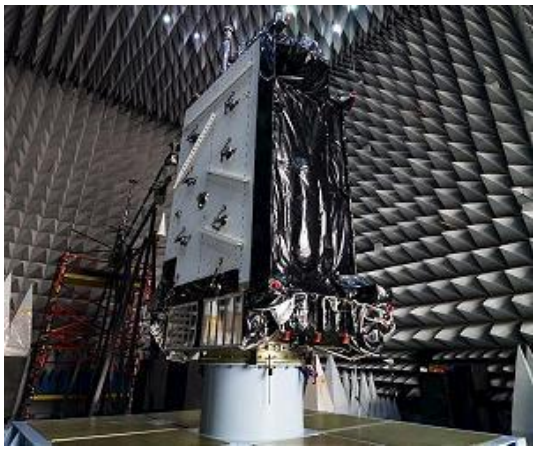
Lockheed Demos Future Evolution of its Flexible GPS 3 Satellite Design

In the future, when mission needs change for the Global Positioning System (GPS), the U.S. Air Force will be able to respond - thanks to some engineering forethought and the innovative design of Lockheed Martin's GPS III satellite.

Designed with evolution in mind, Lockheed Martin's GPS III satellites for the Air Force's next acquisition will be able to offer on-orbit re-programmability so they can be upgraded in space to add new signals or missions, a first for the GPS constellation. The satellite's modular design will also allow for low risk, easy insertion of new, future technology into the production line - guaranteeing GPS III remains the gold standard for positioning, navigation and timing.

Read more in *GPS Daily* article.
http://www.gpsdaily.com/reports/Lockheed_demos_future_evolution_of_its_flexible_GPS_3_satellite_design_999.html

2016-05-20



China to Launch 30 Beidou Navigation Satellites in Next 5 Years

China plans to launch 30 Beidou navigation satellites during the 13th five-year plan period (2016-2020), capping its three-step strategy to build a global navigation system by 2020.

The first batch of 18 satellites will be launched before 2018 to cover countries along the routes in "the Belt and Road" initiative, said Ran Chengqi, director of the China Satellite Navigation Office, during the China Satellite Navigation Conference, which opened on Wednesday.

After having achieved the first two steps - building a regional functional navigation system by 2012, the accuracy and stability of the Beidou system must be improved, said Ran, adding international cooperation will also help the nascent navigation system.

Read more in *GPS Daily* article.
http://www.gpsdaily.com/reports/China_to_launch_30_Beidou_navigation_satellites_in_next_5_years_999.html

2016-05-23

14 Galileo Satellites Now in Orbit

The Galileo satellite navigation system that will help Europe find its way in the 21st century now has 14 satellites in orbit after the 24 May double launch.

Galileos 13 and 14 lifted off together at 08:48 GMT (10:48 CEST, 05:48 local time) atop a Soyuz rocket from French Guiana.

This seventh Galileo launch went by the book: the first three Soyuz stages placed the satellites safely into low orbit, after which their Fregat upper stage hauled them the rest of the way into their target medium-altitude orbit.

The twin Galileos were deployed into orbit close to 23,522 km altitude, inclined 57.394 degrees to the equator, 3 hours and 48 minutes after liftoff. The coming days will see a careful sequence of orbital fine-tuning to bring them to their final working orbit, followed by a testing phase so that they can join the working constellation later this year.

Read more in *GPS World* article. http://gpsworld.com/14-galileo-satellites-now-in-orbit/

2016-05-24

Iridium Launches Timing, Location Service as GPS Back-up

U.S. firm Iridium Communications Inc on Monday said its Satellite Time and Location (STL) system was ready for use as an alterative or companion to the U.S. Air Force's Global Positioning System (GPS) satellites.

