

The Dispatcher

Telematics Industry Insights by Michael L. Sena

Special interest features covered in each issue:

- Autonomous and Self-driving Cars
- Big Data
- DSRC versus Wireless Communication
- Connected Vehicles – V2V and V2I
- Third party services for eCall

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- Collaboration among the car companies
- Genivi Alliance and other industry initiatives
- The *Personal Periscope* solution for traffic information

Telematics Update: Fleet and Asset Management

TELEMATICS UPDATE: FLEET AND ASSET MANAGEMENT is held each year in Amsterdam in March. This year's conference was on March 12th and 13th. I was asked by the conference organizers to monitor the sessions and introduce the speakers, a role which I thoroughly enjoy because it means I am engaged from start to finish. As a focused subject conference, compared to the Detroit and Munich events which cover all telematics subjects, there are fewer attendees and a better opportunity to get face time with both speakers and fellow attendees during the coffee breaks and lunches. We also made sure there was ample time for engaging with the speaker or panel members directly following each session with questions and answers.

Several themes recurred during the two days:

- Will there ever be an open platform?
- Can a mobile app replace an embedded unit?

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Conference Topics

Fleet Market Inside and Outside of Europe

End User Requirements

Connected Eco-system and Its Impact

The All-connected Society

Fuel Monitoring

Insurance Telematics for Fleets

The Smartphone as a Fleet Management Interface

Business Models

Big Data Impacts

How the Chauffeured Generation Gets to Work

On a recent trip to the US I read a short article about a class action suit being brought against Google by a group of San Francisco residents. Google is accused of aiding in the gentrification of poorer San Francisco neighbourhoods by operating free shuttle bus services for its workers who live there. Besides pushing up rents by over 25% during the past two years, Google's buses are using the public bus stops, causing congestion and inconvenience for the city's

residents who pay to ride public transit.

It turns out that it is not only Google that is chauffeuring its coddled employees to and from their cubicles in Silicon Valley; Apple, Facebook, Yahoo, eBay, Intuit and Genetech are among around forty companies that do the same. On its own, Google runs 100 buses a day making 380 trips around the entire Bay Area. (Next business?)

In addition to the high-tech

company employees, some high tech companies are also moving in. Twitter is a prime example. It took advantage of a payroll-tax benefit offered by the city's mayor in 2011 and set up its headquarters in the high-crime 'mid-Market' area. Thousands of jobs moved in with it. But on the day that Twitter went public in November, protesters gathered outside its offices, angry over the eviction of low income residents and businesses.

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Telematics Update: Fleet and Asset Management (Continued from p.1)

Clem Driscoll and Mark Licht gave their always insightful perspectives on the state of the fleet management business around the globe. They have developed these insights through extensive surveys of the industry. We have (finally) reached the inflection point on the curve when it is about to climb along the steep upward curve, they said. Most of the installed systems (97%) are after-market fitted systems. The truck OEMs are picking up the pace of installation, but it is more likely that other disruptive forces, such as smartphones, will begin to make heavier inroads, they claimed.

Jan Unander, CEO of Telematics Valley in Sweden, led a panel discussing the reasons why fleet operators and owners are purchasing fleet management systems. The panel segued into why more potential customers did not buy systems and this led to the whole discussion about open platforms. Cyril Zeller, VP of communications at module producer Telit, returned to his mantra when he was head of marketing *Mobile Devices*: proprietary systems do not offer scale economies or multi-use flexibility, and that is why the take rates are still very low. What is needed is an open platform, he said. In my view the problem is that everyone wants a standard platform as long as the platform chosen for standardization is theirs.

Ulf Ödesjö of Volvo Group Telematics gave a *Prezi* presentation that WirelessCar first introduced to TU conferences. He told a compelling story about how connectivity can improve everyone's business in the fleet management eco-system. What struck me with his presentation were the tight relationships between the on-board system, the communications interfaces to the telematics service provider and the truck/system provider's infrastructure. This was the opposite of open systems. Could the same benefits be realized if the truck manufacturer could not capture the value from the data that was collected from the vehicles? This question was picked up by Andrea Sroczyński of Telenor Connexion in the next session, *The All-connected Society*.

Andrea distinguished among four factors that need to be considered when implementing a fleet management system: customer productivity; regulation compliance; operational efficiency; and, driver satisfaction. The latter factor, driver satisfaction, is one of the most important because it can influence the other three, but it is the least considered. A cloud-based system using an industry standard platform that allowed social interaction would go a long way to improving driver satisfaction, she said.

Big Data is what you make of it.

