC). This center is a key part of the infrastructure for the Galileo services, because in addition to acting as the main interface between the Galileo system and its users, it also houses or facilitates provision of various unique services offered by Galileo, such as the Open Service Navigation Message Authentication (OSNMA), Signal Authentication Service (SAS), and High-Accuracy Service (HAS).

Achieving this significant milestone confirms the proposed design for the center, including definition of the service interfaces, the final specifications for the various algorithms, and the final design of the architecture for this new generation of the center. This is a key step that lays the foundation for developing the system's various components, and for consolidation of the platform that will be used to deploy those elements.

Since the beginning of the project, GMV has followed an agile methodology based on the Scaled Agile Framework (SAFe), in line with the milestones established at the program level. This approach has allowed continuous, fluid collaboration between the various members of the consortium and the European Union Agency for the Space Program (EUSPA) as the client, and this has facilitated successful compliance with the objectives established for this design phase.

Now, using the consolidated design as a starting point, preparation is beginning for the hardware/software platform and agile development of the various software elements. These will be completed in an incremental manner, which will allow progressive integration and validation of functionalities until the system has been completed, which has been planned for the fourth quarter of 2025.

Successful qualification of G2STB version 2

■ A consortium led by GMV, with participation by companies from across Europe, has successfully completed qualification of version 2 of the Galileo Second Generation System Test Bed (G2STB).

This is an essential tool for the European Space Agency (ESA), for design and monitoring of the Galileo system. Currently, the G2STB is able to perform real-time monitoring of satellites from the first generation of the Galileo system (G1) and the services they provide. It also allows prototyping of new concepts, and performance of multiple experimental activities in the context of preparing the system's second generation (G2).

Version 2 gives the G2STB new monitoring and service-generation capabilities, including full integration of G1 capabilities inherited from TGVF X and GALSEE, and development of evolutions for all G2 prototypes. This version can also provide support for testing of the G2 satellites, which is planned for the upcoming months. These new capabilities are already available on the G2STB's operational platform deployed at the European Space Research and Technology Centre (ESTEC), operated by GMV's personnel.

This new qualification milestone is a fundamental step to allow formal acceptance of version 2, which is expected to occur in the third quarter of 2025. That acceptance will complete development of this version, and development of version 3 will then begin, to give the system additional new capabilities.

Spain's space industry lays out its technological roadmap

On May 30th, the Spanish Space Agency (AEE) and the Spanish Aerospace Technology Platform (PAE) held a workshop in Seville, focused on technological priorities for R&D and innovation in the space industry. This meeting brought together key representatives from industry, the research community, and public institutions, with the aim of defining a common strategy for strengthening Spain's technological autonomy.

The event was inaugurated by the director of the Spanish Space Agency, Juan Carlos Cortés, who stressed the need for strategic collaborations among public-sector institutions, industry, research centers, and universities, with his agency taking on a decisive leadership role.

The private-sector perspective on the industry's evolution and outlook was presented by Jorge Potti, Vice-President of Space at the association TEDAE and GMV's Manager of Corporate Strategy. He emphasized the level of maturity and diversification that the Spanish space industry has achieved, along with the need to raise ambitions for scaling up in the global value chain.

The Strategic Technological Agenda for Space R&D and Innovation was presented by Almudena Sánchez, coordinator of the Space group for Spain's network of Entrepreneurship Support Points (PAE) and GMV's Head of R&D and Innovation, who praised the collective effort and consensus achieved by all of the participating entities.

The event was rounded out by Jaume Marcos, the National R&D and Innovation representative for Airbus Spain and President of the PAE, whose closing talk clearly demonstrated the industry's commitment to innovation, collaboration, and technological leadership, as essential elements for facing the challenges of the future.

GMV hosts ISAC plenary meeting

On June 5th, GMV's headquarters were the site of a plenary meeting of the EU Space Information Sharing and Analysis Centre (ISAC), which is a fundamental initiative for strengthening the resilience and security of Europe's space ecosystem. The event brought together more than 40 high level participants, including representatives from Spain's National Intelligence Center (CNI), the European Commission (EC), the EU Agency for the Space Programme (EUSPA), and various industry leaders.

Held within the context of the European Union's Space Strategy for Security and Defence, the meeting featured discussions on the current cybersecurity threat landscape, the need for sharing of insights on emerging risks, and advancements made with information sharing platforms.

The event was kicked off by Javier Candau, Deputy Director-General of Spain's National Cryptologic Centre (CCN), who summarized the current geopolitical situation and the objectives of Europe's defense and security strategy. Presentations were also made by Miguel Álvarez Martínez, Director-General of Mobility at Spain's Ministry of Transportation, and by Jorge Blanco, Google's CISO for Spain, Portugal, and Latin America, who discussed emerging threats in space. One of the event's most significant moments came with presentation of the EU Space ISAC Madrid Declaration. This is a statement of intent that emphasizes the urgency of encouraging cooperation between industry and European institutions, to ensure resilience in the space industry. The Declaration also confirms the role of the ISAC as a central hub for information sharing and advising on incident response, while also fostering a culture of collaboration and mutual trust.

The meeting concluded with closing remarks by representatives from the European Commission and EUSPA, who praised the event's success and stressed the importance of ongoing events of this nature, as a catalyst for dialogue and cooperation.

By hosting this plenary meeting, GMV has further solidified its position as a key player in the field of space cybersecurity, while also strengthening its commitment to strategic collaboration in Europe. The aim is to ensure protection and continuity for space infrastructure and services, in response to the existing challenges and those of the future.

GMV participates in publication of EU Space ISAC Threat Report

GMV is one of the founding members for industry in the EU Space Information Sharing and Analysis Centre (ISAC), which was created by the European Commission in 2024 as a platform for information sharing and collaboration among private-sector entities, and for increasing awareness and visibility for best practices. The aim is to ensure the security of space systems and the networks they depend upon, while also standardizing production processes in the European space industry.

At this point, the EU Space ISAC's Board has been structured and its membership defined, and the organization now has about 40 members from Europe's space industry. The EU Space ISAC consists of three working groups: one focused on security threats and cybersecurity, one on space operations management, and one on regulations, standardization, and best practices for space security. These groups are developing pilot projects, conducting surveys to evaluate needs, publishing newsletters, and compiling relevant standards and guidelines.

With support from GMV, the EU Space ISAC has recently published several EU Space ISAC Threat Reports. These reports provide a general overview of the threat landscape for the space industry, by identifying and assessing the current and emerging threats and vulnerabilities that could affect the European Union's space assets. They also offer recommendations on strategies to follow for reliable and continual deployment of systems related to satellite navigation.

ESA's LEO-PNT demonstrator nears launch with GMV leading one of two industrial consortia

The European Space Agency (ESA) has confirmed the launch of the first two LEO-PNT satellites for the second half of December 2025. This marks a key milestone in the development of Europe's future multi-layer satellite navigation infrastructure, and a major step forward for GMV, which has led one of the two industrial consortia since the program's inception.

Approved at ESA's Council at Ministerial Level in 2022, the pioneering LEO-PNT mission aims to demonstrate how satellites in low Earth orbit can complement existing medium Earth orbit (MEO) constellations such as Galileo, improving accuracy, signal resilience, and availability in challenging environments like dense urban areas, polar regions or even indoors.

As part of the 10-satellite LEO-PNT constellation, ESA awarded GMV in March 2024 a €78.4 million contract to develop a fleet of six satellites—five operational and one spare—along with a complete end-to-end mission infrastructure. GMV is responsible for system design, satellite development, ground segment provision, launch coordination, and in-orbit operations and validation. The company also leads a powerful European consortium including OHB System AG, Alén Space, Beyond Gravity, and Indra.

ESA's announcement now confirms that the first satellite developed under GMV's leadership—a Pathfinder A-class CubeSat— is set to launch by the end of the year, alongside the satellite of the consortia partner. This suitcase-sized satellite will test early signal broadcast capabilities in L- and S-bands and validate critical system design and technologies. It is expected to operate for at least six months following in-orbit commissioning.

The development and integration of hardware and software for the Pathfinder satellite is well underway, with final testing and qualification scheduled for summer and autumn. The dedicated launch will be conducted by Rocket Lab from New Zealand, using its Electron vehicle.

The full demonstrator constellation is scheduled to be in orbit by 2027. The mission will also explore interoperability with terrestrial communication networks such as 5G and 6G, paving the way for new applications in autonomous mobility, critical infrastructure, and secure connectivity.

GMV welcomes ESA delegation to review progress on Galileo Second Generation (G2G)

On May 19th, GMV had the pleasure of welcoming a delegation from the European Space Agency (ESA) to its headquarters. During the visit, the delegation received a presentation on GMV's satellite navigation capabilities and the company's ongoing work on the Galileo Second Generation (G2G) program, which forms part of the evolution of Europe's satellite navigation system.

During the visit, ESA was able to get a first-hand look at GMV's role in developing the Galileo control segment (GCS) and second-generation system test bed (G2STB). Their agenda also included a tour of GMV's data processing center and various demonstrations of the company's global navigation satellite system (GNSS) receivers, along with the developments taking place for operation of the Galileo Public Regulated Service (PRS).

The delegation also had an opportunity to visit the control center for the low Earth orbit positioning, navigation, and timing (LEO PNT) in orbit demonstration mission that GMV is performing for ESA, and a chance to see some of the company's other innovative PNT solutions.

By hosting this visit, GMV has further solidified its role as a major participant in Europe's flagship navigation program, as an active contributor to the next generation of Galileo in close collaboration with ESA, with the aim of building a more robust, resilient, and secure GNSS infrastructure for Europe.

GMV strengthens its commitment to the European space ecosystem at the "EU Space Days 2025"

The city of Gdańsk, home to the Polish Space Agency (POLSA) and a new hub of the European space sector, hosted a new edition of the "EU Space Days" on May 27 and 28 — one of the European Union's most important events on space policy, innovation, and development. Organized by the European Commission under the auspices of the Polish presidency of the EU Council, the event brought together institutional representatives, industry players, and entrepreneurs to enhance the societal, governmental, and business impact of the EU Space Programme.

Over two intense days, high-level debates and meetings were held on the main components of the EU space programme — Galileo, EGNOS, and Copernicus — as well as its new strategic initiatives: GOVSATCOM and IRIS². Participants shared insights on how these programs are transforming citizens' lives and boosting innovation, security, and competitiveness across the continent.

GMV was actively involved in the event through Paweł Wojtkiewicz, Director of Space at GMV Poland and President of SPACE PL (The Polish Space Industry Association). His presence highlighted GMV's key role in European space industrial development and in promoting Poland's national space ecosystem.

GMV strengthens its relevance in the EGNOS program with the SDAF Project

The European Union Agency for the Space Programme (EUSPA) has awarded GMV one of the two contracts for Stage 1 of the Service Data Access Facility (SDAF) project.

The Service Data Access Facility will be a key component of the EGNOS (European Geostationary Navigation Overlay Service) infrastructure, having as a general objective to group in a secure and controlled manner the unique point of access to EGNOS data through the Internet.

EGNOS is a satellite-based augmentation system (SBAS) that enhances the accuracy, reliability, and integrity of GPS signals across Europe, primarily benefiting aviation, maritime, and land-based navigation.

The stage 1 of the contract awarded to GMV covers the initial design and prototyping phase of the SDAF infrastructure, laying the technical foundation for its future development and operational deployment. The next stage would encompass full system development, factory qualification, and on-site acceptance, and will be authorized for one of the two contractors upon a down-selection process.

This achievement reinforces GMV's strategic position within the EGNOS program and the global navigation sector. As the incumbent provider of the platform currently offering the EGNOS Data Access Service (EDAS), GMV will play a key role in the development of the SDAF, ensuring it meets the highest quality and security standards; a milestone that demonstrates GMV's commitment to innovation in satellite navigation and its leadership in cutting-edge European space projects.

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This project is funded by the European Union. Views and opinions expressed in this article are, however, those of the author(s) only and do not necessarily reflect those of the European Union, the European Commission or EUSPA. Neither the European Union, the European Commission, nor EUSPA can be held responsible for them

Advancing the space industry at the 2025 Technology Workshops

Generating knowledge about advanced materials, intelligent manufacturing, and space debris management has become an essential part of moving the space industry forward, and for responding to the challenges it now faces in relation to exploration, communications, and sustainability. In this context, on June 6th GMV hosted a workshop entitled "Accelerating Aerospace Innovation", which was organized by the Tekniker Research and Technology Center in the context of the 2025 Technological Workshops.

This initiative is part of the ECOAERO project, which is funded by Spain's Center for Technological Development and Innovation (CDTI) through the Cervera Networks of Excellence. It brought together professionals, companies, technology centers, and institutional representatives, with the aim of sharing advances, identifying current needs, and encouraging strategic alliances to strengthen the competitiveness of the aeronautics and space industry.

The program included presentations and roundtable discussions on important topics such as global competitiveness, sustainable digitalization, the zero debris initiative, use of innovative materials, and efficient design.

The workshop was kicked off by Pedro J. Schoch, GMV's Manager of Corporate Development, Marketing, and Communications; Luis Uriarte, CEO of Tekniker; and Cecilia Hernández, Director of Programs and Industry at the Spanish Space Agency (AEE).

SPACE

GMV promotes international discussion of the ground segment's future at GMV Users Conference (GUC'25)

Más de 70 representantes de agencias espaciales, operadores y fabricantes aeroespaciales de todo el mundo se reúnen en Segovia para debatir los retos y oportunidades del control de satélites

From June 25th to 27th, the GMV Users Conference (GUC'25) was held in the Spanish city of Segovia. This was the 8th edition of this gathering organized by GMV, a leading multinational technology firm for satellite control systems. More than 70 worldwide representatives from space agencies, satellite operators, and aerospace manufacturers gathered for three days, to get a first hand look at the latest innovations in ground segment solutions, and to discuss technological challenges in the industry.

This conference has now become a leading international technical and strategic event, which combines presentations, roundtable discussions, and product demos. Some of the key topics addressed at this year's edition were evolution of the ground segment as new players enter, integration of disruptive technologies like artificial intelligence, operational sustainability, and emerging challenges related to cybersecurity and critical infrastructure protection.

During the event, GMV also presented its latest technological solutions, including ***Hifly***®, a satellite monitoring and control tool; ***Flexplan***®, focused on advanced mission planning; ***CosmicGuard***, for the cyber protection of ground systems; ***Ecosstm***®, a system designed for space situational awareness and orbital traffic management; and ***PitIA***, an AI-based solution for early anomaly detection. All of these tools were demonstrated in practical sessions that gave attendees a chance to test their functionality in real operating environments.

In addition to its technological focus, GUC'25 offered a platform for sharing operational experiences and strengthening international cooperation among the various players in the space ecosystem. The participating entities included the Spanish Space Agency (AEE), Alén Space, Avanti, Bundeswehr, the European Space Agency (ESA), Eutelsat, Hellassat, Hisdesat, Hispasat, InmediaT, Infinite Orbits, Maxar, MEASAT, the Spanish Ministry of Defense, Mitsubishi Electric Corporation, Pasifik Satelit Nusantara, Redwire Space NV, ROSA, Sateliot, SES, SKY Perfect JSAT Corporation, Space42, Space Norway, Starone, Thales, Turksat, and Xoople.

At the end of the GMV Users Conference 2025, the participants gave the event a very positive appraisal, and they stressed the importance of gatherings of this type as catalysts for technological progress and international collaboration, in an increasingly complex, competitive, and strategic space environment.

GMV further solidifies its role in space exploration at Human and Robotic Exploration Industry Days 2025

GMV recently attended the latest edition of Human and Robotic Exploration Industry Days, which was held in the Netherlands on April 28th and 29th, at the European Space Research and Technology Centre (ESTEC) of the European Space Agency (ESA). Organized by ESA's Human and Robotic Exploration program, the event presented a platform for introducing participants in Europe's space industry to the proposed contents of the agency's exploration agenda, in view of the upcoming Ministerial Council for 2025 (CM25).

During the two days of this event, ESA explained the future opportunities for industry participation in human and robotic exploration missions, including key areas such as life support systems, Moon infrastructure, missions to Mars, and Mars sample return, in the context of its Terrae Novae program.

The gathering brought together a wide range of representatives from Europe's space ecosystem, to encourage dialogue, collaboration, and new strategic alliances. As a leading company in the space industry, GMV took advantage of this event to further consolidate its position in the field of space exploration, while also contributing its expertise in navigation systems, robotics, and operations and technologies for Moon and Mars exploration.

Mariella Graziano represented GMV by participating in Round Table 2, which was focused on lunar exploration and international collaboration, and she shared GMV's insights on emerging challenges and opportunities in this strategic area.

GMV plays a key role in BIOMASS, a critical mission for enhancing climate predictions

■ The BIOMASS mission, the seventh Earth Explorer mission of the European Space Agency (ESA), is set to launch on April 29 from the European Spaceport in French Guiana. Its primary goal is to estimate the amount of carbon stored in forest ecosystems and monitor changes over time. This data will help reduce current uncertainties about terrestrial carbon flows and reserves.

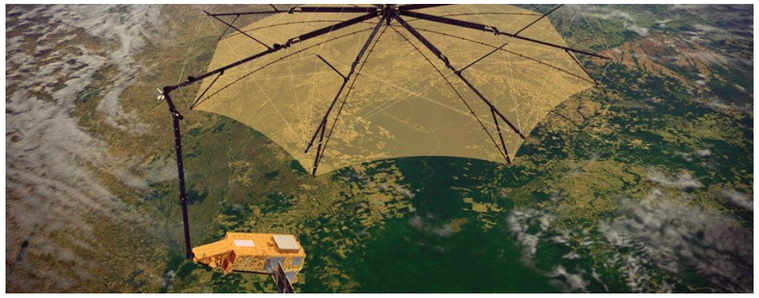
Forests are essential for maintaining the planet's climate balance, as they store vast amounts of carbon. However, processes like deforestation can reverse this role and worsen global warming. BIOMASS will enable more precise measurements of carbon stored in forests and how it fluctuates over time, improving climate models and supporting informed decisions on forest management and conservation.

This groundbreaking mission marks a milestone in Earth observation as the first to carry a Synthetic Aperture Radar (SAR) operating in the P-band, capable of penetrating forest canopies to measure biomass and tree height globally with high precision.

GMV has been a key player in this cutting-edge mission since its inception. The company contributed to mission analysis during the definition of requirements and feasibility, and designed and developed the control system—a key component of the ground segment that enables continuous monitoring of the satellite's status while ensuring control over both the platform and onboard payload.

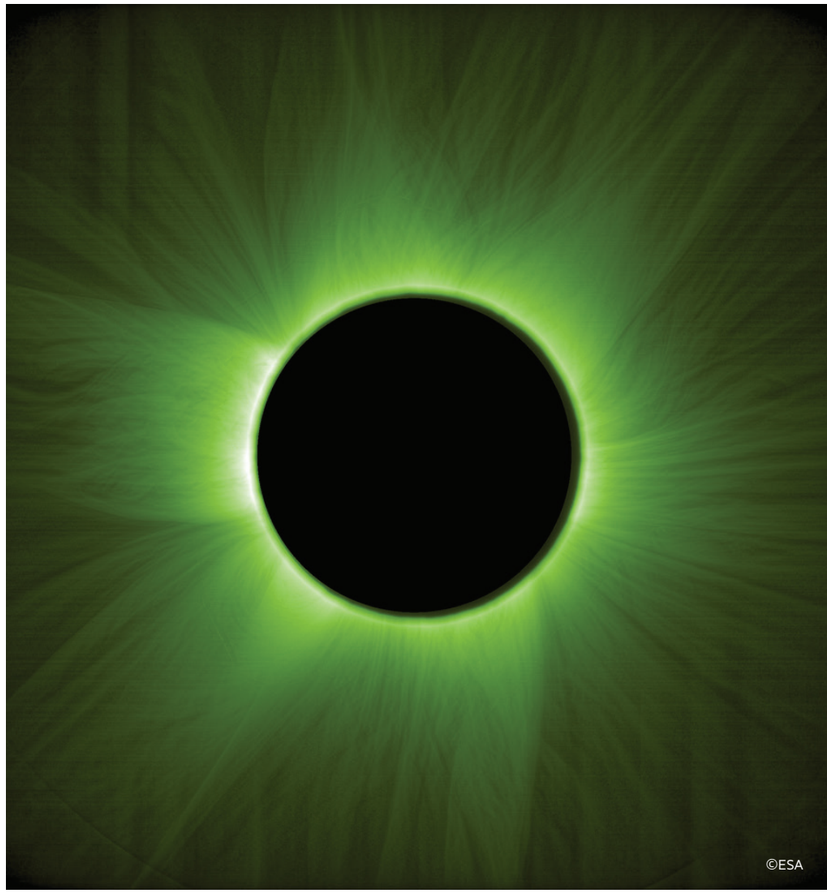
GMV also developed and maintains the operational simulator, a vital tool for preparing operations during the launch and early orbit phase (LEOP) and throughout routine operations. This simulator helps train the operational team and reliably validate the mission control system. The company also plays a major role in the data processing chain of the onboard SAR instrument. This task is critical for estimating forest biomass and the carbon stored in forests, which directly contributes to improving climate predictions and making decisions for their protection.

Beyond forest analysis, BIOMASS opens up new scientific possibilities in fields such as digital terrain modeling, ice sheet studies, and even underground observations in arid regions.



Proba-3 shows first images of solar corona thanks to autonomous formation flying

■ The Proba-3 space mission shows the first images of the solar corona as a result of the high-precision formation flying and is making progress in achieving its scientific and technological objectives.