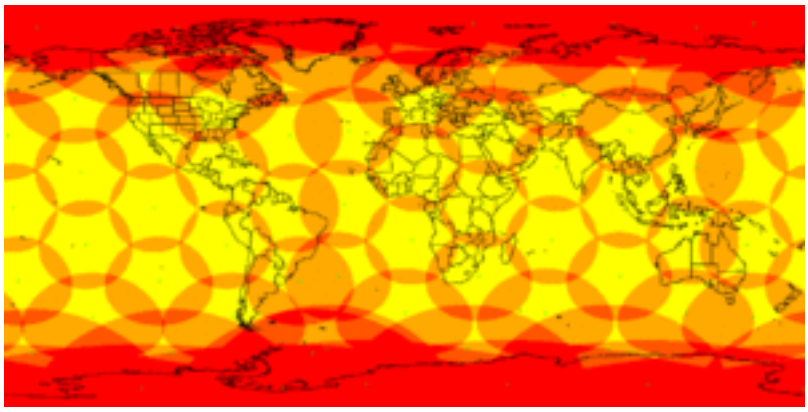
Iridium developed the new STL system with Satelles, a private firm, to deliver signals using Iridium's 66 low-earth satellites, making it less vulnerable than ground-based terminals used for GPS services.

The Virginia-based company said the STL system gives users access to accurate position, navigation and timing technology using inexpensive chips that work anywhere on earth, providing an alternative to GPS and a way to verify GPS signals.

"STL can help solve an important and growing problem for governments and businesses, and serve as a platform for continued innovation," Matt Desch, chief executive of Iridium, said in a statement.

http://www.reuters.com/article/us-iridium-gps-idUSKCN0YE1HZ

2016-05-24



Drones Will Replace $127bn Worth of Human Work According to PwC

Google and Amazon are both planning to launch drone-based delivery services next year. But according to the new report by PwC – one of the biggest consulting

companies in the world – transport applications are just a tiny piece of the overall drone powered services market.

The company estimates that drones could replace $127 billion worth of existing business services and labour by 2020. The potential for using drones as commercial tools and a mapping platform has grown exponentially over the last five years. Drones are already helping in boosting crop yields, verifying insurance claims, and filming movies but the possibilities and applications of drone-based technologies are endless.

http://geoawesomeness.com/drones-will-replace-127bn-worth-of-human-work-according-to-pwc/

2016-05-16

DARPA is Building Acoustic GPS for Submarines and UUVs

For all the benefits that the Global Positioning System provides to landlubbers and surface ships, GPS signals can't penetrate seawater and therefore can't be used by oceangoing vehicles like submarines or UUVs. That's why DARPA is creating an acoustic navigation system, dubbed POSYDON (Positioning System for Deep Ocean Navigation), and has awarded the Draper group with its development contract.

The space-based GPS system relies on a constellation of satellites that remain in a fixed position relative to the surface of the Earth. The GPS receiver in your phone or car's navigation system triangulates the signals it receives from those satellites to determine your position. The POSYDON system will perform the same basic function, just with sound instead. The plan is to set up a small number of long-range acoustic sources that a submarine or UUV could use to similarly triangulate its position without having to surface.

The system should be ready for sea trials by 2018. It will initially be utilised exclusively for military and government operations but, like conventional GPS before it, will eventually be opened up to civilians as well.

http://www.engadget.com/2016/05/10/darpa-is-building-acoustic-gps-for-submarines-and-uuvs/

2016-05-10

GPS Registers Most Accurate Signal Yet

On April 25, the Air Force's GPS registered its most accurate signal yet, according to the Aerospace Corporation, which has been monitoring the data since 2002.

Using the numbers from a network of NASA-owned, Jet Propulsion Laboratory-operated GPS tracking stations, Aerospace analysts calculated the signal-in-space accuracy of GPS to 38 centimetres.

"The GPS team works around the clock to ensure we produce the most accurate signal available for our worldwide users," said Lt. Col. Todd Benson, the 2nd Space Operations Squadron commander.

