THE FUTURE OF VEHICLE INSURANCE:  
The Foundational Role of Telematics

Featuring as an Example:  
Octo Telematics

An SMA Perspective

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Publication Date: August 2017

This perspective is based on SMA’s ongoing research on telematics and mega-trends for vehicles.  
Octo Telematics has purchased distribution rights.
The Future of Vehicle Insurance: The Foundational Role of Telematics

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Key Theme

In a transportation economy shifting from people-operated vehicles to autonomous vehicles, insurance will similarly shift from being people-focused to vehicle-focused. In that world, data will be more critical than ever. Insurers must develop expertise with telematics data now to survive and thrive in vehicle insurance as the landscape transforms.
AUTO AND FLEET INSURANCE IN A TIME OF CHANGE

The transportation of people and goods is in the early stages of massive transformation. Some pundits expect autonomous vehicles to be on the roads in force within 10 years. Many commercial businesses are looking for ways to accelerate the move to driverless fleets to address driver shortages, reduce costs, and improve safety. The sharing economy is growing, with some claiming that children who are under the age of 10 today will never own a car. More and more insurance companies are offering telematics solutions for personal auto or commercial fleets. In the meantime, the auto industry continues to introduce new and improved electric vehicles and new safety features under the umbrella of ADAS (automated driver assistance systems). Figure 1 shows SMA’s view that all of these trends will converge around 2030 with a very high impact on the personal auto and commercial fleet marketplaces.

What do these trends mean for society in general and the insurance industry in particular? Will auto insurance fade away as accidents are dramatically reduced? Will insurance become invisible as it is bundled with an auto purchase or provided to platform economy operators like Uber and Lyft in lieu of individual drivers? Will insurers be able to create new revenue streams outside their traditional indemnity-oriented products? These and many other questions are being hotly debated by industry strategists and senior leaders.

Figure 1. The Convergence of Major Trends in Auto and Fleet

Source: Strategy Meets Action 2017
The winners in insurance will be those with lots of data about connected vehicles, lots of experience in analyzing that data, and a track record of creating products and services based on the data. Telematics is central to all of these areas.

One of the central areas being discussed by insurers is the role of telematics. Are telematics programs essential for a competitive posture or will these trends remove the need for telematics programs? And how will the evolution of these various trends affect telematics programs that are in the market today or being planned now?

The answer to those questions lies in data and the insights that can be derived from that data. In any scenario that can be imagined, the winners will be those with lots of data about connected vehicles, a wealth of experience in analyzing that data, and a track record of creating products and services based on the data. Telematics is central to all of these areas.

**BUSINESS CAPABILITIES FOR INSURERS**

The shift toward a new transportation ecosystem has many implications. One of the most significant is that the historical data that insurers have relied upon over the years for rating, product development, pricing, and underwriting will rapidly lose validity and value. Historical loss costs, stat data, and rating factor data cannot be the basis for the future of auto insurers.

Fundamentally, the actual long-tail aging of statistical data that goes into current rating and pricing will be insufficient as transportation morphs from driver-centric to vehicle-centric. Make no mistake; this will be an evolution – but not one that will take decades to be felt. The current, and permanent, pace of change must be reckoned with now. The sheer complexity of multiple driving paradigms coexisting in the same space for the foreseeable future requires different data and data acquisition, and telematics is positioned to fill that role. Figure 2 provides a framework for understanding the types of data that are collected in the connected vehicle world.

*Figure 2. Connected Vehicle Data*

**About the Driver**
- Driver/passenger
- Driver alertness
- Distracted driving
- Device disengagement
- Seat belt status

**About the Vehicle**
- Vehicle idle time
- Fuel usage
- EV charging status
- Attempted theft
- Tire pressure status
- True odometer reading
- Airbag deployment
- Accident dynamics
- Vehicle performance

**About the Activity**
- Location
- Speed
- Acceleration
- Deceleration
- Hard braking
- Sharp turns
- Excessive idling
- Time of day
- Distance driven
- Route
- Cargo tracking

Source: Strategy Meets Action 2017
Data About the Driver

In the end state of a fully autonomous vehicle world, driver data may be pointless. However, in the next few years at least, gaining real-time or near real-time data about drivers is highly valuable. It is valuable for rating, pricing, and product but perhaps more importantly, it is critical for claims and underwriting, for both personal auto and commercial auto/fleet. Driver-related data, as illustrated in Figure 2, cannot be gained in ways other than telematics; thus, telematics is a competitive advantage. Some insurers may believe that telematics programs are just another tier that can be added at some point. However, it is critical that insurers recognize that gaining telematics-based driver knowledge now is the launch pad for understanding how driver influence will change over time. No amount of traditional data will make this happen.

