

SMART AUTOMOTIVE

RNI No: UPENG/2015/63476 ISSN 2454-8561

Autonomous Vehicles • Connected Vehicles • Cybersecurity • Safety • Infotainment



Insurance Telematics

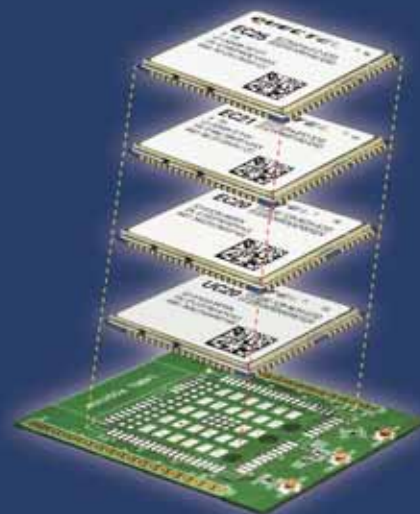
'Localized business model can change the insurance industry'



Unleash the Power of IoT with Leading Innovation Push the Wireless Communication to the Higher Level



Quectel is a global leader in M2M modules for the Internet of Things (IoT) market. We offer the industry's highest performance cellular and GNSS modules and are dedicated to deploying smart IoT solutions worldwide. Focusing purely on the M2M market for many years, Quectel modules enable machines to communicate and get connected in key IoT markets – Transport, Payment, Energy, Logistics, Security, Agriculture, healthcare and beyond.



QUECTEL
Build a Smarter World

HQ Address: Office # 501, Building 13, No 99 Tianzhou Road, Shanghai, China 200233
Tel: 86-21-5108 6236 Fax: 86-21-5445 3668
Web: www.quectel.com Email: info@quectel.com

Quectel Wireless Solutions

India Office: #105 (I), Marwah Complex, Opp Tata Power, Off Saki Vihar Road, Andheri (East), Mumbai – 400072
Mobile: +91-98202 18317 Tel: +91-22-25776385, 25775389
Email: dinesh.palkar@quectel.com



GPS GSM SMS RFID BASED TRACKING MONITORING SOLUTIONS

High on Features
Low on Price



Supported Accessories



RFID



Voice Kit



Panic Button



Temperature Sensor



Fare Meter



Immobilizer



AC Status & much more

Note: The Compatibility of the Accessories listed above, is not universal to our Tracking Hardware & are Specific to Certain Models

Our Quality Your Price...

Technical Specification

Parameters	Description
Processor	MTK 6260
Memory	40000 Tracking Records on Solid State Flash, 100K Erase and Program Cycle, 10 year data retention.
GSM Module	Quad Band GSM 850/900/1800/1900Mhz, DCS GPRS: class10 Coding Scheme CS1 to CS4.
GPS Module	GPS:66 acquisition-/ 22 tracking channels, Ultra high tracking/navigation sensitivity: -165dBm1, Inbuilt patch antenna, 5 Meters Accuracy.
Antennas	Internal Antenna
Communication Interface	TCP/IP on GPRS.
Record Storage/buffer	40000 Tracking Records.
Ports	1-USB Device type, 1 Analog I (fuel) and 2 Digital I/O, 1 Ignition Input
Configuration	Recording delay, transmission delay.
Communication Scheme	TCP socket with Open Session.
Speed Sensor	GPS(default), Accelerometer(optional)
SIM Interface	Supports SIM card: 1.8V & 3V Micro SIM
SMS	Supports Text
GPRS Packet Data	Class 10 ; Class 8 (Optional), Coding Scheme CS1 to CS4
LED Indication	Processing, GSM, GPS, USB Detection
Connectors	6 Pin power mate connector
Power Supply	Wide DC input voltage range (9V - 32V),
Current Consumption	300mA during tracking and 150mA during standby
Internal Battery	700mAh, 5 to 6 Hr backup.
Enclosure	ABS plastic casing with IP65 rating (IP 67 Casing optional)
Temperature	Operating: -10°C to +60°C Storage: -10°C to +85°C (Without Battery)
Dimension (mm x mm x mm)	80 x 65 x 30
Weight	120g
FOTA	Firmware upgrade over the air available (FOTA)
Other Interfaces	Tamper Alert Switch
Geo Fencing	Polygonal Geo Fencing available

Note: We pursue a policy of continuous research product development. Specifications & Features are subjected to change without notice

Our Other Products

Vehicle Tracking & Monitoring System

U 101

For the first time in India
Automotive ECU type
connector for additional
stability



Person Tracking



Remote Vehicle Diagnostics



CERTIFICATIONS:



iTriangle Advantage

- Standalone, Plug and Play, Compact Tracking Device
- Advanced Power Management with Internal Battery
- Comprehensive Fleet Management Capabilities
- Driving Behavior Management
- Remote Monitoring, Control and Diagnostics of Equipment
- Data collection and Voice Communication
- Analog and Digital Sensor Support
- Glonass Support Available

Design
Development
Manufacturing
& Software
Services

For more information:
Contact: +91 9739221001
+91 9552926343
write to us at:
customer@itriangle.in

An ISO 9001:2008 Certified Company



Articles

- 06 Opportunities and Challenges of Insurance Telematics
- 08 Moving the insurer from a reactive partner to a proactive partner
- 10 Telematics creating new insurance value propositions
- 12 The Insurance Telematics market in UK
- 15 UBI: A key enabler of telematics and road safety
- 20 Insurance Telematics: Global Landscape
- 22 Principles & Beneficiaries of Insurance Telematics
- 24 The Past and Future of Insurance Telematics
- 25 Usage of 'Usage Based Insurance' ?

News

- 26 News

Miscellaneous

- 18 Conference Report: Telematics India 2016
- 23 6 ways telematics will disrupt insurance
- 33 Bits & Bytes
- 34 Insurance Telematics Trend

Editor & Director

Maneesh Prasad

Director

Lt. Col. M C Verma (Retd.)

Dy. Director

Anuj Sinha

Sub Editor

Piyush Rajan

Corporate Sales Executive

Abhinav Mishra

Rewanshi Singh

Content Support

Rudravir Singh

Asst. Web Developer

Amit Kumar

Designer

Vikas Singh

For Advertisement Contact

Anuj Sinha

+91 - 87440 88838 / +91 - 83758 69800

anuj.sinha@telematicswire.net

Publication Address

Aeyzed Media Services Pvt. Ltd.

D-98 2nd Floor, Noida Sec-63

Uttar Pradesh-201301

Email: info@aeyzed.net

**Printed and Published by
Maneesh Prasad on behalf of
Aeyzed Media Services Pvt. Ltd.**

Aeyzed Media Services Pvt. Ltd.

D-98, 2nd Floor, Noida Sec-63

Uttar Pradesh-201301

Email: info@aeyzed.net

Printed at

M/s Vinayak Print Media

D-320, Sector-10, Noida, Gautam Buddha (UP)-201301

and publication at A3/107, Block 12, Kailash Dham,

Sector-50, Noida, Gautam Buddha (UP)-201301

Please Note: No material may be reproduced in whole or part without permission of Aeyzed Media Services Pvt. Ltd.

Copyright 2016, **Aeyzed Media Pvt. Ltd.** All rights reserved

Aeyzed Media Services Pvt. Ltd. and Smart Automotive

does not necessarily subscribe to the views and articles in this magazine.

RNI No. UPENG/2015/63476



Telematics Insurance will be a feasible business model for large part of the world at some point of time in future. But, each region or country will have to cross the threshold barrier, which may vary from country to country.

The benefits of telematics insurance- vehicle tracking, fleet management, stolen vehicle recovery, improved driving habit, faster claim settlement and premium discount; offer good reasons for any user to go for it. Good driving habit to avail higher premium discount itself would lead to lower number of road accidents and death, which is bound to be acknowledged by policy makers to do away with any regulatory issues impeding its implementation.

In India, Tier-1 companies and telematics solution providers have designed telematics devices and developed solutions for insurance companies and consumers. Product development group at Infosys had designed the telematics box for insurance companies; Harman, had introduced a telematics box for Indian users; TCS talked about mobile telematics solutions; Tech Mahindra had launched their telematics platform for insurance sector in partnership with AT&T. Few years ago, Chleon Automotive, a start-up based out of Singapore attempted(or was thinking to attempt) to venture into telematics insurance, where the business model was based on providing device for minimal cost and recover the initial investment through the vehicle tracking service and providing data to insurance companies. They also talked of have policy aggregators into their business model, but eventually not much happened before the thought process fizzled out.

The insurance companies too have been looking at providing telematics insurance and had initiated pilot projects. Liberty Videocon General Insurance Company carried out an experimental project in Mumbai and Ahmedabad on 1,000 cars with the objective to study driver habits, which perhaps they would have thought to link with premium discount.

Recently Bajaj Allianz came up with their product DriveSmart, which would eventually lead to telematics insurance. In its present model it is more about traditional vehicle tracking/telematics service, rather than telematics insurance. Vehicle tracking has a proven business model. The elements of telematics insurance is less and hence this proposition appears to be meaningfully cautious.

I am assuming once they have a firm grip on telematics device and associated service, they would begin the next phase of 'telematics insurance', where maybe the premium cycle would be quarterly or six months and a function of driving habit and kilometres driven etc.



Maneesh Prasad

Liberty Videocon and Bajaj Allianz are pursuing business model which can be complimented by a Tier1 service provider, which is focussed on managing telematics device and big data analytics, like Octo Telematics. In this case, the insurance company would be required to keep their focus on insurance sector only and focus on improving consumer satisfaction and value added services. Tech Mahindra, TCS, Infosys, Harman and others would have surely considered this option, but that connected vehicle, with factory fitted MIM being round the corner(4-6 years), they would have decided to wait and watch for understandable reason.

Connected Vehicle will be the precursor to the large scale proliferation of telematics insurance, in my view. Asking for GPS in feature phones in late 90s would have required consumer to shell out huge amount of money. Not surprisingly we paid US\$500 for a simple electronic watch which had GPS in 2001. Fast forward to 2010-2012, cost of GPS chip had come down to a dollar or even less and smartphones were having this by default, coupled with connectivity foot-print and affordable data plans, the commoditisation of GPS crossed the threshold.

Telematics has a role to play in insurance is acknowledged by many and proven in some of the high income economies. It is also mentioned that telematics could be the most disruptive technological innovation for the motor insurance sector and it could be worth Euro170 billion by 2020(McKinsey & Co.), we just have to wait for the opportune time, least we wish to be a case study in history of telematics insurance. ■■

Opportunities and Challenges of Insurance Telematics

Some two decades after the initial ideas and trials of insurance telematics, the technology and business around it is beginning to mature and reach the mainstream. Currently, around 15 million insurance customers subscribe on an insurance telematics program worldwide. The article outlines the opportunities and challenges of insurance telematics, with an emphasis on the driver behavior information that telematics provide and technology required.

The digitalization of the vehicle insurance industry goes along two directions

efficient data storage. IT-departments and their CIO play an integral part in the refinement, modernization, and improvement of the legacy systems for the insurance industry.

The second direction of insurance digitalization enables both bottom- and top-line-growth and relies on the novel digital capabilities that the ubiquitous sensorisation enables. The sensorized and connected vehicle is able to sense and transmit its movement, on-the-road-behavior, and the traffic and environmental surroundings around it. In vehicle telematics, this sensing capability

related to insurance telematics, because of increased customer satisfaction by the digital channel that can reduce the cost of customer acquisition and retention, reduced churn and more efficient handling of claims; and improved risk prediction by the value-added telematics information. The top management of the insurance companies has a challenge to find the best business model, organization, individuals, and business processes to form novel telematics-based products and services. For commercial success, all layers in the capability layer model (Figure 1) have to be considered

and mastered. One should not underestimate the efforts it takes, and have in mind that it is a challenging task to design, implement, and run these new insurance services and products. This is a fact that is evident from the many shut downs and non-successful insurance telematics trials over the last decade due to reasons such as lack of personal integrity and data security, cannibalization on the current business model, and technology obstacles. These obstacles should

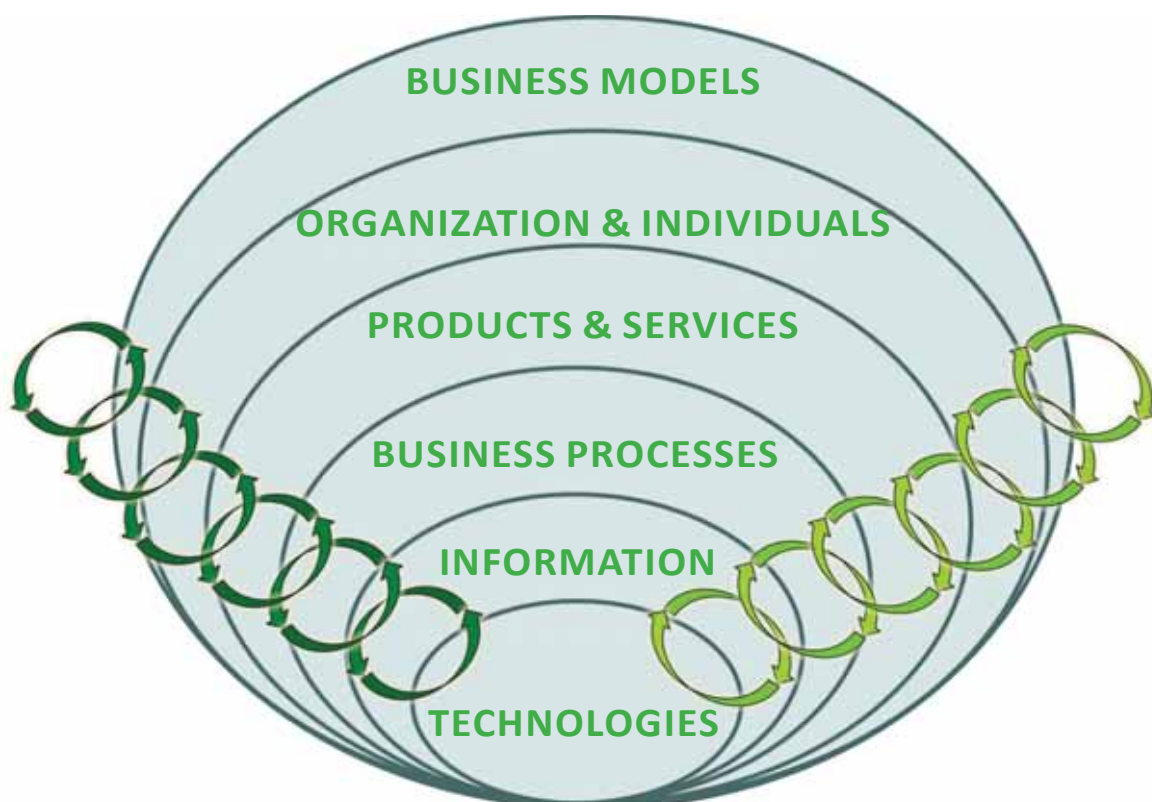


Fig 1. Capability Layer Model (CLM).

important for competitiveness.

