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## ●自動運転車の走行テストを開始する計画を発表したGM、車両間通信のコスト負担なども課題

【Wall Street Journal, 2014/09/12】

高度な自動走行機能を持つ車が道路に設置されたセンサなどと相互通信し、より安全な道路環境を作るというビジョンは、自動車業界が実現を目指し、研究開発を進めるところ。

GM も、今週開催された IEEE の「Intelligent Transportation Systemsconference」において、2016 年までに自動運転車のフリーウェイでのテストを開始する計画を発表した。

しかし、自動車はほとんどの消費者にとって高価な買い物である上、その利益率は通常 1 ケタ台。相互通信機能のために上乘せされるであろう 300 ドルほどを誰が負担するかは、自動車メーカーだけでなく、電気通信事業者など車両間通信 (V2V) に関わる業界間の駆け引きの的となる。

自動車業界としては、自ら新たなコストを負担することは避けたいが、ベライゾン・テレマティクスのケビン・リンク副社長は、顧客にそのまま負担を回せば、V2V は普及しないだろうという。

同氏は、車両をリコールして工場で修理した場合、1 台当たり 65~90 ドルのコストがかかると指摘。

通信機能を車両に搭載してソフトウェアのダウンロードで問題を修正できるようになることによるコスト削減、顧客の運転傾向や機能の使用傾向についてのデータが生み出す価値を見込んで、顧客に負担をかけずに通信機能を車両に搭載するべきだろうとする。

しかし、自動車業界関係者からは、顧客のデータが価値を生み出すためには V2V が広範に普及する必要があるとの指摘もあり、また、データを収集することに対する顧客の反発を危惧する声もある。

さらに、通信機能を搭載した車両に対するサイバー攻撃の不安も誇張される可能性はあるとはいえ、現実性が全くないわけではない。

リンク氏によると、ベライゾンのネットワークには 1 日 200 億回もサイバー攻撃が試みられるという。それでもベライゾンは、「コネクテッドカー」に大きな期待をかけており、同社のローウェル・マキャダム CEO は ITS カンファレンスでの講演で、大きな問題は現在モバイルウェブに接続する車両が全体の約 7% でしかないことだと語っている。

同社は、来年にはより多くのドライバーがモバイルウェブを利用することを可能にする製品を発売する予定であるとのこと。

また、現在、コネクテッドカーと関連するロジスティクス・アプリケーションのアイデアを募集するコンテストを開催しており、既に4000件の応募があるという。だが、V2Vの普及にあたっては、高機能化と低価格化が進むスマートフォンの存在も大きな障壁となり得る。

(参考) 本件報道記事

### **Upshot: The Internet of Asphalt Will Take Time to Pave**

By Joseph B. White

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The Wall Street Journal

It won't be long before cars can largely drive themselves down highways pulsing with digital connections that alert drivers to traffic jams or imminent collisions and save thousands of lives, say technology and auto industry executives.

Their vision of the Internet of asphalt is one that executives from telecommunications, big data, automated toll taking, digital chip-making and of course, automobiles are eager to bring to life. The bug on the windshield is figuring out who will make money and how from these.

For auto makers, the push for "connected cars" and "intelligent highways" -- the umbrella terms for the idea of linking increasingly intelligent cars to the mobile web and each other using a robust form of Wi-Fi and wireless telecommunications networks -- is part of a broader strategy to evolve from grease to gigabytes.

Car makers want investors to see them as technology companies worthy of rich stock multiples -- not 20th Century has-beens managing decline in a cyclical industry. This is one reason why General Motors Co. Chief Executive Mary Barra used the forum of this week's Intelligent Transportation Systems conference in Detroit to announce that GM will offer a car capable of piloting itself on a freeway by 2016.

But there is a lot of work to be done in the trenches before this brave new world is a reality. GM and Ford Motor Co. aren't Apple Inc. Their products require

billions in capital to design and produce, represent the second most expensive purchase most people will make, and are sold with razor thin, usually single-digit profit margins. Hanging an extra \$300 or so of hardware on a car to allow it to talk to another car via Wi-Fi is a big deal.

Who should pay the additional cost for vehicle-to-vehicle or "V2V" crash avoidance systems? Not us, say auto industry executives.

Kevin Link, Senior Vice President of Verizon Telematics Inc., says handing customers the bill directly won't work, either. "If we burden the customer with the cost we'll never get to ubiquitous" deployment of V2V systems or related connected car technology.

Instead, Mr. Link says car companies should put mobile connections in their cars without demanding an upfront charge, taking into account the potential savings to them in warranty repair costs from using standard mobile connections to download software fixes to their cars, and the value of data about consumers' driving habits and use of features.

"It costs \$65 to \$90 to recall a car and reflash the vehicle" in a shop, Mr. Link says.

James Buczkowski, director of global electrical systems engineering at Ford, agrees it would be of value to his company to get a better handle on the terabytes of data generated by drivers. But when it comes to V2V systems, the Wi-Fi transmitters proposed to enable them don't "deliver a huge amount of value unless a majority of vehicles are on board." And that won't happen for years, given how long people hang on to automobiles.

The "business model" problem looms over other aspects of the nascent connected car industry.

Auto makers could spur sales of connected vehicle systems by forming partnerships with companies that know how to create products and services from big data -- Google Inc. for example. But auto makers don't want to risk ceding their already tenuous relationships with customers.

Moreover, auto makers worry about a backlash if customers start to believe their cars have turned into spybots, tracking their movements and sending data about their behavior to marketers, or the government. Everyone in the connected car business wants you to know that these links won't be used to report your speed to the police.

The risk that connecting cars to the Web and each other could expose them to cyberattacks may be overblown, but it isn't trivial. Mr. Link startled a room full of connected car enthusiasts by saying that Verizon's network is subjected to 20 billion threats a day.

Verizon is bullish on connected cars and its plans to offer services that rely on networked vehicles. Chief Executive Lowell McAdam, in a speech to the ITS conference, said a big problem is that currently only about 7% of cars are connected to the mobile web. Verizon plans to launch next year a product aimed at getting more drivers to tap in to the mobile web. Meantime, he said, Verizon is sponsoring a contest to get ideas for connected car and logistics applications, and has 4,000 entries.

One more threat to the dreams of billions in revenue from creating smart cars and highways lurks in the pockets and handbags of consumers around the world: Increasingly capable smartphones.

Want to know if there is a traffic jam ahead? You could wait for the state or federal governments to install more sensors and cameras in the roadway, or you could fire up traffic app Waze or another smartphone app that already provide real-time information on road congestion and can even propose alternative routes.

Chips are even under development to enable smartphones to emit location information using the DSRC Wi-Fi proposed for the V2V talking car systems that the government is considering mandating. DSRC smartphones may not be as powerful and reliable as systems embedded in cars, but what if they are much cheaper?

As Silicon Valley disrupters know, fast, simple and free usually beats the opposite.

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