Driverless Taxis Planned for NSW Roads

The New South Wales (NSW Taxi Council and the Australian Driverless Vehicle Initiative (ADVI) have partnered to research and develop plans and regulations for driverless vehicles in Australia.

ADVI is a collaborative effort of government, industry and academic organisations. Its purpose is to formulate legislation, regulations and operational procedures for the implementation of a national policy for driverless cars in Australia.

NSW Taxi Council chief Roy Wakelin-King understands the impact these vehicles will have on Australia's taxi industry and says it's imperative the council is involved.

"With the recent announcements by Ford, Volvo and the Singapore Government, autonomous taxis are not far away. It is likely that we will see trials of autonomous taxis in NSW and Australia before the end of the decade," he says.

However, Wakelin-King notes that not all taxis will benefit from being driverless, keeping in mind some members of the public, such as the elderly or disabled, require a higher level of support and assistance.

"This is why drivers will still need to play a part in a world of autonomous vehicles. Their roles may be different to what they are today, but not every vehicle can be without a person to provide full customer care when it is required," he adds.

While autonomous vehicles are currently only being tested on South Australian roads, their entry into the Australian marketplace may be sooner than imagined.

http://autotalk.com.au/industry-news/driverless-taxis-planned-nsw-roads

2016-09-23

3D Road Mapping Underpins Japan's Tech-heavy Olympics Push

Tokyo's getting ready to host the 2020 Summer Olympics, and it's promised to make its Olympics one of the most technologically impressive yet. There's even talk of self-driving cars, but before those can hit the road, they're going to need some maps. Enter Dynamic Map Planning.

Dynamic Map Planning is a joint venture between the parts supplier Mitsubishi Electric, mapmaker Zenrin and nine different automakers. The hope is to have Japan's roads 3D-mapped by 2020, in time for both the Olympics and the supposed start date for publicly available self-driving **cars**.

Mitsubishi Electric built mapping components that will be installed on a vehicle built specifically for this task. GPS will mark its location, sensors will measure road grades, and lasers will be used to confirm locations for everything from stoplights and street signs to turn lanes and noise barriers. The goal is, obviously, to make the maps as accurate as possible.

The group will start with about 186 miles of expressways, before venturing onto other roadways. It's a nearly mandatory step before self-driving cars are cleared for public use, but the group is also hoping to put Japan on the map (pun not intended) when it comes to 3D mapping. Google and a small number of tech startups currently dominate that field.

https://www.cnet.com/roadshow/news/3d-road-mapping-underpins-japans-tech-heavy-olympics-push/

2016-09-18

Will Uber Bring Its Driverless Cars To Australia?

Driverless Uber cars are ready to start navigating the streets of Pittsburgh for some customers of the ride-booking service. In Australia, researchers took part in trials of driverless cars in Adelaide last year, with multiple vehicles conducting manoeuvres such as overtaking, lane changing and emergency braking.

So driverless cars are coming to Australia?

Gerard Waldron, the managing director of the independent road research agency ARRB Group, said **yes, they're coming**.

"By 2035, absolutely. Even the slowest predicted scenarios would see that sort of progress in that sort of time. I think there's a business case to suggest it should be a lot sooner," he said.

And he believes ride-booking companies like Uber could be offering driverless services in Australia **within five to 10 years**.

http://www.radioaustralia.net.au/international/2016-09-15/will-uber-bring-its-driverless-cars-to-australia/1617982

2016-09-15

Australia's First Autonomous Bus Hits the Road in Perth

The Royal Auto Club (RAC) Intellibus has taken its first drive on Australian roads, commencing its trial in South Perth this week.

Based on the NAVYA Arma, Australia's first fully driverless and electric shuttle bus will carry passengers along South Perth Esplanade between the Old Mill, near Narrows Bridge, and Sir James Mitchell Park.

Scanning the world around it are 2D and 3D Lidar sensors, which help the bus to detect and avoid objects, while stereovision cameras help it to 'see' traffic lights, other vehicles and anything else that might be on the road.