The first direction is to gain bottom-line-growth by improving the efficiency of digital storage, data transfer, and information processing. By Moore's law, a continuous improvement of the digital capabilities is provided in terms of faster processing, higher data rates, and more

is provided by vehicle-mounted black-boxes, OBD-dongles or smartphones, or combinations thereof. The choice of sensorisation is determined by factors like hardware and installation costs, data accuracy and reliability, data transfer costs, and privacy and fraud aspects.

There are valuable business opportunities

be and will be overturned in a properly designed insurance telematics service.

Telematics-based products and services open up for two game changers compared with the traditional vehicle insurance product. First, telematics provides the means for continuous dialogue with the customer via a digital

customer channel. The insurer can provide benefits its customer in terms of real-time information like traffic information and driving behavior, but also maintenance information that supports a sustainable ownership of the vehicle over its lifespan. Second, the insurer can affect the actual risk of accidents and injuries by providing proper feedback to the driver in terms of driving tips and warnings.

Telematics is “hardware technology and sensor information” so it is relevant to spend some extra efforts analyzing the inner layers of the capability layer model in Fig 1. From an information and technology perspective, there are fundamental questions to be answered when designing an insurance telematics program.

First, what kind of information sensed by the vehicle instrumentation correlates with the actual risk of an accident or an injury? There exists no magic formula, which translates the vast amount of sensor readings to actual measures of risk of an accident or injury. The insurance telematics pioneer US-based Progressive Insurance has presented their finding linking driving behavior to risk based on their vast experience. Based on research evidence, experience and pragmatism, measure like time-of-day, location, speed

and driving behavior can be formed to risk related measures.

The second question relates to the customer added-value proposition. What kind of telematics information should be presented to the driver during the trip, and afterwards? Real-time driver-feedback via the smartphone is illustrated in Fig 2 – here mimicking the vehicle’s dashboard. For example, a feedback showing excess speeding in combinations with incentives to reduce it, typically leads to a reduced average speed and thereby a lower risk. Recent results from the CMTDriveWell program indicate that incentive programs can provide a reduction of risk factors like phone usage and number of harsh braking, even beyond a 6 months period. An experience from the Movelo campaign in Sweden is the importance of insurance customer categorization to enable more focused incentive programs. Some kind of risk-relevant information like actual position is, on the other hand, something that the driver merely cannot influence for a given trip, and should be left outside the incentive model.

The answers to the above two questions provide the technical specification on the telematics hardware. Hard-wired



Peter Händel
Head of the Department Signal
Processing
Royal Institute of Technology KTH

insurance products and services are here to stay. Although it is a marginal part today of the total insurance business, the trend is clear. Telematics and related technology will change the insurance industry. The advances in technology require that the insurer broaden their skills and competences in telematics technologies. Already today, the chase for knowledge and skills has manifested itself by the recent industrial mergers and acquisitions, like Generali’s acquisition of MyDrive, or Direct Line’s acquisition of The Flook.

Insurance telematics enables innovative products and services, and thereby open up for both bottom-line and top-line growths. The telematics data enable a granular risk differentiation based on the true risk level of the drivers. It provides incentives for a sustainable transportation system with reduced carbon dioxide footprint, less material damage, and reduced human suffering.

Reference:

[1] P. Handel et. al. “Insurance telematics: opportunities and challenges with the smartphone solution,” IEEE Intelligent Transportation Systems Magazine, vol.6, no.4, pp. 57-70, 2014, doi: 10.1109/MITS.2014.2343262 ■■■

//

Vehicle-installed black boxes are costly but suitable for commercial operations with stringent requirements, whereas the smartphone provides a fully scalable low-cost alternative with an outstanding price performance metric.

Today, the smartphone is a viable in-vehicle node for commercial insurance telematics thanks to the advances in hardware and software technologies [1]. OBD-dongles are a compromise between the black box and the smartphone solution with a natural role in the telematics echo system.

We can summarize that telematics based



Fig 2. Example of insurance telematics user interface mimicking the vehicle dashboard. It provides real-time feedback to the driver [courtesy of Movelo AB].

Moving the insurer from a reactive partner to a proactive partner



Nino Tarantino
Chief Executive Officer
Octo Telematics, North America

Q People are talking about UBI services beyond premium discounts. What are those “value-added” services that an insurance carrier would like to extend to its users in coming days?

A Telematics offer so much more than simply UBI discounts! Telematics can make any car a “connected car,” and offer driver benefits and communications around:

- » Road conditions
- » Weather hazards
- » Driving Analysis
- » Safe driving tips
- » Vehicle maintenance needs/timing
- » Crash and claim on-demand assistance, analysis and service

& more. Telematics moves the insurer from a reactive partner to a proactive partner, improving the relationship between insurer and insured.

Q Do you see consumer data privacy as a deterrent in adoption of UBI?

A No. At first, consumers might hesitate, but they did so with almost every piece of popular technology today. From Palm Pilots to iPhones, Snapchat to Twitter, privacy is always a question. Eventually, consumers decide that the benefits outweigh any hazards, and they realize that in order to garner the advantages, they have to share a little information - people are willing to give up a little privacy to save money and to gain valuable service, so it's not really a deterrent to UBI adoption.

Q How does Octo secure the data it collects?

A One of the most important considerations when choosing a telematics partner to power your UBI program is certification and standards. Does your chosen partner meet international standards and certifications? What is their experience in doing so? Meeting standards and certifications should be a fundamental principle of everything your technology partner does. Octo respects the enormous responsibility of the institutions, companies and individuals trusting it with

Q How is the UBI market in North America different when compared to market of Italy and United Kingdom?

A The main difference is how they started. In Italy and the UK, the primary focus on UBI was on the benefits of reducing insurance costs, while in the US, we started with a focus on associating driver risk with better pricing – helping to create better, safer drivers and roads.

information on their lives, health, property and driving habits, and operates at the highest levels of system security and data protection standards available. And as a global pioneer in the insurance telematics sector, Octo is ready to adapt and comply with all new standards aiming to improve industry competitiveness and client safety.

Octo has invested heavily in data security. Our data security is managed through an Information Security Management System (ISMS) compliant and certified according to the norm ISO 27001, an international standard that must be complied with when designing and managing Security Information Management Systems (ISMS). It specifies standards of design, specification, physical and organizational security. This is a very stringent norm, typically used for the IT systems of banks, where losing data means losing money, and for military purposes, where the importance of information security is paramount. The ISO 27001 standard is a widely recognized standard for organizations where information security is indispensable and linked to financial exchange. Compliance of the ISMS regarding standards is certified by Quality and Environmental Certification Ltd.

Q Why is UBI important for both millennial and novice drivers?

Is it true that UBI programs do not necessarily appeal to all ages?

A UBI is important to anyone who cares about being a better driver, creating safer roads, and ensuring the best pricing in their automobile insurance policy. In August 2015, Willis Tower Watson reported that millennials show particularly strong interest in a UBI policy — 88 percent “interested” or “maybe,” compared to 74 percent for other survey participants. This could be because millennials are very cost conscious and socially aware, and they desire to do things that support those values.

Q A large number of people in the US do not know much about UBI? How do you think one can promote awareness about UBI?

A A lot of this is up to the insurance companies, who need to be proactive in marketing their UBI programs. Letting consumers know they have choices in how their policies are priced is key.

Q Could you share some response on user driving habit when they subscribe your service?

A Drivers tend to tailgate less, speed less, and drive more carefully — for example, less hard cornering, less hard breaking and less speeding. We’ve also seen that when telematics is used, fraud is diminished by 4-15% of total claim value. Late accident reporting is also down. Drivers have fewer — and less severe — claims, and the time to close claims is improved, getting policy holders back on the road in a safe vehicle faster than ever before. At the end of the day, telematics warns drivers of not only unsafe driving habits, but also unsafe roads or road conditions. This helps create better drivers. More good drivers on the road means less claims for insurers and less accidents for drivers.

Q 136 billion+ miles of drive data and extensive crash data, compiled over years. Do you see your own response to the driver behaviour management improving over the years?

A Absolutely. Our proprietary machine-learning algorithms are continuously improved by the collection of new data by benefiting insurers and drivers. We see driving patterns improve over time, evident in drivers’ improved scores and change in patterns such as less hard cornering, hard braking and tailgating. We also see a change in claims behavior and reductions in fraud. With telematics cutting down on fraudulent claims, insurers will see a benefit to the bottom line. For example, in 2014, on average, Octo solutions reduced claims management costs by an unprecedented 25% and cut claims processing time by 40%.

And actually, telematics can help improve road safety overall, going beyond just a driver’s patterns to include weather alerts, road condition alerts and even monitor a driver’s alert level. This technology is making our roads safer and improving the relationship between consumers and insurance companies.

Q By 2020 90% of cars would have embedded connectivity. What will this mean for insurance telematics segment?

A Great things! As the automotive market evolves, so too, must the insurance industry. Telematics allows insurers to innovate their approach to

claims, customer service and interaction — successfully moving from a low-touch “only when you need us” model to a high touch, “proactive and always there for you” business model, resulting in increased revenue, less risk and long lasting customer relationships.

We also see new opportunities even with the growing popularity of autonomous cars. There will be a stronger need to collect and analyze data from the connected, autonomous car because not only is there data in the information that comes from the car itself, but there is information that comes from the contact — the contextual data. In an accident, it’s important to understand what happened, the timing, the weather conditions, the traffic conditions, if there was some point of interest nearby, etc. In the future, with OEMs selling already connected cars, there is going to be more and more of a need for private companies that expressly analyze telematics data from connected cars.

Q Is Octo expanding its business in other emerging markets? Which new geographies can we expect Octo to be in next couple of years?

A We expect to continue to serve the automotive industry and we foresee telematics’ value in home and health insurance as well. Currently, Octo is headquartered in London, with offices in Boston, Rome, Stuttgart, Madrid, and Sao Paulo. We serve several countries globally, including Canada and Mexico in North America.

Octo will continue to help the insurance industry evolve and grapple with IoT and how elements of it are affecting and changing their overall business models. For the first time since inception, insurance is being truly disrupted by technology. Telematics data is enabling insurers to add and broaden offerings through usage-based insurance, actuarial pricing, claims management, crash reconstruction and stolen vehicle recovery — all of which offer consumers additional reasons to interact with their insurance companies.

Insurance telematics is indeed a global market, as insurance follows cars. In the next few years we are committed to supporting that growth in the largest insurance telematics markets, such as the US, UK, Italy, China, Russia and Canada. ■■■

Telematics creating new insurance value propositions



Shivakumar Shankar
Managing Director, India, Insurance
LexisNexis Risk Solutions

How Telematics is creating new insurance value propositions?

Ever changing advancements in technology are allowing us to live busier and more “connected” lives. Choosing products and services that fit conveniently and easily into our lives has never been such a priority. Consumers want choices simplified and products customised to them as a unique individual and not a group average. And we are willing to trade some of our privacy if we are rewarded with a product that is not only convenient but personalised to benefit us.

Telematics is helping to re-invent the insurance industry, allowing it to keep pace with customers’ lifestyles by creating policy cover that reflects the risks of individual customers. This movement from traditional policies rated on proxies like age, to more advanced insurance solutions enabled through connected technologies is particularly evident within the global motor insurance industry.