No one I have read or listened to has actually defined Big Data in these words, but this is the closest I can come to explaining it to myself. It seems that the trick with Big Data is to find a way to push as much unstructured bits through many different sieves with varying hole sizes and shapes to come up with an insight you wouldn't have arrived at otherwise —except from a strong feeling in your gut. Bit Data first caught my attention a dozen years ago when my mother wondered why an eighteen-wheeler, rather than the small bread, soda, milk and grocery vans that had made daily or weekly deliveries in times past, pulled up a few times a day in front of the local corner super market.

It was the same just-in-time delivery process perfected by Walmart and then 7-Eleven that was being applied to the small chain of grocery stores. It didn't help and the chain closed a few years later removing the last vestige of a full service supermarket within walking distance of its clientele.

Frank Laveque of Frost & Sullivan discussed Big Data effects in Amsterdam. "We will move from diagnostics to prognostics where we will be able to use Big Data to predict breakdowns, reduce warranty costs, increase value to the individual customer."

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Across the United States, Amazon is erecting massive distribution centers in the nation's exurbs to shorten the distance between online shoppers and the goods they want. They are now committing to a program that will get those goods to consumers in hours rather than days. "We're excited to share Prime Air — something the team has been working on in our next generation R&D lab. The goal of this new delivery system is to get packages into customers' hands in 30 minutes or less using unmanned aerial vehicles. Putting Prime Air into commercial use will take some number of years as we advance the technology and wait for the necessary FAA rules and regulations." Jeff Bezos, Amazon CEO

How the Chauffeured Generation Gets to Work (Continued from p.1)

At the same time, San Francisco's mayor was in China promoting his city to Chinese investors and trying to convince more Chinese firms to establish businesses in his city. He was not alone; it seems that mayors from London to Lisbon are doing the same. The difference between the eventual businesses the Chinese will set up in San Francisco and the likes of Twitter is that Twitter is hiring highly-paid geeks, while the Asian companies will be putting low-to-no-skilled workers into jobs. One hundred years ago it was the rich who were complaining about the immigrants and the rural poor fouling their cities. The rich and the businesses they drove abandoned the cities in droves beginning in the 1960s, and the poor backfilled. Now, the retired and the young are moving back to the cities, and it is the poor who are left who want to keep them out.

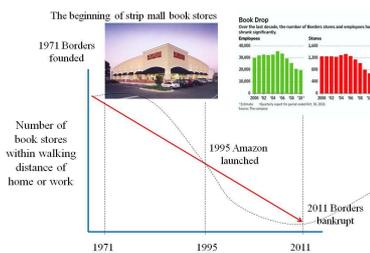
This was one of the themes of the presentation I gave at Telematics Update titled *Macro Factors: Where the Fleet Management Business will be in 2020*. Where we live, work and shop and how we move between these places, will determine the future of fleet management and all telematics developments. It is not the other way around. My opening example was the impact of Amazon on how we shop. Jeff Bezo's business idea was born out of the simple fact that people had gotten too far from books to buy them in a convenient way. It wasn't necessarily that local bookstores were being put out of business by the shopping mall bookstores, like Borders and Barnes and Noble. It was because people were living farther away from all bookstores, including the ones in the malls. Amazon brought people and books closer together. Amazon began doing the same thing with everything we buy, and on-line shopping is now changing the entire way we buy everything. Walmart would never have succeeded if almost everyone didn't have a car, including the poor who live in cities.

Members of the *chauffeured generation*— anyone born after the introduction of the Plymouth Voyager van in 1983 with the sign Baby On Board—are not taking their drivers' licenses. They are not buying cars so that they can sit in traffic every morning and evening to drive from their suburban home or garden apartment. Even if they wanted to move out of their parents' homes after finishing college, they cannot afford to live in Silicon Valley. They don't want to either. They are moving to the cities which are close enough to where their high-tech employers have (for the moment?) located their facilities, and they have convinced their employers, just like their parents, to drive them to and from wherever they want to go. This phenomenon is not an isolated event. It will be playing out all over the US and Europe in the coming years.

Groupware, virtual private networks, conference calling, videoconferencing, and Voice over IP (VOIP) are making it possible for people to stay where they are and still communicate with co-workers. It can be efficient and useful for companies since it allows workers to communicate over long distances, saving significant amounts of travel time and cost.

As broadband Internet connections become more commonplace, more and more workers have adequate bandwidth at home to use these tools to link their home to their corporate intranet and internal phone networks.

