Lockheed Martin Submits Proposal for U.S. Air Force's GPS 3F Program

Lockheed Martin has submitted a competitive and fully compliant proposal for the U.S. Air Force's GPS III Follow On (GPS IIIF) program, which will add enhanced capabilities to the most advanced GPS satellites ever designed. The GPS IIIF program intends to produce up to 22 next-generation satellites.

The Air Force's first 10 GPS III satellites, currently in full production at Lockheed Martin, are already the most powerful GPS satellites ever designed. GPS III will have three times better accuracy and up to eight times improved anti-jamming capabilities. Spacecraft life will extend to 15 years, 25 percent longer than the newest GPS satellites on-orbit today. GPS III's new L1C civil signal also will make it the first GPS satellite to be interoperable with other international global navigation satellite systems, like Galileo.

Lockheed Martin's proposal for the GPS IIIF program adds further power, resiliency and capabilities to GPS III.

Read more in *GPS Daily* article.
http://www.gpsdaily.com/reports/Lockheed_Martin_Submits_Proposal_for_U_S__Air_Forces_GPS_3F_Program_999.html
2018-04-18

S. Korea Speeds Up Development of Accurate GPS

South Korea is speeding up the development of its own global positioning system (GPS) that will be more accurate and offer greater coverage for users, the government said Sunday 22 April. The Ministry of Land, Infrastructure and Transport said it will hold talks with representatives from the U.S. Space and Missile Systems Center (SMC) at the headquarters of the International Civil Aviation Organization in Montreal this week.

"The meetings that will take place on Tuesday 24 and Wednesday 25 April are to be technical conferences on the Korea Augmentation Satellite System, or KASS, which could have a accuracy rate of about a metre," the ministry claimed. This is significantly better than the margin of error of several metres for existing global location tracking systems.

KASS is Seoul's take on the Satellite Based Augmentation System that is designed to reduce errors in finding a precise location using GPS. It is expected to go into service in the

latter half of 2020 and provide full coverage for Korea. KASS employs geostationary satellite over the Korean Peninsula and can be used by planes, drones, ships, mobile and vehicle navigation devices and even smartphones.

Read more…

http://english.yonhapnews.co.kr/news/2018/04/22/0200000000AEN20180422003000320.html

2018-04-22

Galileo: UK Plan to Launch Rival to EU Sat-Nav System

The UK is considering plans to launch a satellite-navigation system as a rival to the EU's Galileo project. The move comes after the UK was told it would be shut out of key elements of the programme after Brexit.

Business Secretary Greg Clark told BBC News: "The UK's preference is to remain in Galileo as part of a strong security partnership with Europe.

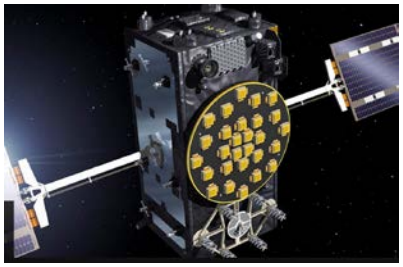
"If Galileo no longer meets our security requirements and UK industry cannot compete on a fair basis, it is logical to look at alternatives."

The row centres around whether the UK can continue to be trusted with the EU's most sensitive security information after Brexit. The UK's armed forces were planning to use Galileo to supplement their use of the US GPS system, but press reports suggest they will now be blocked from doing so. The US retains the more accurate and robust GPS signals for its own armed forces.

Graham Turnock, chief executive of the UK Space Agency, said early feasibility work was under way into a UK system, which he said would cost a "lot less" than Galileo, thanks to work already done and "British know-how and ingenuity". Asked by the BBC's Science Correspondent Jonathan Amos if it could be as much as £5bn, he said "tops".
Read more…

http://www.bbc.com/news/uk-politics-43891933

2018-04-25



University of Melbourne Plugs Driverless Shuttle into its Urban

Transport Lab

The University of Melbourne's Australian Integrated Multimodal EcoSystem

(AIMES) has taken delivery of an EasyMile EZ10 autonomous shuttle bus as part of

a three-year partnership between the university and EasyMile.
"Having our own autonomous vehicle at the University of Melbourne gives students and academics the opportunity to focus their research projects on real-life transport solutions to improve safety, sustainability and reduce congestion, " said University of Melbourne Vice Chancellor Glyn Davis.