Telematics - From a Niche Concept to a Global Technology

Published in June 2016, industry analysts and telematics strategy consulting firm Ptolemy cites 292 telematics enabled insurance programs across 39 countries. Insurance companies the world over are adopting telematics in order to control claims costs, enhance pricing, increase profitability, as well as differentiate and personalize their products and services. Today, Italy leads the world market in insurance telematics adoption by both consumer uptake per capita, and adoption rates by carriers primarily due to the need for theft prevention and geo-location.

In the UK, currently around 4% of the motor insurance market is made up of telematics and usage-based insurance (UBI) policies. This is chiefly because to date, propositions have been heavily focused on the young driver market where risk levels are high and premiums have reflected that risk. Insurance telematics products have helped slash premium costs for some of these young drivers and improve road safety. In order to drive a better brand relationship with their customers, the U.K.-based insurers that LexisNexis Risk Solutions works with are constantly researching new approaches, beyond just discounting premiums, to help insurers target new customers and expand market share without sacrificing the bottom line.

One insurer, for example, sponsors driving education programmes and public service campaigns. Another has integrated its telematics proposition into its shared mission with its members by allowing them to earn benefits through safe driving that can be redeemed at sister agencies, such as at its stores and banks. Both companies use telematics to provide competitive pricing for the customers they want, but each is targeting their benefits package and messaging to the unique identity of their respective customer bases, resulting in a telematics proposition fit for the U.K. audience.

In the U.S., the 2016 LexisNexis® Usage-Based Insurance Study on consumer sentiment towards telematics-powered insurance found that a surprising number of U.S. drivers (50 percent) report enrolling in pay-as-you-drive policies when offered, yet few are given the choice. The study found that just one in five consumers say they are given an opportunity to purchase a Usage Based Insurance (UBI) policy by their motor insurer, revealing a significant market-building opportunity.

Discounting premiums continue to be the most popular benefits for U.S. insurers offering UBI programs. Alternatives, such as discounting deductibles or value-added services such as offering roadside assistance, are affordable and attractive ways to acquire new UBI customers. Consumers indicated increased interest in UBI to help determine fault in accidents, monitor good driving behaviour, provide immediate notification of an accident and receive alerts of poor driving behaviour.

In Australia, three large insurers dominate the marketplace, and choose to not provide any form of discounts to their customers. AAMI, a SunCorp brand, launched its first UBI policy in a very big way with a television advertising campaign during the Boxing Day Cricket tests (the Australian Super Bowl) and offering a prize of \$100k for the safest driver in Australia. The programme generated speedy results including more than 100,000 users in the first two months, 20 million kilometers recorded, over 1.5 million journeys in two months and usage rates of 50 percent, which enable the insurer to study the driving behaviour and related risks of its population.

China is embracing new telematics propositions and is actively looking to develop new models and new value add services for consumers. Its insurers recognise the power of telematics and are actively experimenting with different approaches to engage with their audience. Today, they are offering

programmes focused on value-added services because UBI cannot be leveraged related to pricing.

In a different way, Singapore has some interesting variables. The experts at LexisNexis Risk Solutions see it as the fastest and first market likely to be fully connected and have fully autonomous vehicles. Why? The Certificate of Entitlement rules require vehicles to be scrapped after 10 years, so 99% of the vehicle population is under 10 years old. Singapore also has a mature vehicle to infrastructure program, so this is a good place to watch for the fast evolution of the connected car. In five to six years, it is likely that most of the cars on the road will have in-built telematics capability, making Singapore a prime candidate as the first country where the connected vehicle will gain critical mass enabling automated road use tolling, traffic management and new insurance led products.

Telematics in India Will Create New Opportunities for Innovative Insurers

In the non-life insurance segment in India, motor insurance continues to be the largest segment with a share of 44.14 per cent, while the share of health segment is 26.73 percent, followed by the fire and marine segments respectively, according to PHD Chamber of Commerce and Industry.

In order to fuel the growth of this

segment, India insurance companies are keenly looking towards data analytics tools to strengthen their processes and pricing models. The concept of telematics insurance has been slowly penetrating the Indian market over recent years due in part to the value that telematics offers that is well documented in many countries and territories. At the top of the list of advantages is better risk selection, including self-selection and improved claims handling.

In order to enter the telematics arena, Indian insurance companies need to invest in technology, and these investments should be viewed against the improvement in loss ratios, not against its impact on expense ratios. Insurers should focus on the impact of telematics on the overall combined operating ratio, and not the cost of the technology relative to the expense allowance inside a single financial period, for telematics to truly aid a company in its sustained future. This investment and product development process allows insurers to create a baseline that provides insight into how other disruptors will impact their company.

Additionally, Indian insurance carriers must be certain that their customers will want to purchase telematics products. If they believe so, then customers who will benefit from telematics will purchase these products, particularly if they receive wider mobility benefits. To get started and collect driving behaviour data, India's

insurers should consider identifying a niche segment such as young drivers or specialty services.

Telematics has Multiple Benefits, the Broadest Range of Applications. Flexibility is Key

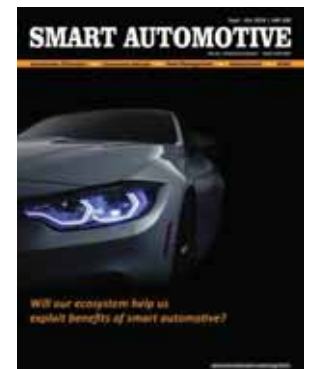
The adoption of telematics globally has helped insurance companies engage with their customers in more meaningful dialogue on safety concerns and reducing hazardous driving behavior. Telematics is an encompassing technology that empowers new loyalty programs, can re-engineer back-office processes and remove cost, can identify and speed up the management of claims.

Around the world, as our examples demonstrate, we have seen multiple configurations of telematics enabled insurance programs that utilize the same core technology and risk scoring models but are deployed adaptively to solve specific problems or create specific new opportunities.

The payback for the Indian motor insurance sector? New methodologies for better returns for the companies, a reduction in costs, better pricing, more informed decision-making and new consumer engagement opportunities. The payback, we believe, is evidenced in the programs currently deployed which are benefiting society as a whole by educating on road-safety, and by driver behavior that is reducing both the frequency and cost of collisions. ■■■

UPCOMING Issues

- We invite you to contribute articles and share your view points
- We also invite you to join hands with us to promote your products in the branding campaign through Smart Automotive



January - February
Connecte Vehicles

March - April
Vehicles Telematics

May - June
Automotive Cybersecurity

For editorial contribution, please contact: anuj.sinha@telematicswire.net (M. +91 8744088838)

The Insurance Telematics market in UK

As the penetration of car telematics increases, Usage Based Insurance (UBI) is becoming increasingly attractive to both insurers and policyholders. Insurers can tighten the accuracy of policy holder liability calculations and customers can be incentivised to drive more safely with the reward of tangible savings. In this article SBD offers an overview of the UBI industry with current uptake figures and forecasts for the UK market.

Annual mileage has historically formed a part of insurance risk calculations but in recent years, insurers have begun taking advantage of telematics data to provide greater insight into customers' driving habits and to investigate claims in more depth. The returns are manifold: insurers can more accurately predict customer liability, retrieve reliable usage data which formerly relied on customer honesty, open up new sales channels to the policyholder and increase customer retention. Claims can be dealt with faster and with further insight into the event than ever before. Customers meanwhile benefit from a simplified quotation process, true cost savings for safer driving

and usage patterns, and more efficient resolution in the case of a claim.

// *A recent UK study showed that safety-relevant events such as harsh braking and acceleration were reduced by 76% when parents and drivers both received feedback on the driver's behaviour.*

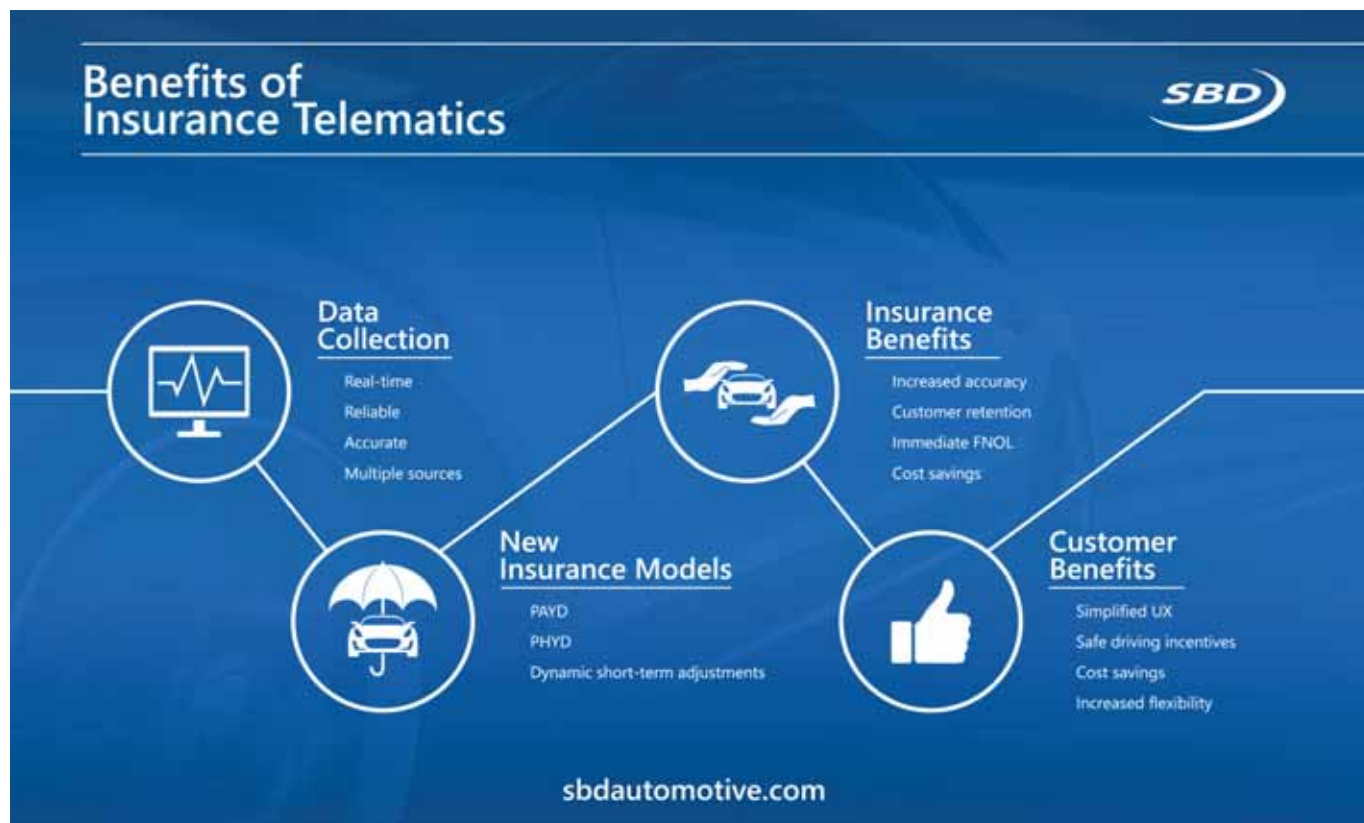
Customer perspective

The advantages of UBI to customers begin as soon as they start the quotation process. UBI can assist in capturing details they would normally have to find such as vehicle and mileage data, even making

the process more fun to complete. The quotation can be tailored far more individually to the driver based on their previous driving habits (e.g. driving times, parking locations, standard of driving) and there will be greater transparency on how these factors affect their premium.

During the lifetime of the policy, customers will be incentivised to drive more safely and be more mindful about the security of their car. Gamification can make insurance and safer driving more fun. Existing schemes offer customers badges or partner-company loyalty points for different aspects of safe driving, such as no safety-relevant driving events (e.g. harsh braking and acceleration) over a seven-day period. Analysis of driver behaviour can provide constructive feedback on ability and external factors such as the lowest risk times of day for driving.

Should the customer have an accident, UBI can facilitate the claims process directly following the event and provide verified data on their behalf. First Notice of Loss (FNOL) is triggered on impact and courtesy car and damage assessment



procedures begin at once. At renewal time the customer will receive a lower premium if they have driven safely as well as potential savings for covering a lower number of miles. In some cases, bad driving can lead to a premium increase at renewal time.

Further telematics services are also possible such as the ability for parents to receive speed and location alerts on their children's driving. A recent UK study showed that safety-relevant events such as harsh braking and acceleration were reduced by 76% when parents and drivers both received feedback on the driver's behaviour.

Insurer's perspective

Risk forecasting is based on the insurer's accumulated data about influencing factors, which traditionally does not take into account driving style, and moreover includes several key factors which rely entirely on the honesty of the policyholder such as annual distance covered, parking locations, FNOL timing and crash severity. It can also open up the market to new insurance models such as Pay as You Drive (PAYD) and short-term coverage adjustment when parked in a particularly high risk area for example. Implementing UBI removes a significant degree of uncertainty and once the policyholder has built up a driving history it becomes far simpler to predict their potential liability.

//

The current industry loss ratio (claims paid to income from policies) is approximately 73% but feedback from insurers operating UBI policies indicates that loss expenses could viably drop by 20% with UBI due to reductions in both average claim cost and frequency.