In recent weeks, GMV personnel have been on hand at ESEC, the mission's operations center, providing on-site support to the teams at the European Space Agency (ESA) and Sener as part of the component commissioning activities that have enabled the autonomous formation flight of the two spacecraft making up the mission and the acquisition of the first images of the solar corona presented recently.

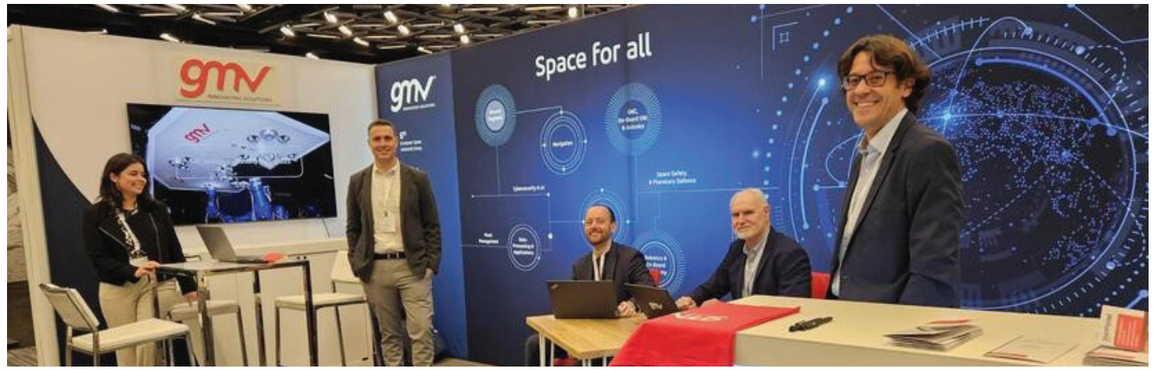
Proba-3 is a mission being led by Spain, with Sener coordinating a consortium of 40 companies from 16 countries. It is based on two satellites: the Coronagraph Spacecraft (CSC) and the Occulter Spacecraft (OSC), which will be flying at a distance of 150 meters apart. The mission's main objective is to demonstrate the feasibility of advanced formation flight technologies. This enables the creation of a virtual solid structure in space, functioning as a single instrument designed to make detailed observations of the solar corona. The OSC blocks the Sun's light by generating an artificial eclipse, which will make it possible for the CSC to observe the solar corona without interference.

In the context of this innovative mission, GMV is responsible for the formation flying subsystem (FFS), which is considered to be the Proba 3 project's most advanced, complex, and critical component. The purpose of this FFS is to allow the two satellites to maintain the precision and stability necessary to operate as a single virtual rigid structure, which will require millimeter precision in positioning and arcsecond precision in orientation. Through its subsidiary in Poland, GMV is also playing a key role in designing and validating the onboard function for calculating relative positioning based on GPS measurements integrated into the FFS. GMV has also developed the ground system responsible for flight dynamics verification (Flight Dynamics System, or FDS). This system is responsible for orbit determination, event prediction and maneuver calculation, making sure that the satellites maintain formation throughout the mission, and it will provide support to operations during the initial, most critical phases.

As a result of the activities carried out over the last few weeks, the two vehicles have achieved formation flight with millimeter precision, enabling images of the solar corona to be obtained by generating an artificial eclipse of the OSC over the CSC instrument responsible for obtaining the images of the solar corona.

The images presented validate the high-precision formation flight and its application for the study of the solar corona through the creation of an artificial eclipse controlled with unprecedented precision.

GMV displays its technological leadership in space operations at SpaceOps event



GMV was an active participant at the SpaceOps 2025 international conference, which was held in Montreal, Canada from May 26th to 30th, under the theme “Toward Space Sustainability”. Organized by the Canadian Space Agency (CSA) and the Canadian Aeronautics and Space Institute (CASI), this event brought together members of the space operations community from around the world, including representatives of space agencies, universities, and companies.

For five days, SpaceOps 2025 became a major platform for sharing best practices, advanced technologies, and innovative solutions designed to improve the efficiency and sustainability of space systems. This edition’s program also addressed critical issues such as space debris mitigation, the design of longer space missions, and automation of in orbit operations.

GMV had its own stand at the event, where it showcased its most advanced solutions for the ground segment and space operations. The company also made a significant contribution to the conference’s technical program, with presentations on eight scientific articles and three posters. These pertained to key topics including flight dynamics, mission planning, UX/UI design applied to ground system products, prediction of maneuvers for geosynchronous (GEO) satellites using artificial intelligence algorithms, cybersecurity, new architectures for satellite constellations, and tools for Ground Station as a Service (GSaaS) models.

SESP 2025 Showcases the Latest Advances in Simulation and Verification of Space Systems

GMV participated in the 2025 edition of the Workshop on Simulation and EGSE for Space Programmes (SESP), an event organized by the European Space Agency (ESA) that has been held every two years since 1990. Established as a key forum for the design and verification of space systems, SESP brought together space agencies and industry experts to share experiences and analyze trends in simulation, functional verification, test benches, and EGSE environments.

Since 2010, the workshop has also covered topics related to Electrical Ground Support Equipment (EGSE), which has enabled synergies between disciplines that share common methodologies, standards, and tools.

GMV played an active role in this latest edition with technical contributions from Alejandro Antúnez, Technical Leader of the Operational Simulators and Space Modeling division, who presented the poster "***SIMCRAFT***©: A user-friendly, scriptable, and highly configurable generic satellite simulator based on SIMULUS," showcasing the features of the newly launched validation product for ground systems and control centers developed by GMV.

Leandro García, a project engineer in the same division, also participated by presenting the paper "Extending SIMULUS-based simulators with Digital Twin capabilities," which addressed recent advancements in the field of Digital Twins from the perspective of SIMULUS-based simulators.

Additionally, the event featured a live demonstration of HERASIM, the operational simulator of the HERA mission, which aims to analyze the first asteroid deflection experiment and conduct the first detailed study of a binary system. This demo was coordinated by ESOC’s Sim Officer, with technical support from GMV, which has developed the simulator.

With LUPIN, GMV marks a new era in automated lunar exploration

LUPIN is a navigation system comparable to GPS, which will provide a navigation tool similar to Google Maps for users such as rovers and astronauts

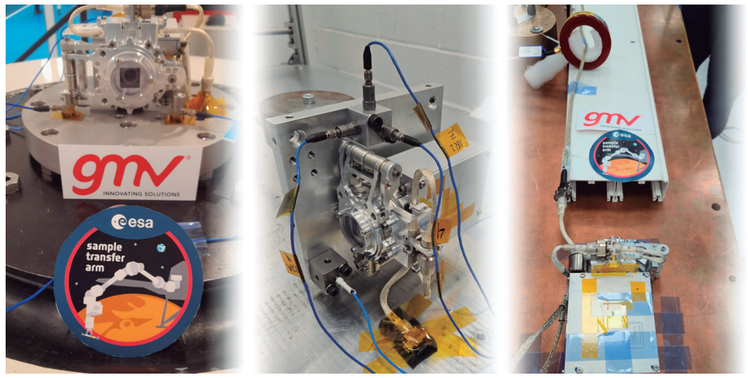
From April 27th to May 8th, a testing campaign was carried out on the Spanish island of Fuerteventura for the project known as Enabling High-Performance PNT in the Lunar Environment (LUPIN). This project is an innovative initiative of the European Space Agency (ESA), as part of its Navigation Innovation and Support Program (NAVISP). Its aim is to develop a prototype navigation system to simulate the signals that rovers are expected to receive in the future on the surface of the Moon. The result will be a navigation system comparable to the Global Positioning System (GPS), but for use on the lunar surface. This will provide a navigation tool similar to Google Maps for users such as rovers and astronauts.

The LUPIN project will be testing new positioning, navigation, and timing (PNT) techniques for lunar surface exploration and other applications, which it will do by combining current planetary PNT methods with future Lunar Communication Navigation System (LCNS) distance measurement signals. This satellite signals will be used in the same way that GPS signals are used on Earth, but with the satellites in orbit around the Moon, and they will be adapted to different areas of interest (for example, the lunar south pole, the far side of the Moon, and permanently shadowed regions).

Unlike the Earth, the Moon does not have any satellite positioning infrastructure like GPS. This means that spacecraft and rovers are unable to determine their precise location in real time. Instead, they have to rely upon internal calculations and data sent from Earth. LUPIN will reduce the current dependency on onboard systems that use complex algorithms to determine relative locations, and this will optimize the performance and efficiency of lunar surface exploration vehicles. This advancement will not only improve precision, it will also allow determination of faster and more efficient routes, while reducing the computational load that must now be dedicated to navigation.

During the testing campaign carried out on Fuerteventura, the real-time navigation system was successfully verified and validated. This was done via a series of tests that simulated the conditions of the LCNS positioning and precise location signals that will be received in the future by lunar surface rovers. The testing was able to successfully compile data over the course of 7 kilometers of travel, and at various speeds, from the conventional 0.2 meters per second up to much faster future speeds of 1.0 meters per second. In addition, simulation was possible for a whole range of lunar conditions and types of environments. This included tests performed at night, using a combination of simulated sunlight to emulate the illumination conditions found on the Moon, as well as tests performed in total darkness, using only the rover’s onboard lighting system to navigate.

GMV successfully completes testing of robotic arm's camera for Mars Sample Return mission



■ Recently, the engineering model (EM) testing campaign for the Perception Unit (PU) has been successfully completed, including various qualification tests. The campaign proved that this camera will enable the robotic Sample Transfer Arm (STA) to identify and collect geological samples on Mars.

This milestone represents a major step in development of the STA, which is one of the essential elements of the Mars Sample Return (MSR) mission. Led by NASA and the European Space Agency (ESA), this mission has the objective of bringing samples from Mars back to Earth before the end of 2031. The STA will be installed on board the Sample Return Lander (SRL), as the key part used to transfer the sample tubes collected by NASA's Perseverance rover to the Orbiting Sample (OS) payload. The OS will be launched into Martian orbit by the Mars Ascent Vehicle (MAV). After that, the Earth Return Orbiter (ERO) will capture the OS and bring it back to Earth.

The companies 3D Plus and AVS have also participated in developing the PU. In addition, part of this testing campaign was carried out at the certified facilities of ALTER Technology Tüv Nord.

This testing campaign also included functional tests, to demonstrate proper functioning of the camera, as well as potentially destructive tests that are valid for the qualification campaign, to ensure that the PU will be reliable under the extreme conditions found of the surface of Mars. Those tests included mechanical shock tests, electrostatic discharge (ESD) tests, and even dust resistance tests, which were performed using simulated Martian dust.

Completion of this campaign represents significant progress for development of the STA, and it further solidifies one of the critical elements of the MSR mission's architecture.

GMV helps advance planetary defense at the 9th IAA Planetary Defense Conference

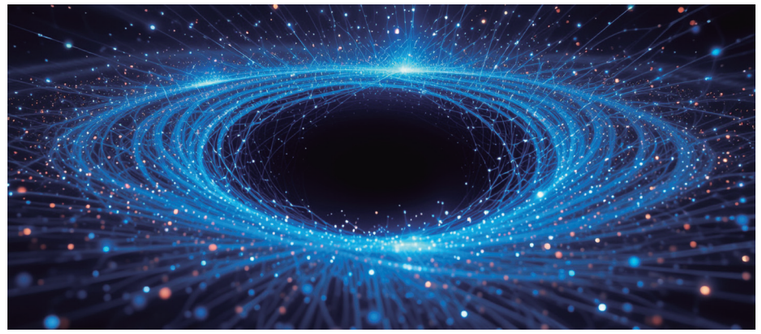
GMV had a strong presence at the 9th Planetary Defense Conference organized by the International Academy of Astronautics (IAA), which took place from April 15th to 19th in Cape Town, South Africa. This event has established its position as a key forum for the international community, dedicated to protecting our planet against the threats posed by asteroids and comets. This year's edition brought together experts from all over the world, to discuss the latest advances in the field of planetary defense.

Some of the important issues addressed during the conference included recent space missions, exercises using hypothetical impact scenarios, and the progress being made on international mitigation policies. The program also included participation by universities, including student presentations focused on detecting and characterizing near-Earth objects and techniques for asteroid deflection and disruption.

As a sponsor of this year's event, GMV once again demonstrated its commitment to encouraging young talent, by awarding prizes to the three best works submitted by students. This award initiative underscores the company's role in training new generations of experts in planetary defense.

Another highlight of GMV's participation was the presentation made by Andrea Pellacani, Technical Manager of GMV's Hera and RAMSES missions, which was entitled "Hera GNC flying towards Didymos and its adaptation to RAMSES". He explained some key aspects of the guidance, navigation, and control (GNC) system being used for both of those missions, and he stressed GMV's strategic role in developing state-of-the-art technological solutions for planetary defense.

Phase A of the CARIOQA project successfully completed, to bring quantum gravimetry into space



■ Phase A of the European project known as CARIOQA (Cold Atom Rubidium Interferometer in Orbit for Quantum Accelerometry) has been successfully completed, laying the groundwork for development of a pioneering mission that will perform gravimetry in space using quantum accelerometers. This initiative is funded by the Horizon Europe program, with the aim of demonstrating the technological feasibility of using these cutting-edge technologies in orbit by 2030.

The CARIOQA-PHA consortium was responsible for Phase A, and it includes six partners from four EU countries: the space agency CNES (France) and aerospace center DLR (Germany), industry participants ADS (Germany and France) and GMV (Spain), and the FORTH public research center (Greece). This work began on January 16, 2024, and it has been focused on defining the mission's objectives, technical specifications, and platform and orbit options.

Some of the most notable milestones achieved by the project so far include the workshop held in March 2024 at the CNES facilities in Toulouse, France, where key mission concepts were discussed and collaboration among the partners was solidified. Then, on November 19 and 20, 2024, the Preliminary Requirement Review (PRR) was presented in that same location, validating the results from Phase A and representing a major turning point for the project.

GMV has played an essential role, as the partner responsible for mission analysis. The company's tasks have included definition of the instrument's operational orbit, as well as characterization of the mission's phases for critical aspects such as the propulsion requirements, radiation and illumination environments, and communications with ground stations. These contributions have been fundamental for facilitating the work of the other partners and ensuring coordinated advancement of the project.

Completion of this first phase now sets the stage for phase B, which is expected to continue the progress achieved so far. It will also solidify the path towards a demonstration mission in space, which will be a key aspect for the future of quantum gravimetry and its scientific and environmental applications.

GMV presents its planetary exploration advances at CPESS Congress

GMV recently attended the 8th edition of the Planetary Sciences and Solar System Exploration Congress (CPESS 8), which was held in Spain from May 26th to 30th, at the University of Málaga School of Engineering. The event was organized by the university's LaserLab and Space Robotics Lab teams, with support from the Spanish Community of Planetary Sciences and the Spain & Portugal Hub of the Europlanet Society, and it brought together researchers, engineers, scientific institutions, and companies from the space industry.

As a sponsor of the congress, GMV demonstrated its commitment to strengthening the scientific and space ecosystems in Spain, while promoting technological innovation in the field of planetary exploration. The company's representatives gave the students, scientists, and professionals in attendance a look at some of the most advanced space solutions developed by GMV.

Pepa Brazal, Head of the Data Processors Division at GMV, also participated in the roundtable discussion on private-sector technological development, where she gave a presentation on behalf of the company about projects such as LUPIN. This is a satellite navigation system for the Moon, based on technology similar to GPS. She also explained the Hera and RAMSES missions, where GMV is developing the guidance, navigation, and control (GNC) system for autonomous operation in proximity to two asteroids, along with a variety of other Spanish and European initiatives involving security, space surveillance, and planetary defense.

Building Launcher Autonomy and Safety through New Technologies Workshop

Pedro Lourenço, head of the Advanced Guidance and Control section, represented GMV at the ESA-organized BLAST (Building Launcher Autonomy and Safety through New Technologies) workshop, held on April 9, 2025. His presentation focused on GMV's recent and ongoing activities in the Verification and Validation (V&V) of Guidance, Navigation, and Control (GNC) systems for launch vehicles, including reusable platforms. Central to the talk was GMV's integrated DDVV workflow—from model-in-the-loop through autocoding to hardware-in-the-loop testing—supported by high-fidelity engineering simulators and missionization tools.

The presentation featured two flagship missions: PLD Space's Miura-1, a suborbital reusable launcher, and CNR's Aviolancio, an air-launched demonstrator, both of which exemplify GMV's system-level GNC design and validation approach. Pedro Lourenço also detailed the R&D and DDVV (Design, Development, Verification and validation) of specific subsystems and algorithms, such as the GNSS receiver ***Sextans GMV®***, the PANTHER precise altimetry and hybrid navigation system, and an Autonomous Flight Termination System. In Guidance and Control, GMV's work includes fault-tolerant online G&C for ascent and descent, and adaptive guidance tailored for ascent phases.

Advanced V&V techniques were also presented, including μ-analysis, worst-case and optimization-based simulation campaigns, and the application of formal methods—all contributing to enhancing launcher autonomy and safety through robust engineering practices.

Space as a Strategic Driver for Defense and Innovation

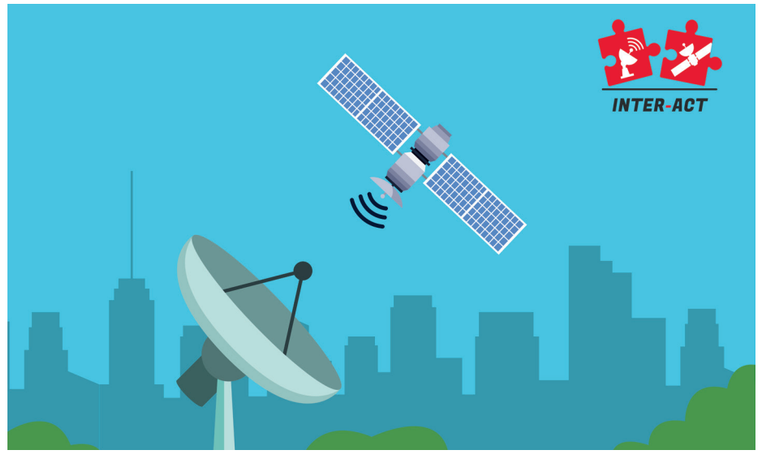
GMV took part in the 8th edition of New Space Atlantic Summit 2025, organized by the Portuguese Space Agency. Under the theme "The Future of Space in Portugal", this landmark event convened industry leaders, policymakers, researchers, and entrepreneurs to explore strategic opportunities and challenges in Portugal's rapidly evolving space ecosystem.

The convergence between space innovations and defense economics reveals new opportunities to modernize and strengthen national security, as well as position Portugal as a key player in the reinforcement of European security. The panel "Defence Economics and the New Space Paradigm", chaired by Teresa Ferreira—Director of GMV's Satellite Navigation Systems in Portugal—focused on leveraging space technologies to strengthen security and sovereignty, built upon existing national capacities.

Alberto de Pedro, General Manager of GMV in Portugal, focused his presentation on some representative dual-use space projects carried out by GMV in areas such as navigation, earth observation, communications, and in-orbit servicing, as well as the company's contributions to major European flagship initiatives.

Also present at the event was José Neves, Director of Defense and Security of GMV in Portugal, invited to chair the panel on "The Road to Industrialization in the Space Sector", and Joao Branco, Director of GMV's Space Systems in Portugal.

GMV concludes industrial standardization of Attitude and Orbit Control Interfaces



GMV has successfully completed the INTER-ACT project, a European Space Agency (ESA) initiative focused on standardizing Attitude and Orbit Control System (AOCS) interfaces. The Final Presentation was held in April 2025, concluding an effort aimed at enhancing interoperability between spacecraft and ground segments, while reducing recurring engineering and integration efforts across European missions.

Led by GMV with participation from teams in Portugal and Poland, INTER-ACT addressed the need for a harmonized framework to define how to exchange and manage AOCS-related data—such as guidance profiles, thruster modulation parameters, quaternion convention tables, and on-board control tables. These interfaces are critical for ensuring consistency and reusability in both spacecraft operations and ground segment systems.

The project delivered detailed interface specifications and associated documentation, validated through use-cases derived from ESA and industry mission heritage. Technical input was provided by Airbus Defence & Space, Thales Alenia Space, and OHB, who participated as consultants to align the interface logic with real operational needs.

One of the core outcomes was a modular approach to thruster actuation, which enables onboard computation and ground upload of control parameters. The interface also covers standardized formats for quaternion handling, time tagging, and table activation logic. These were designed to accommodate the variety of configurations observed across ESA missions such as HERA, BepiColombo, ExoMars-TGO, and Gaia.

The review concluded with positive assessment. INTER-ACT consolidates GMV's role in defining industrial standards for spacecraft operations, supporting the broader ESA initiative to streamline the AOCS interface landscape across future programs.

GMV strengthens its leadership in space technologies at ISAM

From June 4th to 6th, GMV attended the In Orbit Servicing, Assembly & Manufacturing (ISAM) Conference, which took place in Belfast in the United Kingdom. This is a leading international event focused on additive manufacturing (AM) and advanced engineering. Organized by the UK Space Agency in cooperation with the Satellite Applications Catapult, this event brought together experts from industry, universities, and technology centers, to discuss the latest advances and challenges in this emerging field.

Under the theme "Scaling Impact: Additive Manufacturing for a Sustainable Future", this year's edition emphasized the ways in which additive manufacturing is revolutionizing strategic industries such as aerospace, automotive, healthcare, energy, and construction, by its ability to offer more efficient, sustainable, and adaptable solutions.

GMV had its own stand at the event, while also giving various presentations and moderating a session dedicated to perspectives on ISAM in Europe. The company shared its expertise, along with its current technological solutions related to in orbit services and space assembly and manufacturing. The company also addressed some important issues in this field, related to technology, regulations, technical capabilities, and security, and it emphasized its commitment to developing a more robust and sustainable space ecosystem.