Simply having an autonomous car or truck will not mean that drivers can’t take over the vehicle’s operation. In fact, some states are considering regulatory standards requiring an operator be in the vehicle. Many believe that long-haul trucks may be the first real wholesale application of autonomous vehicles, particularly since they are currently being tested in Europe and the US. If this is the case, in the not-too-distant future, driver-operated vehicles and no-operator vehicles will share the same space. Accidents occurring in this environment will be complicated to adjust. Claims outcomes will be materially and positively impacted by telematics data about drivers. This circumstance will persist for a long time as autonomous vehicles work into new geographies at different rates (urban vs. suburban vs. rural, different countries or regional areas), move across vehicle inventory at different rates (high-end vehicles first and then into lower price ranges), and filter through consumer preferences at different rates (adventurers vs. skeptics, frequent vehicle turnover vs. long time ownership). Making sense of these circumstances will require data specific to the driver.

Data About the Vehicle

Regardless of whether the world is full of driver-operated vehicles or autonomous vehicles, gaining data about vehicles will be foundational. Most of the conventional data in use now comes in with a time lag that is not suitable for today’s pace and degree of change, and is rarely real-time data that triggers an action, as is illustrated in Figure 2.

Telematics for claims-related data such as airbag deployment and, uniquely, accident dynamics, are in the early stages of adoption today. However, as the transportation landscape moves forward toward a combination of varying degrees of connected and autonomous vehicles, accident dynamics data will be imperative. Anecdotal descriptions of accidents in this scenario will be almost useless, and telematics-based factual data will be essential.

Fleet operation-related telematics data such as idling time, tire pressure, and fuel usage are excellent services that insurers can bundle into telematics-based product offerings today. As time moves on, current data related to services combined with vehicle operation data will be useful in product development and underwriting to address opportunities emerging with new vehicle functionality. However, insurers cannot simply parachute into these activities at a point of market-critical mass. Insurers must gain experience using telematics data for product-related activities.

Over time, vehicle characteristics will become more important than driver characteristics. While vehicle manufacturers will provide some data and information, insurers must have their own vehicle-based data, reflective of their markets and segments so that they can relate it to other outcomes. Data without context is not particularly valuable, so insurers must build their own vehicle-based data using telematics. Again, acquiring this data now, and using it, is a key success factor.
**Data About the Activity**

With the advent of telematics, one of the most exciting things for insurers is that they could obtain absolute data on characteristics that, intuitively, they believed were contributors to positive and negative financial results. Location, speed, acceleration, hard breaking – all of the items listed in Figure 2 under activity – have historically been on every underwriter’s desk sticky-note of contributors to a loss. Happily, for many underwriters, telematics delivered the data to support actions. This will continue to be absolutely critical as transportation changes. In fact, without activity-based data, insurers will not be able to finitely understand how connected and autonomous vehicles are changing claims outcomes across vast geographies, a wide variety of owners/drivers, and differing vehicle types. It is not too much of a stretch to believe that activity data, now connected to the driver for rating and underwriting purposes, will be connected to the vehicle.

Today, insurers with telematics programs can bring various activities to bear upon rating, product, and underwriting. This will continue to be the case as the journey to fully autonomous vehicles unfolds. There is learned conjecture on how autonomous vehicles will behave and a good deal of testing going on, but in reality, we don’t know what we don’t know. Activity-based data combined with vehicle and driver data will be essential in understanding how the claims experience should be addressed and what underwriting changes need to be made. Insurers waiting for traditional data to base these decisions upon will be perilously behind their competitors.

**Opportunities for New Services**

A big concern for many in the industry is that premiums will decline significantly over time, eroding their primary business. Substantially reducing accidents and correspondingly decreasing premiums is a great thing for society, individuals, and businesses, but not so great for companies that have large auto or commercial fleet insurance businesses. Nevertheless, there is great potential for new fee-based services to fill the gap, and those services will be based on data.

Data about the vehicle and its activity can be combined with other data sources, especially geospatial data, to form the basis for new services to policyholders. Real-time, location-based data about weather, traffic conditions, nearby retail establishments, gas prices, auto repair shops, truck terminals, and more can be mashed up with data on where the vehicle is located, where it is going, and what the condition of the vehicle is. Some of the services will be added to current policies at no fee to enhance the value proposition, while others might be add-on services or even offerings that are separate from the policy itself.

**TECHNOLOGY CAPABILITIES FOR INSURERS**

Virtually all business decisions today involve technology in some manner. And the very essence of telematics is technology. But now, and certainly in the future, it will not just be about a telematics device. There are required components and plans that must be made to span from today’s needs into the future.