The majority of customers choose insurance based on price alone, with little to no focus on service, making customer retention far harder. UBI introduces factors such as 'Try before you buy' apps which help to build a relationship with the customer, incentives to persuade the user to remain loyal and data which can be hard to port between insurers due to a current lack of standards for driver profiling.

Balancing the potential gains of UBI with the cost overhead of implementation (approximately £90 per policy) UBI can potentially still offer the insurer an additional 10% on gross margin but this is highly dependent on policyholder. The higher their liability, the more sense UBI makes: for a very low risk customer the likelihood of the savings outweighing the operating overheads is proportionately lower. A reduction in the fixed costs of implementation would significantly boost market penetration and make it financially viable to roll out UBI to a far wider customer base. OEMs are already making the move into the telematics market but have not yet offered a sufficient reduction in overheads to tip uptake. An increase in the standard OEM fitment of telematics units could give insurers a margin to lower their cost overheads for UBI.

OEM Perspective

Most OEMs have existing relationships with insurers which enable them to offer insurance at whole sale rates at the point of vehicle purchase. However, in the UK where competition among insurers is high, car makers are seeking to differentiate themselves to protect and grow this supplementary source of revenue.

For initial OEM UBI solutions, aimed at UK niche buyers (e.g. young drivers of small cars), the OEMs partner with an existing aftermarket UBI provider to enable 'bundling' of high cost insurance into the car repayments. The benefit is that the first year's insurance cost can be 'hidden' within the OEM's finance package, typically lasting 3 years, making the affordability of the new car look tempting.

Mileage-based solutions are at the simpler end of the spectrum: basic data collected from the factory-fitted Telematics Control Unit (TCU) is provided to the insurer. Still aimed at a sub-set of drivers (for example EV drivers who will typically clock up fewer miles) but less



Adam Jefferson
SBD Automotive

niche than targeting young drivers only, these solutions tend not to be bundled with vehicle finance, so offer potentially higher uptake rates.

GM (Opel) USA is the first OEM to launch a PHYD (Pay How You Drive) solution based on data collected via their factory-fitted OnStar TCU. GM provides the vehicle data to its profiling partner which processes it into a driver profile score for the insurer. The benefit to the OEM is that any of its OnStar-equipped vehicles is instantly compatible with the UBI solution. This provides product differentiation and a high-volume addressable market for GM. It also eliminates box installation, one of the main customer pain points of UBI products.

Driver profiling

When profiling drivers, minimal contextualisation is most commonly used today: GPS-only or GPS plus brake/acceleration data are monitored and a coarse driver rating is provided. A medium level of contextualisation is beginning to emerge and this aggregates additional data to refine the profile including seat belt usage, vehicle dynamic models to interpret handling data according to the type of car (sports/SUV etc.), wiper status, fog lamp activation, outside temperature and third-party weather and traffic data.

In future a high level of contextualisation & data analytics will aggregate live environmental data, comparative



historical driving data such as TomTom's Traffic Stats, economy figures and route details. This will allow for the construction of a complex driver profile.

UK trends

- Approximately 12.5% of drivers in the UK are under 25: a high risk for insurers, hence high premium costs;
- Road crashes are the biggest single killer of young people in the UK and worldwide;
- Young drivers are involved in 25% of all fatal and serious crashes;
- An 18-year-old driver is more than three times as likely to be involved in a crash as a 48 year-old;
- Male drivers aged 17-20 present the highest risk: 7 times more likely than other male drivers to have an accident;
- 20% of new drivers have a crash within six months of passing their test;
- The UK's average motor insurance premium is £568.32 while the average insurance premium for a young driver is £1198.96;
- Awareness of UBI is now high and mass market products are common;
- Current solutions typically based on OBD dongle and smartphone apps to reduce costs;

- High interest (industry & government) in using UBI to control whiplash personal injury claims;
- ROSPA and Transportation Research Board (TRB) studies found a reduction in occurrence of crashes of between 20% and 40% when using UBI. The most effective solutions are those which provide driver feedback;
- The number of live UBI policies in the UK increased by 40% during 2015 from 323,000 to 455,000 (BIBA figures). This is still only 1% of all UK drivers.

Success story

Norwich Union Insurance partnered with CSG International, a provider of telecoms billing solutions to provide customers with Pay as You Drive (PAYD) policies. The requirements for UBI are extremely close to telecoms billing and it made sense for Norwich Union to use an established methodology rather than implementing a completely new process. Additional services such as navigation and speed camera alert are also available to the customer on an upsell basis. Demand for the policy has been high and the partnership has proved a success. Further information can be found here.

Forecast

In SBD's view UBI will see more of a steady uptake in the UK over the coming 24 months than a dramatic surge. We believe mass-market penetration of dongle-based UBI to be unlikely due to the additional cost. The tipping point will come when car makers' integration of telematics equipment reaches sufficient penetration to show a reduction in cost to insurers and a level of ubiquity to make integration a common process. At this point we would expect to see a 10-15% improvement in gross margins for insurers, however the field will still remain biased towards higher-risk drivers. Loyalty programmes are likely to be popular with insurers to increase dialogue with customers and potentially lock them in to policies longer than the usual 12 months by offering non-transferrable benefits. With the implementation of eCall throughout Europe in April 2018, in-car telematics will begin to become a standard feature on all cars and this is likely to lead the movement for wider adoption of UBI. ■■■

UBI: A key enabler of telematics and road safety

A colleague from Switzerland recently visited Bangalore and described his weekend road trip to Mysore as unlike any other. Having driven in Tehran, Baghdad, Rome and New York, places infamous for their traffic, driving on Indian roads was nothing short of a hair-raising experience. Fifty years after Ralph Nader published "Unsafe at Any Speed," which revolutionized road safety in the United States, India is still struggling to enact and enforce effective road and vehicle safety regulations. Today we are at the cusp of another revolution with the development of telematics and autonomous vehicle

technology. This will not only transform the automobile industry but the world of motor insurance as well.

Globally, motor accidents cost economies up to 3% of GDP, according to the WHO. For emerging economies, the cost is as high as 5% of GDP. Automotive accidents are the leading cause of death among young adults and 90% occur in low-middle income countries, currently home to 54% of the world's registered motorized vehicles. India claims 10% of the world's road fatalities, over 150,000 a year, and over half a million injuries per annum, according to official WHO statistics. The UN has set an ambitious

target of halving these figures through the Decade of Action for Road Safety (2011-2020). Achieving this goal will be possible if the use of the latest safety technologies and standards like telematics and Advanced Driver Assistance Systems (ADAS) are democratized and prioritized in the rapidly motorizing regions of Asia, Latin America, Africa and Middle East.

For decades, traditional motor insurance policy has provided peace of mind to millions of motorists around the world. Insurance also plays a major role in fostering safer driving and safer vehicles. As we heard during the Telematics India 2016 conference, safety does not feature

Motor insurance penetration

Motor insurance penetration
(premiums as a % of GDP)

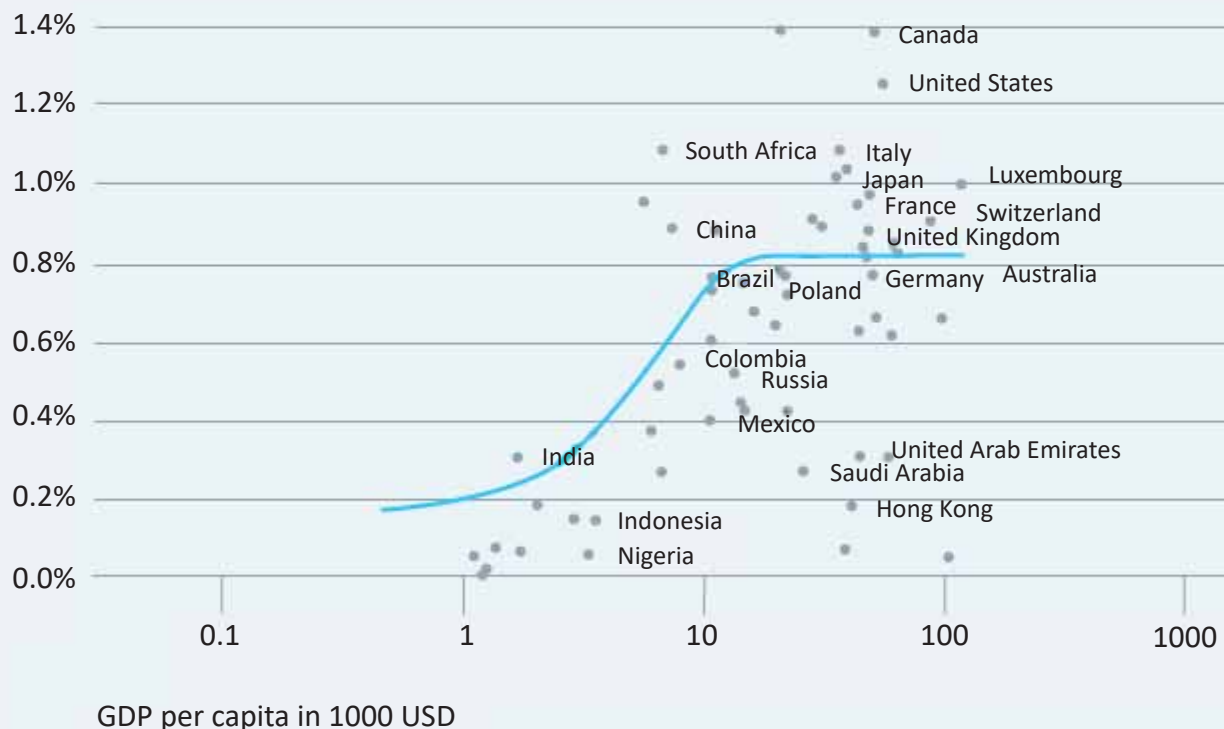


Figure-1

Source: Swiss Re, 2015



Karthik Sampath
Swiss Re

as a priority in the top five list of new car purchase considerations among Indian consumers. This is in sharp contrast to automobile consumers' buying behavior in developed markets: safety features are often promoted as major selling points in many of these countries. Notably

insurance companies in developed markets have encouraged and rewarded safer driving, and incentivized new technologies by providing premium discounts for safety equipment such as daytime running lights, rear view cameras, and tire pressure monitoring systems.

Motor insurance in developing countries accounts for 58% of total property and casualty premiums. Worldwide, annual motor premiums are expected to experience slower growth in the coming years, decreasing by an estimated USD 20 billion as a result of increasing global penetration of safer vehicles. However, premiums will still continue to grow in emerging markets like China and India due to continuing increases in car ownership, and these countries will claim the largest in motor insurance volume by 2025 according to a Swiss Re/Here report. The report also predicts that advanced ADAS with a 100% adoption and usage rate, will significantly reduce road accidents rates by 45% on highways and 27.5% on other roads by 2020.

At the same time, the Internet of Things (IoT) with telematics is revolutionizing the way people behave and interact with their

insurance providers. We are witnessing a transformation in health insurance, home insurance and now motor insurance through Usage Based Insurance (UBI). UBI policy premiums are dependent on miles driven, driver behavior and location. A young driver, part of a high risk category due to his/her age, would opt for a UBI as it rewards him/her with lower premiums for safer driving. UBI is making steady inroads into developed markets—over 9 million UBI policies have been sold, generating premiums of approximately USD 8 billion. It is expected to reach a market penetration of 15-30% in the next decade in developed markets. Telematics based policies also offer several other advantages apart from premium discounts to consumers such as emergency assistance, stolen vehicle recovery and efficient claims handling. For insurers, it equips them with a competitive advantage and improved customer satisfaction while curtailing fraud and lowering claim costs. It also offers insurers more streamlined internal processing and better risk selection/pricing.