The EZ10 is a driverless electric vehicle, carrying up to 15 passengers, with a maximum speed of 45 kilometres per hour. This vehicle is being run and tested in 20 countries across Asia-Pacific, the Middle-East, North America, and Europe.
Read more…

https://imovecrc.com/news-articles/personal-public-mobility/university-of-melbourne-driverless-shuttle-launch/

2018-04-19

Final FY18 Budget Boosts GPS Back-up and Receiver Work

When the wrangling finally ended and the funding bill for fiscal year 2018 was finally signed on March 23, the GPS program found itself with an unexpected plus-up of nearly $90 million to support both a new back-up system and work on military GPS receivers.

Overall the program got the $243.4 million requested in fiscal year 2018 for GPS III development and the $85.89 million sought for GPS III procurement. That $243.4 million contains some fine-tuning aimed at assuring position, navigation and timing (PNT) capabilities across the United States. Lawmakers lopped $10 million off as being over what was needed then added $10 million back in to support a demonstration of the technology for a GPS back-up system.

Though development on the Next Generation Operational Control System (GPS OCX) continued to be a sore spot for both the House and Senate — and both houses wanted to cut funding for the troubled program — they "compromised" as only members of Congress can, and fully funded OCX to the tune of $510.94 million. The real funding boost went to the development of new military GPS receivers. Congress approved adding $88.5 million in total.

Read more in *Inside GNSS* article. http://insidegnss.com/node/5833

2018-04-06

Cohda V2X-Locate System Beats GPS Black Spots

Australian company Cohda Wireless has released a vehicle positioning system to eliminate GPS black spots in “urban canyons” between high-rise buildings. Using Cohda’s expertise in developing collision avoidance systems for mines, the vehicle-based system, V2X-Locate, can identify vehicle position to sub-metre accuracy in environments that degrade GPS accuracy, such as tunnels, underground carparks and between high-rise buildings.

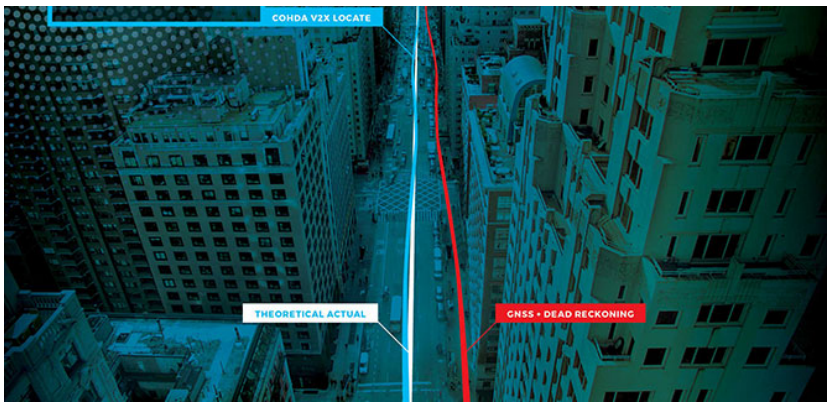
Cohda Wireless Chief Technology Officer Paul Alexander said V2X-Locate was a globally unique product. “We solve the problem caused by GPS and satellite-based positioning systems not working in all use-cases,” he said.

“If you’re in a major downtown area with tall buildings, or in a tunnel or in an underground parking lot, a GPS system can fail, preventing it from delivering accurate results,” Alexander said. “As well as being inconvenient for current drivers, this is not an option as we enter the era of driverless cars. The V2X-Locate breakthrough is to position the vehicle with sub-metre accuracy by using the existing communications signals produced by V2X Smart City infrastructure deployments. The result is that V2X-Locate can eliminate positioning black spots in city centres where they are most likely to occur.”

Cohda Wireless demonstrated V2X-Locate in a 2017 trial in New York City, where it repeatedly demonstrated sub-metre accuracy while driving along Sixth Avenue, which has the tallest buildings in the Big Apple. Comparably tested GPS-based systems were as much as tens of metres off-course, at times showing cars driving through buildings.