GPS and odometry systems help the bus to measure its location and its position relative to its starting location. The Intellibus is also equipped with autonomous emergency braking (AEB) to avoid collisions.

The Arma/Intellibus is rated at level five for autonomous technology, the highest and most advanced level, also making it the first fully-autonomous series production vehicle in the world.

Measuring 4.8m long, 2.05m wide and 2.6m tall, the Intellibus is roughly the size of a large people mover.

http://www.caradvice.com.au/476314/australias-first-autonomous-bus-hits-the-road-in-perth/

2016-09-02

Airbus 330 Data Entry ~6,000 NM in Error

At Sydney Airport, the captain entered a starting longitude of 15° 19.8'E, although the aircraft gate coordinate was 151° 9.8' E.

The Kuala Lumpur-bound AirAsiaX A330, on the gate at Sydney Airport, required an initial position to be inserted simultaneously into the 3 air data and inertial reference systems (ADIRS) on start-up. Unfortunately, the captain's inserted longitude was a factor of 10 out, giving the systems a false initial starting point about 36⁰ longitude out - off South Africa, ~5,940 NM away.   Although there were 2 GPS receivers in the navigation fit, the rather old configuration in this aircraft did not allow them to override the manual input (in current configurations, they actually provide the starting point).   This incorrect longitude created a series of downstream problems, one being that the displayed magnetic heading - derived from true inertial heading and variation - was ~38⁰ in error. Further problems involved false activation of the enhanced ground proximity system (EGPWS), which believed that the aircraft was abut to fly into terrain.   Unfortunately, all these problems did not arise until after take-off.

http://www.rin.org.uk/Newsitem/4671/Airbus-330-data-entry-~6,000-NM-in-error/Feed?utm_source=twitterfeed&utm_medium=facebook

2016-09-07

The First Female Surveyor General, Narelle Underwood

Narelle Underwood has been appointed as Surveyor General of New South Wales, a major role within the state government responsible for leadership in surveying, mapping and geographic information. The appointment makes Underwood both the first woman to hold the role across all Australian states, and the youngest in the state in 200 years.

The appointment was announced by Department of Finance, Services and Innovation Secretary, Martin Hoffman who said Underwood brings a wealth of experience, most recently as the Acting Principal Surveyor at NSW Roads and Maritime Services.

"Ms Underwood is a leader in her profession working as an advisor to the Board of Surveying and Spatial Information and Chair of the Surveying Mapping and Industry Council," said Mr Hoffman.

Ms Underwood will be NSW's 25th Surveyor General since in 1787. At 32 years old, Underwood is not the youngest person to have taken the role, but she is the youngest in 200 years. Previous Surveyor Generals included Charles Grimes who was appointed in 1803 at the age of 31 and John Oxley was appointed in 1812 at the age of 29.

Underwood is a graduate of the University of New South Wales, where she was recognised for her brilliance by winning the University Medal.

Read more in *Spatial Source* article.
http://www.spatialsource.com.au/surveying/nsw-appoints-first-female-surveyor-general-narelle-underwood

2016-09-07

A Quartet of Galileo Satellites is Prepared for Launch on Ariane 5

The four spacecraft to be orbited on Arianespace's first launch of Galileo navigation satellites by Ariane 5 have begun their processing at the Spaceport in preparation for a November liftoff from French Guiana.

This milestone mission - designated Flight VA233 in Arianespace's launcher family numbering system - follows the company's previous launches of Galileo spacecraft in pairs aboard medium-lift Soyuz vehicles.

Flight VA233 is to utilize an Ariane 5 ES version of the heavy-lift workhorse equipped with a storable propellant upper stage. The vehicle will deploy its satellite passengers at a targeted orbit altitude of 23,222 km.

