

## **What Does the Future Hold for Military and Commercial Systems Dependent on Current GPS?**

With assured positioning, navigation and timing (APNT) and low-Earth orbit PNT (LEO PNT) coming on strong, what does the future hold for military and commercial systems dependent on the current configuration of GPS? Should military and commercial platforms be modified to include APNT, for now, with an eye to adding LEO PNT in the future? Should they integrate these two systems, or rely on one or the other as standalone systems?

Government and industry agree that interference with GPS and all GNSS is an increasing threat as jamming and spoofing technologies evolve. This has prompted government support for APNT to bolster GPS. A Feb. 12, 2020, Executive Order required a comprehensive update to national policy on PNT services by the federal government, and by owners and operators of critical infrastructure to strengthen the resilience of critical infrastructure.

Research, development and production have improved the performance — positioning, timing and (desired) accuracy — of GNSS PNT and the ability to operate in RF-challenged environments. APNT gives the U.S. military a reliable way to further enable GPS, or to act as an alternative to it, by utilising other sensors, such as inertial navigation systems, differential GPS, visual sensors, lidar, radar, radios and star trackers that complement GPS.

Read more in *GPS World* article. [https://www.gpsworld.com/what-does-the-future-hold-for-military-and-commercial-systems-dependent-on-current-gps/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230315002&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/what-does-the-future-hold-for-military-and-commercial-systems-dependent-on-current-gps/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230315002&oly_enc_id=1784A2382467C6V)

2023-03-17



## **Qantas Pilots Subject To GPS Jamming From ‘Chinese Warships’**

Qantas pilots are receiving radio interference and GPS jamming from what the airline believes are Chinese warships in the Asia Pacific.

The revelation came in [a note to pilots issued by the business](#) on Thursday 16 March, which advised crew members to fly onwards but report the matter to air traffic control.

However, the Flying Kangaroo insisted there had been “no safety events” reported related to the problems.

It follows the International Federation of Air Line Pilots’ Associations (IFALPA) [issuing a statement earlier this month](#) confirming the interference, which it said was prevalent over the South China Sea, the Philippine Sea and east of the Indian Ocean.

It told members it was working with IATA and the Air Navigation Service Providers (ANSPs) to tackle the issue and even revealed that, in some cases, airlines adjusted their flight path to mitigate the matter.

Read more in *article...*

<https://australianaviation.com.au/2023/03/qantas-pilots-subject-to-gps-jamming-from-chinese-warships/>

2023-03-19



## **NASA Partners with Firefly Aerospace for Lunar GNSS Mission**

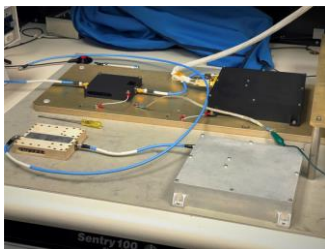
As a part of the NASA Commercial Lunar Payload Services initiative, [Firefly Aerospace](#) will land the Blue Ghost lander on the lunar surface in 2024. Onboard, the [Lunar GNSS Receiver Experiment \(LuGRE\)](#) payload will determine whether signals from two GNSS constellations can reach the lander and provide precise navigation on the [moon for future missions](#).

During a 12-day mission in the moon's Mare Crisium basin, LuGRE will obtain the first GNSS fix on the lunar surface and receive signals from both GPS and Galileo. The LuGRE payload is managed by NASA's Space Communications and Navigation program office.

This payload is a collaborative effort between NASA and the Italian Space Agency to expand the capabilities of Earth-based navigation systems. Navigation engineers at NASA's [Goddard Space Flight Center](#) in Greenbelt, Maryland, have been testing the payload's GNSS receiver and low noise amplifier. The receiver was developed and built by the Italian company Qascom.

Read more in *GPS World* article. [https://www.gpsworld.com/nasa-partners-with-firefly-aerospace-for-lunar-gnss-mission/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230308004&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/nasa-partners-with-firefly-aerospace-for-lunar-gnss-mission/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230308004&oly_enc_id=1784A2382467C6V)

2023-03-08



## Australia Too Reliant on Foreign Satellites for Navigation, Warns Report

The '2030 Space+Spatial Industry Growth Roadmap', handed over to the ASA, advises prioritising local supply chains and Australian industry content to drive sustainable growth.