All signs point to knowledge workers working closer to where they live, and where they live will be in a condo in the middle of any one of the twenty-five super cities with more than 10 million residents rather than in an isolated hilltop cabin in the Apennines



Technology does not exist in a bubble. Amazon did not cause the problem of people and books being too far apart from one another, but they capitalized on it and brought them closer together starting in 1995. Borders did not cause the demise of local book stores. People moving to the suburbs away from cities, and the rise of the shopping mall provided the opportunity for the super bookstore to come into existence in 1971. Once the on-line bookstore brought book shoppers closer to what they wanted to buy, the demise of the shopping mall bookstore was inevitable and Borders closed in 2011. The same has happened with electronics. This is only the beginning of the end for the shopping mall as we have come to know it.

Solutions Versus Guidelines: Another eCall?

“On 22 January 2014, FIA Region I urged MEPs and stakeholders to include a high level of data protection and an open platform concept as part of all legislation concerning vehicle telematics during a lunch debate hosted by MEP Anna Rosbach at the European Parliament. At the event, the FIA also launched the video ‘Access to data and your car’ to emphasise the core consumer principles for policymakers to keep in mind as vehicle connectivity becomes a reality.”

A FEW WEEKS AGO I received a note from one of my clients. It was accompanied by a link concerning FIA’s attempt to insert itself into ‘connected car’ developments. The note stated that what was being recommended by FIA is not consistent with the view of the automobile OEMs. I read the FIA statement and arrived at the same conclusion as my client. FIA’s recommendation is both uninformed and unhelpful, especially considering where we are now in the European eCall process. Calling for ‘interoperability, open platforms and standards for access to data’ is completely outdated. The last thing we need is another 13-year and counting process that will create uncertainty in the market and delay progress that we are making in cooperation with all of the necessary parties.

Today it is possible for the automotive industry and its suppliers to build on solid approaches to interoperability without needing to touch the on-board devices.

The motivation for FIA’s demand is the fear of its members, the motoring clubs, that they will be shut out of providing assistance services to car owners as all new cars are equipped with two-

way communications devices that are hard-wired to the selling OEMs. They see the OEM as gaining the upper hand in the battle for delivering after-sale assistance to car owners, particularly with the transfer of diagnostics trouble codes and associated data directly from the vehicle to the OEM. FIA wants the customer, not the OEM, to choose to which service provider this information should be sent.

New communications technologies allowing high-speed connectivity between wireless devices and service providers are enabling remote diagnostics, a service that assists both the customer and the vehicle manufacturers. Remote diagnostics, and the value of Big Data from the car, opens up questions about who owns the data, who can have access to it and the need for open standards. However, viewing the collection of diagnostic data from vehicles as a sinister plot by the manufacturers to lock customers into high-priced services shows an insensitivity to and lack of understanding for the current difficulties faced by car and truck manufacturers.

Twenty-five years of attempts to standardize vehicle-based telematics systems and their

message formats have been unsuccessful because of the vehicle industry’s strict requirements for secure interfaces among the electronic and electrical components, combined with business needs to differentiate their vehicles from their competitors’.

It is not necessary to standardize and commoditize the on-board unit or to turn over the control of vehicles to Microsoft, Google or Apple. The widespread use of the Telematics Service Provider (TSP) model as the interface between the on-board systems and the ecosystem of content and service providers, offers the unique opportunity to deliver the same result as standardized hardware, uniform message protocols and open platforms.

The MOBiNET Project, a Framework Seven EU-funded initiative managed by ERTICO, will develop and test this concept with a number of services, including multi-modal transport and usage-based insurance, and it will validate the methods for connecting multiple service providers to multiple on-board systems via the TSP. The answer has been staring us in the face for the past fourteen years. We just weren’t paying attention.

More Paint: The Secret Ingredient for Self-driving Cars

PROF. ALAIN KORNSHAUSER and I met for breakfast at *P.J.'s Pancake House* on Nassau Street in Princeton in early February. We talked about self-driving cars. There are certain people whom I can trust to have a strong and well-thought-out viewpoint on a given subject. I can test my own ideas on them and be sure I will get all of the pros and cons before going public. Prof. Kornhauser has been one of these people for me over the many years we have known each other.

He told me he had been invited to a US Congressional Committee meeting on intelligent transport. There were transport officials at the meeting from all over the world, including, as it happens, from Sweden. All of these officials were doing their best to show they truly cared about expanding the use of advanced automotive safety systems, and self-driving cars apparently had captured the collective imagination as a way to make driving safer for everyone.

Prof. Kornhauser gave his opinions to the Committee and then fielded questions. One came from Sweden's Minister for Infrastructure, Catharina Elmsäter-Svärd. "What can we do to speed up the introduction of safer

cars that drive themselves?" she asked. "More paint," replied Prof. Kornhauser. "Give us more paint."