GMV's participation at the ISAM 2025 event has further strengthened its position as a major player in transformation of the space industry, as well as its dedication to innovation and international cooperation in the area of advanced space technologies.

GMV wins a contract with ESA to study the orbital neighbourhood of a space mission

Operational collision avoidance (CA) is traditionally performed for a time interval of up to two weeks into the future at maximum. As a result, significant changes in the number of close approaches outside of this time horizon can come as a surprise to operators triggering sudden increase in the workload needed for the preparation of collision mitigation strategies and/or the coordination with the other objects' operator, in case they are operational. Furthermore, the growth in traffic in LEO, fuelled by the emergence of large constellations and the launch of small satellites, together with the continuing occurrence of fragmentations (deliberate or not) requires operators to gain an increased and faster awareness of their orbital neighbourhood.

GMV, in cooperation with Politecnico di Milano, has won a contract with ESA to develop the mathematical models and an operational application needed to monitor and predict the frequency and sudden changes of collision risks for a spacecraft mission in a time horizon going from a couple of weeks to several months in the future, considering elements such as debris cloud evolution, active satellites pattern of life, space traffic predictions or inference metrics. The development phase of the project will last 16 months, followed by a 6-months warranty period. GMV will be responsible for the overall management of the activity and for the development of the operational tool, as well as for the collection of historical data to feed the models and for the validation of the tool. At the same time, the company will provide its expert support in operational CA activities. Politecnico di Milano will derive the mathematical models that will be implemented in the operational tool.

This is a big achievement for GMV since it represents the first contract awarded by ESA as prime contractor from France and it strengthens our position in the SST domain, while allowing GMV to continue developing technology to ensure the sustainability of space operations.

GMV renews its contract with the French Space Agency for the maintenance and evolution of BAS3E system

GMV has renewed its contract with the French Space Agency (CNES) for the maintenance and evolution of the BAS3E space surveillance simulation system, reinforcing over a decade of continuous collaboration in this key area for space security in Europe.

BAS3E is a critical tool used to assess the capabilities of a European network of sensors in tasks such as space object cataloging, collision risk monitoring, fragmentation detection, and atmospheric re-entry tracking. Thanks to BAS3E, it is also possible to evaluate the potential impacts resulting from the integration of new sensors to the network or the modification of specific characteristics for the already existing sensors, thus allowing the European Commission to assess the added-value of those integrations or the potential funding of the mentioned modifications under the EUSST (EU Space Surveillance and Tracking) program, currently involving 15 participating countries.

GMV plays a key role in the simulation activities performed by CNES in the frame of the program, not only developing and maintaining the system, but also operating it, analyzing its results, and providing any technical support needed in the preparation of reports submitted to the European Commission.

This contract, with an initial duration of one and a half years, supports CNES in maintaining its leadership position in this field at the European level, while reaffirming its trust both in GMV's technical expertise and leadership as a reference company in space surveillance system simulation.

Europe strengthens its space security with the EMISSARY project

In 2024, the European Commission awarded the EMISSARY project to a consortium of companies, including GMV. EMISSARY aims to develop a European military space awareness system within the framework of the European Defence Fund (EDF), which serves to support research and development in the European military industry. The project has a budget of over 157 million euros and is a continuation of the INTEGRAL and SAURON projects, which focused on developing prototypes for the control center and sensors of the space surveillance system.

The military space surveillance system developed under EMISSARY will be responsible for monitoring approaches of spy satellites, launches of objects or missiles, and overflights of observation or communication satellites to support ground operations. The system allows for full collaboration between the Member States through the Space Surveillance Network system. This collaboration enriches each national Recognized Space Picture with SSA data. Moreover, the project comprises cutting edge sensor technologies development to be integrated in the system.

The consortium carrying out the project is led by the Italian company Leonardo and comprises almost 50 companies, including the main European space industry. GMV's role is of utmost importance, being a leader in the development of the system prototype and technical leaders of the fundamental components. Additionally, GMV will provide capabilities for cataloging, monitoring approaches, monitoring launches, and characterizing space objects.

The project, which will kick-off in April 2025 and end in 2029, will represent a step forward in European military collaboration, as the surveillance system control center will consist of different nodes, one in each Member State, capable of collaborating with each other. Furthermore, it will provide top-level capabilities in Space Domain Awareness (SDA) and space surveillance sensors.

Co-funded by the European Union

This project has received funding from the European Defence Fund (EDF) under grant agreement EDF-2023-DA-SPACE-SSA No 101168237. Its content it reflects only the author's view and that the Commission is not responsible for any use that may be made of the information it contains.

GMV reinforces its commitment to space sustainability at the 9th European Conference on Space Debris

From April 1st to 4th, GMV attended the 9th European Conference on Space Debris, which was organized by the European Space Agency (ESA) and held in Bonn, Germany. This event is the leading international forum focused on management of orbital fragments, and it brought together experts from around the world to address current and future challenges in the space environment.

In recent years, GMV has solidified its position as a European leader in the development of surveillance systems, space command and control, and solutions for space debris mitigation, tracking, and active removal. GMV's participation in the event was particularly noteworthy, with a delegation consisting of 14 engineers from 6 of the group's subsidiaries. The company also led a total of 10 technical presentations and 3 posters, and it contributed to more than 10 additional works in collaboration with partners from throughout Europe. GMV's representatives also took part in two discussion panels, to contribute their strategic insights regarding the future of the industry.

Participation at this conference has further demonstrated GMV's commitment to a Zero Debris strategy, in line with the vision promoted by ESA in its recently published Zero Debris Charter. This aim of this approach is to reduce the levels of space debris, while also safeguarding the long-term sustainability of the space environment for future generations.

With its extensive track record and leadership position in creating technological solutions, GMV remains at the forefront of space traffic management and orbital sustainability, working in close collaboration with international agencies, institutions, and stakeholders to build a safer and more responsible space ecosystem.

GMV participates in the "ESA Security Conference" in Warsaw

The third edition of the "ESA Security Conference" was held on April 14 and 15 at the Royal Castle in Warsaw (Poland), bringing together prominent representatives from the European space and defense industries. The event, organized by the Polish Space Agency under the Polish presidency of the EU Council, promoted dialogue between the security and space communities with the aim of fostering new governance and funding frameworks to strengthen European resilience and sovereignty in a challenging geopolitical context.

GMV took part in the event with its own booth, where it showcased its latest innovations in space technology. Among them was ***Sextans GMV®***, a software-defined GNSS receiver that provides precise position, velocity, and time information — key data for multiple space applications.

In addition, the official signing of the contract for the national Polish Earth observation project CAMILA (Country Awareness Mission in Land Analysis) took place during the conference. This program, led by a consortium headed by Creotech Instruments and with GMV as a participant, involves the development and operation of a constellation of three satellites, as well as the ground segment for data control and processing.

GMV concludes the AI4S3 project, highlighting its global leadership in AI for space safety

GMV has completed its participation in the international AI4S3 (Artificial Intelligence for Space Operations, Safety, and Sustainability) project, a landmark initiative funded under Phase 2 of the UK Space Agency's International Bilateral Fund. This project brought together leading institutions and organizations from the UK, USA, Canada, and Australia in a joint effort to harness artificial intelligence (AI) for advancing space safety and sustainability.

GMV's UK subsidiary played a pivotal role in AI4S3 by developing simulated light-curve datasets and evaluating the applicability of AI models for operational Space Situational Awareness (SSA) and Space Traffic Management (STM) services. Leveraging its proprietary GRIAL simulator and extensive expertise in space surveillance technologies, GMV-UK provided critical inputs that enabled the training and validation of advanced machine learning models for object classification and behavioural analysis in orbit.

Among its key contributions, GMV contributed to the assessment of the performance of the Foundation Model for anomaly detection and the VerSSA privacy-preserving AI platform. This included analysing classification accuracy, computational efficiency, and applicability in operational environments, laying the groundwork for future integration of AI in space safety services.

The AI4S3 project marks a significant milestone in demonstrating the transformative potential of AI for Space Domain Awareness (SDA) and long-term orbital sustainability. The consortium, led by the University of Strathclyde, included top-tier partners such as the Alan Turing Institute, MIT, University of Arizona, University of Waterloo, Nominal Systems, Columbiad, and GMV's UK subsidiary. This global collaboration underscores the UK's commitment to innovation and leadership in AI-enabled space technologies.

GMV demonstrates its leadership in space security at the Military Space Situational Awareness 2025 event

From April 28th to 30th, GMV took part in the 20th edition of the Military Space Situational Awareness conference, held in London. This international event was organized by SAE Media Group, and it brought together more than 200 military, governmental, and industry representatives from over 20 countries.

This conference offered a unique forum for exploring critical issues related to space situational awareness (SSA), while also fostering dialogue and promoting innovation in the industry. The attendees were able to participate in sessions featuring top level speakers, while learning about the latest technologies and developments in the field of space surveillance.

GMV had its own stand at this year's edition, where it showcased its advanced space domain awareness (SDA) solutions, such as ***Ecosstm*** and the company's ***Focusear*** network of passive sensors, which have been designed to provide resilient, real-time situational awareness.

GMV was represented at the conference by Mark Dumville, General Manager in the UK; Alberto Águeda, Head of Space Surveillance and Traffic Management; and Nick Marshall, Head of UK Business Development. They attended the event to help address some of the emerging issues affecting space security, such as space surveillance and tracking, orbital defense technologies, and operational systems for space situational awareness.

GMV showcases its most advanced small-satellite solutions at SmallSat Europe event

On May 27 and 28th, GMV participated in the latest edition of SmallSat Europe, which was held in Amsterdam at the RAI Convention Centre. This is Europe's leading event dedicated to small satellites. This year's gathering brought together more than 1,250 industry experts, 200 international speakers, and more than 100 exhibitors, further solidifying its position as a key forum for sharing knowledge, encouraging innovation, and fostering cooperation in relation to SmallSats.

GMV had its own stand at the event, where it presented some of its most advanced solutions for satellite control and operation. In addition, Miguel Ángel Molina, GMV's Deputy General Manager for Space Systems EST, participated in one of the discussion panels focused on the European Union's role in space sustainability. He discussed the challenges arising from the proliferation of orbital debris, and the need for effective space traffic management. In this context, he also stressed the importance of the future European Space Act, which has the aim of establishing a set of common rules to mitigate these risks.

With its participation in this event, GMV has further confirmed its leadership position in Europe's space industry, and its commitment to creating a safer, more efficient, and more sustainable industry.

GMV brings the reality of the space industry to young engineers during the 3rd edition of Space Week

From May 12th to 27th, 2025, GMV participated in the 3rd edition of Space Week, organized by the GNSS Academy and held in digital format. The event brought together more than 3,000 young engineers, most between 20 and 30 years of age. The aim was to introduce various aspects of the space ecosystem to members of new generations who are interested in a career in this strategic industry.

During this two-week initiative, Space Week offered a series of live streaming interviews with industry experts, who explored areas such as in orbit operations, space exploration, Earth observation, and emerging technologies. The purpose of these sessions was to give the attendees a look at the day-to-day activities of those who work in the space industry, while raising awareness about the professional challenges and opportunities it can offer.

Some of the most noteworthy participants from GMV were Alberto Águeda, Manager of Space Surveillance and Traffic Management, and Miguel Romay, General Manager of Satellite Navigation. Mr. Águeda analyzed the role that space surveillance and monitoring plays in protecting space infrastructure, and how this field is evolving as the number of objects in orbit continues to grow, while Mr. Romay discussed the present and future of satellite navigation in Europe, its impact on our everyday lives, and the technological challenges associated with developing new services.

With its participation in this Space Week event, GMV has further demonstrated its commitment to sharing its knowledge of the space industry and encouraging young talent, who will play an important role in taking on the challenges of the future.

GMV invited to ESA's High-Level Industry Forum

GMV was once again an active participant at the annual High-Level Forum (HLF) organized by the European Space Agency (ESA). This year's event was held in the Netherlands on June 3rd, at the European Space Technology and Research Centre (ESTEC) in the town of Noordwijk.

This edition was particularly significant because it coincided with ESA's 50th anniversary, and it was also part of the preparations for the next ministerial meeting, scheduled for November. At that meeting, the agency's strategic lines of space investment and development will be defined for the next three years.

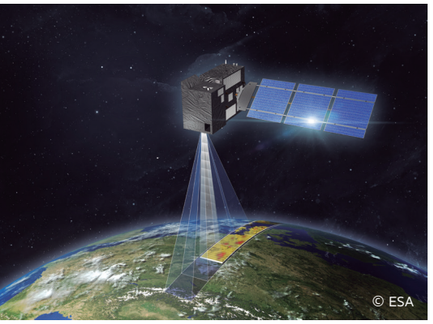
Every year, this exclusive forum brings together top leaders from the European space industry, with the goal of aligning perspectives and priorities at a key time for Europe and its positioning in the new global scenario. Notable topics addressed during this edition of the forum included the level of ambition for the next ministerial meeting, proposals for enhancing the industry's competitiveness, and institutional evolution of ESA, with a view towards strengthening Europe's resilience, autonomy, and security in the space environment.

GMV was represented by Enrique Fraga and Miguel Ángel Molina, General Manager and Deputy General Manager of the company's Space Systems sector, respectively. Mr. Molina also participated as a representative of European space industry midcaps (medium-sized companies).

During the forum, GMV's representatives stressed the importance of solidifying a more robust European industrial ecosystem, based on greater technological autonomy and a shared strategy that would help Europe compete with other space powers under equal conditions. Mr. Molina also emphasized the fundamental role of medium-sized companies as drivers of innovation, leadership, and competitiveness in the industry, while Mr. Fraga highlighted GMV's contribution to the development of Europe's space industry and the active role of the Spanish Space Agency (AEE) as a catalyst for strategic investments.

GMV's participation in this forum, which has become an important event for dialogue between industry and ESA, further demonstrates the company's commitment to technological leadership, and its active role in defining Europe's space policies. With over 3,500 employees and a strong international presence, GMV is continuing to solidify its position as a strategic player in relation to developing advanced, sustainable space capabilities.

GMV Expands Role in ESA's CO2M Mission to Monitor Global Emissions from Space



GMV is intensifying its contribution to the European Space Agency's (ESA) Copernicus Anthropogenic Carbon Dioxide Monitoring (CO2M) mission, a groundbreaking initiative aimed at tracking human-induced CO_2 emissions from orbit with unprecedented precision.

Scheduled for launch in 2026, CO2M will deploy a constellation of satellites equipped with advanced spectrometers to measure atmospheric concentrations of carbon dioxide (CO_2), methane (CH_4), and nitrogen dioxide (NO_2). These measurements will enable policymakers to assess the effectiveness of climate mitigation efforts and support the European Union's commitment to the Paris Agreement.

GMV in Portugal at the forefront of developing the mission's data processing systems, transforming raw satellite observations into actionable information. The company is responsible for creating processing chains that handle data from Level 0 (raw telemetry) to Level 2 (geophysical products), utilizing sophisticated algorithms implemented in programming languages such as Python and C++. These systems will generate high-resolution maps of greenhouse gas emissions, providing critical insights for scientists and decision-makers.

This expanded role builds upon GMV's extensive experience in Earth observation and environmental monitoring, areas in which GMV has previously contributed contributed to various ESA missions, including the development of precise orbit determination services and ground segment solutions. Their expertise ensures the reliability and accuracy of the data products essential for understanding and addressing climate change.

The CO2M mission represents a significant advancement in global efforts to monitor and reduce greenhouse gas emissions. By providing detailed, timely data on anthropogenic CO_2 sources, the mission will empower governments and organizations worldwide to implement more effective environmental policies.

Shaping the future of spatial tech at Geospatial World Forum 2025

GMV took part in this year's Geospatial World Forum (GWF)— a major event for the global geospatial community— held from April 22 to 25, 2025, at the Madrid Marriott Auditorium. The Forum brought together experts and leaders from across the public and private sectors to explore the fast-evolving landscape of spatial computing, digital twins, and real-time data solutions.

With the theme "Spatial Computing & Digital Twin Enterprise: Accelerating the Future Geospatial Ecosystem," GWF 2025 focused on how cutting-edge technologies like augmented reality, real-time sensor data, and AI are reshaping industries from urban planning and infrastructure to agriculture and environmental management.

GMV had a strong presence at the event, both on the exhibition floor and in the conference sessions. The company's booth showcased a wide range of geospatial innovations, highlighting how its technologies are helping to solve real-world challenges through advanced mapping, data integration, and simulation tools. Visitors got a close look at some of GMV's latest developments in areas like Earth observation and spatial analytics.

Juan Suárez, Project Manager for Remote Sensing and GIS, and Antonio Tabasco, Division Head of Remote Sensing and Geospatial Analytics at GMV, participated in key discussions at the Forum. Juan joined the roundtable "Collaborative Innovation: Bridging Policy, Technology, Agri Finance and Farming Communities", while Antonio took part in "Sensors to Services: Driving Productivity and Market Economy". Their contributions underscored GMV's expertise in remote sensing and its role in driving innovation across sectors like agriculture, sustainability, and security.

Satellite technology and machine learning for monitoring deforestation

Deforestation of the Peruvian Amazon generates 53% of the country's greenhouse gas emissions, which is making this phenomenon a priority in the fight against climate change. However, obtaining accurate data on forest evolution has been difficult because of the persistent cloud cover in the region, which significantly reduces the number of satellite images that can be used for monitoring.

To overcome these challenges, the World Bank and European Space Agency (ESA) have joined forces to create a solution that brings together satellite images from various types of sensors and machine learning algorithms. Thanks to these technologies, it is now possible to detect changes in land use with a spatial resolution of 30 meters and a subannual frequency (approximately every three months), which quadruples the level of detail available compared to traditional systems.

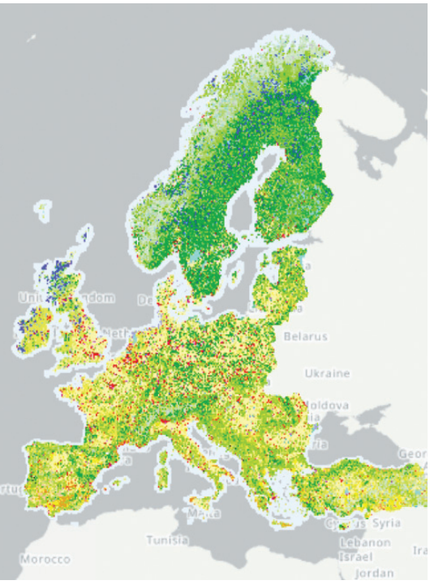
As part of ESA's Global Development Assistance (GDA) program, GMV has integrated synthetic aperture radar (SAR) sensors and optical sensors into the Continuous Change Detection and Classification (CCDC) algorithm. This allows active identification of deforested areas even under persistent cloud cover, which is a common occurrence in the Amazon basin.

With data that are more detailed and more frequently obtained, policymakers can act with greater agility, because they know where, when, and why trees are being cut down (e.g., for agriculture, ranching, or infrastructure), and they have performance indicators adapted to the local context.

For example, the issuers of Amazonia Bonds are using these indicators to validate zero deforestation commitments. Strengthening the systems used for monitoring, reporting, and verification (MRV) provides transparency and increases the effectiveness of their investments, so financial returns are aligned with measurable environmental results.

This advancement demonstrates that combining multi-source data (Landsat and Sentinel 1) with continual change detection can not only perfect monitoring of tropical rainforests, it can also to lead to new financial mechanisms that reward good forest conservation performance.

GMV secures service contract for the Copernicus Land Monitoring Services



■ GMV has been awarded a service contract by the European Environment Agency (EEA) to produce CORINE Land Cover (CLC) 2024 datasets covering 11 European countries. The contract forms part of the Copernicus Land Monitoring Service (CLMS), supporting the sixth CLC mapping cycle.

Under this contract, GMV will deliver three key datasets: Revised CLC2018, CLC-Change 2018–2024, and CLC2024. These outputs will contribute to the long-standing European land cover time series that began in 1990. The work is based on the interpretation of satellite imagery using the standard CLC nomenclature and methodology, with a minimum mapping unit of 25 hectares for status layers and 5 hectares for change layers.

The contract covers countries not included in national production agreements with the EEA: Ireland, Iceland, Switzerland, Liechtenstein, North Macedonia, Serbia, Montenegro, Albania, Bosnia and Herzegovina, Kosovo, and Türkiye.

GMV's responsibilities include photointerpretation of high-resolution satellite imagery, classification of land cover and land use changes, and quality assurance in compliance with EEA technical guidelines. The output will support pan-European environmental monitoring, policy development, land use planning, and climate reporting.

With over two decades of experience in remote sensing and land monitoring services, GMV has contributed to multiple European and national-scale projects in the field of land use and land cover mapping. This new contract further consolidates GMV's role in delivering reliable, harmonized geospatial data to institutional users.

Project activities are expected to continue through August 2026. Final products will be integrated into the CLMS database to ensure continuous, seamless coverage across Europe.

GMV promotes global sustainability with its Earth observation solutions at the Living Planet Symposium

GMV participated in the Living Planet Symposium 2025 (LPS25), which is a leading international event on Earth observation (EO), organized by the European Space Agency (ESA). It was held this year in Vienna, Austria from June 23rd to 27th, with approximately 7,000 attendees.

Under the theme "From observation to climate action and sustainability", this edition was focused on ways of transforming satellite data into concrete solutions for major environmental and social challenges. For five days, the event brought together Earth observation professionals from a worldwide range of companies and institutions, along with scientists and policymakers, to share the latest technological advances, innovative applications, and good practices for sustainable development.

