

## Lockheed Martin Eyes International Customers for GPS Augmentation Systems

The availability of a new GPS navigation signal for civilian users is creating market opportunities in so-called satellite-based augmentation systems — known as SBAS — that countries around the world are developing or upgrading to support transportation and other industries, said Andre Trotter, Lockheed Martin's vice president of navigation systems.

Six GPS 3 satellites that broadcast the L1C signal have been launched since 2018, the most recent one last week. GPS 3 is a modernised version of the U.S. military's Global Positioning System satellites that broadcast positioning, navigation and timing signals. Compared to earlier generations, the GPS 3 satellites provide military users extra protection from jamming attacks but one of its most significant features is the L1C signal for civilian users that is interoperable with Europe's Galileo navigation satellites.

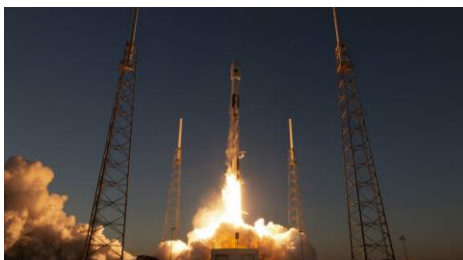
"The company developed what it calls a 2nd generation SBAS that takes advantage of both GPS L1/L5 and Galileo E1/E5 signals to provide more accurate navigation and positioning, and reduce dependence on any one system," Trotter told *SpaceNews*.

Lockheed Martin in September won a \$1.18 billion 19-year contract to develop and operate the Southern Positioning Augmentation Network (SouthPAN) for the governments of Australia and New Zealand. The system is expected to be operational by 2028. "There is a significant amount of testing that must go on in order for the signals to be certified for different types of use, whether that be safety-of-life or commercial aircraft operations," Trotter said.

Read more in *article*...

<https://spacenews.com/lockheed-martin-eyes-international-customers-for-gps-augmentation-systems/>

2023-01-22



## Galileo High Accuracy Service Goes Live!

Galileo, European Union Global Navigation Satellite System (GNSS), begins the delivery of its High Accuracy Service (HAS) today as officially announced by Thierry Breton, European Commissioner for Internal Market, “feeding a prosperous market for innovative applications – from farming to drone navigation and autonomous driving.”

Galileo is now the first Global Navigation Satellite System (GNSS) providing free-of-charge, high accuracy Precise Point Positioning (PPP) corrections worldwide both through the Galileo signal in space (E6-B) and via the internet.

The precise corrections provided by the Galileo HAS will allow users to improve the accuracy associated with the orbit, clocks and biases provided through the Galileo Open Service broadcast navigation messages and the GPS Standard Positioning Service navigation data. These corrections enable the computation of a high accuracy positioning solution in real-time when processed by an appropriate algorithm in the users’ receivers tracking the Galileo E6-B signal.

Read more in *article...*

[https://www.euspa.europa.eu/newsroom/news/galileo-high-accuracy-service-now-operational?fbclid=IwAR3cSA0vr\\_4mGWaC4oTpW5AEj\\_qxuDEVI2E4ncDCY4uZg12AcoBTy7MxBNs](https://www.euspa.europa.eu/newsroom/news/galileo-high-accuracy-service-now-operational?fbclid=IwAR3cSA0vr_4mGWaC4oTpW5AEj_qxuDEVI2E4ncDCY4uZg12AcoBTy7MxBNs)

2023-01-24



## SpaceX Launches Next-generation GPS Satellite

SpaceX fired a new GPS satellite into orbit on behalf of the US military on Wednesday, continuing an effort to bolster the constellation of global positioning and navigation satellites that underpin smartphone [apps](#), wartime operations and more.

The GPS satellite launched aboard a SpaceX Falcon 9 rocket at 7:24 a.m. ET from the Cape Canaveral Space Force Station in Florida.