Read more in *Space Daily* article.

http://www.spacedaily.com/reports/A_quartet_of_Galileo_satellites_is_prepared_for_launch_on_Ariane_5_999.html

2016-09-09

CBA: Ten Million Driverless Cars On The Road By 2020

According to a report by The Commonwealth Bank's technology innovation executive manager, Dilan Rajasingham driverless cars "impact on our society and economy is likely to be far-reaching, radically transforming the way the global community uses and manages energy resources, cares for the health of our citizens and manages its entire transport system."

The reports said the technology required is already present in most new vehicles. However, the revolution would be powered by the emerging Internet of Things, a market that's forecasted to explode in near future.

"Automated vehicles could make transport faster, easier and safer," said the report. Suggesting driverless vehicles have the potential to reduce the $16.5B that congestion costs the Australian Economy each year. There is also possibility driverless cars can lessen the 53 minutes a day the average Australian spends commuting, the report said.

http://www.bandt.com.au/technology/cba-ten-million-driverless-cars-road-2020

2016-09-05

Forget GPS, Civil Maps Gives Self-driving Cars Street Smarts

Startup Civil Maps on 8 September announced an augmented-reality component to its 3D mapping technology, overlaying street signs and other traffic infrastructure with identifying tags generated by its deep learning technology. The system identifies objects and generates the tags to overlay on real-time video from a vehicle.

The augmented-reality component is an addition to Civil Map's localization platform, which builds maps of urban environments from and for self-driving **cars**.

We tend to think of maps as two-dimensional renderings giving us a god's-eye view of roads and terrain features, but Civil Maps takes a different approach. Its maps are more akin to how we understand our location when viewing street-level landmarks.

With the Civil Maps model, a self-driving car compares what its sensors perceive of the outside world, including lane markings and signage, with an internal map, and correlates that reference with GPS coordinates. If the car's sensors pick up a sign or other object not represented in its onboard map, it uploads information about the object to Civil Maps' servers. As more cars detect the object, Civil Maps can dynamically update its map model and transmit it to other cars.

https://www.cnet.com/roadshow/news/forget-gps-civil-maps-gives-self-driving-cars-street-level-positioning/

2016-09-08

Low-cost Precise Positioning for Automated Vehicles

A dense reference network facilitates low-cost carrier-phase differential GNSS positioning with rapid integer-ambiguity resolution. This could enable precise lane-keeping for automated vehicles in all weather conditions.

Strong demand for low-cost precise positioning exists in the mass market. Carrier-phase differential GNSS (CDGNSS) positioning, accurate to within a few centimeters even on a moving platform, would satisfy this demand were its cost significantly reduced. Low-cost CDGNSS would be a key enabler for many demanding consumer applications.

Centimetre-accurate positioning by CDGNSS has been perfected over the past two decades for applications in geodesy, precision agriculture, surveying and machine control. But mass-market adoption of this technology will demand much lower user cost — by a factor of 10 to 100 — yet still require rapid and accurate position fixing. To reduce cost, mass-market CDGNSS-capable receivers will have to make do with inexpensive, low-quality antennas whose multipath rejection and phase centre stability are inferior to those of antennas typically used for CDGNSS.

Read more in *GPS World* article. http://gpsworld.com/low-cost-precise-positioning-for-automated-vehicles/

2016-08-28

Positioning Exact to the Millimetre

How many millimetres has the sea level risen? How fast are the continents moving? How big is the impact of high and low pressure areas on the altitude of landmasses? In order to answer these questions, measurements are being made around the clock at more than 1700 globally distributed observing stations.

These data are then evaluated by researchers from the German Geodetic Research Institute of the Technical University of Munich (DGFI-TUM). Their new realisation of the global reference system that has now been published, is so exact that it even allows to detect seasonal variations.

"Everyday positioning wouldn't be possible without a highly complex reference system that requires constant updating," responds Prof. Florian Seitz, Director of the German Geodetic Research Institute of the TUM. His team has just published the

DTRF2014, a brand new realisation of the International Terrestrial Reference System.

Read more in *GPS Daily* article.

http://www.gpsdaily.com/reports/Positioning_exact_to_the_millimeter_999.html

2016-08-29