GMV had its own stand in the exhibition area, where it held scheduled events each day and demonstrated some of its data processing products and services for Earth observation satellite missions, such as ***GMV Prodigi®***, along with its Precise Orbit Determination service. The company also welcomed some invited collaborators at its stand, such as representatives from OVH Cloud, who explained their cloud and artificial intelligence services for data processing and archiving. In addition, GMV announced that its ***GMV Prodigi®*** solution is now available at the Amazon Web Services (AWS) Marketplace.

GMV also participated in several sessions where was able to highlight its experience in advanced processing for satellite data, as well as its important role in providing mission planning, data processing, and precise orbit determination services for the Copernicus mission. It also explained how it is developing integrated solutions to support climate policy decision-making.

GMV concludes ESA-backed demonstration of satellite-based marine plastic monitoring

■ GMV has successfully concluded the Final Review of the PLESS-DEMO project, carried out under the European Space Agency's Business Applications program. The project demonstrated the viability of space-based services to detect, track, and monitor floating marine plastics.

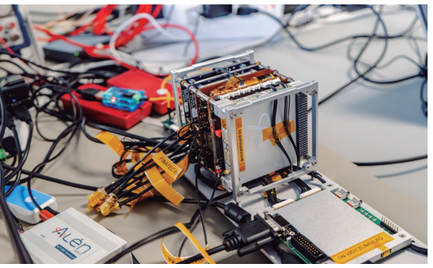
PLESS-DEMO builds on the results of the earlier PLESS feasibility study and integrates freely available Sentinel-2 Earth observation imagery, ocean circulation models, and ground-truth data. The system delivers three operational services: (1) detection of marine plastics using optical satellite data, (2) tracking of plastic debris via oceanographic drift modelling, and (3) hotspot analysis to identify likely accumulation zones. All services are accessible through a dedicated geobrowser platform designed for ease of use by non-expert stakeholders.

The project was led by GMV as the prime contractor, with MARETEC (*Instituto Superior Técnico,* Portugal) as a subcontractor. Service development and validation were carried out in cooperation with multiple pilot users, such as Cascais Ambiente (Portugal), the Port Authority of Vigo (Spain), Fundación Patagonia Natural (Argentina), and INIDEP – the National Institute for Fisheries Research and Development (Argentina). These stakeholders participated in designing and evaluating the services, with the Port Authority of Vigo testing the system during the final operational phase.

The project has demonstrated that satellite-based tools can provide cost-effective, scalable, and timely information to support marine litter monitoring and response efforts. Results show potential for broader application in coastal management, cleanup planning, and environmental policy support.

The Final Review was held in April 2025, marking the successful completion of the demonstration phase and confirming readiness for operational deployment.

The Perceive mission boosts environmental protection in Brazil with Alén Space technology



■ Alén Space is taking part in the development of the Perceive mission, which will have a direct impact on the environmental conservation of two of the planet's most important ecosystems: the Amazon rainforest and the Cerrado savanna in Brazil.

The project, led by the University of Brasilia (UnB) with the participation of Alén Space and the Aerospace Technology Research Group from the University of Vigo, is focused on developing a FlatSat-type satellite platform and an environmental monitoring IoT system. The development of the FlatSat, along with the concept of operations and technological demonstration of the Perceive mission, is funded by the Federal District Research Support Foundation (FAPDF).

Alén Space is contributing to this initiative with several of its technological solutions. As part of the FlatSat, which serves as a testing platform, the project integrates a TRISKEL subsystem, functioning as both an On-board Computer (OBC) and telemetry control system, and two TOTEM software-defined radios (SDRs), which form the basis of the payload used to collect environmental data.

The main goal of Perceive is to gather key data on temperature, humidity, weather, and biodiversity in the Amazon and the Brazilian Cerrado. This information aims to enable more efficient and autonomous management of these natural environments while reducing Brazil's technological dependence on third parties for access to critical data. The project is in the Preliminary Design Review phase, with the team currently focused on mission analysis, requirements definition, and the concept of operations.

Under the direction of professor and researcher Renato Borges from the University of Brasilia, the Perceive mission seeks to improve responsiveness to natural disasters and build a structured database for scientific research and public decision-making.

This new step in the collaboration between Alén Space and the University of Brasilia builds on a well-established relationship over time. In 2022, both institutions worked together on the Alfa Crux mission.

Alén Space presents the results of ESA-driven HALT project

■ In March 2025, Seville hosted the joint edition of ACCEDE and ESCCON, two major events dedicated to the use of EEE (electrical, electronic, and electromechanical) components in space applications. As part of this congress, Alén Space presented the results of the testing campaign supported by the European Space Agency (ESA) to verify whether the HALT (Highly Accelerated Life Test) method is an optimal system for validating the use of commercial off-the-shelf (COTS) electronics components in space missions.

This project, led by Alter Technology, involved the participation of Alén Space and the Advanced Center for Aerospace Technologies (CATEC).

In the presentation, co-founder and Electronics Area Manager at Alén Space, Aarón Nercellas, provided a detailed overview of the experience and conclusions drawn from the HALT testing conducted on TOTEM, Alén Space's software-defined radio (SDR), with flight heritage (TRL 9) and specifically designed for space missions with small satellites.

This initiative went beyond traditional testing methods. Its purpose was to subject the hardware to conditions far beyond its operational limits. For instance, equipment was tested in freezing conditions down to -65°C, temperature elevations up to +120°C, vibrations of up to 22.5 gRMS, and Total Ionizing Dose (TID) tests for exposure to ionizing radiation with a Cobalt-60 source and accumulated doses up to 20 krad.

The goal was to evaluate failure modes, identify environmental performance margins of the components, detect weaknesses and potential improvements, optimize reliability, and accelerate product design evolution.

Among the project's findings, key highlights include the diversity of failure types observed (some components failed destructively, while others exhibited intermittent failures or recovered functionality once stress conditions were removed), the value of using agile testing methods, and the critical importance of data analysis and the need to improve data acquisition and telemetry systems to identify the origin of certain anomalies, a critical information for anticipating potential degradation trends in operational environments.

SATMAR satellite is successfully launched

■ The digital transformation of the maritime sector has taken a new step forward with the launch of SATMAR, a 6U nanosatellite fully developed by Alén Space. The satellite lifted off on June 20 aboard a SpaceX Falcon 9 rocket, as part of the Transporter-14 mission from the Vandenberg Space Force Base in California (United States).

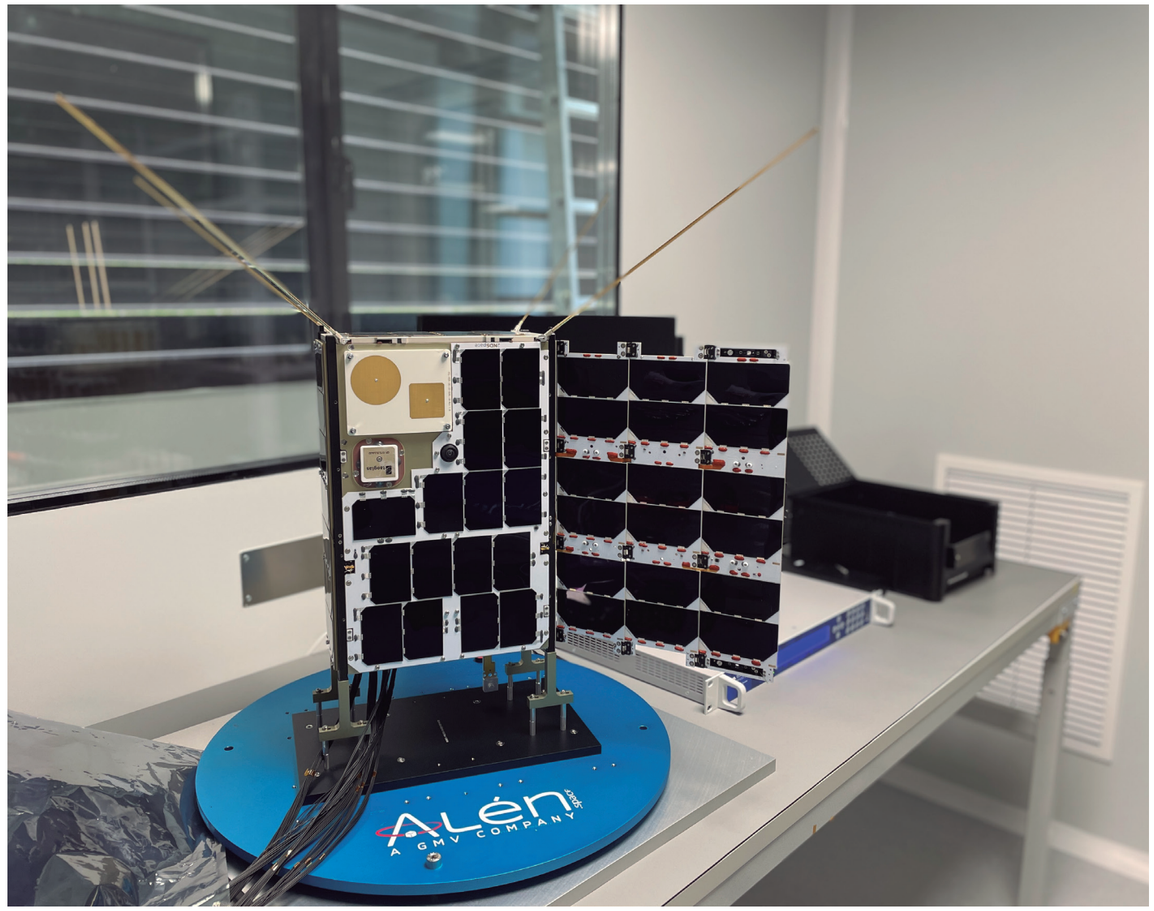
The project involves the participation of Egatel and is funded by Ports 4.0, an innovation initiative from Puertos del Estado and the Spanish Port Authorities, which aims to accelerate the digital transformation of the maritime sector by supporting disruptive projects with practical applications in port environments.

The main goal of SATMAR is to demonstrate the viability of the new VDES (VHF Data Exchange System) standard in real operational scenarios. VDES is intended to replace the current AIS system in maritime communications.

This new technology enables bidirectional data transmission via satellite in the VHF band and addresses existing issues related to network saturation in maritime communications. It offers significant improvements in port in the efficiency, safety, and sustainability of global maritime traffic.

The satellite, which will operate over Spain and surrounding waters, will serve as an on-orbit testbed to validate different use cases for both AIS and VDES standards. The mission aims to demonstrate several key capabilities of this emerging technology, including VDES signal transmission, reception of AIS and VDES, maintenance of connectivity even at long distances from the coast, more accurate estimation of vessel arrival times, emission of maritime safety alerts, and encrypted data transmission.

In addition to its primary purpose, SATMAR also includes a secondary payload for spectrum monitoring, turning the satellite into a true in-orbit Software Defined Radio (SDR) laboratory. The mission will test technologies for high-speed communications in the S-band, as well as its ability to monitor and detect RF interferences in the VHF, L, and S bands.



DEFENSE & SECURITY

GMV is one of the leading participants in the 2024 European Defence Fund

GMV will be playing an important role in this call for proposals, leading two of the six projects in which it is participating. This is further solidifying GMV's position as one of the European companies with the strongest presence in this program

GMV has been selected to participate in six projects under the 2024 European Defence Fund (EDF) call for proposals. This will further consolidate the company's position as a key player in the development of critical capabilities for Europe's security and technological autonomy. GMV will be lead two of these six projects – PRECISE and MYRIAD – making it the European company leading the most projects in this EDF funding round.

One of the 2024 EDF projects being coordinated by GMV is PRECISE, which aims to develop an advanced solution to improve the ability of European armed forces to anticipate and mitigate the impact on civilian infrastructure during military operations. The resulting tool will facilitate safer and more accurate planning in complex environments.

GMV will also coordinate the MYRIAD project, which focuses on developing technological solutions for detecting, identifying, and characterizing relevant information based on satellite images from various sources, combined with optical and radar data. This system will strengthen strategic surveillance and optimize decision-making for defense.

In addition to these two projects, GMV will be making technological contributions to the following initiatives:

- CITADEL Range: this project aims to reinforce Europe's cyber defence capabilities by creating realistic training environments in this domain..
- FASETT2: a study of the Future Mid-Size Tactical Cargo (FMTC) aircraft, which a cargo capacity of up to 20 metric tons.
- NINJA2: this project will develop a modular, intelligent ammunition system that can be operated in GNSS denied environments.
- iMUGS2: this project will develop and validate autonomous and swarming capabilities for unmanned systems, to improve protection, interoperability, and multi-domain operations.

GMV's participation in these projects further strengthens its position as one of the European firms with the strongest presence in the European Defence Fund programmes. GMV has been involved in a total of 42 projects, included the European Defence Industrial Development Programme (EDIDP) and EDF, being as the leader in five of these projects.

GMV has played a significant role in the latest European Defence Fund call for proposals, thereby reinforcing its commitment to defence technology innovation and its strategic position within the European industrial ecosystem. GMV's vision is focused on leading the development of advanced technological solutions that respond to today's challenges and make Europe better prepared to successfully address its strategic needs in the future.

HYDEF Consortium Advances Towards Key Milestones

■ The "European Hypersonic Defence Interceptor" (EU HYDEF) project, co-funded by the European Union through the European Defence Fund alongside Belgium, Germany, Norway, Poland, and Spain, continues to make significant progress under the management of OCCAR (Organisation for Joint Armament Cooperation). A major step forward was marked on April 23rd, 2025, when the HYDEF Consortium held its Third Progress Review Meeting and General Assembly at the GMV facilities in Tres Cantos, Spain.

Within the program, GMV is responsible for Boost and Mid-Course (BMC) navigation, including the hardware and software components of the GNSS solution. The company also leads the development of pre-launch BMC guidance and the simulation environment for system performance evaluation. Additionally, it plays a key role in defining the Concept of Operations (CONOPS) for space situational awareness and early warning—contributing to the broader assessment of guidance, navigation, and control performance for the future European air defense system against hypersonic threats.

On April 23rd, 2025, the HYDEF Consortium successfully held the Third Progress Review Meeting and General Assembly at GMV facilities in Tres Cantos, Spain. GMV is responsible for GNSS and Boost and mid-course navigation SW and algorithms work packages as well as the definition of the guidance algorithms and trajectory definition before the launch. The Third Progress Review Meeting, chaired by OCCAR HYDEF Programme Manager and with participation of the twelve companies of the HYDEF Consortium, provided a key opportunity for the Project Coordinator, SMS, to present the status and progress of the project since the previous review. Key aspects such as contract and organization, schedule, risks, quality and finances were analysed through corresponding KPIs. OCCAR HYDEF Programme Division provided their assessment, and a complete set of recommendations based on lessons learned, that will further improve the quality of the work and reinforce the alignment with the objectives of the project and its stakeholders.

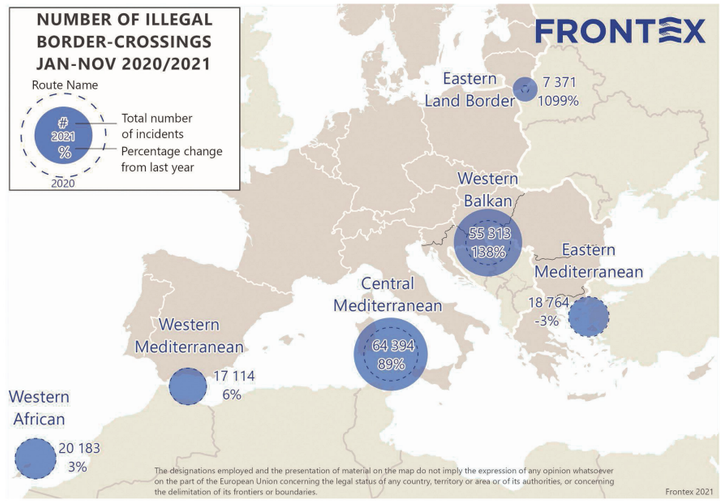
With steady progress across all Work Packages, the HYDEF project remains firmly on track, preparing for the upcoming events, the fifth Core Stakeholder Workshop and the Concept Selection Milestone, whose outcome will be a solid Concept of the System before the end of Summer 2025.

Co-funded by the European Union

This project is Co-funded by the European Union. Views and opinions expressed in this article are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them

GMV strengthens its alliance with Frontex

■ GMV has been awarded a new contract by the European Border and Coast Guard Agency (Frontex), for development and continual improvement of the agency's Joint Operations Reporting Application (JORA). This is a critical system used by Frontex and all of the EU and Schengen Area member states, for supporting their border surveillance and risk analysis activities.



This new contract is further strengthening GMV's role as a trusted partner for evolution of this platform, which has become one of the most important operational tools relied upon by Frontex. With more than 5,000 active users throughout Europe, JORA provides incident reporting, operational coordination, maritime simulations, vessel monitoring, and strategic risk assessments.

GMV has been supporting the development and maintenance of JORA since 2016, by delivering robust and reliable new functionalities through a variety of contracts. Frontex requires ongoing evolution of the JORA system in order to meet the agency's changing needs, as well as those of the EU and Schengen Area member states.

As part of this ongoing commitment, GMV will be adding a second development team. This expanded capacity is increasing the relevance of GMV's involvement in evolution of the JORA system, under the EUROSUR framework agreement. This will make it possible to provide additional support to Frontex to comply with its operational demands, while also allowing rapid response to new requirements imposed by changing legislation and security needs.

This ongoing collaboration reflects the confidence that Frontex continues to place in GMV's expertise, dedication, and quality of service. With a total budget for this year of almost €1.5 million, GMV is proud to be contributing to the success of this essential system, while helping ensure that Frontex has access to the latest generation of systems for managing Europe's external borders.

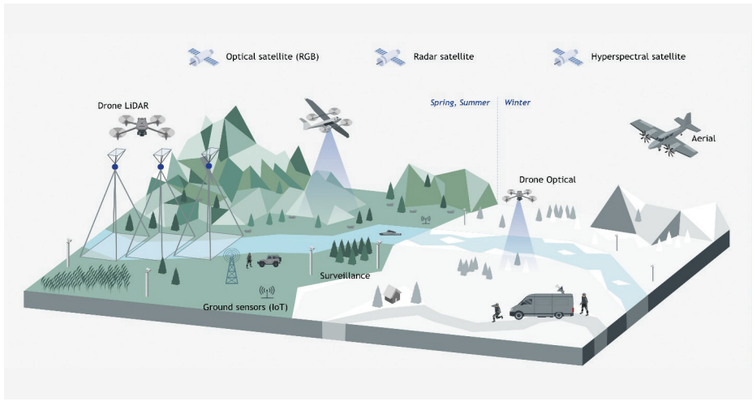
GMV demonstrates its commitment to European security at Security Research Event

On June 24th and 25th, GMV attended the 2025 edition of the Security Research Event (SRE), which was held in Warsaw, Poland. The company had its own stand at this gathering, which is organized by the European Commission's Directorate-General for Migration and Home Affairs. The SRE has become a leading forum for discussing security-related threats and challenges, and for promoting the key role that research in the European Union (EU) can play in addressing them.

The theme of this year's event was "Boosting security through EU based innovation", and GMV contributed a presentation on the European project known as Driving Innovation in Crisis Management for European Resilience (DRIVER+), which has the aim of strengthening Europe's resilience in response to crises and emergencies. In addition, José Prieto, GMV's Manager of Business Development and Institutional Relations for Defense and Security, took part in a high-level discussion panel entitled "Implementation Dialogue with Commissioner Brunner: Strengthening the EU's security competitiveness and facilitating market uptake". This session was moderated by the European Union's Commissioner for Home Affairs, Magnus Brunner, and it addressed the challenges related to enhancing the competitiveness of the European security industry and encouraging market uptake for innovations.

The event also featured an exhibition area with live demonstrations and over 50 stands, and it concluded with a ceremony to present the Security Innovation Award, which recognizes cases of outstanding success in implementing EU funded solutions. The award went to the DRIVER+ project, led by TNO and in which GMV took part, in recognition of its contribution to European resilience in crises and emergencies.

GMV makes further progress with its digital twin concept for border surveillance



The European Border and Coast Guard Agency (Frontex) is looking for innovative digital twin solutions, to improve its surveillance operations along the European Union's external borders. As part of this initiative, GMV has developed and presented a digital twin concept that combines satellite sensor and Earth observation data obtained via the Copernicus services, with geospatial and real-environment analysis using artificial intelligence (AI).

Frontex has shown interest in this proposal because of its potential to transform and optimize planning and operational deployment for surveillance in sensitive areas. GMV's proposal stands out for its robust and scalable approach, based on the use of multiple data sources to build a high-resolution digital twin for various border zones. The model combines historical and real-time data to simulate a range of operational scenarios, allowing for optimal deployment of surveillance equipment and a better understanding of each area's level of permeability.

GMV's solution also includes advanced permeability analysis, by using AI and geospatial data to evaluate border accessibility. In addition, it can use static and mobile sensors to simulate surveillance deployments in particular territories and at border stations, and it has a modular architecture that integrates satellite images, environmental variables, and predictive modeling tools.

Along with two others presented, GMV's solution was selected for a "Frontex Demo Day" held at the end of June, where its concept was validated by simulating a variety of scenarios proposed by the agency.

This advancement reflects GMV's ongoing commitment to innovation in Earth observation, border security, and operational decision-making support for Frontex, which has now maintained its alliance with the company for more than 15 years.

GMV to supply the SENDA navigation and timing system to the new BAM-IS vessel

GMV has been chosen by Navantia to supply the SENDA navigation system, as well as other equipment such as the data distribution system, for the new offshore patrol vessel (Buque de Acción Marítima, or BAM) being developed by Navantia, which will specialize in underwater intervention tasks (BAM-IS).