The mission carried the sixth spacecraft in a new generation of GPS satellites, called GPS III, to an orbit about 20,200km above the Earth’s surface, where

more than 30 GPS satellites are currently operating. They swing around the planet once about every 12 hours and constantly beam radio signals to determine the precise location of objects on the ground. The next-generation GPS III satellites, built by [Lockheed Martin](#), will modernise that system, with plans to build up to 32 of the satellites, including the six that have launched since 2019.

Read more in *article...*

<https://edition.cnn.com/2023/01/18/world/spacex-gps-3-satellite-launch-scen/index.html>

2023-01-18



## **DHS Report on Denver Jamming – More Questions Than Answers**

The Cybersecurity and Infrastructure Security Agency (CISA) at the Department of Homeland Security (DHS) recently released a three page “[CISA Insights](#)” document titled “[Global Positioning System \(GPS\) Interference](#).” The January 2022 GPS jamming incident in Denver is discussed on the first page as an example of bad things that can happen and why GPS users should take precautions against interference.

Issued eleven months after the event, the report provides little new information, and leaves several important questions unanswered.

Read more in *GPS World* article. [https://www.gpsworld.com/dhs-report-on-denver-jamming-more-questions-than-answers/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD230111002&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/dhs-report-on-denver-jamming-more-questions-than-answers/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD230111002&oly_enc_id=1784A2382467C6V)

2023-01-12



## **EUSPA, European Commission Release Galileo Receiver Guidelines**

The European Union Agency for the Space Programme (EUSPA) and the European Commission recently published two new documents outlining Galileo receiver guidelines: the Galileo Open Service Navigation Message Authentication (OSNMA) Signal-in-Space (SIS) Interface Control Document (ICD) and the Galileo Open Service Navigation Message Authentication (OSNMA) Receiver Guidelines.

The documents, which get us one step closer to OSNMA, specify the baseline applicable to the OSNMA service provision phase that will begin after the OSNMA Service Declaration, according to EUSPA. This allows users to prepare before the declaration.

“These documents are applicable to the coming OSNMA service provision phase and have been developed as an evolution of the Galileo OSNMA User ICD for test phase (v1.0) and the Galileo OSNMA Receiver Guidelines for Test Phase (v1.1),” according to EUSPA. “The publication of these two documents is an important milestone in the OSNMA service roll-out logic.”

Read more in *Inside GNSS* article. <https://insidegnss.com/euspa-european-commission-release-galileo-receiver-guidelines/>

2023-01-06



## **HawkEye 360 to Monitor GPS Interference in Support of the US Space Force**

HawkEye 360 Inc., the world's leading commercial provider of space-based radio frequency (RF) data and analytics, announced that Slingshot Aerospace awarded the RF data provider a contract to provide data for Slingshot's space-based monitoring and detection of RF threats and to support Slingshot's proliferated Low Earth Orbit (pLEO) Data Exploitation and Enhanced Processing (DEEP) program for the U.S. Space Force's Space Systems Command (SSC).

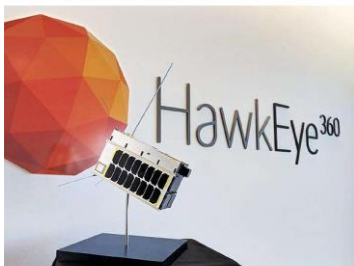
"GPS is heavily integrated in the day-to-day operations of our global landscape, but one signal interference by an adversary can disrupt many functions of an economy and military," said Alex Fox, HawkEye 360 Chief Growth Officer.

"Through this partnership with Slingshot Aerospace, and the cooperative support of the Space Systems Command, HawkEye 360 is thankful for the opportunity to add an extra dimension to GPS interference discovery and incorporate our unique capabilities into the U.S. Space Force architecture to prevent and combat electronic warfare."

Read more in *GPS Daily* article.