The report, [which you can read here](#), is designed to inform policymakers to commit to an integrated space and spatial industry, and lists nine key objectives it says are necessary for tackling a range of issues, including climate change and disaster resilience. It was overseen by Dr Peter Woodgate, [who died in December last year](#), and involved 18 months of industry consultation.

Organisations involved included [SmartSat Cooperative Research Centre](#), the [Surveying and Spatial Sciences Institute](#) and the [Spatial Industries Business Association \(SIBA\)](#).

Acting Chair of the 2030 Space+Spatial Steering Committee, Glenn Cockerton, said, “The 2030 Space+Spatial Roadmap represents the lasting legacy of Dr Peter Woodgate and aims to help Australia take advantage of a golden opportunity to bring our national space and spatial industries closer together.

Read more in *article*...

[https://www.spaceconnectonline.com.au/industry/5819-australia-too-reliant-on-foreign-satellites-for-navigation-warns-report?utm\\_source=undefined&utm\\_campaign=14\\_03\\_23&utm\\_medium=email&utm\\_content=1&utm\\_emailID=7b4c7db616168fe865f3a2f96500fa1904548b5145c6ae1709d81f43459c19a2](https://www.spaceconnectonline.com.au/industry/5819-australia-too-reliant-on-foreign-satellites-for-navigation-warns-report?utm_source=undefined&utm_campaign=14_03_23&utm_medium=email&utm_content=1&utm_emailID=7b4c7db616168fe865f3a2f96500fa1904548b5145c6ae1709d81f43459c19a2)

2023-03-14



### **GMV Will Develop the Future Galileo Second Generation Capabilities**

The European Space Agency (ESA) acting on behalf of the European Union Agency for the Space Programme (EUSPA) and in the name of the European Union represented by the European Commission (COM) has awarded technology multinational GMV a contract for the development of the Galileo Second Generation System Test Bed (G2STB).

The G2STB will provide ESA with a key system verification and validation facility in support of its role of Galileo System Development Prime, enabling a wide range of Galileo system monitoring, troubleshooting, prototyping and experimentation activities.

The G2STB project will ensure a smooth transition from the Galileo First Generation (G1G) to Second generation (G2G), capitalising and building on the heritage of key G1G legacy system tools. In particular, the G2STB is one of the key infrastructure elements that ESA is developing for the correct functioning of the Galileo Second generation satellites.

This new generation of satellites represents a major step forward for the Galileo constellation, incorporating numerous technology updates. ESA has prepared new procurements to ensure that the key technology elements required in the G2G ground segment are properly covered.

Read more in *GPS Daily* article.

[https://www.gpsdaily.com/reports/GMV\\_will\\_develop\\_the\\_future\\_Galileo\\_Second\\_Generation\\_capabilities\\_999.html](https://www.gpsdaily.com/reports/GMV_will_develop_the_future_Galileo_Second_Generation_capabilities_999.html)

2023-03-14



### **BeiDou and GNSS Headline ISSN 2023**

The International Symposium on Satellite Navigation 2023: Advances, Opportunities and Challenges (ISSN 2023) will take place Nov. 20-22 in Jiaozuo, Henan, China.

ISSN 2023 will provide a platform for GNSS scientists and engineers to communicate and exchange theories, methods, technologies, applications and future challenges.

The event is open to all scientists who may have the latest results and developments in BeiDou (BDS) and GNSS+, including constellations, signals, orbits, receiver design and multi-sensor fusion, as well as positioning, navigation and timing theory, algorithms, models and applications in engineering and Earth science.

Manuscripts on new advances in multi-GNSS and other regional systems, compatibility, interoperability and new applications are also welcome.

ISSN 2023 is jointly sponsored by Henan Polytechnic University and the Editorial Office of Satellite Navigation.

Read more in *GPS World* article. [https://www.gpsworld.com/beidou-and-gnss-headline-issn-2023/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230301002&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/beidou-and-gnss-headline-issn-2023/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230301002&oly_enc_id=1784A2382467C6V)

2023-03-02



## Navigation Lab Exploring Galileo's Future - and Beyond

Would you like to know the future of satellite navigation? Try ESA's Navigation Laboratory. This is a site where navigation engineers test prototypes of tomorrow's user receivers, using simulated versions of the navigation signals planned for the coming decade, such as set to be transmitted from Galileo's Second Generation satellites.