The SENDA System will be responsible for navigation based on military GNSS receivers (M-Code GPS and Galileo PRS). SENDA incorporates multi-constellation satellite navigation technology (GPS, Galileo) compatible with civilian and military signals, eLoran signals, and SBAS corrections. SENDA also combines its own GNSS data with data received from external sensors (inertial units, sliders, etc.), and includes state-of-the-art algorithms to provide robust navigation in contested GNSS scenarios.

In addition, SENDA will be responsible for generating the ship's timing solution and distributing it to the systems that need it. Not only is SENDA's timing solution spoofing-free, it is also highly stable, incorporating a rubidium oscillator that allows very low drifts to be maintained for long periods of time.

The SENDA system is part of GMV's range of navigation products for the military sector and positions GMV as a leading Spanish company for navigation systems, with proven experience in the aeronautics, land, and naval sectors on platforms such as the SIRTAP unmanned aircraft, the 8x8 Dragon vehicle, and the F-110 frigates.

GMV showcases their technological capabilities at the latest edition of FEINDEF

From May 12th to 14th, GMV and Autek attended the 4th edition of the International Defence and Security Exhibition (FEINDEF), which was held at the IFEMA trade fair complex in Madrid.

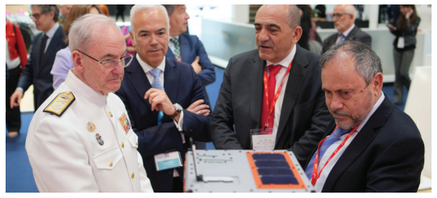
GMV's stand at the event welcomed a series of visitors representing the Spanish government, including the Minister of Defense, Margarita Robles; Secretary of State for Defense, María Amparo Valcarce; and Minister of Industry, Jordi Hereu. Other visitors included the Chiefs of Staff of the Spanish Army and Navy, and other top officials from the Ministry of Defense and Armed Forces. There were also foreign delegations from Portugal, El Salvador, Peru, and Colombia, and delegations from security organizations such as the European Defense Agency (EDA), which was represented by Sean White, its Director for Industry, Synergies, and Enablers. The stand also received a visit from a NATO delegation led by Tarja Jaakkola, Assistant Secretary General for Defence Investment and Chair of the Conference of National Armaments Directors, and which also included NATO's Head of Capability Delivery Section, Holger Ziegler, among others.

GMV also used its stand to showcase its capabilities in the area of command and control, with an emphasis on TALOS as an integrated solution. In addition, it demonstrated its intelligence, surveillance, and reconnaissance (ISR) solutions such as the interoperable ***CSD-SIERRA*** suite, and the advances achieved for the Spanish Infantry System (SISCAP) and SIRTAP UAV programs. The company also displayed the critical onboard systems it has developed for the field of aeronautics, and it demonstrated its commitment to unmanned systems and its technologies for navigation, mission control, and satellite surveillance and situational awareness. On the last day of the event, GMV gave a presentation at its stand on its navigation and timing systems developed for operation in GNSS denied environments. These included solutions from its ***SENDA*** line, which have already been integrated into Spain's F 110 frigates, with use in other Navy vessels planned for the near future; from its ***ISNAV*** line, which is equipment used on Spain's DRAGON 8x8 wheeled combat vehicle (WCV) and M109 and SIAC artillery systems; and from its new ***NERVA*** line, which have been designed for unmanned aerial vehicles, with plans for integration into the SIRTAP system.

In the context of this FEINDEF event, GMV also achieved some significant milestones, such as the agreement reached with the companies Safran and GDELS-Santa Bárbara Sistemas for continuing and expanding a strategic collaboration, which is focused on development of the navigation and control systems implemented on the SIAC and M109 howitzers. GMV's CEO, Jesús Serrano, also took part in signing of an agreement on the Integrated Training System (ITS) program for the Spanish Air and Space Force, in relation to the new Hürjet aircraft project, which is being led by Airbus and Turkish Aerospace with participation by GMV.

Thanks to GMV's collaborations established with other companies, it also had a presence at other exhibition spaces, including the stand of the European Future Combat Air System (FCAS) program, as a member of SATNUS SL. This is the consortium that is coordinating the Remote Operators Technology activities in Spain for that program's Next-Generation Weapon System (NGWS).

Autek also had its own stand at the event, where it showcased its cross-domain solutions designed to protect critical environments with maximum reliability. These solutions are an essential part of complex military systems, and of all systems that require high levels of security in areas such as space, the security environment, and critical infrastructure protection applications for public administrations and the private sector.






Autek and GMV bolster their role in NATO interoperability at CWIX 2025

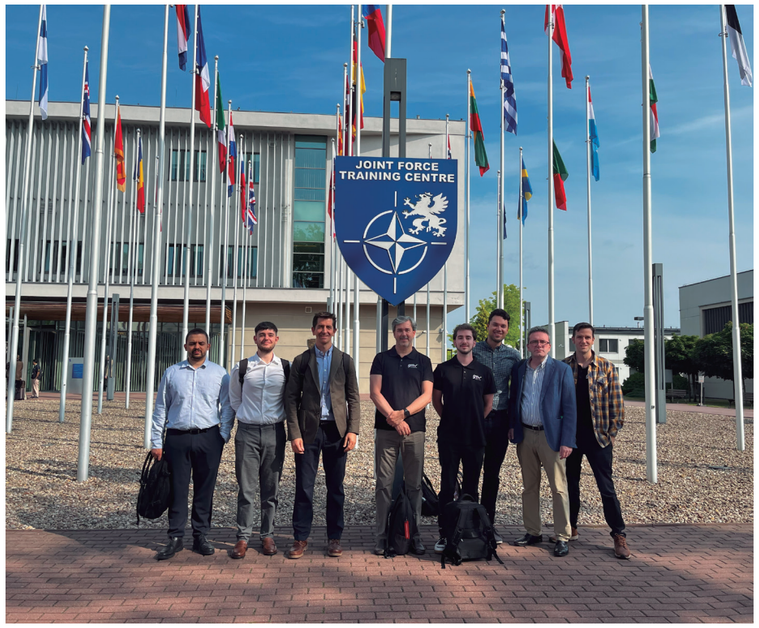
GMV and Autek have once again proven their commitment to digital interoperability at the Coalition Warrior Interoperability Exercise (CWIX 2025), NATO's biggest technical interoperability verification event. This exercise, led by Allied Command Transformation and endorsed by the Military Committee and the North Atlantic Council, represents the primary test bed for the command and control capabilities of the Alliance and partner nations.

Since its first participation in 2019, Autek has consolidated its presence at CWIX, using this multinational setting as a showcase to validate its cross domain solutions in real operational scenarios. Over the years, it has tested several key technologies such as the PSTdiode hardware data diode and the PSTjreap and PSTmip gateways, thus enabling the secure exchange of tactical data between classified and unclassified networks, and ensuring compliance with security labeling in accordance with STANAG 4774/4778 standards.

For the 2025 edition, Autek has again deployed its PSTmip gateway, along with a special configuration of the Web Services gateway. The latter has made it possible to validate the exchange of FFT and NFFI messages between classified and unclassified networks by successfully participating in the joint "Focus Area" scenario.

For its part, GMV successfully tested interoperability in different functional areas, such as command and control, maritime and Intelligence, Surveillance and Reconnaissance (JISR) systems together with other participating nations.

GMV and Autek's continued participation in CWIX not only bolsters their technical expertise in interoperability but also positions them as a benchmark in secure information exchange solutions in multinational environments, thereby actively contributing to the strengthening of NATO's collective defense.



GMV strengthens its alliance with DAVA for maintaining and improving the SMACS maritime surveillance system

GMV has been awarded a new contract by Spain's Customs Surveillance Assistance Office (DAVA), for maintenance and technological evolution of its SMACS system. This contract further solidifies the collaboration between the two entities in relation to maritime surveillance, with the aim of strengthening security and optimizing maritime operations.

The SMACS system was initially conceived as an adapter, to facilitate sharing of information among Spanish entities such as the Navy's Maritime Surveillance Operations Center (COVAM), the Fisheries Monitoring Center (CSP), and the Operational Coordination Center (CECOP). However, in recent years it has evolved to become a key element of interoperability between national and international surveillance networks. Thanks to this system, Spain has been able to integrate its national capabilities with the European Union's Common Information Sharing Environment (CISE), which allows fluid exchanges of information with other EU Member States.

With launching of this new phase, GMV will be responsible for the system's corrective and evolutionary maintenance, and also for implementing new functionalities. Some highlights of these include updating to allow compatibility with the new version of the CISE node deployed by the European Maritime Safety Agency (EMSA), incident management in the maritime environment, and integration of positioning sources using AIS tracking, which gives the operator a full view of the maritime environment, updated in real time.

This project demonstrates DAVA's commitment to cutting-edge technologies that can enhance its ability to respond to threats related to customs and maritime operations. For GMV, this new contract represents an opportunity to continue with its leadership role in developing innovative solutions that can improve security and coordination among entities, while further solidifying its position as a strategic provider of maritime surveillance and safety systems.

International cooperation in Defense: A key factor for capacity Building

On June 3, GMV took part in the roundtable discussion titled "The Defense Industry as a Driver of Economic and Technological Development", organized in Madrid by the Leading Brands of Spain Forum (FMRE) and the Club of Exporters and Investors. The event was held within the framework of the Strategic Advanced Studies Course for Senior Ibero-American Officers at CESEDEN and brought together representatives from more than 15 Ibero-American countries.

Begoña Rojo, from GMV's Business Development and Institutional Relations area, participated alongside prominent industry representatives such as Manuel Rodríguez (Rodman Group), César Fernández (ARPA EMC), David Ayala (Einsa), Carlos Orube (Indra Defensa), and Balbino Prieto (Club of Exporters).

The meeting focused on the strategic role of the defense industry from an economic perspective, highlighting opportunities for public-private collaboration and the challenges facing the sector in Ibero-America. GMV shared its vision on the challenges and benefits of both national and international cooperation in the development of defense projects, as well as the transformative potential of developed technologies and their dual-use applications.

The discussion also underscored the importance of international cooperation and technological innovation as essential elements for sustainable development and regional security.

GMV contributes to new report by National Cybersecurity Forum

Spain's National Cybersecurity Forum recently published its latest report, entitled "Spain as a European Cybersecurity Hub: Opportunities and Proposals". This report was prepared by the organization's working group on cybersecurity culture, in collaboration with Spain's Department of National Security (DSN) and the association ISMS Forum.

As a member of ISMS Forum, Mariano J. Benito, GMV's Cybersecurity & Privacy Ambassador, has been an active participant in this report's publication, and he has contributed his perspectives regarding the strategic and competitive advantages that Spain would achieve by becoming a global cybersecurity leader.

As one of the report's most important conclusions, it emphasizes the urgent need for specialized talent in this field, which is an issue affecting not only Spain, but also all of Europe and the rest of the world.

The full document can be downloaded at the website of the National Cybersecurity Forum (*Foro Nacional de Ciberseguridad*).

Risks of AI: GMV contributes its experience to the IA, Law and Business Congress

At the end of May, GMV attended the 2nd edition of the AI, Law, and Business Congress organized by the company Lefebvre. Held in Madrid, this event brought together experts from the fields of law, technology, and business, to discuss the challenges that can arise when implementing artificial intelligence (AI) in the corporate environment.

Eduardo Hernández Perdiguero, a Cybersecurity & Privacy Consultant in GMV's Secure e Solutions area, participated in a panel discussion entitled "Overall Risk Management for AI", which addressed the emerging risks associated with implementing AI based solutions in business processes, along with the need to address those risks from a multidisciplinary perspective.

During this session he emphasized the regulatory challenges now facing compliance departments, because of the need to incorporate a new regulatory and risk framework, which must be integrated into established areas such as privacy, cybersecurity, and data governance.

He also explained that AI brings with it some specific threats, which must be mitigated by applying specialized strategies and solutions. These include tools for monitoring and controlling AI models, such as cloud access security brokers (CASBs), data loss prevention (DLP) solutions, and data governance platforms.

Finally, he stressed the importance of appropriate supply chain management, because some of the risks associated with the use of AI must be managed by the technology providers themselves.

Opinion

The transformation of cybersecurity: between regulatory pressure and the need for strategic resilience

Organizations are now facing a decisive moment in relation to strengthening their cybersecurity and data protection, in view of increasing regulatory pressure by European authorities. In an increasingly complex and unstable geopolitical context, EU legislation such as the updated Network and Information Security Directive (NIS2), Digital Operational Resilience Act (DORA), and Cyber Resilience Act (CRA) is not only imposing new obligations, it is also requiring companies to go beyond compliance by implementing comprehensive strategies to strengthen their security.

This new regulatory environment will force organizations to streamline their security strategies, with the corresponding challenges and opportunities. Some of the most notable opportunities include improving overall security, enhancing trust, and developing critical infrastructure protection. However, there are also new challenges to be faced, such as regulatory overload, managing risks in the supply chain, and the growing need for automation and continual training. This context could also bring about regulatory convergence in the future, to facilitate implementation of these regulations and compliance at the global scale.

The increasingly complex geopolitical and regulatory environment is leading many organizations, especially those operating in critical industries, to restructure their management models for cybersecurity and data protection. In this scenario, it is essential to develop approaches that can combine advanced operational capabilities, such as continual monitoring, forensic analysis, and continuity management, with a deep understanding of the regulatory framework.

Incorporation of emerging technologies, such as artificial intelligence and quantum computing applied to security, is beginning to make a difference in terms of the ability to anticipate and respond to incidents. In addition, the experience gained in other areas of industry is allowing identification of patterns and sharing of lessons learned, while also contributing to progressive strengthening of the cybersecurity ecosystem, both technically and institutionally. Companies like GMV already have these capabilities, and they are now playing a key role in relation to knowledge transfer and promotion of good practices. In this way, they are helping to enhance the cybersecurity ecosystem as a whole.

Ángel García-Madrid
Head of Resilience Services and Business Continuity Manager at GMV Secure e-Solutions area

Splunk names GMV as winner of 2025 Cybersecurity Strategic Partner Award

At its annual awards ceremony, the American company Splunk has named GMV as a Strategic Partner of the Year for development of cybersecurity projects. This recognition further solidifies GMV's position as a leading technological partner, and it highlights the company's commitment to technological excellence, ongoing innovation, and creation of solid alliances to provide its clients with high value solutions.

Nathalie Dahan, GMV's Head of Partner Strategy, accepted the award on behalf of the company and expressed her appreciation: "this recognition from Splunk reflects the excellent understanding and close collaboration that has developed between our teams. Our work together has been highly productive in terms of developing business that is clearly opening up new opportunities. GMV understands the importance of this relationship, which is only growing stronger as we continue to make progress towards the future."

Mariano J. Benito receives 2025 Teaching Award from ISMS Forum

Mariano J. Benito is GMV's Cybersecurity & Privacy Ambassador and also Coordinator of the Technical Operations Committee of the Spanish Chapter of the Cloud Security Alliance. He recently received the 2025 Teaching Award from the Spanish association ISMS Forum at its annual awards ceremony.

This recognition highlights Mr. Benito's work and his commitment to education and publication in the fields of cybersecurity and privacy. At the ceremony, the award was presented by José Antonio Perea Yustres, Head of the Mobile Communications, Innovation and Technology Management Area at the Spanish State Agency of Digital Administration

GMV would like to congratulate Mariano for this well-deserved award, which reflects his dedication, experience, and passion for sharing his knowledge on the subject of cybersecurity.

Opinion

Strengthening cybersecurity is essential for Latin America's digital maturity

In Latin America, cybersecurity has reached a phase of accelerated maturity, driven by digital transformation, an increase in cyberattacks, and the need to protect critical assets. There is also a push to adopt international frameworks, implement cybersecurity protocols, and create stronger institutional ecosystems that will encourage cybersecurity development.

At the same time, it is important to point out that like Europe, Latin America is facing challenges such as a shortage of specialized talent, while regulatory fragmentation and limited investment in cyberdefense are additional obstacles to further progress. According to the Security Report 2024 published by the company ESET, 30% of all organizations experienced cybersecurity incidents in 2023, and because of a lack of adequate detection technologies, one out of every five companies may have been attacked without even realizing it.

THE CYBERSECURITY ECOSYSTEM

In this context, it is worth emphasizing the contribution being made by leading companies like GMV, which are playing a strategic role in terms of developing a cybersecurity ecosystem that will improve security throughout the region. GMV's commitment to innovation has resulted in advanced solutions for critical infrastructure protection and threat management. At the same time, close collaboration with governments and public-sector institutions, and with strategic industries such as defense, energy, transportation, healthcare, banking, and telecommunications, has given GMV reliable expert knowledge and the ability to offer a full range of services and solutions that can cover the entire cybersecurity life cycle.

Some of the most notable specialized cybersecurity services provided by GMV include the following:

- Incident management and response.
- Threat intelligence.
- Collection and analysis of technical and strategic cyberintelligence.
- Digital forensic analysis, vulnerability management, attack simulation, and red teaming.
- Malware analysis.
- Early warning services and technical alerts provided by GMV's security operations center (SOC) and computer emergency response teams (CERTs).

In addition, for companies and institutions in Latin America, GMV can become a strategic partner for secure and resilient digital transformation, by encouraging its clients to develop organizational capabilities and digital governance models.

Òscar Gaspar Zarallo
GMV's Country Manager for Colombia

Latin America is making significant progress towards more robust cybersecurity, but the real challenge will be turning knowledge about risks into sustained action, regional collaboration, and a long-term strategic commitment.

GMV reinforces its leadership position in space cybersecurity at CYSAT event

GMV recently participated in CYSAT 2025, which is Europe's most important event focused exclusively on cybersecurity in the space industry. This year's gathering took place in Paris on May 14th and 15th, and it brought together experts from the space and cybersecurity industries to discuss some of the current and future challenges related to protection of space assets and data.

During the event, the attendees were able to attend keynotes speeches, panel discussions, and technical demonstrations, where emerging space related security trends were explored. GMV had its own stand in the exhibition area, where it showcased some of its latest cybersecurity developments applied to the space industry, as another demonstration of the company's commitment to space security.

One of the highlights of GMV's participation was the talk given by the company's Cybersecurity & Privacy Ambassador, Mariano J. Benito, entitled "How I Learned to Stop Worrying and Love CRA". In this presentation, he addressed the impact of the European Union's Cyber Resilience Act (CRA) on the aerospace industry. This is new legislation that is intended to strengthen the security of digital products throughout their entire life cycle, including security by design.

Mr. Benito also stressed the importance of ensuring that the aerospace industry will start implementing the requirements from the CRA as soon as possible. That legislation imposes new technical standards for management, notification, and resolution of vulnerabilities, while also redefining roles in the supply chain and establishing digital resilience as a key strategic element of Europe's technological sovereignty.

GMV's presence at this event has further confirmed the company's leadership position in the space industry, and its role as a top company for developing technologies that can ensure the security and sustainability of space operations.

GMV participates in 2nd edition of Cybersecurity: Bank, Insurance & Finance Summit

In March, GMV's team specializing in cybersecurity for the financial sector participated in the 2nd edition of the Cybersecurity: Bank, Insurance & Finance Summit (CBIF25). This is an important gathering focused on analyzing current challenges and trends in cyber protection for banking, insurance, and financial services.

During the event, José María Blanco, Manager for the Financial Services Industry in GMV's Secure e Solutions area, joined a discussion panel on "Cyber resilience for banks, insurance companies, and financial institutions: strategies and practices". His participation highlighted GMV's accumulated experience in this area, which it has gained through more than 30 years of collaboration with major organizations, with the aim of enhancing their digital transformation and helping them defend against an increasingly sophisticated range of threats.

GMV provides strategic insight into the growing number risks facing these industries, along with the measures that must be implemented to protect their assets, networks, and data, in a digital environment marked by complexity and regulatory pressures. By participating in this event, GMV has further demonstrated its commitment to innovation and cyber resilience, while helping to build a more secure and prepared financial ecosystem.

GMV analyzes Europe's cyberdefense challenges at the Andalusia Cybersecurity Congress

On April 2nd and 3rd, stakeholders involved in cybersecurity in Spain gathered in the city of Málaga, to attend the 4th Andalusia Cybersecurity Congress. This event was organized by the Digital Agency of Andalusia, through the Andalusian Cybersecurity Center.

In addition to having its own stand in the exhibition area, GMV participated in one of the event's most important roundtable discussions, entitled "Digital Sovereignty and Cyberdefense in a Changing World", which was moderated by María Pérez Naranjo, at that time General Director of Digital Strategy of the Digital Agency of Andalusia.