Read more in *GPS World* article. http://gpsworld.com/cohda-v2x-locate-system-beats-gps-black-spots/?utm_source=gps_navigate&utm_medium=email&utm_campaign=gps_navigate_04172018&eid=376813635&bid=2070817

2018-04-16



How Uber Moves the ‘Blue Dot’ to Improve GPS Accuracy in Big Cities

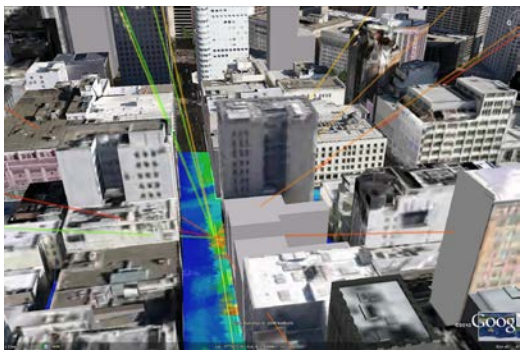
You might have noticed a problem when you try to use your smartphone to navigate a big city: your GPS location is usually super inaccurate. Sometimes it's only by a few feet, but if you’re in a particularly dense part of the city where satellite signals are blocked by high-rise buildings, the discrepancy can be orders of magnitude greater. For most people, it’s just one of the many modern-day nuisances of urban life. But for companies that rely on two people with smartphones finding each other in a labyrinth of steel and concrete — like Uber — GPS inaccuracy is a source of never-ending pain and frustration.

Like ships passing in the night, a driver can be on one corner looking for a rider who’s actually on the other side of the block. This can often lead to cancelled rides — Uber calls it “wasted supply” — which is money out of a driver’s pocket and Uber’s as well. This gets exponentially more problematic when you have several riders in one car, a la UberPool. And when you start thinking about driverless cars wandering aimlessly through our urban canyons, desperately searching for riders with unreliable GPS coordinates... talk about your dystopias.

Recently, I sat down with two Uber engineers who may have a solution for all this chaos. Andrew Irish and Danny Iland were both PhD students at UC Santa Barbara when their startup Shadow Maps was acquired by Uber in 2016. Since then, they’ve been working on integrating their technology into Uber’s app. They recently began beta testing in 15 cities across the globe, and based on early results, they are now getting GPS signals that are twice as accurate as before.

https://www.theverge.com/2018/4/19/17252680/uber-gps-blind-spot-shadow-maps

2018-04-19



Ligado Decision May Be At Hand

The federal government is rumoured to be nearing a decision about Ligado Networks’ request to repurpose its satellite frequencies to also support a ground-based telecom network. Those frequencies neighbour the band used by GPS. Testing done both several years ago and more recently has shown such a system could seriously interfere with GPS receivers.

Most federal agencies rely on GPS to support their missions using it for things like mapping, earthquake prediction, animal studies, environmental assessments and emerging capabilities like positive train control, which can prevent accidents. There are also new industries such as drones and driverless cars that require accurate, reliable GPS and the majority of the nation's critical infrastructure — everything from the internet and cell towers to the power grid and the stock exchanges — needs its exceptionally accurate timing data. Most of that infrastructure is reliant on, or becoming reliant on, GPS.

The Ligado issue, according to sources, is pitting the agencies needing GPS against federal spectrum managers on the hunt for bandwidth to address surging demand from commercial users. Those sources also say that the Air Force has been crystal clear on its opposition to Ligado's proposal but the top echelons of the Defense Department, specifically the Office of the Chief Information Officer, has not. DoD's pro-GPS stance was essential to putting the original network plan on hold in 2012. That plan was proposed by Ligado's predecessor LightSquared. They filed bankruptcy after the plan was set aside, emerging in 2015 with a modified proposal and, soon thereafter, a new name.

Read more in *Inside GNSS* article. http://insidegnss.com/node/5840
2018-04-17

Why Your GPS Receiver Isn't Bigger Than a Breadbox

As I drive through the vineyard-covered hills of San Luis Obispo**,** Calif., the tiny Global Positioning System receiver in my phone works with Google Maps to alert me to upcoming turns. The app reassures me that I'll arrive at my destination on time, in spite of a short delay for construction.

