

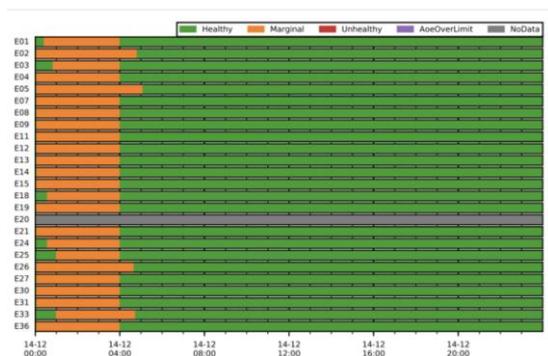
Galileo Outage Update: Ground Atomic Clock at Fault

Pursuant to the 6-hour Galileo system outage on December 14, the European GNSS Agency (GSA) issued an update stating that the “service incident,” while still under investigation, “is confirmed to be related to an abnormal behaviour of a ground atomic clock in the time determination function of the system.”

The statement continues “The time synchronisation and orbit determination algorithms immediately flagged the data as MARGINAL (SISA*=NAPA**) before it affected the quality of the measurements. However, the incorrect data was still uploaded to the satellites. User receivers that do not process the health and status flags, or that keep MARGINAL satellites as part of the position solution computation, may have experienced large positioning errors.”

Read more in *Inside GNSS* article. <https://insidegnss.com/galileo-outage-update-ground-atomic-clock-at-fault/>

2020-12-17



Add GPS IIF Satellites 13 and 14 to the Production Roster

The Space and Missile Systems Center bought two more GPS 3F satellites from Lockheed Martin, exercising an option under a September 2018 agreement to buy up to 22 satellites from the company for \$7.2 billion. To date, SMC had purchased 12 satellites of the III

generation. The latest contract is for space vehicles 13 and 14. The price per satellite is slightly lower because the 2018 contract included development costs.

SMC purchased 3F SVs 13 and 14 after the 3F framework passed a critical design review earlier this year. “The program employed an intensive yearlong process which validated the GPS 3F design as a low risk,” said the spokesperson. SMC said the latest version of GPS 3F has greater anti-jam protection capability as well as a new search-and-rescue hosted payload developed jointly with Canada, a new laser retroreflector array hosted payload, and a redesigned nuclear detonation detection system.

Read more in *Inside GNSS* article. <https://insidegnss.com/add-gps-iiif-satellites-13-and-14-to-the-production-roster/>

2020-12-18



Portable Pilot Units Provide GNSS Corrections at 50-Centimetre Accuracy, Thanks to EGNOS

In the Port of Seville, Spain, pilots guiding large ships into docking use a portable pilot unit (PPU) incorporating GNSS corrections from the European Geostationary Navigation Overlay Service (EGNOS) to obtain positioning accuracies of 50 centimetres in situations such as entering and navigating through the harbor lock or in docking and turning manoeuvres.

The PPU from AD Navigation can be configured in different functional modes and is able to use different sources of corrections over GPS.

PPUs are carried onboard vessels by the harbor-based pilots sent to navigate them in the confined and congested port waters. PPU can be considered as a more advanced version of the vessel's Electronic Chart Display and Information System (ECDIS), which provides the pilot with updated and high density navigation charts, traffic management and ship-handling tools.

Located on the lower reaches of the Guadalquivir River, the commercial river port of Seville has an access channel of more than 80 kilometres and a modern lock, allowing the entrance of big merchant vessels and cruises. The largest vessels allowed so far have been passenger ships up to 200 metres and bulk carriers up to 190 metres.

Read more in *Inside GNSS* article. <https://insidegnss.com/portable-pilot-units-provide-gnss-corrections-at-50-centimeter-accuracy-thanks-to-egnos/>
2020-12-21



Cheap GPS Jammers a Major Threat to Drones

With rotors whirring and airframes hurling through the air, drones can be very dangerous when flights don't go as planned. There's been much teeth gnashing over the FAA's measured approach to commercial drone policy adoption, but the fact is there are real dangers, including from bad actors using inexpensive GPS jammers.

GPS signal jamming technology is evolving, decreasing in size and cost. Today, jammers can be bought online for as low as \$50. Long a threat to military assets, jamming is now a commercial concern as commercial drone deliveries become a reality, and attacks are becoming pervasive globally. This threat now affects commercial, law enforcement, and defence drones on critical missions.

During a choreographed light show in Hong Kong in 2018, a jamming device caused 46 drones to fall out of the sky. The resulting property damage and loss of hardware cost an estimated HK\$1M. Nearly all drones have safety protocols to send them home or to some

safe landing location in the event of disruption. But those features proved ineffective at the Hong Kong show.

Read more in *article...*

<https://www.zdnet.com/article/cheap-gps-jammers-endanger-drones/>

2020-12-14



GPS Tracking Comes to Triple Zero Calls

Emergency responders across Australia will now have access to the geolocation of Triple Zero calls following the deployment of advanced mobile location (AML) technology.

