

# The Dispatcher

## Special interest features covered in each issue:

- Autonomous and self-driving cars
- Map data and navigation
- Data privacy
- Third party automotive services
- Regulations and Standardisation

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The United Kingdom comprises England, Wales, Scotland and Northern Ireland

Telematics Industry Insights by Michael L. Sena

## Report from Dispatch Central

EU eCALL DID NOT CAUSE BREXIT, but the way EU eCall was managed by the Eurocrats is symptomatic of the problem that led 52% of Britons to vote in favour of leaving the EU. In 2002, when the idea for a public eCall popped into the heads of some staff at the European Commission, the UK had a working solution for receiving emergency calls from vehicle telematics systems, both voice and data. I know this from first-hand experience because I was managing the implementation of the Volvo On Call system in the UK, and the system had to work exactly as specified by the UK authorities or else it would not be allowed. A data message, similar to what became the *Minimum Set of Data* for EU eCall, was to be sent in an ASCII file to BT999. A voice call was to be initiated using a number provided by BT999. It was responsible for merging data and voice at the desk of a BT999 operator who spoke to the crash victim and directed the request for assistance to the proper public service provider. It worked. Volvo, BMW and PSA have had systems on the market for a dozen or more years that use it. The main difference between what became EU eCall and the

UK solution was that the UK officials did not prescribe what had to happen inside the vehicle, only what they wanted delivered to them as a data message and a voice call.

It will have taken sixteen years to implement EU eCall; it took a few weeks of programming and testing the UK eCall process for each of the vehicle OEMs that chose to offer services there to put it into service. The Eurocrats are doing it again with their so-called open data initiative. It's zero-sum thinking and it's a waste of resources.

## Third Party Automotive Services

WILL THE UK DO EU eCALL? By the time EU eCall is scheduled to go into effect, on April 1<sup>st</sup> 2018, the UK will be close to being officially out of the European Union. This question was not on the official agenda at the I\_HeERO Workshop: "Making eCall Happen" held in Brussels on September 6<sup>th</sup>, which I attended. This workshop was originally scheduled for April 26<sup>th</sup>, but the terrorist bombings a month earlier caused the arrangers to postpone the event.

Andy Rooke of ERTICO, who was the chairperson for the workshop, is British and a long-time proponent of EU

eCall. He told the workshop participants that the UK has said it will not implement the EU eCall solution because the costs are higher than the benefits. Can any member state decide for itself whether it will follow the Regulation now that it is a Regulation and, by law, a Member State must write it into its national laws? Technically, no. In any case, all 27 of the remaining EU countries must do what is required to accept EU eCalls from all new type-approved vehicles.

It was also stated at the workshop that only thirteen

Member State PSAPs have actually started to work on the implementation. Also, not all of the mobile network operators in each country have added the eCall flag that is specified. And there are still no specifications for how type approval will be tested.

With less than twenty months to the go-live date, it will be interesting to see how all of the remaining open issues will be resolved. I plan on following this saga to its (bitter or happy?) end, and will report on its progress in these pages.

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"Regulations need to evolve faster," NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION head Mark Rosekind told an industry conference in Detroit, according to Fortune.

Notably the administrator proposed that self-driving systems shouldn't have to be perfect to be authorized, only a minimum of 'twice as good as human-operated vehicles'. This would theoretically cut down on American highway deaths, which Rosekind likened to "...a 747 crashing every week for a year."

The NHTSA has previously said that while there are many legal obstacles before cars without wheels or pedals can be sold, there are far fewer barriers towards cars that keep those human controls as a backup.

The U.S. DOT was supposed to have issued new guidelines on self-driving cars in July, hoping to improve the speed with which companies like Apple and Google can deploy their technology. They were delayed because of the Tesla accident that caused the death of the driver. As of the date we went to press, the guidelines have not yet been published.