This GPS-guided journey is taking me to Bradford W. Parkinson, the person who made GPS technology—a tool we now take for granted—come together. Parkinson is being awarded the 2018 IEEE Medal of Honor for leading the development of GPS and pushing its early applications.

"Just don't call me the inventor of GPS," he says moments after we meet. "I was a chief advocate, the chief architect, and a developer, but I was not the inventor."

How about “leader”? “Even that’s overblown. I surrounded myself with guys who would not fail.”

Brad Parkinson may be modest about his contributions, but it’s hard to dispute that he was the person who turned a pie-in-the-sky vision of navigating by satellite into a reality.

https://spectrum.ieee.org/geek-life/profiles/why-your-gps-receiver-isnt-bigger-than-a-breadbox
2018-04-19

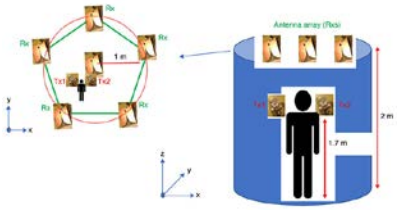
Indoor Positioning Using Wearable Ultra-WideBand Antennas

Indoor localisation is challenging work using traditional location-based services such as GPS. Approaches for indoor position estimation have used radio-frequency (RF) signals including narrowband signals such as Wi-Fi and Bluetooth. Impulse radio ultra-wideband (UWB) signals have also been widely investigated. Compared with narrowband signals, UWB signals provide high signal-to-noise ratio, which helps to provide an accurate estimate of signal arrival time for time-based location algorithms such as time of arrival (TOA). Furthermore, UWB signals provide larger coverage areas and a ranging capability. Sub-millimetre positioning accuracy is achievable. And UWB-based location has an inherent high time resolution making it useful in a tracking system for medical and other applications.

A number of investigations in UWB positioning have already been carried out, with several relatively expensive commercial UWB kits available from companies such DecaWave and BeSpoon. But additional work still needs to be carried out to fully evaluate the UWB solution, so this is still an open research topic. One problem area requiring further investigation is positioning in the non-line-of-sight (NLOS) environment. This is considered the main challenge for UWB location, since it is associated with strong fading due to reflection and diffraction from various obstructions such as furniture in the room. Various threshold crossing methods using techniques of energy detection, correlation and the multiple signal classification (MUSIC) spectral analysis algorithm have been used to resolve the multipath propagation problem in NLOS environments. However, these approaches require complicated signal processing, which increases the computing cost.

Read more in *GPS World* article. http://gpsworld.com/innovation-indoor-positioning-using-wearable-ultra-wideband-antennas/?utm_source=gps_navigate&utm_medium=email&utm_campaign=gps_navigate_04102018&eid=376813635&bid=2062904

2018-04-09



ISRO Launches IRNSS-1I Navigation Satellite

The Indian Space Research Organisation (ISRO) on Thursday 12 April launched the IRNSS-1I navigation satellite from Sriharikota in the southern state of Andhra Pradesh This the eighth such satellite to be a part of a constellation. The PSLV-C41/IRNSS-1I Mission blasted off at 4.04 am from the first launchpad at the Sathish Dhawan Space Centre. It was a normal lift-off, ISRO officials said. The space agency's workhorse, PSLV, injected the satellite into orbit 19 minutes after lift-off from the space centre here. It was the 41st successful mission of the 43 for PSLV.

http://www.millenniumpost.in/big-stories/isro-launches-irnss-1i-navigation-satellite-294142

2018-04-12

Australia More Cautious About Driverless Cars than Many Nations: Poll

Australians are more sceptical about driverless cars than those in many other countries, with a new poll showing one in six would never use one. An Ipsos survey covering 28 countries found Australians were less optimistic than the international average about the perceived benefits of driverless cars including safety, speed, efficiency, cost, comfort, environmental impact and enjoyment.