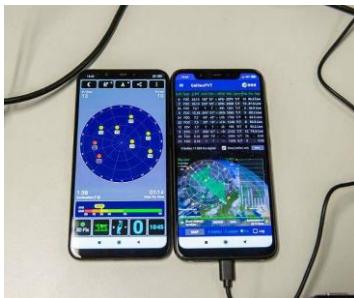
Jose Antonio Garcia Molina, heading ESA's Radio Navigation Systems and Techniques section, explains: "The Nav Lab has been fundamental for the design and development of the Galileo First Generation and is a key element for ongoing Galileo Second Generation activities. We're currently developing and evaluating test user receivers for this coming generation of satellites, so we have to simulate the new signals and services they're being designed for, with terrestrial 6G signals and beyond providing backup coverage."

Paolo Crosta, heading ESA's Commercial User Segment and Navigation Systems Validation section, adds: "The same approach was essential with Galileo First Generation. We began testing our first receivers many years in advance of the constellation being in place, because we needed a way of exploring the benefits they would bring once they were in place."

Read more in *GPS Daily* article.

[https://www.gpsdaily.com/reports/Navigation\\_Lab\\_exploring\\_Galileos\\_future\\_and\\_beyond\\_999.html](https://www.gpsdaily.com/reports/Navigation_Lab_exploring_Galileos_future_and_beyond_999.html)

2023-03-09



## **Final GPS III Satellite Available For Launch**

Space Systems Command (SSC) has declared GPS III Space Vehicle 10 (SV10) available for launch, marking completion of constellation modernisation efforts and production for the GPS III program.

“The completion of the tenth, and final, GPS III space vehicle is a significant milestone for GPS modernization,” said Scott Thomas, GPS III program manager for the GPS Space Vehicles Acquisition Delta within SSC’s Military Communications and PNT directorate. “This would not have been possible without the collaboration, communication, and accountability of our industry and government partners. The GPS III program contributions underpin U.S. national security needs for our warfighters and for more than four billion GPS users worldwide.”

GPS III satellites deliver enhanced performance and accuracy through a variety of improvements, including increased signal protection with improved accuracy. GPS III also delivers a new L1C signal designed for interoperability with similar GNSS, and expands the civilian L5 signal, dubbed safety-of-life, which is not yet operational.

Read more in *GPS World* article. [https://www.gpsworld.com/final-gps-iii-satellite-available-for-launch/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230222003&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/final-gps-iii-satellite-available-for-launch/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230222003&oly_enc_id=1784A2382467C6V)

2023-02-24



## **Who Runs GPS?**

Nearly 50 years ago, in December 1973, the Defense Systems Acquisition Review Council approved the Navstar Global Positioning System for entry into Phase I of development. Since then, through its development, deployment and continuing modernisation, GPS has grown into a complex program. It is operated by the

Department of Defense based on legislation from Congress, executive orders from the White House, and policies established jointly with the Department of Transportation. It supports U.S. military missions as well as myriad scientific, commercial and consumer applications around the planet. Of course, the last category, with its billions of users, now dwarfs all the other ones combined.

The GPS program, with an annual budget of nearly \$2 billion and no user fees, is a gift from U.S. taxpayers to the world. It has staff in Washington, D.C.; at the Pentagon in Arlington, Virginia; at Schriever Space Force Base, Colorado; at the Space Systems Command at Los Angeles Air Force Base, California; at Cape Canaveral, Florida; at the U.S. Coast Guard Navigation Center in Alexandria, Virginia; and at GPS ground antennas in additional locations around the world. From the White House to Congress to aerospace companies, from military officers to civilian civil servants, from policy makers to engineers, from the East Coast to the West Coast to remote islands in the Pacific, Indian and Atlantic Oceans, GPS is a vast enterprise — most of which is little known even to people in the industry and virtually unknown to the public.

Read more in *GPS World* article. [https://www.gpsworld.com/who-runs-gps/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230222003&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/who-runs-gps/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230222003&oly_enc_id=1784A2382467C6V)

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