AT A U.S. SENATE hearing held on 15 March 2016, Dr. Missy Cummings, Duke University Professor and robotics expert said: "There is no question that someone is going to die in this technology. The question is when. What can we do to minimize that? If a death were to occur at the wrong time, it could set back the full innovation of this technology."

## What the Car Companies Are Doing

AS OF 2014 there were approximately 35 active British car manufacturers! Surprised? In addition to the iconic brands like Aston Martin, Bentley, Jaguar, Land Rover, Lotus, MG, Mini, Morgan, Rolls-Royce and Vauxhall, there are a few dozen more with names like Arash (muscle car), Caterham (sports car) and Ultima (more muscle). Let's not forget London Taxis International (owned by Geely). And then there are the non-British car makers that manufacturer in Britain, including Honda, Nissan and Toyota.

Almost 1.6 million cars were built in the UK in 2015, up 3.9% from 2014. There were 2.6 million cars sold in the UK in 2015 (Number Two in Europe behind Germany's 3.6 million). The UK exports 77.3% of its car output (1.2 million of the 1.6 million), 57.5% of which goes to Europe. That means 2.2 million cars are imported.

So, should the UK be worried that the EU will strike back at its exit from the club by imposing high tariffs on the 700,000-or-so cars manufactured in the UK and sold in EU countries? Ford, VW and Audi are among the top brands sold in the UK, and they are not manufactured there. VW alone accounts for 20% of the UK's car sales. Then there are all of those *Beemers* and *Mercs* made in Germany.

The UK motor car industry came back to life when foreign car makers began buying its auto companies and setting up manufacturing plants, and its unions started thinking about the good of the workers as opposed to the good of the unions. Those conditions will still exist after the UK leaves the EU, and countries that remain inside the EU have nothing to gain from EU politicians and bureaucrats trying to punish the UK for leaving the club.

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## Third Party Services (continued from p.1)

In Australia, approximately on the other side of the planet from their headquarters in the Washington, DC area, URGENT.LY has partnered with one of its major investors, ALLIANZ, to deliver **gotU** ([www.gotu.com.au](http://www.gotu.com.au)). ALLIANZ GLOBAL ASSISTANCE is trialing in Sydney, Melbourne and Brisbane from July 4<sup>th</sup> an on demand, pay-as-you go alternative to roadside assistance, which is what Urgent.ly offers under its own name in the U.S.

There is no annual subscription fee; you download the mobile app and pay for what you use when you use it: A\$89 Tow: A\$99 (Up to 10km) Tyre change: A\$89 Re-fueling: A\$99 (includes A\$10 of fuel) Unlocking of vehicle: A\$99. Based on the results of the trial, the services will go live nationally in 2017. Some ideas look like no-brainers when you see them. This is one of them. Expect this or something similar in a market on this side of the planet sometime soon.

### IF NOT HERE, WHERE?

Where should Ford be investing its money in order to insure its future viability as a car manufacturer and/or a mobility services provider? In May it plunked down \$182.3 million for a 6.6% share in Palo Alto-based PIVOTAL, which combines Pivotal Labs (founded in 1989) with resources from EMC (which bought PL in 2012) and VMWare. It has no specific IP in automotive or self-driving software. It is a 'cloud software company' that CEO Mark Fields says will help the company "boost its own software capabilities." Re-in-sourcing?

In July, Ford ponied up an undisclosed portion of \$6.6 million to keep CIVIL MAPS in business. There were five investors. Also based in the San Francisco area (a key to unlocking the VC safes?), CIVIL MAPS was founded in 2014 and has sixteen employees. The company is among a growing number that claim to have the key to producing real-time images for use by self-driving vehicles with artificial intelligence.

Ever since its ill-fated *Wingcast* initiative, a joint venture with Qualcomm that it started in 2000 and shut down two years later, Ford has tried to do 'anything but telematics'. *Sync* has been an attempt to find an alternative to the integrated Connected Car. Maybe it's time for Ford to start taking some cues from the companies it once owned: Volvo and JLR.