[https://www.gpsdaily.com/reports/HawkEye\\_360\\_to\\_monitor\\_GPS\\_interference\\_in\\_support\\_of\\_the\\_US\\_Space\\_Force\\_999.html](https://www.gpsdaily.com/reports/HawkEye_360_to_monitor_GPS_interference_in_support_of_the_US_Space_Force_999.html)

2023-01-20



**S. Korea Developed Next-gen GPS Satellites, Boosting its Growing Aerospace Ambitions**

According to DIGITIMES Research, South Korea has built a common standard platform for 500kg next-generation mid-size satellites, suitable for various payloads such as electro-optical cameras, high-spectral resolution instruments, imaging radar, and microwave sensors. This will be advantageous in shortening development time and reducing costs.

South Korea has developed four types of satellites: small, medium, multipurpose and GEO observation satellites. The first three operate in low earth orbit (LEO) at an altitude of less than 1000 km, which are related to the development of LEO communication satellites for 6G, while the geosynchronous equatorial orbit (GEO) observation satellites could potentially serve as the technical foundation for South Korea's development of its own global positioning system (GPS), said DIGITIMES Research Researcher Zhenyu Tu.

South Korea currently uses the American GPS signal for its positioning and plans to construct a satellite-based augmentation system (SBAS) to improve accuracy, which could help accelerating the development of self-driving technology such as autonomous vehicles and drones in South Korea. South Korea aims to establish its own GPS service by 2035, further reducing positioning errors to the centimetre level.

Read more in *article...*

<https://www.digitimes.com/news/a20230103VL206/gps-satellite-south-korea.html>

2023-01-03



## **Ukraine Attacks Changed Russian GPS Jamming**

Two Russian airbases deep inside the country were attacked on December 5: the Engels-2 base in the Saratov region and Dyagilevo near Ryazan. The next day an oil tank at the Kursk airfield closer to the border with Ukraine was hit and set on fire.

Reports from Russian witnesses and unofficial sources in Ukraine indicate that the attacks were carried out with UAVs operated by the Ukrainian military.

The Russian government has long interfered with reception of GPS signals, especially near and within its own borders. The early December attacks seem to have motivated an increase in this activity.

Information displayed by the website [GPSJam.org](https://www.gpsjam.org) indicates that, on the first day of the attacks, GPS interference was detected around Moscow, at two airbases to the east, and near the Engels-2 airbase.

Read more in *GPS World* article. [https://www.gpsworld.com/ukraine-attacks-changed-russian-gps-jamming/?utm\\_source=Navigate%21+Weekly+GNSS+News&utm\\_medium=Newsletter&utm\\_campaign=NCMCD221228002&oly\\_enc\\_id=1784A2382467C6V](https://www.gpsworld.com/ukraine-attacks-changed-russian-gps-jamming/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD221228002&oly_enc_id=1784A2382467C6V)

2022-12-20



## **GMV Selected by Lockheed Martin for SouthPAN Contract**

Beyond the initial development, GMV will also be responsible for the monitoring of both processing and control centres and ensuring ongoing compliance of the centres with the expected performance levels.

The SouthPAN project is a collaborative effort between the governments of New Zealand and Australia to create a highly accurate satellite positioning system.

Officially named the Southern Positioning Augmentation Network, the project is set to improve the location accuracy of users from the current standard of about 10 metres to as little as 10 centimetres.

Geoscience Australia and Toitū Te Whenua Land Information New Zealand (LINZ) are responsible for the roll out and operation of the program.

Read more in *article...*

[https://www.spaceconnectonline.com.au/satellites/5753-gmv-selected-by-lockheed-martin-for-southpan-contract?utm\\_source=undefined&utm\\_campaign=04\\_01\\_23&utm\\_medium=email&utm\\_content=1&utm\\_emailID=7b4c7db616168fe865f3a2f96500fa1904548b5145c6ae1709d81f43459c19a2](https://www.spaceconnectonline.com.au/satellites/5753-gmv-selected-by-lockheed-martin-for-southpan-contract?utm_source=undefined&utm_campaign=04_01_23&utm_medium=email&utm_content=1&utm_emailID=7b4c7db616168fe865f3a2f96500fa1904548b5145c6ae1709d81f43459c19a2)

2023-01-03