In Australia 25 per cent said they “can’t wait to use” a driverless car – 5 percentage points lower than average. In China and India nearly half of those surveyed were in the “can't wait” camp. The poll found 16 per cent of Australians “would never use” an autonomous vehicle,

putting us “among the more sceptical nations” in the survey which probed international public opinions on a future with driverless cars.

http://www.canberratimes.com.au/national/australia-more-cautious-about-driverless-cars-than-many-nations-poll-20180405-p4z80g.html

2018-04-06

Two More BeiDou-3 Satellites Launched for Global Coverage by 2020

China launched two more Beidou-3 satellites March 30, the seventh and eighth of the third phase of the Beidou system. Launch via Long March 3B rocket took place at 01:56 Beijing time Friday (17:56 UTC Thursday) from the Xichang Satellite Launch Centre, reports gbtimes.com.

The satellites join six others orbiting at 21,000 kilometres above the Earth. BeiDou-3 is designed to expand Beidou navigation, positioning and timing services from regional to global coverage by 2020. The satellites were inserted into medium Earth orbits by a Yuanzheng-1 upper stage more than three hours after launch, with CASC, China’s main aerospace contractor, then confirming success.

Read more in *GPS World* article. http://gpsworld.com/two-more-beidou-3-satellites-launched-for-global-coverage-by-2020/?utm_source=gps_navigate&utm_medium=email&utm_campaign=gps_navigate_04032018&eid=376813635&bid=2055906

2018-03-30

John Harrison: Who Was the British Clockmaker Who Revolutionised Navigation at Sea?

British clockmaker John Harrison (1693-1776), the man who built the first marine chronometer to measure longitude, was born 325 years ago today and is celebrated in the latest Google Doodle. Harrison was raised in Foulby in Yorkshire, the son of a carpenter. He was expected to follow the family trade but became fascinated with mechanical clockwork when he was bedridden with smallpox, aged six, and spent his convalescent hours toying with a pocket watch he had been given as a gift. The family relocated to Barrow upon Humber in Lincolnshire in 1700, where the young Harrison rose to become choirmaster of the parish church.

At 20, Harrison combined his interests to build his first grandfather clock, making both the oak cabinet and pendulum mechanism himself. This and two others survive to this day, one of which is on display in London's Science Museum. Harrison continued to make clocks, often with the aid of his brother James, a gifted joiner. Together they developed the grid-iron pendulum for longcase clocks, making use of alternating brass and iron rods to cancel out the effect of thermal expansion.

Another of Harrison's innovations was the grasshopper escapement, a control device for releasing a clock's driving power that generated minimal friction and did not require lubrication. The development for which he remains best known is of course his timepiece for determining longitude on long sea voyages.

https://www.independent.co.uk/news/uk/home-news/john-harrison-longitude-clocks-navigation-sea-ships-sailing-google-doodle-a8285816.html

2018-04-03

The 325th birthday of British clockmaker **John Harrison** has been recgonised in a Google Doodle

Fake News Hits GNSS Industry with GLONASS-BeiDou ‘Merger’

It was only a matter of time. Fake news has arrived in our little corner, our specialised technology sector of the world media market.

On April 1 — there’s a telling date for you — the Russian news outlet RT published a story headlined, “Russia and China to merge satellite tracking systems into one global navigation giant.”

“If successful,” the story elaborated, “the project will divide the entire world into two zones of influence by two united systems: GLONASS-BeiDou and GPS-Galileo, operated by the U.S. and the European Union.”

Intriguing. Mind-boggling. With some initial smattering of verisimilitude.

I don’t want to say, “Yet in the end, spurious.” Because we haven’t yet reached the end. But several indicators point in that direction.

Read more in *GPS World* article. http://gpsworld.com/fake-news-hits-gnss-industry-with-glonass-beidou-merger/

2018-04-03

California Launches System Allowing Driverless Cars to Ditch Their Backup Drivers

It was a rulemaking slog, one that some in the industry criticized as an example of typical Golden State overreach. But on Monday 2 April, after years of drafts, public comment sessions and revisions, California regulations allowing the testing and public use of fully driverless cars took effect. Previous rules required human backup drivers behind the wheel.

One firm has applied for one of the new permits, according to the state Department of Motor Vehicles. It will be named later in the approval process, the DMV said.