## Insuring Connected and Self-driving Cars

USAGE BASED INSURANCE (UBI) has not exactly been setting sales records in most countries. Yes, it sells reasonably well as an alternative way to pay for liability, collision and personal injury protection in those markets where fraud and theft are problems (e.g., southern Italy) or where there is a high degree of competition and a race to the lowest prices (e.g., UK).

The problem, as I see it, is that the value proposition is weak, both for the car owner and the insurance company. Installing boxes that will track my location intrudes on my privacy, and having dongles dangling out of the OBD ports destroys the harmony of my well-designed cabin. I

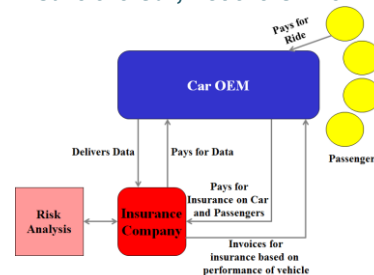
could end up paying more if I use the car for the reason I bought it: to drive it as much as possible. The car insurance companies are not really pushing UBI except to increase the number of potential customers, those who would not be able to obtain insurance because they are too high risk for paying standard premiums—or they are unable to pay the premium they should pay. There are premium reductions offered for accident-free years of driving, but it is the good drivers who pay for the bad ones. It's a zero-sum game.

With increased integration of automated safety features which are intended to prevent crashes, and with eventual (fully tested) self-

driving features, it will be the car manufacturer (or car supplier) that will shoulder more of the liability for collision and personal injury in case of a crash. The case for this is made very well in a report by the RAND Corporation: *Autonomous Vehicle Technology* (2016).

Car manufacturers that are integrating connected vehicle systems and insurance companies need to start to have serious discussions about how to begin the transition from owner-based insurance to vehicle-based policies. With expanded usage of vehicle-to-infrastructure systems, the infrastructure providers also need to be engaged because they will also be part of the liability equation.

### Insure the Car, not the Owner



Rather than analyzing the risk of individual owner, the insurance company assesses the performance of the vehicle on a constant basis. The vehicle is equipped with hardware that communicates with insurance company servers, and rates are set based on the safety and security record of the vehicle. This allows for various types of car ownership and car usage. The one variable that today is the largest unknown risk factor, the driver, is removed from the risk equation.

## What the Car Companies Are Doing (continued from p.2)

One European and two North American car manufacturers' associations have issued a joint statement urging the governmental bodies in each of these regions to coordinate safety regulations. In the US, a vehicle manufacturer or distributor of a motor vehicle or motor vehicle equipment shall certify to the distributor or dealer at delivery that the vehicle or equipment complies with applicable motor vehicle safety standards prescribed by NHTSA. In contrast to the U.S. system of

self-certification, the comparable EU vehicle system is based on government regulatory approval in advance of manufacturing, so-called 'type approval'.

Divergent auto safety regulations in the United States and the EU drive up costs by as much as \$2.3 billion annually on a bilateral basis, according to a new Center for Automotive Research (CAR) study, entitled *'Potential Cost Savings and Additional Benefits of Convergence of Safety Regulations between the United States*

*and the European Union'*. According to the joint statement, "this amount also represents the savings that could be realised if the Transatlantic Trade and Investment Partnership (TTIP) includes full US-EU auto safety regulatory convergence."

Meeting two different sets of standards, that for all practical purposes achieve the same high level of auto safety performance and outcomes, is a huge waste of money. The associations urge US and EU negotiators to include a harmonizing measure in the TTIP—and make sure that the UK is included.

**ACEA** is an advocate for the automobile industry in Europe, representing manufacturers of passenger cars, vans, trucks and buses with production sites in the EU.

**AACP** (American Automotive Policy Council) represents the common public policy interests of its member companies – FCA US LLC, Ford Motor Company and General Motors Company.

**AUTO ALLIANCE** (Alliance of Automobile Manufacturers) is a North American association of 12 vehicle manufacturers including BMW Group, Fiat Chrysler Automobiles, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota, Volkswagen Group of America and Volvo Car USA.