There was complete silence in the room at the apparent non sequitur from the distinguished Princeton professor. More money for research; more enabling legislation; more test facilities. But more paint? It doesn't follow. I got it immediately because there is a stretch of a motorway between Stockholm and the town where we live—coincidentally, this stretch of road is very close to where Minister Elmsäter-Svärd lives—that is extremely unsafe for driving at night, especially in poor weather. The lane markings have all but disappeared. If you are alone on that road when there is no moonlight you are almost driving blind, even with your high beams on. If humans have a difficult time managing to stay on the road, how can sensors that are tuned to lane markings manage the task? They cannot, so asking for 'more paint' is perfectly logical.

More paint can be described as low hanging fruit. There are real barriers to self-driving cars, and they are not technological. Today, there is no jurisdiction in the world where the

operation of a motor vehicle is regulated that allows cars to be on the road without a driver. It is the *1968 Vienna Convention on Road Traffic* that is the basis for national laws regulating the operation of motorized vehicles. The Vienna Convention is an international treaty designed to facilitate international road traffic and to increase road safety by establishing standard traffic rules among contracting parties. Seventy countries have ratified it (oddly, the US and Japan are not among these countries, although they abide by its principles).

Some states in the United States have passed laws allowing self-driving cars to be on the roads, but a driver must still be able to take full control of the vehicle when the situation calls for it. When might that be? When it is clear who bears the responsibility for an accident if the driver is not fully in control. A recent *Financial Times* article on the subject suggested one possible way of resolving this might be "to use the model that protects suppliers of childhood vaccines. In the US a trust fund compensates people who fall ill due to the vaccines and at the same time protects the industry from ruinous lawsuits."

Articles of the Vienna Convention on Road Traffic related to Automated Driving:

Article 8: Drivers

ARTICLE 8.1: "Every moving vehicle or combination of vehicles shall have a driver."

ARTICLE 8.5: "Every driver shall at all times be able to control his vehicle or to guide his animals (sic)."

Article 13: Speed and distance between vehicles

ARTICLE 13.1: "Every driver of a vehicle shall in all circumstances have his vehicle under control so as to be able to exercise due and proper care and to be at all times in a position to perform all manoeuvres required of him. He shall, when adjusting the speed of his vehicle, pay constant regard to the circumstances, in particular the lie of the land, the state of the road, the condition and load of his vehicle, the weather conditions and the density of traffic, so as to be able to stop his vehicle within his range of forward vision and short of any foreseeable obstruction. He shall slow down and if necessary stop whenever circumstances so require, and particularly when visibility is not good."

ARTICLE 13.5: "The driver of a vehicle moving behind another vehicle shall keep at a sufficient distance from that other vehicle to avoid collision if the vehicle in front should suddenly slow down or stop."

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Telematics Update: Fleet and Asset Management (Continued from p.2)

Andrea mentioned split billing again, as she did in November at Telematics Update's European event. A single SIM addressing two APNs would enable both Internet capability for entertainment and social networking using one APN and the mission-critical management, diagnostics, safety and security

functions using the other. There would be no need for tethering a mobile phone.

A new company called Wejo (short for We Journey) was a sponsor for this year's event. It's CEO and founder, Richard Barlow, started his presentation with a simple statement: Our mobile app

does everything an embedded system does, all for €2 per month per driver. All of the clever data operations occur in the cloud, he said. The device simply collects the data. Sounds good. After hearing this there was nothing left to do for all of the rest of us than to pack up and go home.

European eCall: The Saga Continues

It was expected that the EU Parliament would eventually sign the draft legislation that has been ready for signing since June 2013. Surprisingly, over 25% of the MPs voted against it and another 5% abstained. This shows that there really is not total support for it. What happens now is that the Council of the European Union has to review it. They can pass it as it is or they can submit amendments which will then require further discussion with the Parliament. I do not see any indication of when they will meet to discuss this.

The car manufacturers, via ACEA, have always said that they need three years from the

time the legislation is passed in order to have enough time to make the necessary additions to their vehicles. The legislation that was just passed lists October 2015 as the date after which all new type approved vehicles sold in the EU countries would have to be equipped with the EU eCall system, or—and this is important—have a third party service. However, three years after 26 February 2014 is February 2017, not October 2015. So it is very likely that there will be a delay.

As it looks now, there are no further consultations with the member countries. They have already stated their approval or disapproval, and this has been considered when the legislation

was proposed. France, for example, has said they will not support it. The UK maintains that it already has a functioning emergency call service using BT999.

It seems the car companies reconciled themselves long ago to the simple fact that there is no 'No' when it comes to doing something the European Commission decides will be done. The EC decided twelve years ago that eCall would happen. It could have taken the easy (some would say the rational) route and provided guidelines rather than inventing a solution. Spilt milk. The car companies will make the best of it, as will the member countries' emergency services.

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. 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.