Back in 2012, when California officials started drafting plans to regulate cars that could drive themselves, the idea was still fresh and new. Gov. Jerry Brown Jr. (D) held the signing ceremony for the autonomous vehicles legislation at Google's headquarters and bragged that "California's technological leadership is turning today's science fiction into tomorrow's reality."

That was before dozens of tech companies and carmakers leaped into the realm of autonomous vehicles, before Uber surprised many in the industry by adding passengers to its test vehicles in Pittsburgh in 2016, and before Waymo, formerly Google's self-driving car project, started letting ordinary residents be ferried around Arizona without a backup driver.

https://www.washingtonpost.com/local/trafficandcommuting/california-launches-system-allowing-driverless-cars-to-ditch-their-backup-drivers/2018/04/02/3217878c-36a5-11e8-8fd2-49fe3c675a89_story.html?utm_term=.98ea2266b943
2018-04-02

Galileo Ground Segment Keeps Constellation On Track

Galileo's initial services have been running for more than 15 months now, and signals from the satellites in space are routinely serving users all across the world. The functioning of

Galileo is dependent on a global network of ground stations, its current extent shown in the map here.

The constellation in orbit is only one element of the overall satellite navigation system – the tip of the Galileo iceberg. At the same time as satellites were being built, tested and launched, a global ground segment has been put in place, extending to some of the world's loneliest places, from Svalbard in the High Arctic to storm-engulfed Jan Mayen Island, Ascension Island in the Mid Atlantic to Noumea in the South Pacific, Kerguelen in the southern Indian Ocean to Troll base in the Antarctic interior.

Among the latest developments are updated control and mission software for the two Galileo control centres that sit at the heart of this global web: Fucino in Italy generates the accurate navigation messages that are then broadcast through the navigation payloads, and Oberpfaffenhofen in Germany controls the constellation of satellites. A new telemetry, tracking and command station last year arose in Papeete on Tahiti, in the South Pacific.

Establishing Galileo's ground segment was among the most complex developments ever undertaken by ESA, having to fulfill strict levels of performance, security and safety. Formal responsibility for the operations of this Galileo ground segment was last year passed to ESA's partner organisation, the European Global Navigation Satellite System Agency, or GSA, but ESA continues to be in charge of its maintenance and growth.

Read more in *GPS World* article. http://gpsworld.com/galileo-ground-segment-keeps-constellation-on-track/?utm_source=gps_navigate&utm_medium=email&utm_campaign=gps_navigate_04032018&eid=376813635&bid=2055906

2018-03-28

DMTC Launches Space Surveillance Project

The Defence Materials Technology Centre (DMTC) has commenced work on a project aiming to improve the speed, safety and fuel consumption of Navy vessels.

The $1.1 million project will look to make the improvements through better use of unmanned aerial platforms.

Minister for Defence Industry Christopher Pyne said the new project aims to enhance the Australian defence capability and build industrial capacity in sensor and on-board data processing technology for unmanned aerial systems and small-satellite platforms.

"This project aims to develop miniaturised, high frequency sensor systems for deployment on cubesats and other unmanned aerial platforms, advancing passive radar technologies related to the processing of both line-of-sight and reflected GPS signals in real time," Minister Pyne said.

"The initial application of this technology could enable Defence to deploy unmanned aerial vehicles to accurately estimate sea-state conditions, leading to improved safety, speed and fuel consumption for Navy vessels."

The project is the first of four to be progressed under DMTC's High Altitude Sensor Systems program, launched by Minister Pyne last September, and involves new DMTC partners Seaskip and UNSW Sydney's Australian Centre for Space Engineering Research (ACSER).

https://www.defenceconnect.com.au/key-enablers/2091-dmtc-launches-space-surveillance-project

2018-03-28

eCall Emergency Alert System Launched

As of 31 March 2018, all new car and light van models sold in the EU have to be fitted with eCall devices that automatically alert rescue services in the event of an accident, sending their position. The aim of the system is to reduce the emergency response time for road accidents and to save lives.

eCall is activated automatically as soon as in-vehicle sensors detect a serious crash. Once activated, the system dials the European emergency number 112 and establishes a telephone link to the appropriate emergency call centre.