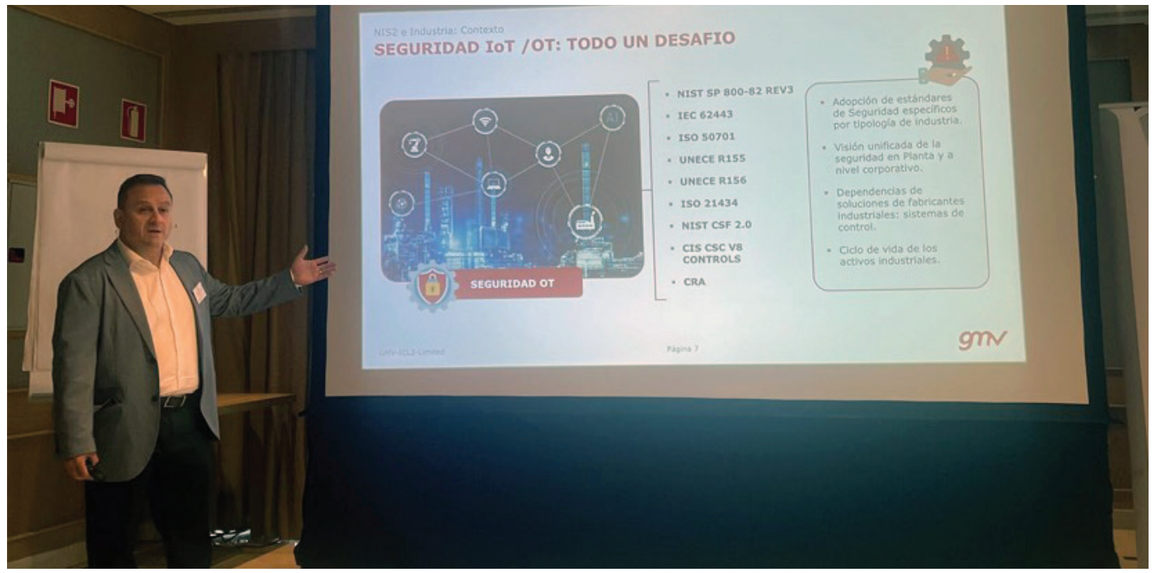
GMV was represented in this discussion by Javier Zubieta, Manager of Marketing and Communications for Secure e Solutions, who joined a panel of top level experts from Spain's National Cryptologic Center (CCN-CERT), Joint Cyberspace Command, Cybersecurity Coordination Office (OCC), and Institute of Strategic Studies (IEEE).

During the roundtable, he emphasized the real cyberdefense challenges Europe is now facing, with a focus on the conclusions from the NIS2 360 report published by the EU Agency for Cybersecurity (ENISA). That report warns of the critical vulnerability existing in strategic areas, such as public administrations and the space industry. GMV plays an important role in that industry, as the company that since 2018 has been responsible for cybersecurity for Europe's satellite navigation system operated by the European Space Agency (ESA), known as Galileo.

Zubieta also discussed the impact of the European Union's new Cyber Resilience Act, especially in relation to dependence on the technology supply chain. In this context, GMV has developed a proprietary algorithm to assess the impact that risks in that area are having on its own activities, and especially on the services it provides to its clients.

He explained that there is an urgent need to strengthen Europe's digital autonomy, by investing in European technology firms, qualified talent, ongoing innovation, and frameworks that will encourage development of sovereign capabilities.

GMV emphasizes regulatory and operational challenges under NIS2 legislation



■ On May 15th, Ángel García-Madrid, GMV's Head of Resilience Services and Business Continuity Manager for Secure e Solutions, participated in the "Voice of Andalusian Industry" event organized by the Center for Industrial Cybersecurity, where he gave a presentation entitled "NIS2: Regulatory and Operational Challenges for Industry Strategy and Supply Chain Management".

He began by contextualizing the main cybersecurity challenges facing industry, especially those related to operational technology (OT) and internet of things (IoT) environments, and he emphasized the critical need to implement specific standards based on each type of industry. He also stressed that the EU's updated Network and Information Systems Directive (NIS2) cannot be understood in isolation, but instead as part of a broader regulatory ecosystem in Europe that includes legislation such as the Critical Entities Resilience (CER) Directive and the Cyber Resilience Act (CRA), which introduces the principle of security by design for digital products. He also mentioned Spain's new Industry and Strategic Autonomy Act, which creates a new strategic reserve for national industrial production capacities (RECAPI), while also strengthening the country's crisis management mechanisms.

One of the most relevant aspects he discussed was the current status of transposing the NIS2 legislation into Spanish law, and in relation to this, he warned of the significant regulatory discrepancies between countries and emphasized the need to make progress towards a more standardized and coordinated European framework.
In this context, he described a multilevel compliance strategy that GMV is implementing in a variety of industries from different sectors, based on the following fundamental aspects:

- Development of a common catalog of controls, in line with the main international regulations.
- Reuse of existing controls and their mapping onto local NIS2 transpositions.
- Automation of compliance, using governance, risk, and compliance (GRC) tools adapted to each country.
- Strengthening of corporate and national governance, by integrating NIS2 into an organization's strategy and compliance program.
- Design of a robust third-party risk management (TPRM) strategy, to address the need for security across the supply chain.

GMV's participation at this event has further reinforced its commitment to cyber resilience in industry, and to providing strategic and technical support to organizations, as part of the complex process of adapting to NIS2 and the rest of the European regulatory framework.

TARTAGLIA achieves key milestones in medical intelligence and cyber protection

The project has demonstrated the enormous potential of artificial intelligence (AI) for accelerating scientific breakthroughs, optimizing early diagnosis, and making progress towards a more personalized approach to medicine

After three years of collaborative work and technological innovation, the TARTAGLIA project has reached its end, with results that represent a real turning point for clinical research in Spain. The project was led by GMV, as part of a public-private consortium consisting of 16 healthcare and scientific organizations.

The TARTAGLIA project began in 2022, as part of the R&D Missions in Artificial Intelligence program from Spain's Digital Agenda 2025. Now, it has demonstrated the enormous potential of artificial intelligence (AI) for accelerating scientific breakthroughs, optimizing early diagnosis, and moving towards a more personalized form of medicine. With a budget of more than €7.5 million and co funding from the European Next Generation EU funds, the project achieved a TRL7 technological readiness level, which supports its application in real environments.

One of the project's most noteworthy milestones has been the development of AI models that are able to predict prostate cancer with 80% accuracy, thanks to the ability to integrate and analyze multiple sources of clinical data. These advances have also been successfully applied to research on Alzheimer's disease, diabetes, cardiometabolic diseases, and other high-complexity chronic pathologies.

The technological heart of the TARTAGLIA project has been its innovative federated data network, which consists of seven distributed computing nodes that allow training of algorithms directly at each institution, without the need for data transfers and without compromising patient privacy. This architecture is supported by GMV's uTile PET solution, which is based on advanced cryptography. This allows compliance with Spain's National Security Framework, and with legislation such as the European Union's General Data Protection Regulation (GDPR).

The project was also able to harmonize clinical data using the OMOP common data model, which ensures interoperability among organizations. In addition to facilitating collaborative research, the project has developed intuitive interfaces for healthcare professionals, which fosters effective transfers of knowledge for use in everyday clinical practice.

The TARTAGLIA project was made possible by the cooperation of key entities such as the Galician Health Service, Ace Alzheimer Center Barcelona, Barcelona Supercomputing Center, and La Fe Foundation, among others. By working together, the project's participants have now established the foundations for advanced, secure management of healthcare data, while also opening up new pathways for improving prevention, diagnostics, and treatment for diseases, all with an ethical, efficient, and sustainable approach.

GMV redefines health care transformation in the cloud era

■ During the event entitled “Accelerating Innovation through Secure AI and Hybrid Cloud”, organized by the International Data Corporation (IDC) and held at the Royal Theatre in Madrid, Rubén Villoria Medina, GMV’s Head of Business Solutions for Health Privacy and Evidence, shared his insights on evolution of the healthcare industry through the use of cloud services.

He explained that “just 10 years ago, it was almost taboo to talk about use of the cloud in the field of healthcare”, because of a widespread lack of trust regarding its impact on the privacy and security of health-related data. However, he noted that this attitude has changed, thanks to implementation of specific regulations, certifications that can be offered by service providers, and localization of cloud services at national data centers.

This new context is now generating the trust needed to allow the healthcare industry to overcome historical obstacles and benefit from cloud capabilities, including scalable access to artificial intelligence tools. According to Mr. Villoria, these capabilities “will become a key part of improving patient care, while also contributing to the sustainability of the healthcare system.”

GMV receives IA with Social Impact award for the TARTAGLIA project

■ The GMV-led TARTAGLIA project has been announced as the winner of the AI with Social Impact Award, presented by the Spanish association AMETIC during the Artificial Intelligence Summit 2025. This award recognizes the project’s innovative application of artificial intelligence in the healthcare field, as a way of improving diagnostics, treatment, and prevention for illnesses such as Alzheimer’s disease, prostate cancer, diabetes, cardiometabolic diseases, and other complex chronic illnesses.

On hand to receive the award on behalf of the company was Luis Fernando Álvarez-Gascón, GMV’s General Manager for Secure e Solutions, which took place at a ceremony also attended by Pilar Roch (General Director of AMETIC), Francisco Hortigüela Martos (President of AMETIC), and Dr. Jesús Hernández-Galán (Director of Accessibility and Innovation at Spain’s ONCE Foundation).

The TARTAGLIA project developed a federated network of clinical data, which allows sharing of scientific information without compromising patient privacy, as a way of encouraging collaboration among public-sector and private-sector organizations. This new infrastructure has already led to significant advances in understanding for a variety of pathologies, while also facilitating implementation of more precise and personalized clinical tools.

Spanish Health IT Society recognizes TARTAGLIA project for its contribution to digital transformation of healthcare research

■ The TARTAGLIA project, led by GMV, has received an Honorable Mention in the National Health IT Awards presented by the Spanish Health IT Society (SEIS). The project was selected for this distinction in the category of Project performed by applying information and communication technology (ICT) in the healthcare industry or health and social care area, which has stood out for its contribution of value to the public.

The judging panel consisted of the members of the SEIS Governance Board, which gave high scores to the TARTAGLIA project because of its groundbreaking nature, and especially its work on “digital transformation of clinical and health research in Spain through implementation of a federated network, using artificial intelligence and advanced cryptographic methods.”

The award ceremony took place in Madrid on January 28th, in the Tapestry Hall at the Hotel Meliá Castilla. In attendance to receive the award on behalf of the project’s consortium were Juan Miguel Auñón-Gómez, a Data Scientist at GMV; Ruth del Campo, Director-General for Data at Spain’s Ministry for Digital Transformation and Public Services; and Javier Quiles del Río, CIO of the Galician Health Service’s Ferrol Healthcare Area.

This award represents another acknowledgment of the TARTAGLIA project’s impact, as a driver of innovation for more secure and precise people-centered healthcare.

Webinar: How artificial intelligence is redefining patient support programs

Artificial intelligence (AI) is transforming the way in which patient support programs (PSPs) are designed and managed, setting the stage for more personalized and efficient models focused on the actual needs of each individual patient. In this context, GMV and the company Inizio Engage presented a joint webinar in roundtable format, to share experiences, use cases, and lessons learned in relation to applying AI to this important aspect of the healthcare industry.

The event was designed for healthcare professionals, pharmacists, technologists, and market access managers, and it covered highly relevant topics such as predictive analytics, process automation, personalization of clinical follow up, and ethical use of sensitive data.

GMV was represented by Adrián Rodrigo, a specialist in technological solutions for healthcare. He explained how AI can be used to optimize the design and execution of PSPs, while also improving therapeutic compliance and patient care. He was accompanied by Javier Salguero and Alberto Municio from Inizio Engage, who shared their own perspectives based on direct experience with patients and previously implemented programs.

This webinar was a further example of GMV’s commitment to a more intelligent, personalized, and people-centered approach to healthcare.

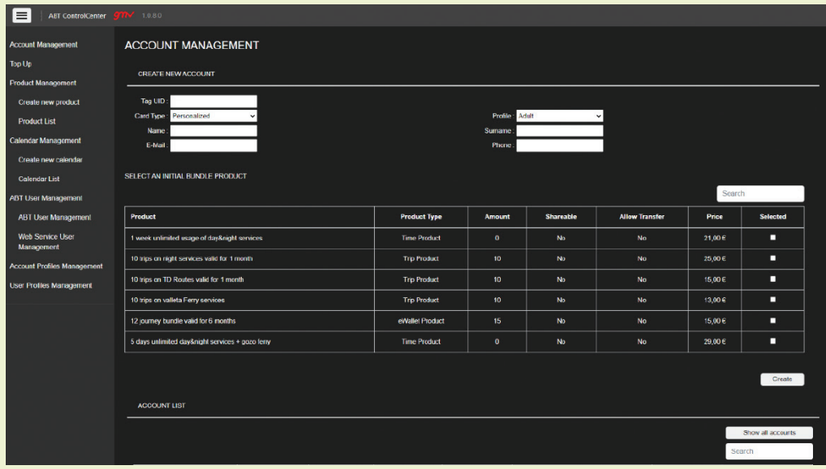
ITS

Extremadura's regional government picks GMV to digitalize regional public transportation

The region will implement the GMV ***ITS Suite*** solution, which covers planning, operational management, ticketing, analytics, and user communication

The regional government of Extremadura has awarded GMV the contract to develop and implement a comprehensive platform for digitalizing regional public transportation, based on the ***ITS Suite*** solution. This proposal offers a unified, modular and scalable approach to planning, operational management, ticketing, analytics, and communication with regional public transportation users.

The Account-Based Ticketing (ABT) system to be implemented will make it possible to collect tickets through dynamic QR codes and the TMEx contactless card. This solution provides an advanced fare model with discounts, anti-fraud control mechanisms, and a compensation module for inter-operator settlements. Its platform architecture



is also designed to integrate EMV-compliant bank card payments in the future.

Meanwhile, the Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system will make it possible to monitor vehicle location and punctuality in real time, provide arrival estimates, manage incidents, and supervise the entire network, all through a 100% web-based interface that is adaptable and built on open standards such as GTFS, RTIG, and SIRI.

The project also includes an information platform for users, available both in a web version and through mobile apps for Android and iOS. This platform will make it possible for users to plan routes, check upcoming arrivals in real time, view vehicle locations, and comprehensively manage their user accounts, all with accessibility criteria and multilingual design.

The solution also incorporates an advanced analytics and Business Intelligence (BI) system using technologies such as Microsoft Power BI, Transit Insights, and WiseTransit. These tools will make it possible to analyze demand, predict usage patterns, and optimize both planning and resource allocation.

As part of the technology supply, GMV will provide a total of 240 onboard ***DTD200*** units for buses that currently do not have CAD/AVL or ticket validation systems. This equipment will be managed directly by Extremadura's regional government. Each unit is a high-performance onboard terminal with a 10-inch touchscreen, QR and NFC readers, a thermal printer, a GPS/4G module, and support for both CBT and ABT validation. This device combines CAD/AVL and fare collection system (FCS) features in a single robust and certified hardware platform, ensuring operability in demanding environments.

The project will be rolled out in 14 months, divided into phases: analysis, development, pilot, gradual deployment, integration with local CAD/AVLs, and full system operation. GMV will also be in charge of issuing and managing TMEx cards and providing user support and staff training.

This initiative is positioning Extremadura as one of Spain's first autonomous regions to have a fully integrated ITS ecosystem, designed to meet the mobility challenges of the future.

GMV presents its latest innovations at the ITS European Congress

■ In May, the Seville Congress and Exhibition Center (FIBES) hosted the 16th edition of the ITS European Congress, one of Europe's leading smart mobility forums.

The event was attended by the mayor of Seville, José Luis Sanz; the Andalusian regional government's minister of development, Rocío Díaz; and the Spanish interior minister, Fernando Grande-Marlaska.

With the theme "Clean, resilient and connected mobility," the congress brought together more than 3,500 professionals in the field, including leaders of institutions, industry representatives, and technology experts, to discuss and share solutions for the future of sustainable urban and long-distance transportation.

GMV played a prominent role in the event. At its stand, it presented its cutting-edge intelligent transportation system (ITS) solutions for public transportation, with its ***ITS Suite*** product for fleet management and ticketing; for the automotive sector, with a wide range of solutions including precise positioning for autonomous driving; and in service-mode fleet management, with its ***MOVILOC*** product.

Irma Rodríguez, GMV's director of Navigation Products and Services (NPS), participated as a speaker in two of the technical sessions: "The NAVISP programme addressing PNT challenges for CCAM" and "Space-based technologies for PNT in road mobility."

GMV's participation in the ITS European Congress cements its position as a leader in the development of tech solutions that are driving smart mobility, in line with the sector's top priorities of sustainability, digitalization, and efficiency.

GMV attends Mafex's 9th International Railway Convention

In May, GMV took part in the ninth edition of the International Railway Convention hosted by Mafex. This meeting, supported by ICEX España Exportación e Inversiones, brought together operators, infrastructure managers, and railway companies from 27 countries.

Over three days, participants exchanged experiences and development plans for the future of rail transportation. The program included bilateral meetings, technical conferences, networking activities and visits to infrastructure sites such as Santa Justa station, the Seville Metro, and Renfe's Railway Training Center.

GMV played a prominent role in the event with the technical session "Train of the Future," sharing the stage with other companies in the sector such as Stadler, Ingeteam, CEIT, and Teltronic, and presenting technology solutions to meet the current challenges of rail transportation.

The convention encouraged networking through nearly 1,000 B2B meetings, creating opportunities for collaboration between Spanish organizations and international delegations. The event was supported by organizations such as ADIF, Renfe, and the Public Works Agency of the Regional Government of Andalusia, as well as the participation of 50 national companies.

GMV and ALSA set up a comprehensive ITS ecosystem in Ibiza

The objective of the contract is to transform the management and operation of urban and interurban transport throughout the island

GMV has teamed up with ALSA to start implementing an ambitious technological project with the goal of transforming the management and operation of urban and intercity transportation on the island of Ibiza. Based on GMV's ***ITS Suite*** solution, this initiative integrates a modular set of intelligent transportation systems designed to improve operational efficiency, enhance safety, and offer a superior user experience.

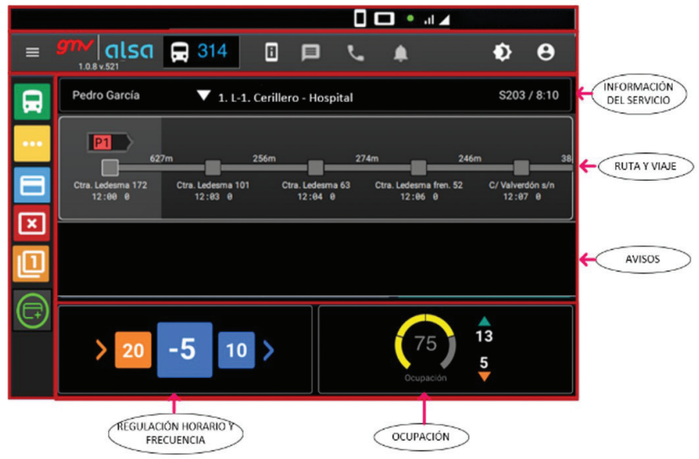
The project includes a versatile ticketing system that makes it possible to collect fares using contactless cards, QR codes, and EMV-compliant bank or mobile card payments. This flexibility streamlines service access and simplifies daily operations. In addition, a Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) will be implemented to monitor the location and status of the vehicles in real time, making it easier to supervise them from a centralized control center. Thanks to this tool, operators will be able to manage incidents, redirect vehicles, and dynamically adjust service offerings.

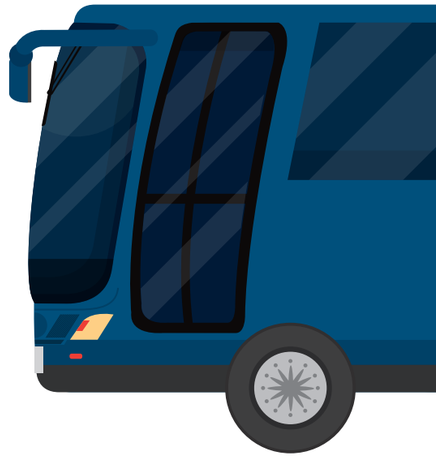
The built-in maintenance module allows for digitalized management of incidents and work orders, supervision of the status of each vehicle's critical components, and the generation of preventive alerts, all aimed at maximizing fleet availability and reliability. In addition, the analytics and business intelligence system collects and analyzes operational, ticketing, service usage, and fleet performance data, providing key performance indicators (KPIs) to optimize routes, frequencies, resources, and maintenance.

A passenger information system (PIS) will also be deployed both at stops and on board, providing real-time and static information on schedules, upcoming departures/arrivals, incidents, and delays. This system will be integrated with mobile applications and other urban digital media, ensuring seamless and accessible communication with passengers. Onboard security will be enhanced by a video surveillance system (CCTV), which will provide continuous recording, local storage, and access from the control center in the event of incidents. The solution developed also provides for full integration with third-party platforms.

As for onboard equipment, the buses will be equipped with state-of-the-art ***DTD200*** units, ***TV100*** validation machines, routers, cameras, and passenger information panels.

The project will be implemented in two phases over a period of 18 months, with partial deliveries every six months.





ENYSE entrusts GMV with the supply of the SAE for the new tram line in Alcalá de Guadaira, Seville

■ ENYSE has awarded GMV the Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) contract for its new tram line project in the city of Alcalá de Guadaíra, Seville province. This contract marks the beginning of a strategic partnership between ENYSE and GMV, opening up new business opportunities in the railway sector.

The agreement covers the supply and integration of the CAD/AVL equipment, which will be installed on six new trains. This system is essential for precise train location on the tracks, centralized fleet management, communication with the control center, and interaction with other onboard systems.

The CAD/AVL integrates an onboard unit that performs the corresponding calculations, together with two (HMI) monitors installed in both train cars, as well as a communication antenna and an onboard beacon reader. This supply is complemented by a set of on-track beacons distributed along the route. Thanks to this system, complemented by GPS and an odometer, the CAD/AVL has maximum precision that allows it to accurately identify the tram's position and trigger the necessary route-related events.

The information generated by this CAD/AVL system will be used for optimal fleet management during advance planning, real-time operation, and subsequent analysis of historical data. This information will also be used by other onboard equipment, facilitating key events for the operation.

The project is currently in its initial phase, as the construction of the track and associated infrastructure is still in progress. However, GMV has previous experience in this area as the supplier of the onboard CCTV and passenger information systems for the same project, giving it an in-depth, comprehensive understanding of this project.

GMV showcases its smart mobility solutions at the UITP Summit 2025

■ GMV participated in the UITP Summit 2025, the world's leading public transportation event, held from 15-18 June at the Hamburg Messe und Congress venue in Germany. This edition brought together over 10,000 professionals from 110 countries and offered 85 thematic sessions with 425 speakers.