Manufacturers of vehicles with embedded telematics devices have

Motor insurance business is the most important line of business globally

Motor insurance represents 42% of all non-life gross premium of total Property and Casualty insurance market

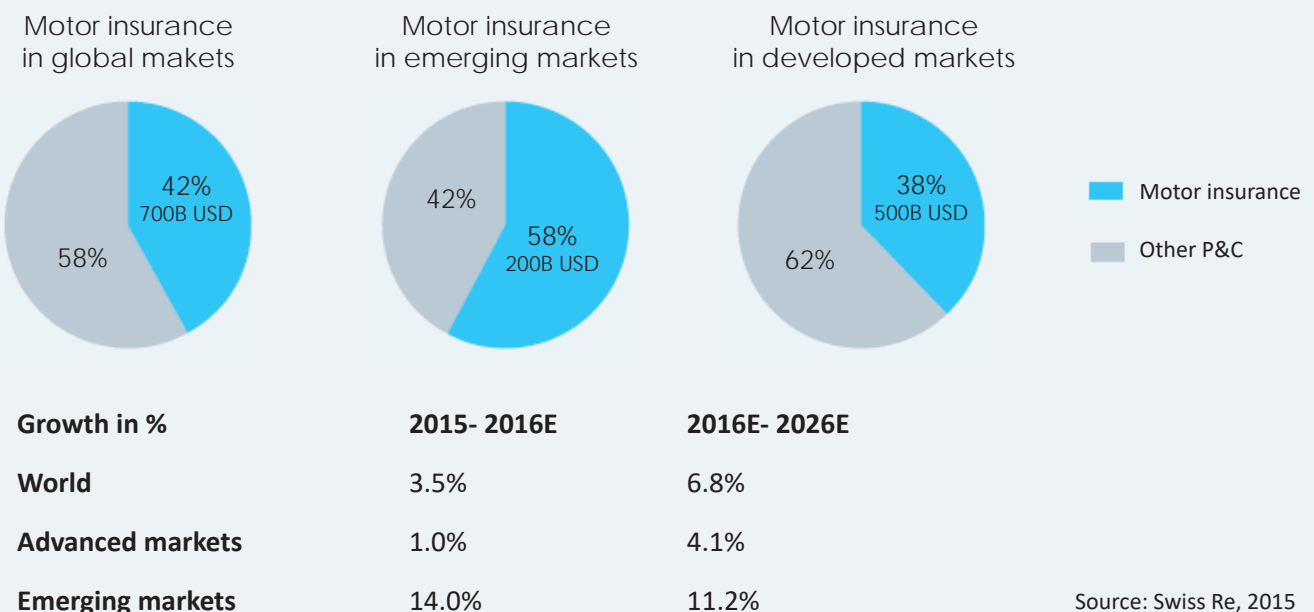
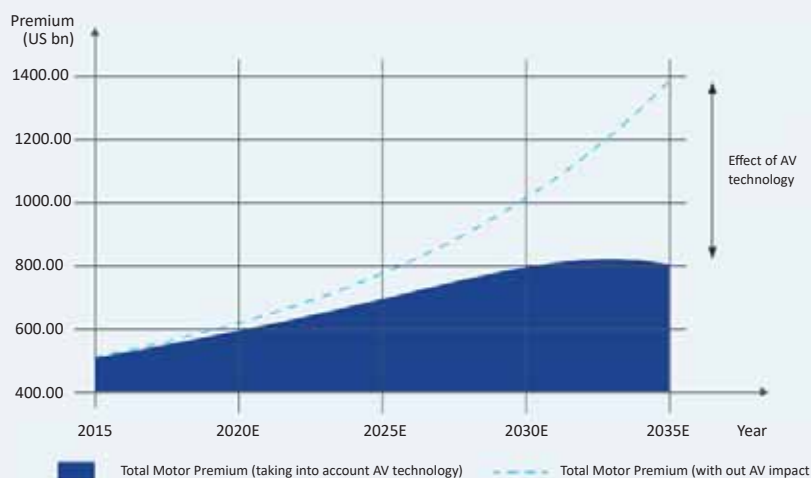


Figure-2

Forecast of motor insurance premium, taking into account impact of technology (not taking into account inflation and assuming 100% ADAS adoption rate)



14 largest motor markets: Brazil, Canada, China, Egypt, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, UK, US

Source: Swiss Re, 2015

Figure-3

access to collect enormous quantities of driver and vehicle data. Therefore, we are witnessing an increasing interest in collaboration between car manufacturers and insurance companies to distribute insurance. However, telematics and autonomous driver technology carry many new risks such as cyber-attacks and raise questions on liability in the case of a crash from system failure. Currently, over 90% of road accidents are due to human error. With driverless or semi-autonomous vehicles, motor insurance as we know it will see a transformation and require a new approach in dealing with risk. Who will pay for the premium? Who will be held liable?

According to a recent study by Boston Consulting Group and Morgan Stanley, people are generally willing to trust insurers with handling their driving data. However, UBI still has many hurdles to overcome. Although motor contributes to a significant portion of any insurer's revenue, many insurers have yet to fully engage in telematics. This is due to a lack of resources and appetite to innovate as well as low expertise in pricing products based on telematics data. Other major hurdles include the cost of data collection and an inability to gather sufficient data to build reliable algorithms. Established insurance companies with the legacy and business expertise should collaborate with technology companies led by young

entrepreneurs who are more agile and prepared to exploit the full potential of IoT in regard to UBI.

There will always be room for both traditional motor insurance and UBI to coexist. While it may still take another decade for UBI to truly take off, to-date, the most likely candidate for UBI has been drawn from those consumers who consider themselves an exception to traditional risk profiles like age, gender, occupation, location, etc. That said, within that group, young drivers and consumers that are open to constructive feedback about their driving behavior tend to favor UBI policies. Yet these trends are largely drawn from observations in developed markets.

In India, the industry has not evolved as much as its western counterparts because policies are priced on the vehicle's value alone. What does this mean vis a vis the adoption of telematics? Could India see a leapfrog in insurance like it has in internet connectivity and ecommerce? For potential UBI consumers such as large fleet owners, tech savvy millennials and also more experienced drivers falling in the lower risk category, there has to be a greater incentive than simply premium discounts such as value added services described earlier. For insurers operating in a price sensitive market, smart phone-based apps monitoring driver behavior are most suited to help alleviate the cost

burden.

Telematics is a key technology enabling safer, more efficient transport. It is also a gateway towards autonomous driving, which will further enhance safety and efficiency. While India is behind on automotive safety, society is increasingly taking this concern seriously. After recent crash tests of Indian-made cars which resulted in a huge public outcry, Global NCAP has called on governments and insurers to provide fiscal incentives and premium discounts for vehicles equipped with safety features in its report on "Roadmap for Safer Cars 2020." These discounts and incentives would be offset by a resulting decreased rate of motor accidents and therefore, insurance claims. These measures could also help speed up the introduction of not only new safety technologies but also existing ones that are the norm in high-income countries.

What constitutes good driving behavior on Indian roads is debatable. However, the responsibility of ensuring safe driving lies not just with the driver himself but also the government, the manufacturers, and the insurers. It is therefore imperative that the insurance industry invests more in mitigating the risks associated with unsafe vehicles, drivers and unscientific road engineering. As motor insurance penetration in India is the lowest among major economies, the wide spread belief in the old adage, "an insurance policy is always sold and never bought," is something that the industry needs to work to change. It can do so with the introduction of new technologies like telematics that create better-priced and fairer policies, that may even decrease the rate of fraud. Road crashes are mostly a predictable and preventable human tragedy. Delays in adopting these technologies, and especially autonomous cars, will only mean more unsafe drivers and vehicles, making the roads potential death traps for decades to come. ■■■

References:

http://media.swissre.com/documents/HERE_Swiss+Re_white+paper_final.pdf
<http://www.fiafoundation.org/connect/publications/gncap-road-map-2020>
http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/



Telematics India 2016

The 6th International conference and exhibition on Automotive Telematics, Telematics India 2016, was held on 21-22 September 2016. Senior government officials, industry leaders, professionals and domain practitioners participated in the conference, where they addressed opportunities and emerging trends that are shaping the Automotive & Transportation industry viz. Automotive Telematics, Advanced Driver Assistance Systems (ADAS), Connected Vehicles, Autonomous Vehicles, Commercial Fleet Telematics and Usage Based Insurance (UBI).

The conference opened with Maneesh Prasad, Editor & CEO of Telematics Wire welcoming the dignitaries and delegates at the conference. In his welcome note, he highlighted the need to look at the active safety system, which is making a difference in road accidents and lives saved in high income economies.

The Inaugural address by industry leaders on “Automotive Telematics Ecosystem”, gave an insight to the participating dignitaries on topics ranging from Automotive Active safety, Driver Behavior, Vehicle health monitoring, Commercial Fleet Telematics, UBI as well as taking a look into the future about Autonomous Driving.

Delivering the inaugural address, Kamal Bali, Managing Director of Volvo India spoke about new and emerging trends in connected transport. He touched upon various challenges from road safety, feasibility, adaptability, reliability etc. where telematics can play a role. Rakesh Verma, Managing Director of MapmyIndia highlighted the role of mapping and navigation in Autonomous Cars.

In the Keynote Session, Jeffry Jacob, Principal, Roland Berger gave an overview of vehicle telematics in India.

Following the keynote talk, the stage was set for the panel

discussion on Connected Vehicles to Connected services. Moderator for the session Magesh Srinivasan, Global Sales Director - Connected Car, HCL Technologies along with panelists Sirish Batchu, Head - Infotronics Technology & Advance Electronics, Mahindra, Ranjit Abhyankar, Senior Technical Manager, Delphi, Rituraj Shrivastava, Practice Director – Connected Car & Telematics, KPIT, Shrinath Acharya, Chief Executive Officer, Excelfore Inc., discussed technologies evolving and shaping up the connected vehicles space.

The day's 2nd panel discussion on Advanced Driver Assistance Systems (ADAS), which was moderated by Kaushik Madhavan, Director - Automotive & Transportation, MENASA, Frost & Sullivan with fellow panelists - Praveen K. Ganapathy, Director, Business Development, Texas Instruments, Dr. Avinash Nagaraj, Head of Camera Sensors, BU ADAS, Continental Automotive, Sundara R Nagalingam, Head – Manufacturing and Energy Industries, NVIDIA, Ryan Wu, Director – Business Development, Security Innovation. The discussion focused largely on the built-in vs. brought-in issue, the role of cloud and the in-car apps.

Sundararaman. G, President, Pricol Limited talked about their offerings in the domain of Telematics of speed governors, oil-water pumps for different vehicle segments. Sapna Ahuja, Vice-President - Strategic Operations & Alliances, MapmyIndia spoke on challenges of data assimilation, mapping technology and connected services, IoT.

Rajendra Nath Goswami, Senior General Manager, Robert Bosch talked about future of mobility which comprises digitization, integration, analytics and monetization.

The last panel discussion of the day on Commercial Fleet Telematics, was moderated by Ravikumar Yalagach, Head of Research Operations, Ducker Worldwide with fellow panelists Merlin C Yesudian, Engineering Manager, Caterpillar, Rajesh



Kamal Bali, Managing Director, Volvo India - Inaugural address

Dayanandan, AGM - Aftermarket Commercials, Volvo India, Vishwanath V. Patil, Senior Lead Engineer, John Deere, Raturaj Yadav, Product Manager, Scania Commercial Vehicles. The panel discussed about technology making a difference in ownership cost of vehicles.

The second day of the conference opened with lead talk from Manoharan Anna Durai, General Manager - Retail Sales, Indian Oil Corporation Limited. He talked about their fleet management program, one of the largest in India, which employs chip based Fleet card solutions for better management of their fleets.

Shri Rajender Kataria, IAS, Managing Director, KSRTC delivered keynote address on how the telematics technology can help transform the public transportation sector in India and also about challenges in assessment of requirement, implementation and adaptation of new and changing technology. This was followed by lead talk from Anders W. Ljunggren, Key Account Manager, WirelessCar.

K. Srinivasan, Managing Director, Allgo Embedded Systems (Visteon) talked about In-car and media infotainment through Smartphone connectivity and also about their offerings in Automotive application development production programs.

Swadesh Srivastava, Director Automation Design, Flipkart spoke about the e-commerce and logistic companies challenges of trace & track of consignments during transportation from various interconnecting hubs and ultimately for delivery to the end user. He emphasized for automated solutions to resolve issues viewing future needs. He also elaborated the right and timely actions which could thereby be brought in order to improve upon the cost, speed and reliability.

The panel discussion on Autonomous Vehicles discussing technology for driving into the future with self-driving cars. The session was moderated by Maneesh Prasad and had panelists - Dr. Allabaksh Naikodi, Head R&D EE, Mahindra Reva Electric, Derek Jiang, Sales Director, Shanghai Mobiletek Communication Ltd, Tecky Huang, Shanghai Mobiletek Communication Ltd.

Shri P. S. Ananda Rao, Executive Director, ASRTU gave leadership address where he highlighted the road accident statistics of Indian roads and the need to develop anti-collision systems

for heavy commercial and public transport vehicles in order to prevent loss of lives and how telematics can add value to this.

The panel discussion on Commercial Fleet Telematics/Vehicle Telematics discussion on Driver Behavior, Vehicle Health Monitoring, In-cab coaching. The Session was moderated by Vivek Beriwal, Senior Analyst, IHS Technology with Krishnamurthy Vaidyanathan, CEO, EI Labs India, Seetharaman Rajappan, Technical Leader, General Motors and Arjuna Rao Chavala, CEO, Excelfore India as panel members.

In his lead talk Matthieu Noel, Manager, PTOLEMUS Consulting Group spoke about an overview of Telematics insurance market worldwide and expected growth, major business models and aftermarket technologies, impact of the OEMs changing role in the mobility market, what insurance and the connected vehicle community need to know about ADAS & autonomous



Panel Discussion

vehicles. Abhishek Visveswaran, Director, SBD India a UK based consulting company talked about passenger car telematics.

The conference's concluding panel discussion on Usage Based Insurance (UBI) was moderated by Matthieu Noel along with panelists - Sundeepp Rattan Bhat, Business Head-CoE, NTT DATA FA Insurance Systems, Anil K. Pandurangarao, Head of Development, Products, Allstate Insurance and Maneesh Prasad. The discussion focused on the value added services beyond premium discounts in insurance telematics. The participants also talked about the ecosystem for insurance telematics in India.