Leveraging EGNSS (Galileo and EGNOS), the system sends the time of incident, the accurate position of the crashed vehicle and the direction of travel to the emergency services, enabling the emergency responders to get to the accident site faster. An eCall can also be triggered manually by pushing a button in the car, for example by a witness to a serious accident.

https://www.gsa.europa.eu/newsroom/news/ecall-emergency-alert-system-launched
2018-04-03

National PNT Engineering Forum Rejects Ligado Test Results

An independent technical review published earlier this month found sufficient data in three government-conducted tests to assess the risk of using frequencies near the GPS band for a ground-based communications network — specifically, the one proposed by Ligado Networks. The panel rejected two tests sponsored by Ligado Networks, saying they did not meet minimum criteria for inclusion or use.

The testing and various hearings before the Federal Communications Commission (FCC) come in response to increasing demand for commercial spectrum to support broadband wireless communications. The FCC and other branches of U.S. government are giving serious consideration to repurposing various radio frequencies, including the satellite communications bands next to GPS, to accommodate this.

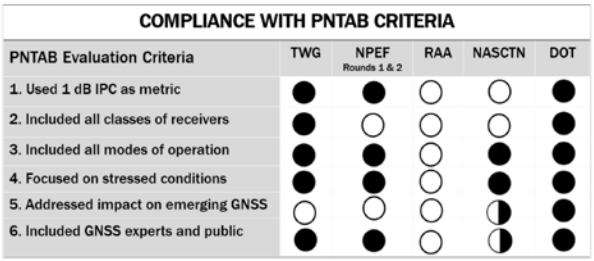
Ligado Networks has petitioned the FCC to repurpose satellite frequencies near GPS to also support terrestrial telecom services, effectively transferring its license for space-based broadcasting to powerful terrestrially-based broadcast towers. Ligado's custom networks would provide services for industrial operations such as power grids and connectivity for drones and driverless cars, in addition to consumer broadband services.

The National Executive Committee of the government's National Coordination Office for Space-Based Positioning, Navigation, and Timing released the assessment by its National Space-Based PNT Systems Engineering Forum (NPEF) of testing methodologies used to analyze the impacts of adjacent band interference on GPS receivers. The assessment is also known as the "gap analysis."

Read more in *GPS World* article. http://gpsworld.com/national-pnt-engineering-forum-rejects-ligado-test-

results/?utm_source=gps_navigate&utm_medium=email&utm_campaign=gps_navigate_03272018&eid=376813635&bid=2048814

2018-03-27



COMPLIANCE WITH PNTAB CRITERIA

PNTAB Evaluation Criteria	TWG	NPEF Rounds 1 & 2	RAA	NASCTN	DOT
1. Used 1 dB IPC as metric	●	●	○	○	●
2. Included all classes of receivers	●	○	○	○	●
3. Included all modes of operation	●	●	○	●	●
4. Focused on stressed conditions	●	●	○	●	●
5. Addressed impact on emerging GNSS	○	○	○	◑	●
6. Included GNSS experts and public	●	●	○	◑	●

Uber’s Use of Fewer Safety Sensors Prompts Questions After Arizona Crash

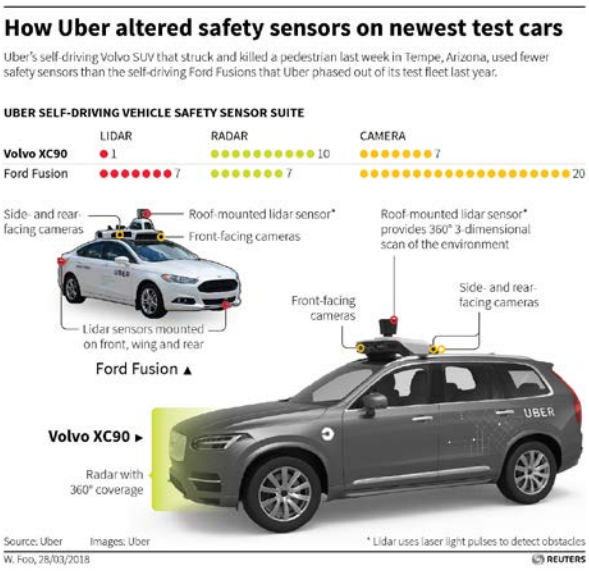
When Uber decided in 2016 to retire its fleet of self-driving Ford Fusion cars in favour of Volvo sport utility vehicles, it also chose to scale back on one notable piece of technology: the safety sensors used to detect objects in the road. That decision resulted in a self-driving vehicle with more blind spots than its own earlier generation of autonomous cars, as well as those of its rivals, according to interviews with five former employees and four industry experts who spoke for the first time about Uber’s technology switch.