In line with the event's focus on zero-emissions cities, sustainability, and technology, GMV's stand presented its latest solutions for connected, efficient, and sustainable mobility, including its advanced computer-aided dispatch/automatic vehicle location (CAD/AVL) system, AI-driven planning and scheduling system, and its latest smart ticketing systems.

On 18 June, GMV also participated in the "Powering Seamless Mobility: Smart Software Platforms for Public Transport" session, held in Hall A2. It presented its work in Westchester County in New York, where GMV's solutions have helped modernize public transportation management, providing its ***ITS Suite*** with multiple integrated systems such as CAD/AVL, planning, scheduling, and depot management.

GMV's participation in the UITP Summit 2025 reinforced its reputation as a technology provider developing solutions for today's urban public transportation challenges.

TALGO awards GMV a contract to supply multiple Intelligent Transportation Systems (ITS) for its new Egypt-bound sleeper trains

■ Railway company TALGO has awarded GMV a contract to supply several Intelligent Transportation Systems (ITS) for its new project manufacturing sleeper trains for Egyptian client ENR. These new successful bids strengthen the ongoing collaboration between TALGO and GMV on various projects, from manufacturing to modernizing rolling stock series.

The new contract will equip the new sleeper trains with public address and intercom systems, a video surveillance system (CCTV), and a Mobile Communication Gateway (MCG) system. All these systems incorporate GMV's proprietary technology and software development.

The public address and intercom system will allow passengers to hear train announcements from all the sleeping-car compartments. The volume can be adjusted according to priority level, while emergency messages will receive special treatment to ensure a rapid response to any unexpected situations. This system includes communication stations with handsets, which will allow for both passenger announcements and internal communication between crew members.

Meanwhile, the CCTV system will integrate a GMV-developed NVR digital recorder that will record all onboard cameras in accordance with the project's established parameters. This recorder is complemented by indoor IP cameras distributed along the train for optimal visual coverage. The system is further complemented by a 21.5" touchscreen monitor in each car, allowing the driver to access any onboard camera to view footage and play back audio in real time. Finally, the MCG system makes it easier to collect diagnostic data on board and then send it to a base for processing and analysis.

All these systems will be integrated with the train monitoring and control system, which will make it possible to both receive control information and report operating status and alarms. They will also be able to interoperate with other onboard systems when necessary.

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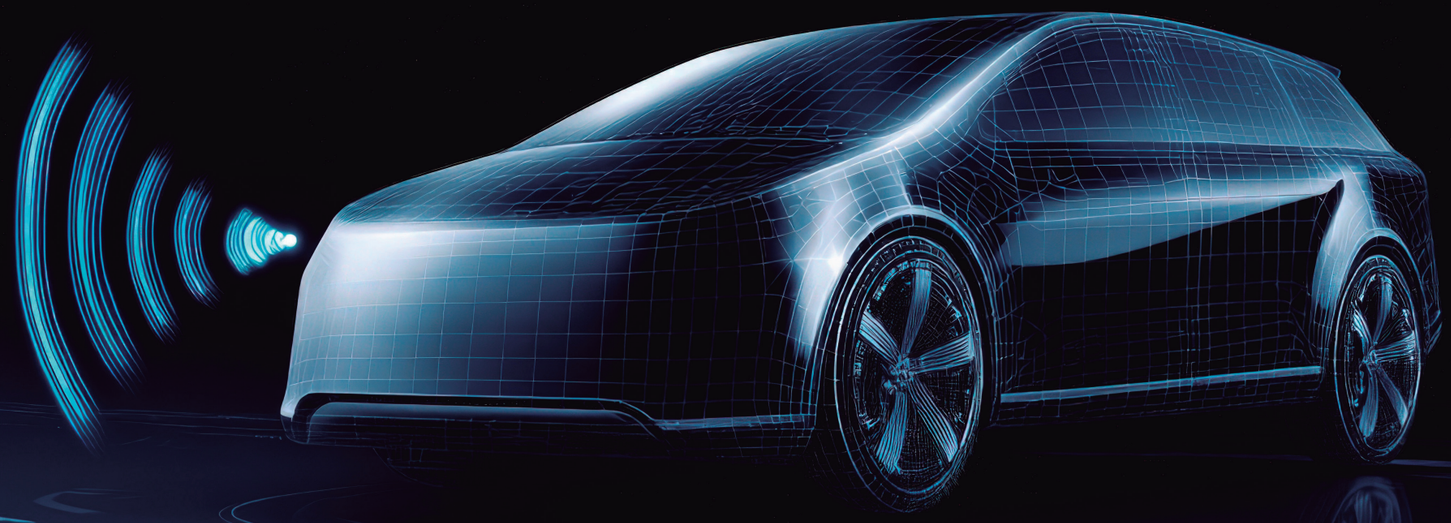
AUTOMOTIVE & MOBILITY

GMV: a key player in the new era of Software-Defined Vehicles (SDVs)



This new approach will not only transform how vehicles are designed and manufactured, but also how consumers perceive them and use them throughout their life cycle

GMV will become a key player in helping manufacturers build Software-Defined Vehicles (SDVs), which will be improved compared to the current versions. With its extensive experience in software development and engineering, cybersecurity, and system integration, GMV is an essential strategic partner for automobile manufacturers that are building vehicles based on software. GMV's automotive solutions offer key technologies for Advanced Driver Assistance Systems (ADAS) and autonomous driving. These include ***GMV GSharp®***, which is a secure high-precision positioning solution based on global navigation satellite systems (GNSS), as well as a range of services for connected vehicles, such as Cooperative Intelligent Transportation Systems (C ITS) based on V2X connectivity. To support launching of the SDV concept, GMV is applying its extensive experience and expertise in developing critical systems for safety, AI, cybersecurity, and other important capabilities.

The concept of Software-Defined Vehicles (SDVs) is reshaping the way we think about and use automobiles.

The philosophy of the SDV, which we can identify as something that is already happening with our smartphones, allows the same hardware to support multiple functions through software updates. This can provide unprecedented levels of flexibility and personalization via the over the air (OTA) updating process. This also means that a vehicle's features and capabilities can continue to evolve significantly after it has been purchased, offering drivers a dynamic, customizable experience.

The transition to SDVs will require more software development investment by manufacturers, which will in turn open up new opportunities for partnerships with tech firms. Leading automakers are already collaborating with software companies like GMV, with the aim of developing scalable and secure platforms to make further progress with this new type of vehicle.

The rise of SDVs is also transforming the role of suppliers in the industry. Those that have traditionally focused on producing physical components must now shift towards software development and digital services, fostering new collaborations between manufacturers, tech companies, and startups. As a result, the boundaries between the automotive and technology industries are becoming increasingly blurred, creating a more cooperative ecosystem across the entire value chain.

In addition, SDVs are driving the adoption of cutting-edge technologies such as artificial intelligence (AI), machine learning (ML), and cloud computing. These technologies in turn enable advanced features such as predictive maintenance, autonomous driving, and real-time updates for traffic and weather conditions, enhancing safety as well as the driving experience. GMV is at the forefront of these innovations, and very soon it will be launching some of the advanced solutions it is currently developing for in cabin intelligence.

GMV at the FACyL annual assembly

On June 25, GMV participated in the Annual Assembly of the Automotive and Mobility Cluster of Castile and León (FACyL), an event that convened the region's foremost industry leaders. The day featured contributions from institutional representatives, associated companies, and partner entities within the cluster.

Notable speakers included Víctor Ausín, Director General of Economic Policy at the Ministry of Economy, Trade, and Business, and Carlos Martín Tobalina, Deputy Minister of Economy and Competitiveness of the Regional Government of Castile and León. One key discussion panel, "New Business Opportunities for the Sector: Connecting Value Chains (Space, Aeronautics, Defense)", showcased initiatives from FACyL members focused on dual-use technologies.

In this context, GMV presented its expertise in evolving aerospace geolocation and positioning technologies for applications in advanced driver assistance systems (ADAS) and autonomous vehicle driving.

The assembly also officially confirmed GMV's membership in the cluster, which unites vehicle manufacturers, component suppliers, industrial service providers, technology centers, and universities.

GMV joins the Automotive Cluster of Castile and León

In June, GMV officially became a member of the Automotive Cluster of Castile and León, an organization that brings together the region's leading stakeholders in the automotive sector. The cluster includes not only original equipment manufacturers (OEMs) but also Tier 1, Tier 2, and subsequent tiers of the supply chain.

Membership was formally confirmed at the Ordinary General Assembly of FACyL and the Annual Automotive and Mobility Meeting of Castile and León, held on June 25, 2025, in Valladolid. The event gathered members and numerous key figures from the industry, providing GMV with an opportunity to highlight its extensive 25-year track record in the automotive sector.

Joining this association marks a significant milestone for GMV, as the Automotive Cluster of Castile and León will greatly enhance the company's visibility among members and throughout the broader automotive ecosystem. This membership also enables GMV to showcase its advanced technological developments for connected and autonomous vehicles. These include specialized solutions such as telematic services, positioning technologies for ADAS and autonomous driving, critical software design, artificial intelligence, connectivity and C-ITS, contributions to Smart Digital Vehicle (SDV) development, and cybersecurity services for connected and autonomous vehicles.

At the assembly, Sara Gutiérrez Lanza, Director of GMV's Automotive Business Unit, participated in the roundtable discussion titled "Synergies and Business Opportunities between the Automotive and Mobility Sector and Other Industries". She emphasized the strategic advantage GMV gains by leveraging synergies in its diverse business units. An example highlighted was GMV's highly accurate and secure GNSS-based localization system (***GMV GSharp***®), currently employed by German automaker BMW and developed continuously by GMV for over 25 years.

GMV is transforming energy infrastructure management

Irradia Energía relies on GMV's ***uPathWay*** solution for autonomous solar plant inspections

GMV and Irradia Energía have successfully completed a series of functional tests of ***uPathWay***, which is being used for autonomous inspection of photovoltaic infrastructure at one of the latter company's solar farms, with no direct human intervention.

These tests represent a new milestone for advanced automation of solar plant maintenance, with the robots managed via ***uPathWay*** performing complex thermal inspections, fault identification procedures, and preventive monitoring tasks, all with better coverage compared to more typical solutions.

The type of robot used in this testing campaign allows simultaneous thermal inspection of the surfaces of the solar panels and their underlying structures. Unlike aerial systems that can only offer a limited view of the visible surface, this solution can perform detailed analysis of key elements that are typically not visible in an overhead view, such as connectors, fuse holders, clamps, and cables. This presents a unique advantage in terms of detecting hidden faults that could be affecting energy performance, while also preventing efficiency losses and unplanned shutdowns. In addition, the use of ***GMV GSharp***® as a precise positioning system allows details to be captured for each individual solar panel, which allows for much more meticulous monitoring of the equipment.

Thanks to the ***uPathWay*** platform, developed by GMV, operation of the autonomous robots is remotely managed in a centralized, scalable way, which makes it possible to plan missions, monitor their execution in real time, and receive automatic alerts whenever anomalies are detected.

Some highlights of the functionalities applied during the testing include:

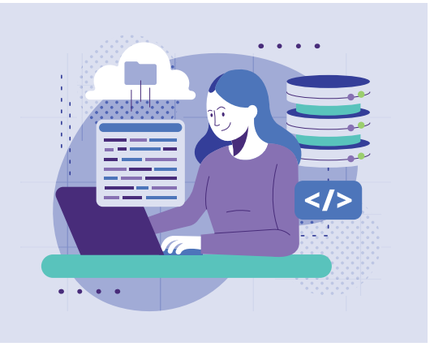
- Use of specialized sensors to detect thermal anomalies.
- Identification of problems with structural connections and cables.
- Assessment of operating efficiency for the solar modules.
- Autonomous navigation along optimized routes, with no need for human intervention.

This approach makes it possible to systematically cover large areas, while reducing manual effort and the risks associated with traditional maintenance.

Integrating autonomous robotic systems into the management process for energy infrastructure represents a significant advance, in terms of digitalization strategies and automation for renewable energies. In scenarios involving large solar plants, ***uPathWay*** can facilitate safer operations, with better traceability and lower operating costs, which is helping to achieve important objectives on sustainability and energy efficiency.

In this way, GMV is continuing to demonstrate its commitment to applying disruptive technologies in strategic industries, by confirming the effectiveness of its ***uPathWay*** platform as a solution that can be adapted to multiple types of industry, such as energy, agribusiness, logistics, and critical infrastructure inspection.

GMV is revolutionizing data access with an intelligent solution based on IBM technology



■ GMV has developed a disruptive solution that is redefining the way in which organizations interact with their data. Based on IBM technology and powered by advanced artificial intelligence and natural language processing (NLP) capabilities, this tool lets its users query and explore complex data platforms just by using natural language, without no need for specialized technical knowledge.

With more than 95% accuracy, the solution facilitates agile and accurate searches by accepting simple questions. This is democratizing access to information, while also accelerating decision-making in environments where efficiency and accessibility are essential.

The integration of powerful, advanced analytical capabilities and interactive viewing is transforming the user experience, by offering immediate and relevant responses that intuitively extract value from the existing data. This collaboration with IBM is improving the solution's reliability and scalability, while also driving digital transformation in strategic industries and giving organizations a robust and innovative tool that is focused on the future.

GMV's *uTile PET* solution featured in World Bank report

■ The World Bank has recognized GMV in its report entitled "Assessing Technologies to Accelerate the Process of Monitoring, Reporting, and Verifying Emission Reductions Programs". In the report, it names ***uTile PET*** as an example of an innovative digital solution that allows organizations to perform secure and private calculations using distributed data, without the need for data transfers or other forms of data exposure.

The ***uTile PET*** solution represents a response to the increasing need that emission reduction programs have for innovative monitoring, reporting, and verification (MRV) technologies, by pursuing a triple goal of improving security, efficiency, and precision. The users of ***uTile PET*** are finding that it is perfectly aligned with these objectives, because it offers an innovative solution based on privacy-enhancing technologies (PETs), to perform secure, collaborative, and efficient processing of environmental data.

This tool has been designed to ensure data processing privacy and security, which means that it can facilitate the analysis of sensitive information without compromising its confidentiality. Thanks to its secure computing capabilities, the solution gives the various entities involved in the MRV process a way to collaborate when calculating and validating emission reduction data, without requiring direct access to the underlying information. This ensures compliance with international privacy laws and standards.

This recognition by the World Bank reflects the importance of privacy-enhancing solutions such as ***uTile PET*** in the context of the fight against climate change. This solution provides a clear example of how technology can contribute to transparency and efficiency when managing environmental data at the global level.

GMV is continuing to demonstrate its commitment to technological innovation as a way of addressing global challenges, by providing secure and efficient tools for managing and using data in critical areas such as environmental management and sustainability.

GMV and Paradores are bringing together technology and historical heritage in a unique experience

■ Spain's network of historic hotels, known as Paradores, has launched an innovative initiative that transforms a visit to these establishments into an immersive, accessible, and gamified cultural experience, through the use of mobile technologies and an interactive historical narrative. GMV is providing support for this ambitious project, by contributing its technological capabilities to make these virtual journeys possible and bring together historical heritage, innovation, and entertainment.

The project is based on a collaboration among five entities: Paradores de Turismo de España, GMV, the Contemporánea Foundation, the Technical University of Madrid General Foundation, and the company La Fábrica Gestión Más Cultura. It gives visitors an entirely new way to learn about history, and to hear the stories of eight of the iconic historical hotels belonging to the Paradores network: Gredos, Oropesa, Úbeda, Mérida, Hondarribia, Chinchón, Lerma, and Santo Estevo.

Thanks to the contribution made by GMV, users can gain access on their own mobile devices to a digital guided tour, which combines historical accuracy with an entertaining immersive experience. This approach is democratizing access to these forms of cultural heritage, while also putting the Paradores network at the forefront of cultural tourism innovation.

With this project, GMV is further solidifying its role as a leader in technological initiatives that promote history and culture, which is expanding the company's impact beyond the area of cybersecurity and reaffirming its commitment to developing innovative solutions for strategic industries.

Financiado por la Unión Europea
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GOBIERNO DE ESPAÑA
MINISTERIO DE INDUSTRIA, COMERCIO Y TURISMO

Plan de Recuperación, Transformación y Resiliencia

This project is part of the "Tourism Experiences in Spain" program sponsored by the Spanish Ministry of Industry and Tourism, identified as C14.I04.P01. PROVISIONALSJ21. It has funding from the European Union through the Next Generation EU funds, as part of the Spanish government's Recovery, Transformation, and Resilience Plan

GMV is supporting more sustainable industrial inspections using AI and robotics

■ In early May, GMV participated in a webinar entitled “AI and Robotics: Revolutionizing Industrial Inspections in a Sustainable Way”. This event was part of Spain’s National Green Algorithms Program (PNAV), and GMV was represented by Ángel Lázaro, Head of Robotics and Automation for Secure e Solutions in the company’s Industry sector.

Mr. Lázaro analyzed the main challenges facing industry today: high levels of human error, which accounts for 48.8% of operational deviations; safety and environmental risks arising from manual inspections, which have a 68% probability of overlooking critical faults; and loss of inspection reliability and quality caused by human operator fatigue.

In this context, GMV presented its technological offerings based on a combination of artificial intelligence (AI) and robotics, which are designed to enhance sustainability and operational efficiency. It was emphasized during the webinar that the use of AI is making it possible to optimize processes and reduce energy consumption during repetitive tasks, and that using autonomous robotics for hazardous tasks can improve safety and reduce workplace accidents. It was also mentioned that evidence now shows that incorporating artificial vision and intelligent analysis helps reduce defects in quality control processes by up to 90%, while also improving data traceability and minimizing generation of wastes.

During the webinar, real use cases were discussed, where these technologies have been applied in strategic areas such as energy, oil and gas, and the chemical and pharmaceutical industries. One of these case studies featured the use of autonomous robots for inspecting electrical substations, which has reduced inspection times and allowed full digitalization of the data obtained.

Execution of the projects presented has been possible thanks to the use of ***uPathWay***, which is a hardware-agnostic solution for managing robotic fleets, driven by artificial intelligence. This platform allows integration and coordination of different types of mobile robots in complex industrial environments, in order to optimize inspection routes, automate critical tasks, and facilitate data collection and analysis, all in a secure, autonomous, and scalable way.

GMV participates in workshop to introduce Spain’s Quantum Technologies Strategy 2025

On April 24th, GMV participated in a workshop on introduction of quantum technologies for Spanish institutions, organized by Spain’s Ministry of Science, Innovation, and Universities, in collaboration with the Ministry for Digital Transformation and Public Services. The potential of these technologies is reflected in the country’s “Quantum Technologies Strategy for Spain 2025 2030”, which has now been launched with an investment of €800 million.

Enrique Crespo, Head of Quantum Technology Solutions for GMV’s Secure e Solutions area, participated in a roundtable discussion entitled “Deploying Quantum Technologies”, which also featured representatives of key players such as Multiverse Computing, Telefónica, and Tecnalia, which are all companies committed to strengthening Spain’s quantum ecosystem. During the discussion, Mr. Crespo explained the CUCO project and its activities and contributions in the field of quantum computing, along with other initiatives now in progress in relation to the use of quantum technologies in cybersecurity and the space industry. He also emphasized GMV’s ongoing commitment to R&D and innovation in this area, and its collaborations with Spain’s leading research centers and the Spanish quantum ecosystem, in relation to quantum computing, sensorics, and communications.

The event underscored the importance of quantum technologies, because of their ability to solve complex problems in just minutes, when using traditional computing and previously existing methods would take centuries. Applications of these technologies in industry was another focal point at the workshop, such as for precise planning for energy grids, advancements in medicine, and climate risk simulations. The aim of all this is to position Spain as a leader in this field, especially in critical areas such as quantum computing and communications.

GMV discusses automation and cybersecurity for industry at Advanced Factories event

■ GMV has once again participated in Advanced Factories, which is a leading event focused on digitalization, automation, and robotics. This edition took place in Barcelona from April 8th to 10th.

The team from GMV team gave live demonstrations of ***uPathWay***, which is the company’s platform that allows centralized, scalable, hardware-agnostic management of mobile robots and autonomous vehicles in industrial settings. For the event, this solution had been integrated into a mobile robot produced by AER Automation and designed for sustainable protection of woody crops.

Powered by artificial intelligence (AI), ***uPathWay*** lets its users coordinate and monitor heterogeneous fleets of robots from a single, unified environment. This allows the robots to carry out complex missions such as inspections, logistics, or other tasks in environments that present risks for humans. It can be used with robots produced by any manufacturer, and can be integrated with external systems, with flexible addition of new functionalities. All of this makes ***uPathWay*** a successful tool for creating safer, more efficient, and more intelligent factories.

Javier Hidalgo, a cybersecurity solutions architect in GMV’s Secure e Solutions area, also attended the event and participated in a roundtable discussion organized by the Spanish association AMETIC, entitled “Cybersecurity for Intelligent Factories: Challenges and Solutions”. This discussion emphasized the importance of cybersecurity as a cross-cutting element that should be incorporated from the earliest design phases of any industrial digitalization project.

The panel members also emphasized their conclusion that the weakest link continues to be the operator, which underscores the importance of promoting ongoing training and a solid cybersecurity culture. They also agreed that senior management has an important role to play, through leadership and raising awareness, which are both essential for creating that culture at an organization. Finally, they pointed out that in order to ensure the sustainability of connected industry, cybersecurity has to be understood as a long term investment, not a one time expense.

GMV participates in the BIDA Observatory on managing generative AI at companies

In March, the BIDA Observatory, in cooperation with EAE Business School, organized a roundtable discussion entitled “Managing Generative AI at Companies”. This event brought together experts in artificial intelligence (AI) and technology, to analyze the impact that AI is having in the business environment and discuss strategies for its implementation.