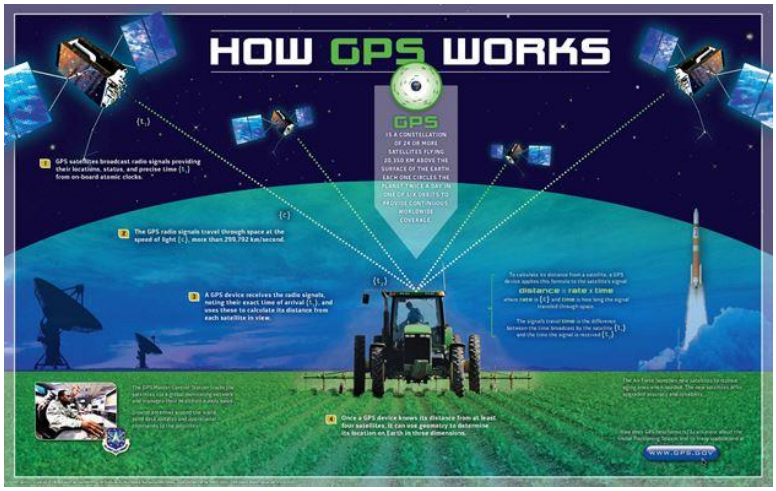
The squadron performs the command and control mission for the GPS satellite constellation, the world's premier space-based position, navigation and timing system, capable of providing information to users worldwide.

According to Benson, the new record may be attributed to multiple improvements across the GPS enterprise.

"One improvement has been the outstanding GPS Block IIF spacecraft that have been acquired by the Space and Missile Systems Center and launched by the 45th Space Wing," he explained. "These 12 new satellites have enhanced the overall accuracy of the GPS constellation. Combine this with the retirement of older spacecraft, the rock solid performance of the previous block of satellites, and you have the opportunity to improve accuracy."

http://www.af.mil/News/ArticleDisplay/tabid/223/Article/757533/gps-registers-most-accurate-signal-yet.aspx

2016-05-12



Questionnaire: Are You Ready For GDA2020?

With just under six months until the proposed launch of GDA2020, Australia's datum modernisation continues to be a fierce matter of debate and cause for concern. While it is true that the accuracy of modern positioning technologies will require us to move beyond the plate-fixed GDA94 onto an Earth-fixed datum, there is a lot of confusion and concern over just how GDA2020 will be practically adopted.

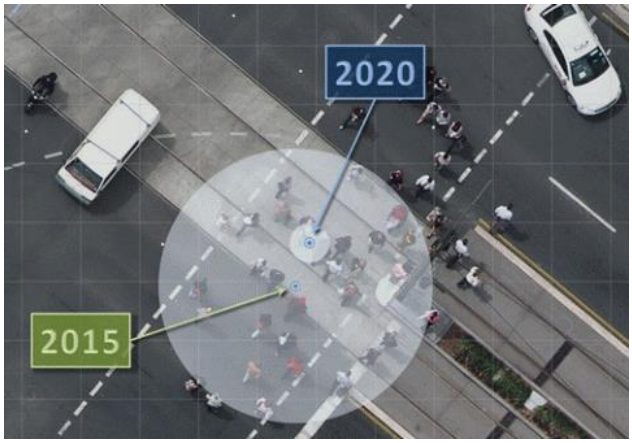
Until now this uncertainty has been known only arbitrarily and so the Intergovernmental Committee on Surveying and Mapping (ICSM) is seeking to understand how GDA2020 will affect you.

The Modernising Australia's Datum Questionnaire consists of predominantly multiple choice questions and takes no more than six minutes to answer. It also gives respondents the opportunity to expand on how GDA2020 will affect their personal operations. All responses will be collated anonymously and the knowledge gained will contribute to the process for implementing GDA2020.

GDA2020 is intended to commence January 2017 and aims to ensure Australians continue to have access to the most accurate location information achievable. ANZLIC and its standing committee ICSM provide the vision and facilitation to realise this modernisation.

Read more in *Spatial Source* article. http://www.spatialsource.com.au/questionnaire-are-you-ready-for-gda2020/

2016-05-10



Geo Psycho Test: Are You GPS Dependent?

Recently a post was written with tips about how to reduce your GPS dependency. But the first step in recovery from every addiction is acknowledging that there is a problem. Geoawesomeness have prepared a quiz that will help you test the level of your GPS dependency. Check it out:

http://geoawesomeness.com/geo-psycho-test-are-you-gps-dependent/

2016-04-26