**Real Time Data and Data Collection**

It is easy to imagine that when the term “big data” was coined – it said “see telematics” somewhere in the description. Telematics is real-time data, and given that it is derived from a moving vehicle, the volume is remarkable and continuous. The sheer volume of the data can scare some insurers into inaction (in fact it has been estimated that an autonomous vehicle will generate 4 TB of data a day – that is terabytes with a T). However, cloud
services can alleviate that concern. As connected cars and ultimately autonomous vehicles evolve and grow, the volume of data will exponentially increase, which makes proprietary data centers highly impractical. Insurers who partner with telematics organizations that provide cloud services will find the road to action significantly easier to travel and sustain.

Mid-sized to small insurers frequently find telematics adoption to be a challenge because they cannot gather the amount of data needed to operationalize the initiative. Partnering with a telematics organization that already has consortium data available overcomes this problem. In fact, insurers of all sizes can benefit from additional telematics data. Proprietary data can be combined with consortium data for new insights that will be highly valuable as the automotive landscape evolves and insurers need to respond with new products and services.

**Analytics and Models**

The insurance industry is past the point of needing someone to evangelize the value of analytics and models. Gaining new insights from data is the source of competitive differentiation. SMA research shows that 92% of all insurers are investing in data and analytics. How insurers are doing this varies. The roles of Chief Data Officer, Chief Analytics Officer, and Data Scientists are rapidly growing.

Certainly, many insurers can develop their own telematics-based models using existing tools, but given the extraordinary amount of demand for analytics and models across all organizations, allocating time to building telematics-related models is unnecessary because expertise and tested models exist in the marketplace today. Also, partnering for this capability with proven providers brings speed to business value which is imperative today and will not lessen in importance in the future.

**Operational Platform**

More and more, platforms are being engineered for larger data volumes. However, a platform engineered for the unique characteristics of telematics data is a choice that should be high on the list for insurers. Additionally, a platform that can accommodate varying telematics devices and vehicle sensors is virtually mandatory because device proliferation and rapid evolution is a certainty. The platform must also have built-in flexibility via a modern architecture with APIs to enable connection to many other data sources and systems. The ability to collect and manage data and related insurance solutions in an on-demand environment is also important as the sharing economy increases and more individuals and businesses choose to forego vehicle ownership in favor of sharing economy options.

**Telematics Solutions**

A few short years ago, half of the decisions about telematics initiatives were around the specific device to be supported. Customers have taken that decision off the table – they want to make the choice of device that is best suited to them. Adding to the device picture is that the auto manufacturers are rapidly shifting the device choice to the vehicle as they embed devices and sensors in every part of new vehicles.

Initially, insurers may make a specific choice of dongle or smart phone app, but it is critical for insurers to recognize that embedded vehicle technology will be the standard in both personal and commercial vehicles. This fact makes an even stronger case for insurers to utilize a platform and analytics specific to telematics data that can respond rapidly as data origination shifts.
OCTO TELEMATICS

Company Overview

Octo is the number one global provider of telematics and data analytics solutions for the auto insurance industry. Founded in 2002, today Octo is the largest and most experienced insurance telematics company in the world, transforming auto insurance through behavioral, contextual, and driving analytics for more than 60 insurance partners. Octo has more than 5.1 million connected users and the largest global database of telematics data, with over 165 billion miles of driving data collected and 417,000 crashes analyzed and reported to the insurance claims department (as of June 30, 2017). Octo applies proprietary algorithms to this market-leading database to deliver powerful new insights into driver risk, informing solutions that benefit both auto insurance companies and policyholders. The company is headquartered in London, with offices in Boston, Rome, Stuttgart, Madrid, and Sao Paulo.

Breadth of Functionality

Octo’s robust portfolio gives insurers the ability to offer solutions to users based on variable risks – for example, a higher risk teen driver may be offered a full telematics solution via Octo SURROUND, while a lower risk driver may be provided with Octo GLIMPSE, offering telematics through the policyholder’s smartphone. Such solutions must also make sense to the policyholder, providing tangible value that pleases them while also aligning with the insurance value proposition. Octo meets the needs of both today’s innovative insurer and their mobile policyholders with both mobile solutions, as well as a robust in-vehicle solution, which provides the full suite of telematics benefits. The suite includes:

- **Octo Glimpse** – This is Octo’s base product. It provides driving behavior scoring with feedback on what behaviors drive the score. It also provides location-based services, for example, road condition alerts or roadside assistance. Personalized driving logs and trip views add a personal benefit to the consumer. This product works on Android and iOS, and connectivity is through the policyholder’s smartphone with the Octo Glimpse mobile app.