The forum took place at the business school, and it attracted a significant crowd, with almost 150 attendees from 9 different countries. During the discussion, some important questions were raised regarding integration of generative AI at private-sector organizations. This led to a lively discussion with participation by recognized experts, including José Carlos Baquero, GMV’s Manager of Artificial Intelligence and Big Data for Secure e Solutions.

In the context of this technological revolution, the BIDA Observatory has published a “Guide for Managing Generative AI at Companies”, which offers a comprehensive perspective on how generative AI can be applied in the business world. The document’s publication was coordinated by Mr. Baquero in collaboration with Gema Pérez, GMV’s Head of Financial Market Business Development for Secure e Solutions.

The guide analyzes the impact of generative AI, along with its practical applications, models for integration, data protection implications, and lessons learned so far, all of which makes it a key reference tool for companies that want to successfully implement this new technology.

GMV presents its solutions for automation and robotics at Wine Innovation Week

At the end of March, GMV participated in Wine Innovation Week, which is a leading event sponsored by the INNOVI wine cluster. The purpose of this event is to encourage technological innovation for products and services developed for the wine industry. This gathering brings together key players from the agrifood ecosystem, and it presents a platform for sharing innovative solutions focused on improving the industry’s competitiveness and sustainability.

During the session devoted to demonstrations of innovation, Javier García, GMV’s Business Development Manager, and Ángel C. Lázaro, Head of Robotics and Automation for Secure e Solutions in GMV’s Industry sector, presented the company’s technological offerings focused on automation of industrial processes and integration of collaborative and autonomous robotics. The two experts discussed GMV’s experience with advanced automation projects in the agrifood sector, and they emphasized the impact of these technologies on production processes and their operational efficiency, traceability, and flexibility.

They put a special emphasis on the ***uPathWay*** solution, which is an advanced platform that GMV has developed for centralized, scalable, and hardware-agnostic management of mobile robots and autonomous vehicles in industrial settings. This tool makes it possible to orchestrate heterogeneous fleets of robots across the entire agrifood value chain, from primary production to final distribution. In this way, ***uPathWay*** represents an important solution for the wine industry, to provide it with more intelligent, adaptable, and sustainable operations, where activities can be performed in an uninterrupted manner.

GMV’s participation in this event has further demonstrated its commitment to digital transformation of the agrifood value chain, by integrating advanced technologies that can contribute real value to traditional industries.

GMV participates in enerTIC colloquium on resilience and sustainability in the energy sector

On April 22, the enerTIC conference entitled "NIS2 and ESG in Energy and Utilities: Security, Resilience and Sustainability" was held in Madrid. Almudena Nieto, business development manager of GMV's Secure e-Solutions Industry Sector, took part in the meeting together with executives and experts from companies like Moeve, Iberdrola, EDP, Engie, Naturgy, Shell, Nedgia, Capital Energy or Red Eléctrica, as well as representatives from institutions and academia.

During the colloquium, Ms. Nieto emphasized the strategic role played by digitalization for driving competitiveness and sustainability. She explained that this is taking place through the use of technologies like artificial intelligence, autonomous robotics, the internet of things (IoT), and quantum computing, with the aim of improving operational efficiency, enhancing employee safety, and constructing a more resilient energy model. She also stressed that Europe’s new NIS2 legislation can be seen as an opportunity for energy companies to achieve their required levels of readiness and find ways to become more resilient.

Among the main conclusions reached by the colloquium’s participants was that the NIS2 Directive and ESG criteria are redefining the strategies being followed in the energy sector, as companies recognize the need to strengthen their digital resilience and make progress with their sustainability commitments. The NIS2 Directive imposes additional obligations related to cybersecurity, and it requires direct involvement by senior managers for addressing digital risks and promoting a cross-cutting culture of security at their organizations. At the same time, ESG criteria are encouraging decisive actions to reduce carbon footprints and ensure sustainable growth. In this context, integrating advanced digital technologies has emerged as a key tool for adapting infrastructure, optimizing energy consumption, and enhancing operational safety and security. For the energy sector, these are all essential factors for maintaining competitiveness in the future.

By participating in this colloquium, GMV has further demonstrated its commitment to digital transformation in the energy sector, while expanding its role as a technological partner for solutions focused on a more intelligent, secure, and sustainable industry.

Jesús Serrano attends a meeting with Spain's Defense Minister

On May GMV's CEO, Jesús B. Serrano, took part in a key meeting with Spain's Defense Minister, Margarita Robles, together with other executives of Spain's main defense companies.

The meeting, also attended by the Secretary of State for Defense, Amparo Valcarce, was held in the headquarters of the Ministry of Defense and was framed within the Industrial and Technological Plan for Security and Defense, the aim of which is to modernize national defense capabilities and consolidate Spain as a reliable and strategic member of the European Union. In addition, one of the fundamental pillars of this plan is the promotion of the defense industrial fabric, which seeks to eliminate external technological dependence and promote territorial cohesion through the creation of new industries and jobs.

The meeting underlined the importance of public-private collaboration for strengthening the defense industry and national security. In this context Jesús Serrano reaffirmed GMV's commitment to providing advanced technological solutions to strengthen the operational capabilities of the armed forces and contribute to Spain's technological autonomy.

GMV shares its technological vision for the space and defense sectors at the CREO 2025 Forum

GMV's CEO, Jesús B. Serrano, took part in the CREO 2025 Forum held in May. The event, organized by Cinco Días and Prisa Media, brought together business leaders to discuss Spain's economic and social future.

In a context shaped by the reinforcement of European strategic capabilities following the war in Ukraine, the forum focused on technological specialization as a driver of competitiveness in key sectors such as defense and space.

Held in Madrid and closed by His Majesty the King, the CREO Forum has become a platform for reflection and proposals where representatives from the country's leading companies analyze the transformations needed to ensure economic progress, business leadership, and industrial sustainability.

This year's edition centered on defense, digitalization, energy transition, and the role of technology.

During his speech, Serrano highlighted GMV's role as a key technology player, with more than 3,500 employees and total revenues approaching €455 million. He described the Government's decision to bring forward its target of allocating 2% of GDP to defense by 2025 as "an excellent opportunity," and called for collaboration between public administrations and industry to take on this shared challenge. "For GMV, competitiveness is at the heart of our decisions, and technology is the key to achieving it," he stated.

He also advocated for a development model based on cooperation among technology companies as a means to strengthen Europe's strategic autonomy, in contrast to sector consolidation proposals.

GMV participates at the 2025 COTEC Europe Summit, to promote a more competitive business environment

The event was attended by high-profile figures such as the King of Spain, Felipe VI, and the President of Portugal, Marcelo Rebelo de Sousa

GMV recently attended the 18th edition of the COTEC Europe Summit, which took place on May 13th and 14th in Coimbra, Portugal. This event brought together leading figures from the worlds of business, academia, and government, to discuss the subject of how to strengthen Europe's competitiveness in a global context marked by constant change and transformation.

GMV's President, Mónica Martínez Walter, attended the event and took part in the session "Turning Europe into a Healthier Business Environment", where she emphasized that "in Europe, we need projects that promote free competition within the ecosystem of innovative companies." GMV's participation at the summit also featured a talk by Alberto de Pedro, the company's General Manager in Portugal, during the session on Space and Defense.

The event was also notable for the presence of high-level figures such as the King of Spain, Felipe VI; the President of Portugal, Marcelo Rebelo de Sousa; the President of Italy, Sergio Mattarella; and the former Prime Minister of Italy and ex President of the European Central Bank, Mario Draghi. The summit coincided with the 18th anniversary of this international forum, which is sponsored by the COTEC Foundation's branches in Spain, Portugal, and Italy.

By participating in gatherings like the COTEC Europe Summit, GMV is reinforcing its commitment to building a European production model based on innovation, public-private collaboration, and technological development.

Forbes magazine ranks GMV as one of the best companies to work for in 2025

GMV has once more taken its place as one of Spain's best companies to work for. Forbes magazine has recognized this by including the company, for the second year running, in the VII Ranking of the 100 best companies to work for in Spain in 2025. This study is one of the most prestigious among those carried out in Spain, as it takes into account the opinion of the employees of 2,000 Spanish companies with more than 250 employees.

The report, through surveys carried out in collaboration with Sigma Dos, compiles the opinion that employees have of their organization on issues as diverse as equal pay, internal promotion systems, emotional salary, work-life balance, the working environment and digital disconnection from work, among many others. Based on this data, the study is able to determine the degree of satisfaction and the overall assessment that people make of the company and draws up a list of the top 100.

The magazine, which in its Spanish edition has been publishing this ranking for the last seven years, has included GMV for the second time running and reflects on the importance of companies “not only betting on technology but also redesigning their organizations to place internal talent at the heart of the change”. This concept fully coincides with GMV's vision of putting people at the heart of the organization, fostering their emotional and physical wellbeing, facilitating work-life balance by means of flexibility policies and its hybrid model and safeguarding equality between men and women, inclusion and respect for everyone.

Preparing Portugal for the new space era: A collective endeavor

The 1st Space Education Summit convened an unprecedented gathering of universities participating in the New Space Portugal initiative, focusing on the present and future of aerospace education in Portugal.

Hosted by the University of Aveiro, FEUP, University of Minho, University of Beira Interior, IST, University of Évora, Nova SBE, and the Portuguese Air Force Academy, this conference targeted students and industry professionals, providing a platform to discuss and debating the challenges and opportunities in this burgeoning sector. The aerospace industry promises transformative impacts on society in the critical areas of Sustainability, Security, Defense, and beyond.

During the panel on “Skills for the Space Economy,” Teresa Ferreira shared insights into GMV’s role in Portugal’s space sector and its growing contributions to major European space missions and programs. Teresa Ferreira, GMV's Director of Satellite Navigation Systems in Portugal highlighted the company’s strategic positioning in the emerging space economy, emphasizing innovation, autonomy, and resilience, particularly amidst the current geopolitical dynamics.

This summit served as a unique opportunity in preparing Portugal’s ecosystem for the challenges of the new space era, with ESA as one of the key pillars of this transformation.

Portugal is poised to lead the European space economy by cultivating skills, talent, and innovation that will directly impact society.

GMV renews its support for the STEM4ALL educational project

GMV reaffirms its commitment to inclusive and groundbreaking education by renewing its support for the STEM4ALL project, an initiative it is carrying out in collaboration with ROBOTIX® Hands-on Learning, an organization specializing in active learning through educational robotics.

This specific GMV program, set up in CEIP Doctor Severo Ochoa in Madrid, aims to bring technology, programming and robotics closer to students in highly complex educational environments, promoting a more inclusive, equitable and groundbreaking education.

During the 2024/25 school year, a total of 172 children between 8 and 12 years old have participated in more than 90 hours of training in STEM skills.

The activity has been developed using state-of-the-art technological resources, such as the Codey Rocky and Spike Prime robots, which have allowed students to work on scientific, digital and social contents in an environment adapted to their needs.

The evaluation of the program has been highly positive. All participating teachers have expressed their satisfaction with the initiative and have recommended its continuity. Likewise, a significant increase has been observed in the creativity, confidence and interest of students in STEM disciplines. The project has also contributed to reducing the digital divide from an early age, favoring equal opportunities in access to technological content. As a result of the impact achieved, the center has decided to integrate the robotics project into the curriculum of all participating grades, thus consolidating its presence in the school's educational plan.

With an eye to the coming academic year 2025/26, GMV will renew its support for STEM4ALL in the conviction that universal access to science and technology training is an essential tool for generating opportunities and preparing new generations for the challenges of the future.

GMV drives the training of future talent

GMV is one of seven tech companies that have come together to support the new Bachelor’s Degree in Communications and Information Engineering (LECI), launched by NOVA FCT. We are proud to contribute to talent development in key strategic areas actively.

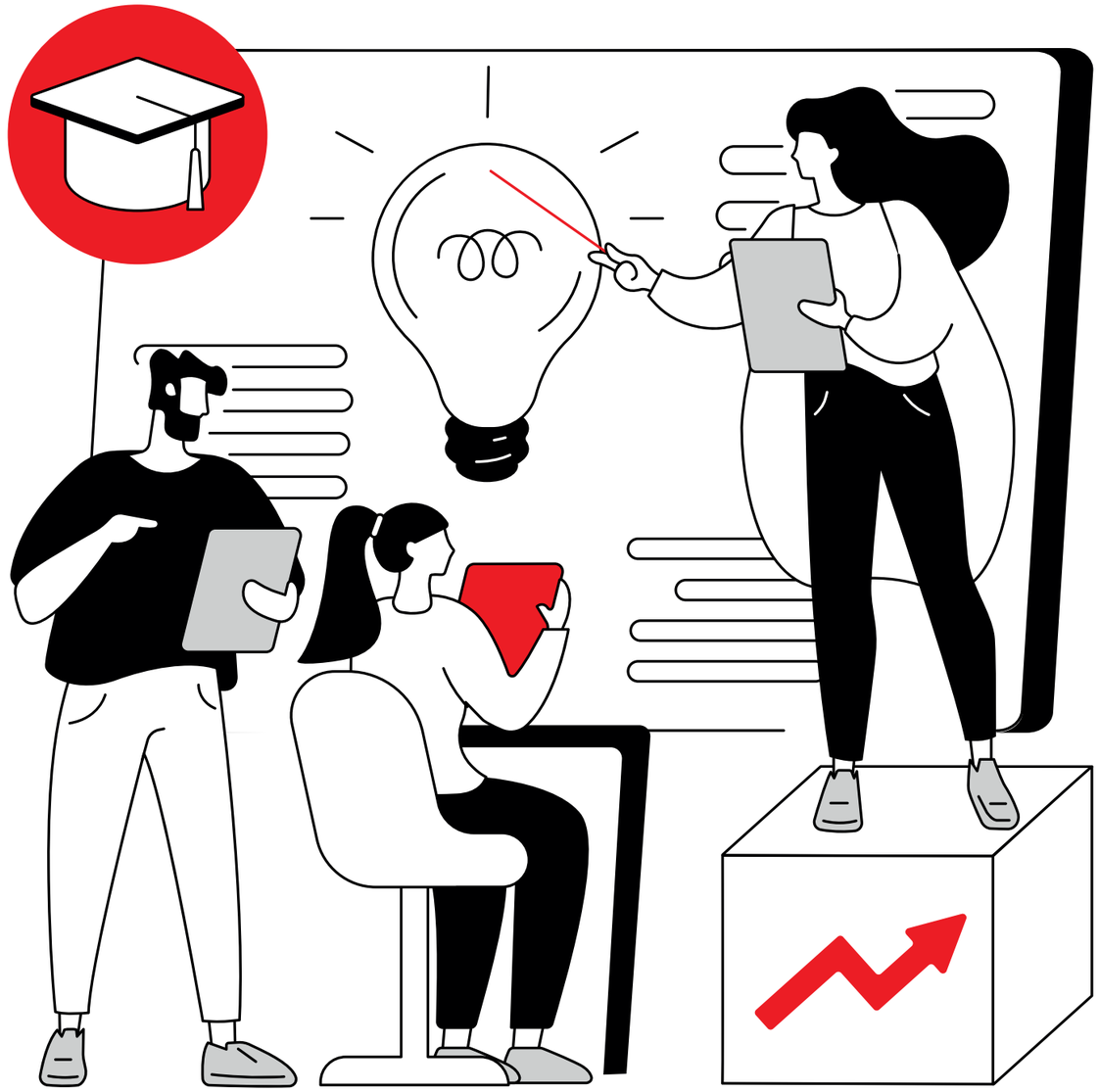
In addition to funding tuition fees for students in the first three editions of the programme (starting in the 2025/2026 academic year), GMV will also share real-world case studies and practical examples from our work, helping to integrate applied knowledge into the curriculum and promote early talent identification and recruitment.

At the launch event, Marta Vilar, Head of Talent Development at GMV, joined the discussion panel on the importance of strong ties between universities and companies in preparing resilient, highly skilled professionals for an increasingly demanding job market.

The collaboration agreement was formally presented to Alberto de Pedro, General Manager of GMV in Portugal, marking the official launch of a partnership that further strengthens our relationship with the academic community and our role as an active agent in future skills' development.

TALENT

Promoting young talent for the challenges of the future



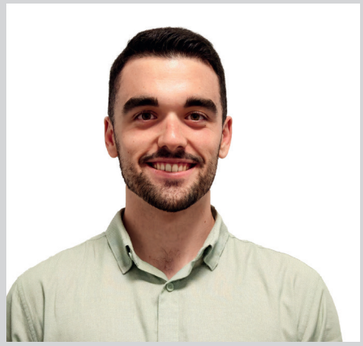
When students decide to pursue an educational opportunity, whether this means vocational training, a university program, or a master's degree, they do it with their sights set on a dream: to transform their personal interests into a meaningful professional career. However, the path from the classroom to the workplace is rarely a straight line, and many young people face challenges when looking for their first real opportunity.

At GMV, we understand these challenges, and we are ready to them on as our own. We firmly believe that the best way to learn is through experience, and this is why throughout the entire year we offer a program of internship grants, which let us open our doors to students in their final years of study. From day one, our interns become members of real work teams, and they find out how their own knowledge can be put to use in an innovative, collaborative environment.

Summer is undoubtedly one of the most vibrant times for this program. This is when the students tend to have more availability, so they can immerse themselves more deeply in their projects. For GMV, this provides fresh energy, new perspectives, and essential talent. Each year we have been receiving an increasing number of applications, which reflects a growing interest in these opportunities that can not only give the students work experience, but also change the way they understand their own profession. In many cases, the students themselves are able to choose the area they want to work in, or the project they want to join, based on their own interests and strengths. This helps creates a real connection, where motivation is inspired by freedom and a sense of purpose.

Since the time of its creation, this program has offered students a real pathway into the professional world, while also representing a valuable source of talent for GMV. Not surprisingly, 7 out of every 10 interns will end up joining GMV as employees, which demonstrates the success of an approach that benefits both parties: the students grow, learn, and develop a career plan, while GMV is able to discover and hire some of the professionals it needs for the future. At GMV, this is something we are extremely proud of.

Jaime Tapiador Aparicio



On March 24th, 2025, I began my internship at GMV as part of the Workplace Training requirement for my educational program in Multiplatform Application Development.

I was pretty nervous at first, but fortunately I arrived together with a fantastic group of interns who I still stay in contact with, even though our workplaces are distributed in different buildings and areas. From the very first day I felt welcomed by my team, and I was able to relate to its members in a very natural way. They also made it clear that I should feel free to ask questions at any time.

This gave me a chance to integrate with the others and put my soft skills into practice. The project I've been working on is both exciting and challenging. I was given an individual task of developing a mobile app for a military management system, which has allowed me to demonstrate the skills I acquired during my studies, while I continue to learn and even push the boundaries of my comfort zone. Some elements of the program I would emphasize are the excellent quality of GMV's facilities, where I have the latest resources and equipment at my disposal. In fact, I've always had access to everything I've needed in order to complete my project.

I would also emphasize the opportunity that arose when I was hired to work at the company, specifically in its Defense area. This is now allowing me to put into practice the knowledge I gained during my internship, and I'm still discovering new ways to make my app useful for its intended purpose, while continuing to improve its performance. My internship really gave me a chance to get my future career off the ground.

Sara
Sánchez Mota

My GMV story began thanks to an internship grant I received through the Technical University of Madrid (UPM), although what seemed at first to be a “summer internship” turned out to be a launching pad for my career (a good metaphor, I think, since I now work in the space industry). I had the good fortune (and I’m not just saying this) to become part of the best possible team, with an abundance of communication, an incredible work environment, and an agile methodology that got me hooked from the very beginning.

Although I was just an intern, from my first day at the company I was treated like any other team member. They explained everything to me with infinite patience (thank goodness, because I had lots of questions), and I felt like I had plenty of freedom to learn, contribute, and grow. At GMV, interns like me were never treated like we were just passing through: if you like what you’re doing, and you do it well, there’s a good chance that they will keep you at the company. And that’s exactly what happened to me.

In fact, when my internship ended and I became an employee, I hardly noticed the difference: I had already become part of my team long before that. It was easy to build connections with my colleagues, by getting to know them (sometimes even more than expected) during lunches together, or breaks in the cafeteria, all in an environment where talent is truly valued.

Three years later, I’m still working at GMV in the space area. Although our projects involve high orbits, we also know how to keep our feet on the ground. I’m now very grateful for that initial opportunity, which was the first step that made it all possible.

Beatriz
Maria Rodrigues

My career at GMV started with an internship, which was part of the project required to complete my master’s degree. It was focused on the use of low Earth orbit (LEO) satellites for positioning, navigation, and timing (PNT) solutions, as a way to complement traditional global navigation satellite systems (GNSS), especially in complex environments.

This opportunity gave me real-world experience, which combined in depth theoretical research with an applied focus, using software to generate and process high-quality signals.

What made this phase of my career so special was the balance between independence and support, all in an excellent working environment. I had the freedom to explore and define my own technical and practical approach, but always with assistance from my truly helpful team. All of this gave me a clear idea about what it’s actually like to work in the space industry, and I was able to confirm that this is really where I want to be.

After the internship, I was thrilled to receive an employment offer, to join the team as a GNSS engineer. Now I’m working mainly with LEO signals in the context of LEO PNT systems, with an emphasis on signal analysis and processing. I also provide support for a variety of projects related to satellite navigation.

Looking back, my internship was much more than just a master’s degree project: it was the starting point for my professional career in space engineering. I still have great enthusiasm for making further progress in this field, by contributing to innovative initiatives that will surely be taking me far beyond the place where I began.

GMV in the world

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