Anuj Sinha, Dy. Director, Telematics Wire, in his conference closing remarks, thanked all the sponsors, exhibitors, delegates and support team who were crucial in making the conference a success. ■■■



Product display



Exhibition Area



Networking Cocktail

Insurance Telematics: Global Landscape



Sundeep Rattan Bhat
Head- CoE
NTT DATA FA Insurance Systems
(NDFS)

Dear Reader thanks for taking the effort to peruse the article, here I will attempt to put across the global landscape of UBI driven by Telematics, briefly highlight some of the major challenges in the segment, the benefits of UBI and how this is going to change the 'INSURANCE-GAME' both Globally and locally. I will conclude by how NTT DATA FA Insurance Systems Pvt. Ltd (NDFS) as a player in the UBI space is playing its part as an enabler in the UBI eco-system.

Insurance as an inseparable part of our life yielding 'piece-of-mind' is fast evolving because of the disruptive technologies connecting the man and the machine. Telematics is one such change-agent that is changing the way insurance companies used to look at risk. Telematics Insurers from all lines of business are entering the era of Big Data and are now moving away from outdated underwriting practices. UBI is becoming a mainstream offer in auto insurance, Insurance companies have launched nearly 230 telematics programmes worldwide, in twice as many countries as two years ago. The last 2 years have seen UBI reach a new level of maturity, Progressive

has again doubled its number of UBI customers to 2.8 million. There are now 14 insurers/brokers with more than 100,000 telematics customers (again, twice as many as in 2013). UBI is becoming mainstream in the US and Italy and now represents 25-33% of new business among insurance companies that have made telematics a priority. The US will become the leading UBI market in the world. In Europe, growth will be driven by Italy but the UK, Germany and France will see UBI subscriptions take off in the next 5 years. New major markets will emerge, including China and Russia. By 2020, nearly 100 million vehicles globally will be insured with telematics policies. This will grow to nearly 50% of the world's vehicles by 2030, generating more than €250 billion in premiums for insurers. Insurers are now launching telematics programmes in China, Thailand, New Zealand, Columbia or Slovenia and in India Bajaj Allianz has taken one initiative in Motor Insurance and Cigna TTK in Health. Following on from Desjardins' first UBI programme in 2013, there are now 10 UBI programmes in Canada. The European Parliament has finally ratified the eCall mandate, now slated to start in 2018. Third Party eCall services are expressly allowed to coexist and, we suspect, will form the majority of the offering by then. Since Autoline's first step in mobile UBI in Northern Ireland, we now count 13 UBI programmes using smartphones globally and at least 20 Try-Before-You-Buy apps, demonstrating that the smartphone is clearly making steps into the UBI device market. After Renova purchased Octo Telematics, Telematics Service Providers (TSPs) became hot property: Wunelli was acquired by Lexis Nexis, Masternaut by FleetCor, Cobra by Vodafone, Enigma by Viasat, DriveFactor by CCC, MyDrive by Generali... and the list goes on. Numerous vehicle makers including BMW, Daimler, Ford, GM and PSA have launched UBI programmes with insurers or brokers.

With all this going on the global level in the UBI space but so less of action in terms of the percentage of the vehicles hooked onto the Telematics devices or TSP (Telematics Service provider) one is compelled to think about certain

questions. For ease of understanding and coming from a Product Organization which is significant enabler of this eco-system I will evaluate the impact of UBI on the following three questions.

//
In my view the size of driving datasets will be one the key ingredients to obtain highly predictive risk models.

Why UBI

UBI as a concept started in 1997 and since then with the evolution of technology and the emerging IOT, UBI is gaining fast momentum. Different devices and different solutions capture different data sets and it also indicates that not all technologies and models lead to the same amount of data collected. Different insurance products like PAYD/PHYD are being offered by various Insurance Carriers and Autonomous vehicles are the next transformative factor. The number of autonomous vehicles (AVs), whether semi, highly or fully autonomous, will reach 380 million worldwide in 2030. Autonomous functions / Advanced Driving Assistance Systems (ADAS) would have the ability to reduce accidents by 30-40%. Overall, the evolution towards AVs will impact losses noticeably in mature markets from 2023 onwards. In the most advanced countries, such as Germany, premiums will decrease by 40% between 2020 and 2030.

How Will UBI Happen

In the US and Europe, most car makers will have adopted UBI by 2020. The most successful model will use a central data hub provided by a Telematics Service Provider (TSP) connected to insurance companies. In North America, embedded devices will become the third most used data source for UBI policies as early as 2017. OBD dongles will become the leading UBI device, reaching all the

Insurance Telematics



continents. Aftermarket black boxes will continue to grow, specifically in high premium markets and for high value cars.

//
With 22 mobile-only PHYD programmes in activity today, smartphone apps are set to become one of the key devices to collect driving data, with or without a Bluetooth beacon.

However, they will not replace dongles or black boxes at least by 2020. For TSPs, the UBI opportunity will be worth €3 billion globally by 2020, with more than 50% of that revenue coming from the US, despite the number of insurers going direct. Due to the lack of supply, the commercial line

segment will not pick up the pace and is forecast to only represent an estimated 4% of the total active UBI policies by 2020.

What impact will the UBI have

The paradigm of insurance will evolve from cure to care. Protection will become the goal as insurers seek to avoid accidents altogether through tariff incentives, driver feedback and ADAS functions

Decreasing ARPU prospects will force all insurers to create connected services offerings. Applications such as vehicle real-time diagnostics, bCall, eCall, stolen vehicle recovery, eco-driving and fleet management will generate €500 million worldwide by 2020.

Auto insurance companies competing without telematics offerings will be hurt by negative customer selection and growing imbalances in their portfolio.

While UBI success has initially relied on attractive, end-to-end value propositions, the new differentiator will be the ability to effectively predict actual driving risks using "Big Data analytics".

Insurers will increasingly seize the loss reduction potential of telematics by

connecting it tightly with their claims management systems. Automatic crash detection, eFNOL and bCall will become the norm in the next 5 years.

Telematics extension to new insurance lines - Home, Health and Life - will push smartphones to the centre of cross-line strategies. Insurance companies will integrate telematics data collection into a single, customer-centric app.

The society gradually will reap the benefit of UBI as, it will push the drivers to drive safely and it has already started to manifest its impact in this direction.

NDFS as an insurance enabler has global foot-print having traction with various insurance carriers in the UBI space has enabled us to design our offerings to suit any insurance carrier globally. Our offerings in this space are multi-layered with API(s) and an in-built Core-Module and configurable RR-Engine making it the best in class offerings with add-ons like ease of use and scalability. NDFS offering solutions that leverage the strength of our industry leading CORE PAS and the deep-domain expertise making it a partner of Choice in this journey of UBI. ■■■



Robert Mirea
*Head of Corporate
Department – EUROINS ROMANIA*

Principles & Beneficiaries of Insurance Telematics

unfortunately, there is no possibility to take into account how it was driven those miles, the behaviour of the driver (even if he was traveling less miles in a year, for example).

This was the moment when the entered in the insurance field, especially in the motor insurance field. Also called the black box insurance products, these types of products offer insurance policies that are customized according to the behaviour of drivers and their style of driving, which is a big step forward in the construction of the products closer to customer needs.

Although, in my opinion, these products represent the future of insurance, yet they have not penetrated easily in Europe and especially in Eastern Europe, perhaps due to resistance to change, both the insured and the insurers. But I'm sure in short time this type of insurance will be the basis of insurance in the future.

The principles that are at the basis of all these insurance products?

This type of insurance is based on a small device like the "Black Box", connected preferably directly to the car's computer.

This device will be able to transmit at a predetermined interval, a lot of information during the travel of the vehicle about the behaviour of the driver, such as the location of the car, the travel time from the departure of the car, acceleration and deceleration of the car, Gforces applied on the car in the curves, e.g. All these data give us a lot of precious information about the dynamics of the car etc.

Such data transmission can be done via GPS or via a sim card (only for data transmission). The device can be set to transmit data to the receiver at certain predefined intervals, for example every minute, hour, day or more. Everything is depending on the requirements of the insurer and of the insured.

All these information's reveal the fact the behaviour of each driver, regardless of how much or how little it goes with the car. What finally lead to the significant

differences of insurance premiums between those who have an aggressive driving style compared with those who have a safe behaviour. Thus, we no longer have an insurance premium calculated according to the average of a segment of customers but an insurance premium calculated for each client. In this way, this type of insurance can definitely become a factor of change of the behaviour of certain drivers, to be able to obtain lower insurance premiums, they will have to change his driving style, becoming much more cautious in traffic.

Who are the beneficiaries of these insurance products based on telematics?

In the first place, the insured! Both individuals and legal entities, but especially the owners of fleet cars!

Owners of fleet cars will have a lot to gain, considering the fact that through the use of such devices, they will have a very useful tool for monitoring and adjustment of the driver's behaviour. Therefore, considering that, often, information about the behaviour of drivers in traffic will be in real time, the measures will be able to take much faster and in time so that the future claims of the vehicles from certain fleets can be reduced significantly. This information will have a direct impact on the decrease in the number of accidents/damage, on the substantial decrease of the insurance premiums for fleets, decreasing the number of vehicles immobilised for repairs, the incentives for drivers to change the behaviour of the road, all of them leading to profit increase, often even substantially.

At the moment, the same as for other categories of customers, also in the case of fleet the insurance premiums are calculated depending on the loss history of the fleet, in a certain period of time, plus other criteria such as: number and type of vehicles in the fleet, etc. But, as I said above, we cannot take into consideration the most important thing: the behaviour of each truck driver. And for a large fleet of trucks, this thing matters a lot and can influence the

Why Insurance Telematics?

These types of insurance products have emerged as a result of the need of insurers to build tailor made products depending on the behaviour of each driver.

Until the appearance of this technology, the construction of the first charges relied mostly on a statistics and actuarial approach of some segments of clients, that have been chosen more or less randomly depending on their main characteristics: age, residence, make and type of car, information about past losses etc.

But those approaches don't respond very well to all customer demands that comes from such a segment! Because in these segments there are always clients who will drive more and others less, for example. And, for this reason, those who drive less will always be disadvantaged by these insurance products.

For the premiums were built taking into consideration an average for each segment, the insurance premiums do not have to be correctly set for all clients.

Therefore, the next logical step was the creation of range of products and insurance premiums depends on the mileage for each individual client. Thus, there have appeared products such as pay as you drive, which take into account miles driven in a certain period of time (usually during a year of insurance). But,

6 ways telematics will disrupt insurance

decision of the profit or losses of the company.

Other beneficiaries of the introduction of these telematics devices are even insurance companies, in terms of the damage settlement. Currently, in order to determine the dynamics of a crash, it can use a wide range of solutions: experts, statements of the parties involved, the evidence at the scene, witnesses, etc.

Again, we do not use the most important information! The fact that the car would be able to provide this information with much more accuracy. By installing a telematics device, the information transmitted (acceleration side, the forces G that are involved, during braking, the force of the deceleration etc.) are the main elements that determine the dynamics of a crash. Using all this information we can establish even the guilt of the parties involved in the accidents, without any other solutions. Also, the claim file can get to the liquidators of damage with all the information they need, so that the time required to solve the claim can decrease a lot. In this way, it can improve the quality of solving the claim file, including a decrease of the costs necessary to solve the claim, reducing the number of complaints from those involved in the accident etc. And let's not forget that, in the end, all these mean lower costs and expenses for the company, which in the end leads to the growth of company's profit, which definitely is the objective of the management of any company.

Conclusion

We're in the age of technology, with autonomous cars, voice commands for any electronic device, age of the robots that are becoming more and more autonomous, etc. So, is quite normal also for the insurance industry to evolve and come into the age of technology. It only depends on us how fast we want to be a part of this and how open we are to new things. Already in Europe there are many countries that have implemented this technology. Now this technology penetrates slowly, but surely also in Eastern Europe, for example. I don't see any reason that, in the next few years, this technology to be global. Especially because the benefits are enormous, both for insurance companies and for their customers. ■■

1. The impact of autonomous safety functions on the motor insurance industry

Present and forthcoming autonomous functions affecting insurance - Speed of the technical evolution and emergence prediction - Analysis and forecast of the effect on UBI

2. The benefits and (lost) opportunities of telematics in accident and claims management

Internal and external forces affecting the claims management sector examined - Case studies of successful implementations and best in class usage of data in claims - Recommendations to entice the claims departments

3. The advent of mobile-based UBI becoming the default proposition

Detailed assessment of the current mobile UBI initiatives worldwide - Key solution providers analysis - Range of business models assessed and compared - Technical capabilities and the remaining constraints studied

4. The present and future usage of the OBD dongle and its data

Overview of the ODD technology and its capabilities - VAS and service augmentation opportunities explored - Analysis of OBD data's main channels to market - Assessment of the key independent connected car service providers.

5. The rapidly changing role of car manufacturers in the UBI market

Analysis of the current OEMs position on telematics services and UM. Assessment of the opportunities for insurers to use OEM data Likely models for insurance - OEM partnerships. OEM data distribution strategy recommendation

(Usage Based Insurance Global Study 2016, Ptolemus Consulting Group) ■■



Andy Goldby
*F.I.A. Chief Product Officer
The Floow*

The Past and Future of Insurance Telematics

had once been categorised 'high-risk'. The technology is now responsible for capturing data from many millions of journeys every single day in more than 39 countries, spanning almost every continent.