- **Octo Vantage** – This product has all the services mentioned above and some enhancements. Examples are location services which include time services and personalized driving logs which include fuel efficiency. Also included is vehicle maintenance notification. The most significant difference is that this product includes risk event detection and notification relative to the vehicle operation. These all provide value-added services for the customer. Connectivity is via a dedicated device integrated with Bluetooth and paired with the policyholder’s smartphone.

- **Octo Surround** – This is the most comprehensive of Octo’s products. It also builds upon the functionality of Vantage and Glimpse, but it adds innovative and critical capabilities around crash dynamics (the facts of the crash), detection, and notification. Additionally, it provides automated claims notification and claims initiation, literally jump starting first notice of loss. Surround also assists with stolen vehicle recovery. These capabilities directly correlate to the claims applications detailed in this perspective. Connectivity is via a dedicated device and Octo-provided cellular connectivity.

- **Octo Fleet** – This is a complete commercial line solution based on in-vehicle ELD devices. With an interactive console, Octo Fleet allows fleet managers to better supervise vehicles and the business. Customers benefit from an Electronic Logging Device (ELD) onboard each vehicle that collects data for accurate reporting and increased efficiency. Octo Fleet allows customers to manage drivers, costs, and vehicle optimization, assess driver behavior, and view vehicle location, usage, and mileage. Vehicle monitoring and alerts, preventative maintenance monitoring, and emergency and breakdown services also extend the life of the fleet. With Octo Fleet, customers maximize efficiency, reduce costs, and increase profits.
While telematics has been traditionally used for market segmentation, pricing, and underwriting, Octo has been focused on maturing telematics in other directions. Telematics and device capabilities are continually evolving. Octo has engineering and R&D staffs that focus on the “next best thing” in the device space to keep their offerings relevant and to improve business outcomes. Claims utilization of telematics data has been a focus in 2016, not only from the perspective of understanding crash and fraud scenarios but also to facilitate claims adjusting capabilities such as damage estimation and crash site analysis.

To assist medium and small insurers that may be totally new to telematics, Octo provides an end-to-end solution that addresses all aspects of running a UBI program. In addition, Octo offers a program that helps the insurer understand how their customer base stacks up against the database of drivers. This allows the insurer to benchmark their proposed program against other programs already in the market, thereby reducing suboptimal outcomes. Insurers can contribute data to the driver database and utilize the data, and they do not have to pay for the data they use (all data submitted and analyzed is anonymized).


**STRATEGY MEETS ACTION COMMENTARY**

The vehicle landscape is already changing for both personal and commercial vehicles. The next decade is likely to see a dramatic transformation of the vehicles populating the roadways around the world. In many ways, it may be messy – as the technology, laws and regulations, and transportation infrastructures evolve. The typical road will feature a mix of vehicles ranging from Level 0 (no automation) to Level 5 (fully autonomous in all situations). Adoption rates, vehicle lifespans, and other factors will determine how rapidly the mix shifts toward more Level 4 (autonomous in restricted situations) and Level 5 vehicles.

In every scenario that can be imagined, from the most pessimistic to the most optimistic, the key to success in the insurance industry will be access to a deep pool of data and insights about vehicles. This should place telematics at the very center of insurer strategies. For those that have telematics programs in place, the plans should be to expand the programs and seek more insights from the data. For insurers yet to introduce telematics programs, now is the time to move. One of the critical success factors for insurers will be to think beyond premium reductions as the primary value proposition for usage-based insurance and to build enhanced and brand-new value propositions based on real-time data from vehicles. As insurers look to capitalize on the opportunities presented by telematics and position for the future, Octo Telematics should be on any insurer’s shortlist as a provider of telematics data, analytics, and services.
ABOUT STRATEGY MEETS ACTION

Strategy Meets Action (SMA) is dedicated to helping the business of insurance modernize, optimize, and innovate for competitive advantage. Exclusively serving the insurance industry, SMA blends unbiased research findings with expertise and experience to deliver business and technology insights, research, and advice to insurers and IT solution providers. By leveraging best practices from both the management consulting and research advisory disciplines, we take a unique approach – providing an unrivaled set of services, including retainers, research, consulting, events, and innovation offerings.

This SMA Perspective is a summary of SMA’s ongoing research on telematics and mega-trends for vehicles. Octo Telematics has purchased distribution rights for summary results of selected research and opinion.

Additional information on SMA can be found at www.strategymeetsaction.com.

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