### Geospatial Data

*Geography: The science that deals with the description, distribution and interaction of the diverse physical, biological and cultural features of the earth's surface.*

*Merriam-Webster Dictionary*

*Geospatial data: GIS data or geodata has explicit geographic positioning information included within it, such as a road network from a GIS, or a geographically referenced satellite image. Geospatial data may include attribute data that describes the features found in the dataset.*

*"The most important difference for industrial usage between 4G and 5G is not how fast data can travel, but the reduction in latency. Latency will drop from today's 50 milliseconds to 1 millisecond, which will make totally new remote control applications possible. It may not sound like much, but in 50 MSs, a car can travel half a meter if it is moving at 100 km/hr. At 1MS, the car will travel only 3 centimeters. That's close enough to real time."*  
Torbjörn Lundahl, Manager  
Ericsson: 5G for Sweden

## The Future of Automotive Navigation

ADASIS AND NDS are industry-developed standards for map data. The ADASIS FORUM is responsible for ADASIS, and the NDS ASSOCIATION is in control of NDS. They are each vying for control of how geospatial data (see sidebar) is managed and flows inside the vehicle as well as to and from the vehicle. What's at stake?

I wrote about the ADASIS FORUM in the 1 January 2016 issue of **The Dispatcher**. The NDS ASSOCIATION has similar roots. While the GDF Transfer Format was being standardized by ISO/TC204 WG3 in the mid-1990s, there was also a sub-working group dedicated to the physical storage format (PSF) of the compiled navigation data. Nothing ever came of this work. A committee was established by ERTICO for digital map data (which I chaired for two years) that attempted to gain consensus among members to

create a PSF, but the initiative was killed in 1999 by the system developers who felt that the PSF was their IP. All of the car makers, along with Navteq and Tele Atlas, almost had an agreement in 2000 to work on a PSF without the system developers, but BMW convinced MB and VW to work together on a German-only effort. Renault was invited as a 'non-voting observer'. This eventually became NDS. The first release of the NDS standard was in March, 2010.

ADASIS was initiated by Navteq and heavily supported by all players, including the system developers. Its purpose was to allow car companies to procure separately ADAS, navigation and map data applications, and to prevent the same proprietary integration of map data that had occurred with navigation systems. ADASIS version 1 Protocol was ready at the end of 2006,

and a fully commercial ADASIS version 2 was ready in 2010. If there had been a standardized PDF back in 2000, everything would have been easier.

The assumption and expectation by those working with ADASIS Forum is that NDS would deliver data to the ADASIS Horizon Provider according to the ADASIS Protocol. This appears to be the case. The groups developing and improving both protocols and formats need to work closely together. They should have joint working groups to ensure that improvements and changes in one area are being mirrored in the other. However, whether they need to be the same group, or managed by the same management team, is another issue altogether.

The group that originally developed ADASIS decided to have ERTICO coordinate the activity. It made sense since many of

*Continued on P.6*

## Vehicle Data Issues

WHAT'S THE BIG DEAL WITH BIG DATA? Imagine a self-driving taxi that has picked up a passenger who is not a driver. Let's say it's late at night after the pubs have closed and the robocar is travelling along a country road when it develops a software problem that causes its systems to shut down. If that happened today, the only choice would be to call/push the 'assist' button for help and wait until a roadside assistance vehicle could come to the rescue. What if the car could be remotely driven to its destination, just as certain unmanned aerial vehicles can be remotely piloted today? The remote driver could deliver the rider safely home and the vehicle back to its service facility for some TLC. Ericsson, the number one supplier in the world of mobile communications network equipment, is involved in a test with the Swedish/Swiss robot-maker ABB, Swedish telecom Telia, the Swedish government and a university to remotely steer a mining vehicle to perform tasks that are both difficult and dangerous. A key component of the test is using 5G-techniques to communicate between the remote driver and the vehicle.