Its mass uptake is driven, in part, by the emergence of more agile, accessible and cost-effective data capture methods, such as smartphone applications and dongles.

But one of the companies at the forefront of this revolution says the future of telematics lies in its 'limitless' ability to go beyond the transactional benefits and proactively influence driver behaviour - providing actionable insight that is helping to make driving not only cheaper, but also safer for all concerned.

On first glance, there is no question that the adoption of telematics by the sector was to help deliver more accurate risk assessments based on an individual's behaviour - resulting in reduced premiums for end users who drive safely, as well as diminished and better understood risk for the insurer.

In the early days, it was a service reserved for those traditionally subjected to a hefty car insurance bill due to age, gender, or home address because of the cost of installation and the likely return on investment.

However, things have since moved on, and with the emergence of smartphone apps and plug in dongles, as well as being able to source similar data directly from the vehicle's on board systems, this technology is now accessible to the vast majority of drivers. And with the roll out of the technology the potential economic benefits of telematics (for insurers and consumers) has been further bolstered by a whole host of environmental and safety related advantages.

Recently, customers have even been able to engage with the company's ground-breaking Dynamic Driver Improvement Programme (FloowCoach) - where trained psychologists speak directly with the customers who are recording the lowest scores to help them understand how to make their driving safer.

Experience shows that, when done well,

this can deliver significant improvements in scores which are associated with an equally significant reduction in expected claims. But the benefits aren't only about understanding and reducing risk.

From an insurer's perspective we have evidence that there is a higher rate of retention amongst customers who have tried telematics because they are inevitably more engaged with the insurer and the process. Ultimately, they are more likely to stay with an insurer they feel values them.

Via the telematics App these businesses now have the opportunity for continuous contact with the customer through their smartphone without relying solely on the usual annual pain-point of paying for an often begrudged product, or at the point of a claim.

Introduction of the use of telematics to the insurance arena has not been without its challenges, but on the whole it has had a very positive impact.

The adoption of telematics in the insurance arena has presented challenges, and often those challenges have varied market-to-market. For example, every country has its own rules and regulations, its own unique road infrastructure, and its own individual views on data capture and privacy.

There are also issues to overcome in terms of treading the fine line between a score that best predicts risk and one that is easily understood by the customer and can therefore be used to modify future behaviours.

However, when done right there is no question that the benefits for both the consumer and the insurer are plentiful. At The Floow, evidence suggest customers reporting 15% fewer claims on the telematics book than would be expected on the same mix of non-telematics policies; with the average claims cost being 10% lower as well. Furthermore, 20%+ increased retention and up to 4x improved conversion as well as the ability to sell safely into otherwise riskier segments. ■■■

The use of telematics was first introduced to the insurance industry in the mid-90s.

Initially picked up by a couple of forward-thinking early adopters - namely Direct Line and Aviva (formerly Norwich Union) - the opportunity to reduce premiums by proving you were a low-risk driver appealed to a handful of drivers who were happy to have data-capturing black boxes fitted in order to monitor their behaviour.

The overarching premise was to add insight to the risk of a driver above and beyond the traditional rating factors - age, gender, place of residence etc. After all, these facts and figures result in little more than an educated guess regarding how the driver may act behind the wheel.

In sharp contrast, telematics technology promised to provide a platform via which insurers and their actuaries could determine the exact behaviour of an individual day-in, day-out. Do they speed, brake/accelerate smoothly, or use their mobile phone whilst driving?

In fact, even creating a score based purely on where people drive (i.e. the estimated underlying danger/risk of the specific roads) can be proven to be more predictive than where they live and merely understanding the risk associated with the time of day when people drive can add significant uplift to a traditional model.

Fast forward two decades and access to this type of data has gone on to revolutionise the way premiums are calculated, especially for those who

Usage of 'Usage Based Insurance'?

UBI or Usage Based Insurance has been around for many years now and taken off in many parts of the world. Insurance companies install a black box which record the driving behaviour and pattern and charge premium on the basis of risk profile. The big benefit is that it marries the risk profile of drivers more accurately with insurance premium creating a win win for insurance companies and also consumers where latter don't have to subsidise risky driving behaviour of other drivers.

For instance if am an experienced and safe driver driving for 2 hours everyday, the probability of accidents and hence an insurance claim is less versus if am a rash driver and drive for say 4 hours every day! Further in many families a car is not driven on a daily basis and may have a fairly low risk profile. Not differentiating the premiums between these different consumers is a bit like charging the same electricity bill across all families irrespective of your actual usage!

//

UBI can work in India in a BIG way! But the implementation and business model needs to be different from the West- needs to be for India!

Moreover we are a land of huge diversity – our mind-sets, our world view and hence our driving style vary massively even within the same city! For instance there are many amongst us who prefer safe driving practices and others who take pride in driving rash and have complete disregard for road safety - and every day this diversity is evident on our roads!

These would make a strong and obvious case for UBI in India!

However UBI has not really taken off! While insurance companies have made some efforts, I feel there are certain barriers which needs ironing out before it can become widespread.

Most importantly the Economics doesn't add up!

For UBI there needs to be an upfront investment made in device and annual usage charges! This cost component is considerably high to be absorbed with an average annual insurance premium of INR 20,000. Contrast this to US or UK where average premiums are circa INR* 60,000 and INR 40,000 respectively!

Few insurers have made some headway by offering device free (e.g. Bajaj Allianz with Drive Smart package) and building their own connected car ecosystems. But fundamentally given the low ticket size it's difficult for these initiatives to become really scalable and to generate enough value to be a WIN-WIN for everyone and most importantly the consumers!

Here insurers need to adopt a different business model vs. the West. They may want to actively partner with existing connected car ecosystems rather than creating their own. This way they don't have to absorb the telematics cost rather pass on their share of benefit to the ecosystem – creating consumer delight and win win for everyone!

For instance, we at Minda iConnect did the first launch of connected cars in India with 'HONDA CONNECT' initiative and 'CAROT'. Now we have a robust and scaled up ecosystem in place. Such an ecosystem provides ready platform to tap into existing and new consumers and offer analytics on their driving behaviour and safety risk profiles and so on!

In course of time few more such ecosystems shall evolve and insurers will be better off piggybacking on these rather than doing the heavy lifting themselves!

While economics is the most fundamental barrier which we can convincingly overcome by the approach above, some other barriers are also unique to India!



Ravi Jakhodia

*Founder and CEO of Minda iConnect
Pioneer in India for connected cars!*

Our insurance is for the car and not the driver!

In most western countries insurance is for a combination of driver and a vehicle. In India anybody can drive an insured vehicle bringing uncertainties in risk profiling.

I think above is more of a reason to go for UBI, as ultimately Indian insurers can evaluate the composite drive profile of the vehicle and hence the risk. The current model establishes the risk basis the owner of the vehicle who may not end up driving the car!

IRDA and policy approvals will also be required to be in place and enable UBI.

Once there is traction I feel this can evolve reasonably quickly over time! In the meantime a discount based approach can provide significant traction and attract safe drivers, whereas over time penalty may be charged to risky drivers with the policy evolving.

In essence all the right parameters exist for UBI to take off, we need to give it one good push! ■■■

US \$1= INR 67~

Qualcomm acquires NXP, Intel joins the battle



Acquisition of NXP by Qualcomm is unfolding an era when semiconductor chip manufacturers gear themselves up for the next big thing. The industry is now acknowledging that it is the time to foray into this direction. Intel, the leader of semiconductor chip manufacturers, which became the pivot of the third industrial revolution by inventing the Microprocessor in 1971, has also stated that it now wants to play a major role in IoT revolution. Qualcomm which saw surge in 2012-14, with the rise in demand of Android Smartphones, its growth was soon reversed with the entry of low cost microprocessors. NXP was early to enter automotive sector, before the acquisition, it was number one manufacturer of automotive chips; it had secured its place by taking over its competitor Freescale last year. But still the company was not progressing at the pace it intended to grow. Qualcomm too taking note of the circumstances had understood that the time had come to foray into IoT and thus making the right move, it acquired NXP.

Intel has also made it clear that it will not be a mere spectator. Earlier this year it acquired Yogitech, an IoT security and ADAS company, and Nervana, a company working on machine learning.

It is acquiring companies who are not big fish but that are involved in important arenas related to IoT. Intel aims to provide 'end to end' solutions in automotives.

Automotives are at the centre of every company's game plan as IoT will first be starting with this industry. It is well known that before the IoT will fully take over it will be the automotive industry from where the offshoot of this revolution will come.

Intel is not new in this sector; during 1980's and till 2005, it had partnership with Ford and all Ford products during that time had some or other Intel equipments. In 2007, it again entered automotive section but this time was focusing on Infotainment. But with changing time the company has pulled up its socks and now desires to dominate IoT. It has recently announced the launch of a new generation of Intel Atom processor, the Intel Atom processor E3900 series, which is designed from the ground up to support the rapid development and the growing complexity of Internet of Things (IoT) businesses.

It would be interesting to see how things unfold now, there are other players like Infineon and Nvidia too, who are watching these events very closely. Several experts have been predicting that with acquisition of NXP and Intel entering the race there would be several moves of consolidation by the other companies. ■■■

Samsung to acquire Harman

Samsung Electronics and HARMAN have entered into an agreement where Samsung will acquire HARMAN for \$8 Billion in a bid to further its connected car push. The transaction will give Samsung a presence in growing market for connected technologies, particularly automotive electronics, which has been a priority for Samsung.

Young Sohn, President and Chief Strategy Officer of Samsung Electronics, said- "We see substantial long-term growth opportunities in the auto technology market as demand for Samsung's specialized electronic components and solutions continues to grow. Working together, we are confident that HARMAN can become a new kind of Tier 1 provider to the OEMs by delivering end-to-end solutions across the connected ecosystem."

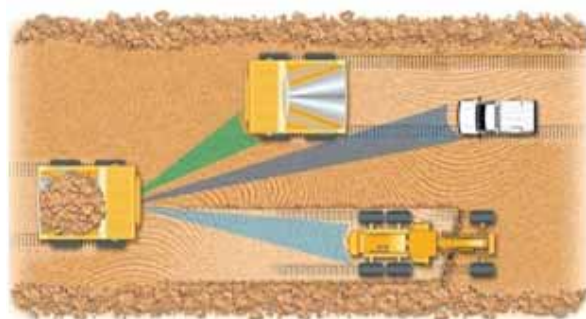
HARMAN will operate as a standalone Samsung subsidiary, and continue to be led by Dinesh Paliwal and HARMAN's current management team. Samsung is pursuing a long-term growth strategy in automotive electronics, and plans to retain HARMAN's work force, headquarters and facilities, as well as all of its consumer and professional audio brands. Samsung believes the combination will increase career development and advancement opportunities for the employees of both companies. ■■■

Komatsu Autonomous Haulage System for mining industry

Komatsu launched commercial Autonomous Haulage Systems for the mining industry, where each autonomous dump truck is equipped with vehicle controllers, a positioning system, an obstacle detection system and a wireless network system. These features allow the dump truck to safely operate through a complex load, haul and dump cycle and to integrate with the dozers, loaders and shovels that are also part of the autonomous system. The Autonomous Haulage System (AHS) allows unmanned operation of mining trucks.

Komatsu developed AHS to deliver these key benefits for customers:

- » Reduced number of drivers working in hostile and remote condition
- » Increased safety on mine sites
- » Reduced operating costs – extended tyre life
- » Increased productivity and efficiency ■■■



Komatsu Autonomous Haulage System

NHTSA issuing guidelines for self driving vehicles

The U.S. Department of Transportation (USDOT) and the National Highway Traffic Safety Administration (NHTSA) published policy related to automated vehicles (AV).

Highlights of the policy are:

- » The policy adopts the Society of Automotive Engineers International's (SAE) definitions for levels of automation. The levels range from SAE level 0 (full human control of the vehicle) to SAE level 5 (the automated system performs all driving tasks under all driving conditions).
- » The policy is primarily directed at HAVs, defined as vehicles with SAE level 3, 4, or 5 automation functions, meaning that the vehicle is taking over all driving functions during at least some conditions.
- » The policy outlined federal and state roles, restated the continued role of individual states in licensing human drivers, registering vehicles, enacting and enforcing traffic laws, performing vehicle safety inspections, and regulating insurance and liability
- » The model policy outlines suggested administrative actions within state governments to manage the introduction of HAVs, as well as specific procedures for allowing manufacturers to test HAVs on public roadways.
- » The policy notes the importance of training for law enforcement personnel to address conditions they might encounter in interacting with HAVs.
- » States are encouraged to collaborate on determining a regulatory framework to limit distracted driving, which is anticipated to be a critical issue at level 3 functionality.
- » The policy notes that individual states must work to determine a liability framework for HAVs, including who must hold an insurance policy (owner/operator/passenger/manufacturer).
- » Public workshops to educate and seek feedback on the model state policy are planned as a next step. ■■■

AI and contextual reasoning in Dragon Drive



Nuance Communications Inc. updated Dragon Drive connected car framework. It now has contextual reasoning which allows AI to deliver contextualized and personalized recommendations for navigation, dining, gas stations, points of interest (POI) and other domains. The service can be integrated across a variety of Dragon Drive's Domain applications designed specifically for the in-car experience, and is entirely accessible through a conversational user interface or haptic feedback where appropriate.