Driverless cars are supposed to avoid accidents with lidar – which uses laser light pulses to detect hazards on the road - and other sensors such as radar and cameras. The new Uber driverless vehicle is armed with only one roof-mounted lidar sensor compared with seven lidar units on the older Ford Fusion models Uber employed.

In scaling back to a single lidar on the Volvo, Uber introduced a blind zone around the perimeter of the SUV that cannot fully detect pedestrians, according to interviews with former employees and Raj Rajkumar, the head of Carnegie Mellon University’s transportation centre who has been working on self-driving technology for over a decade.

https://www.reuters.com/article/us-uber-selfdriving-sensors-insight/ubers-use-of-fewer-safety-sensors-prompts-questions-after-arizona-crash-idUSKBN1H337Q

2018-03-28



Megaliner in Sydney SBAS Trial

The monolithic *Ovation of the Seas* megaliner has trialled Australasia's Satellite-Based Augmentation System (SBAS) to dock precisely in Sydney Harbour.

Over 500,000 people have boarded cruise ships from Sydney Harbour in 2016 and 2017, and the *Ovation of the Seas* is one of the largest to arrive in port — her length overhanging the berth box at Circular Quay, and her bridge and funnels too tall to pass underneath the Sydney Harbour Bridge.

In a collaboration between the Sydney Harbour Port Authority and Acoustic Imaging, Geoscience Australia's SBAS positioning trial was used to dock the 348-metre Quantum class cruise ship at Circular Quay on her most recent berthing. The SBAS trial, funded with $12 million from the Australian Government and a further $2 million from the New Zealand Government, has made Australia first country in the world to test second generation SBAS and integrated Precise Point Positioning corrections into an SBAS service.

"Standalone GPS positioning is giving you five to 10 metre level positioning. This is the first time we have been able to broadcast corrections at the 10 centimetre level to the entire country, in fact to the entire region, so it's quite new," said SBAS project manager, Dr. John Dawson of Geoscience Australia.

Lead scientist of Acoustic Imaging's maritime programs, Nicole Bergersen, said that the successful trial could prove a major boon to the Port Authority, with the potential to dramatically reduce reliance on human supervision and improve the efficiency of traffic management within the busy harbour.

Read more in *Spatial Source* article. https://www.spatialsource.com.au/gpsnav/megaliner-in-sbas-sydney-harbour-trial

2018-03-27

Sydney Automated Car Tests 'Different'

The organisers of semi-autonomous car trials, which started in Sydney this week, have been quick to disassociate their technology from that used by Uber in a recent pedestrian fatality in the United States.

The Sydney trials, to showcase off-the-shelf technology that is available to new-car buyers, are starting one week after the death of a pedestrian in the US involving a driverless car that was being trialled by Uber in Arizona.

The organisers of the Sydney trials say the two trials are completely different. Some media have linked the Arizona death of a pedestrian who was walking her bicycle across a multi-lane road in Phoenix to the NSW trials. In fact, the Uber fully-autonomous car used different technology than the cars participating in Sydney.

In announcing the Sydney trial – which involves seven car-makers and will use roads around the city until October – the NSW roads minister Melinda Pavey said such vehicles will lead to the reduction in road deaths and injuries.

"We know that a majority of crashes occur due to human error," she said in a statement. "Technology is giving us the opportunity to see real safety benefits on our roads.

"We shouldn't be scared of the future, at the same time that accident in Phoenix (Arizona) is devastating, 100 other people die every day on the roads in the United States," she later said in an interview with Sydney radio station 2GB.

The trial is organised by NSW's Transurban motorway operator and car-makers BMW, Hyundai, Volvo, Mercedes-Benz, Audi and Lexus.

https://premium.goauto.com.au/sydney-automated-car-tests-different/

2018-03-28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