*Continued on P.5*



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### Footnotes

1. In early 2016 I prepared a report for ITU-T Study Group 16 titled: **Secure OTA Vehicle Software Updates: Operation and Functional Requirements**. Remote over-the-air firmware and software updates are performed to a very limited degree today because of the lack of both technical and procedural standards. One company that has incorporated FOTA and SOTA into its business from the outset is Tesla. Every Tesla vehicle sold is constantly connected to the Tesla connected vehicle server, and every Tesla owner is known and reachable. Tesla has been able to avoid recalls by fixing problems that they have identified themselves.

## Future of Automotive Navigation (from P.4)

the participants were ERTICO members. Those who were not members paid a higher fee to be part of the ADASIS FORUM, but also received access to certain ERTICO benefits. It has been an excellent arrangement that has survived for fifteen years and counting. The Forum has a Terms of Reference which defines the rules of

membership and responsibilities of all parties.

The German companies that founded NDS are all members of the ADASIS Forum, but only BMW is now an ERTICO member. They took another approach to the management of NDS. It is established as a registered association (*Eingetragener Verein*) in

Germany with VW as its legal address. It has a company, Irion&Junker Projektmanagement GmbH as its administrator and the Chairman of its Board of Directors is Dr. Volker Sasse of NavInfo.

Things will not get less complicated with the start of SENSORIS, which, like the ADASIS Forum, will be managed by ERTICO.

## Musings of a Dispatcher

MY WIFE SAYS I AM AN ANGLOPHILE. I guess I was for a good portion of my life, until I became a 'Swedophile'. Most of my architecture and urban planning professors during my undergraduate and graduate years were British. My first full-time job after university was at the Greater London Council, directly across the Westminster Bridge from the Houses of Parliament. I lived from September 1972 to September 1973 in Pimlico in the City of Westminster. My sinuses were permanently damaged during that year by the diesel fumes pouring forth from

the buses, lorries and taxis. Still, I loved it.

While I was there, Britain's unions were tearing many of the country's industries apart, but the worst affected was the automobile industry. It was a somber place back then, a country searching for a purpose. IRA bombs going off in the middle of the city, including one along one of my paths to work, did nothing to make it less melancholy.

The UK joined the EEC on 1 January 1973. I marked no difference between Britain before or after that date up until the time when I returned to the U.S. When I

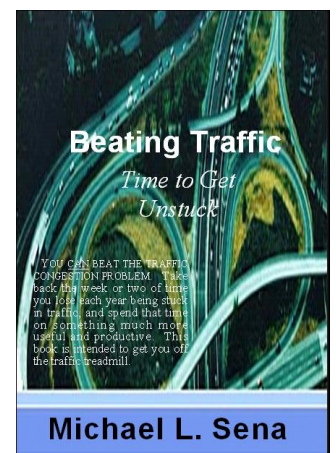
went back to London three years later, everything appeared to have changed. The salaries of my friends at the GLC had tripled, while the cost of goods increased even more. The prices of real estate, including rentals, had been pushed up to the heavens by the influx of wealthy migrants from the Middle East, especially Iran.

Since 1976, I have been a regular visitor to the UK. The somberness I experienced during my first year there disappeared into a positive dynamic that will get the UK through its next transformation. Bet on it.

### About Michael L. Sena Consulting AB

Michael Sena works hard for his clients to bring clarity to an often opaque world of vehicle telematics. He has not just studied the technologies and analyzed the services. He has developed and implemented them. He has shaped visions and followed through to delivering them. What drives him—why he does what he does—is his desire to move the industry forward: to see accident statistics fall because of safety improvements related to advanced driver assistance systems; to see congestion on all roads reduced because of better traffic information and improved route selection; to see global emissions from transport eliminated because of designing the most fuel efficient vehicles.

This newsletter touches on the principal themes of the industry, highlighting what is happening. Explaining and understanding the how and why, and developing your own strategies, are what we do together.



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