Communications Minister Paul Fletcher on Wednesday 16 December said the Australian Triple Zero Emergency Call Service had begun using AML to pinpoint those in need of assistance.

AML is an emergency call-based location service that automatically sends operators an SMS with the best available coordinates of the caller when an emergency call is made. It is native to smartphones running Android 4.1 or higher and iOS 14.3 or higher, though Apple users will have to enable the capability for it to work.

The department has been looking at ways to send location data from emergency callers for a number of years, including following a review of the Triple Zero operator in May 2016. AML was chosen as the preferred solution to provide emergency responders with access to location data following a market testing process in August 2016.

Read more in *article...*

[https://www.itnews.com.au/news/gps-tracking-comes-to-triple-zero-calls-](https://www.itnews.com.au/news/gps-tracking-comes-to-triple-zero-calls-559096?fbclid=IwAR0wpMy7oOke6oEL9G5ocw24iTU116o2PptqiAkHEZzm1w4PYOSLSMO)

[559096?fbclid=IwAR0wpMy7oOke6oEL9G5ocw24iTU116o2PptqiAkHEZzm1w4PYOSLSMO](https://www.itnews.com.au/news/gps-tracking-comes-to-triple-zero-calls-559096?fbclid=IwAR0wpMy7oOke6oEL9G5ocw24iTU116o2PptqiAkHEZzm1w4PYOSLSMO)
[4Rxq](https://www.itnews.com.au/news/gps-tracking-comes-to-triple-zero-calls-559096?fbclid=IwAR0wpMy7oOke6oEL9G5ocw24iTU116o2PptqiAkHEZzm1w4PYOSLSMO)

2020-12-16



Robots Emerge From Stealth

In a world-exclusive report, GPS World visited with officials at the Ports of Auckland, New Zealand, and the Australian company “Locata” to reveal a revolutionary port automation system. Locata’s navigation system could change the way containers are handled around the globe, and open the floodgates for next-generation automation of Critical National Infrastructure sites.

Read more in *article...*

<https://editions.mydigitalpublication.com/publication/?i=&p=18&l=1&m=59713&ver=&view=&pd=>

2020-12-16



The Rocky Road to a UK GNSS

In 2018, when the UK’s post-Brexit involvement in Galileo was still a point of contention between London and Brussels, UK ministers set aside £92m to study the feasibility of building a sovereign satellite-navigation system. Almost immediately, the UK Space-Based Positioning Navigation and Timing Program (SBPP) became something of a political football, or soccer ball if you prefer. Critics and supporters chimed in vehemently at any piece of

news. Why an independent UK PNT system might be necessary remains a reasonable first question for some observers.

The Royal Institute of Navigation has long advocated a balanced and cooperative approach to global PNT, and specifically for not becoming overly reliant on GNSS. The Institute's Director, John Pottle, told Inside GNSS, "For most applications, the open services are all that is needed, and there are already plenty of ranging sources available from the existing GNSSs."

Of course, GPS, Galileo, GLONASS and BeiDou open signals remain freely accessible to all UK-based users, as does EGNOS, the EU's regional augmentation system.

"My understanding," Pottle continued, "is that the UK's current use of encrypted GPS for military purposes is not impacted by Brexit. So in many ways there is not a 'problem to solve' in the immediate future in relation to provision of services. The question of whether the UK needs control over its own space-based positioning, navigation or timing assets is very much a strategic and political one that I am happy to leave to the politicians to decide!"

Read more in *Inside GNSS* article. <https://insidegnss.com/the-rocky-road-to-a-uk-gnss/>
2020-11-30



Open PNT Industry Alliance Launched to Strengthen National Resilience

Several GNSS and positioning, navigation and timing (PNT) companies have joined forces to create a new lobbying group, the Open PNT Industry Alliance. Founding companies include InfiniDome, Iridium Communications, Jackson Labs

Technologies, NAVSYS Corporation, NextNav, OPNT, Orolia, Qulsar, Satelles and Seven Solutions.

In the United States, the coalition believes the Executive Order on “Strengthening National Resilience Through Responsible Use of Positioning, Navigation, and Timing Services,” issued in February 2020 begins the process for a national alternative PNT policy.

The Open PNT Industry Alliance also agrees with the U.S. Department of Homeland Security’s findings and recommendations in its “Report on Positioning, Navigation, and Timing (PNT) Backup and Complementary Capabilities to the Global Positioning System (GPS)” submitted to the U.S. Congress in April.

The report was criticized by some lawmakers for inaccuracies and lack of depth, but several companies whose solutions were referenced in the report defended it, and have now joined in creating this new alliance.

Read more in *GPS World* article. https://www.gpsworld.com/open-pnt-industry-alliance-launched-to-strengthen-national-resilience/?utm_source=Navigate%21+Weekly+GNSS+News&utm_medium=Newsletter&utm_campaign=NCMCD201202002&oly_enc_id=1784A2382467C6V

2020-12-03