The Contextual Reasoning Framework leverages Nuance's advancements in Artificial Intelligence to exploit domain knowledge in a context-sensitive manner to provide a more intelligent experience behind the wheel. ■■■

Challenge for autonomous vehicle to come from aggressive drivers

Accordingly to a study (ThinkGoodMobility) the autonomous vehicles may be bullied by the aggressive car drivers. The very advantage of the self driving cars of following rules may turn against them in this case. In fact the capacity of autonomous cars to respond at lightening fast speed can give the human drivers the better chance to get away with their mistakes. This study was conducted by researchers from the London School of Economics in partnership with Goodyear. It had 12,000 respondents from 11 European countries.

Uber, Google, and Apple are all working on autonomous vehicle technology, while a number of legacy auto manufacturers are also developing it but challenge is not only from technical but from social perspective as well.

Taking this study into consideration Volvo has decided that the self-driving cars that has been launched in Britain, will not be marked as self-driving cars. This would help the company to study the behavior of the other drivers. It would also prevent them from slamming brake just front of the car and thus save self-driving cars to become the "easy prey" to such aggressive drivers. ■■■



HERE to launch sensor data-driven platform for connected cars



HERE launched a sensor data-driven platform for connected cars which will be the meeting point of ADAS, autonomous cars and smart cities.

HERE claims that its service will crowd source maps data from sensor rich connected vehicles.

The service will collect data from cameras, ultrasonic sensors and radar and generate real time information for the drivers.

The service will be launched in 2017 and will enable the users to have a beyond GPS experience, claims HERE.

HERE will provide APIs to automakers, road authorities, local municipalities, app developers, and smartphone

makers. On the other hand, carmakers will provide libraries of sensor data to HERE for creating the real-time traffic analytics. ■■

Infineon and Argus come up with a cyber security solution for connected and automated car



Cyber threats are dynamic in nature and security solutions need to be updated over the air in order to help vehicle fleets stay immune to the latest threats and attack methods.

The central gateway is crucial in the automotive security architecture. It interconnects all electronic control units (ECU) of in-vehicle domains, such as those used in the powertrain, driver assistance, chassis, as well as body and convenience control. The central gateway routes and controls the complete data communication between the ECUs. In addition, it is the central access point for software updates over the air (SOTA) and for diagnostics processes and maintenance updates via the On-Board Diagnostics (OBD) port.

The AURIX microcontrollers will be a key element in the vehicle's central gateway. They control processes and handle monitoring and security tasks. In safety-related systems, AURIX microcontrollers support security protocols as well as the required security functions in hardware. Their built-in Hardware Security Module (HSM) protects in-vehicle software and data communication supporting highest security levels. These include security classifications up to EVITA "high" that is used to protect critical vehicle functions against a wide variety of attack scenarios; via direct cable access to the car network and via radio interface. Thus, AURIX microcontrollers provide effective protection against hackers when trying to infiltrate the on-board systems. They offer up to six cores and best-in-class scalability in memory (up to 16 MB Flash, more than 6 MB on-chip SRAM) in combination with a rich feature set supporting latest connectivity, such as up to 12 CAN-FD channels, eMMC interface, and Ethernet functionality.

As a high-performance, low latency and small footprint system, the IDPS uses context-aware heuristic and learning algorithms that enable optimal detection rate as a stand-alone solution. Combined with Argus Lifespan Protection, Argus' remote cloud platform, it provides car manufacturers with situational awareness to their fleets' cyber health via a cloud-based intuitive dashboard as well as with the means to analyze attacks and take preventive action. The IDPS supports different communication protocols, operating systems and deployment options. ■■

New features in Driveri fleet management platform

Three new features has been added to the Driveri platform from Netradyne. These features provide drivers and fleet managers with greater driving situational visibility-

Traffic Light Detection – through the accurate detection and recognition of traffic lights, fleets gain valuable insight into their routes, capturing a more robust driving view in the absence of an inertial-based trigger

Relative Speed Determination – Driveri analyzes every minute of every driving hour – computing the vehicles speed against the flow of traffic – providing visibility into potential unsafe speed variances based on road conditions

Pedestrian Identification – expanding on Netradyne’s comprehensive deep learning portfolio, the platform can now detect proximity of pedestrians to the vehicle, improving risk analysis.

The Fleet Safety Management Center enables fleet managers to instantly access video events that have been transmitted based on preconfigured parameters. In addition, EventAccess delivers fleet managers the ability to remotely access video events that are stored on the Driveri platform. EventAccess further enables fleets with the ability to respond to immediate inquiries regarding claims, inquiries, and customer service requests. Fleet Managers can quickly query the Driveri dashboard and search video events by driver, vehicle, date, time, and location. Results are displayed in an easy-to-view interface allowing quick responses and immediate inquiry resolution. ■■■



Navdy augmented driving device

Navdy started shipping the Augmented Driving device that leverages augmented reality (AR) technology to project information directly in the driver’s line of sight, for an all new driving experience. Navdy’s breakthrough user interface projects a transparent image on the road ahead, incorporates Hand Gestures to accept calls with the wave of your hand, a specially engineered Dial, and advanced software that lets you control your phone hands-free. With maps, calls, messages, notifications, music, and car information projected directly in front of you, you’ll never again miss a turn or the information you need while driving. For the first time, drivers can Look Forward while Staying Connected, and enjoy seamless integration of their phone into the driving experience.

Navdy incorporates popular Head-Up Display (HUD) technology, primarily offered as a pricey upgrade package in luxury cars, with a groundbreaking UI, and specially developed software, delivering a far richer driving experience at an accessible price. And since Navdy is portable, consumers can enjoy the Navdy experience in whatever car they currently drive.

Navdy’s features include

- » **Look Forward Display:** rich, full color, fully transparent display in any light that projects information into the distance so the road stays in focus. The most advanced display on the road.
- » **Intuitive Interface:** Hand Gestures are the most natural way to accept a call or message with the simple wave of your hand. The Navdy Dial is the most intuitive way to scroll, zoom and navigate menus fluidly. The Dial also serves as a convenient way to access Siri and Google Now.
- » **Projected Navigation system is powered by Google Maps:** with maps and directions appearing right in front . It offers full dynamic maps as a transparent image without obstructing your view of the road. It’s as easy as following the car in front of you and uniquely immersive. It has high precision GPS chip and local storage of maps, drivers don’t have to worry about losing navigation if they are out of network coverage.
- » It lets you make and receive calls, listen to messages, control music, receive calendar reminders and stay connected to the apps on your phone. Navdy also connects to your car with Navdy Dash to show your speed, RPM and automatically recommend nearby gas stations when your fuel level is low.
- » Portable and Storable: works in any car with magnetic mounting system. ■■■



Navdy’s new device

Thinkware X550 - dash cam with driver alerts and night vision



THINKWARE X550 dash cam features 1080 pixel front full HD, 2.7inch LCD and Sony CMOS Image Sensor. It includes a Safety Camera Alert feature that, in partnership with camera alert specialist, Cyclops, provides drivers regular updates on verified speed/red-light camera locations and known mobile speed traps.

The dash cam is fully equipped with Dual Save, which enables incident video back up on built-in internal memory and an built-in GPS. The X550 supports various recording modes with autonomous switch mechanism according to your needs: Continuous Recording, Incident Recording, Parking Surveillance, and Manual Recording.

The X550 also features 'Super Night Vision', a night image correction feature, and 'Time Lapse Photography' which

records at 1 frame per second, enabling the dash cam to record parking mode videos for 16 times longer than the standard parking mode by reducing video file size. ■■■

Renesas releases automated driving solution kit

Renesas Electronics Corporation announced release of highly automated driving (HAD) solution kit that delivers high computing performance targeted at automotive functional safety to reduce development time of electronic control units (ECUs). The HAD solution kit is based on two Renesas R-Car H3 Starter Kit Premier and the automotive control RH850/P1H-C microcontroller (MCU), and therefore is compliant with both ISO 26262 ASIL-B functionality safety standard and ISO 26262 ASIL-D standard (Note 1). The new solution kit enables system developers to immediately evaluate functions and software in an environment that is similar to the actual development of ECUs, thereby reduces developers' time and efforts when porting software to the actual ECUs.

Key features of the new HAD solution kit:

Powerful HAD solution kit that accelerates software development of mass production ECUs that are necessary to achieve autonomous driving

1. Compliance with high functionality safety standards: Based on dual R-Car H3 Starter Kits that conform to ISO 26262 ASIL-B and a RH850/P1H-C MCU that conforms to ISO 26262 ASIL-D
2. The implemented R-Car H3 Starter Kit Premier are based on the R-Car H3: a high-end, high- performance SoC designed for automotive applications. The SoC based on ARM® Cortex®-A57/A53 cores can be used as an automotive computing platform solution for driving safety support systems and in-vehicle infotainment systems, and achieves processing performance of over 40,000 DMIPS
3. Multiple interfaces for the development of autonomous-driving systems and built-in data logging function. The development of autonomous driving systems involves a continual process of collecting and analyzing test data in an environment connected to various sensors, which requires high bandwidth capabilities. The HAD solution kit supports multiple interfaces, including five 100 megabit (MB) Ethernet

Broad R-Reth ports, 1 gigabit (GB) Ethernet, controller area network (CAN) with CAN-FD and FlexRay.

In addition, up to 16 camera inputs are available to allow direct connection and image processing by the R-Car H3. The multi-interface approach enables a new generation of applications, combining data from surround view cameras with pre-processed objects from lidar, radar and front cameras to provide a comprehensive and accurate view of the vehicle's surroundings to enable a safer driving experience.

The datalogging function is complemented by a solid state drive (SSD) support as well as a USB 3.0 connection to enable the recording of test drive data. It also provides high- definition multimedia interface (HDMI) output for the visualization ■■■



Octo Link Program to Connect Insurer & Consumer

Octo Telematics has launched The Octo Link Program. The Link Program provides a cross industry platform for simple and secure sharing of driver telematics data, enabling direct communications between the two parties. The Link services are based on driver scoring and contextualised risk analytics collected by Octo U, a consumer driving behaviour app. Octo 'links' these consumers with insurers, providing insurers with the data to price risk more effectively and efficiently manage customer relationships.

Through The Link Program, Octo is working to create a digital ecosystem to provide greater transparency, and ultimately a better relationship between insurers and their customers by offering:

User Connection Program: An affinity program to reward Octo U users. Insurers are able to advertise within the Octo U app and become part of Octo's community by offering a discount or reward.

Lead Generation Program: This provides qualified and enriched contact lists that can be used by insurers to build and manage new customer acquisition programs.

Lead Connection Program: This speeds up the insurer's customer acquisition process and makes it more efficient by turning prospects into contracts through marketing initiatives directly managed by Octo.

Telematics Switch Program: This provides insurers with the path and option to 'switch' new and existing customers to telematics based policies allowing continuous monitoring of driver behaviour and risk assessment.

Customer Loyalty and Rewards Program: Octo services for insurers that provide a loyalty program that is supported by digital marketing and gamification of telematics that seek to address challenges in markets with high churn rates.

Releases new mobile and in-vehicle solutions

Octo Telematics released a suite of products for connected cars both in-vehicle solutions and mobile solutions via Octo Glimpse, Octo Vantage and Octo Surround.

The suite includes:

- **Octo GLIMPSE** – Glimpse is the entry-level solution that makes it quick and easy to get up and running with a simple mobile telematics program that offers driver behavior, scoring and location-based services with the usage of the policyholder smartphone.
- **Octo VANTAGE** – Vantage is an enhanced mobile solution that utilizes the Octo mobile app, Bluetooth connection and in-vehicle device to more accurately monitor and score driver behavior and car health while delivering location-based services with the usage of a low-cost tethered telematics device.
- **Octo SURROUND** – Surround is a rebrand of our legacy "UBI in a box" product, Try&Drive, and is a more robust in-vehicle GSM solution that makes all cars truly connected cars. Not dependent on a mobile device, it offers the full suite of telematics benefits — UBI, crash & claims, driver behavior and scoring, vehicle health and location-based services. ■■■

George Hotz's Comma.ai asked to take back its self-driving car kit-chffer

Comma.ai had launched a product as self driving car kit which was available for US\$999 + \$24/mo, and could be used in limited car editions like Honda and Acura models with lane assist feature. But Comma.ai had to take back its steps after federal regulators warned that its device poses safety risk to drivers.

In the warning letter, the NHTSA expressed concern that the technology would be used irresponsibly by consumers, it stated that there was a high likelihood that some drivers might have used this product in a manner that exceeded its intended purpose.

George Hotz, the founder of the start-up said that he would rather like to concentrate on building new devices than dealing with the regulators and entangling the company in legal disputes. Hotz also tweeted that the company would be exploring "other products and markets," hinting that he might be targeting China.

Comma One was a plug-and-play device that intended to let drivers operate their vehicles in hands-off mode. There are around 50 start-ups who have been working on devices related to autonomous cars and there are tech giants like Uber, Tesla, Google and GM who have no dearth of capital. All of them are trying to get ahead of the others. Then there are regulators who have to keep a close watch on all the players and control this rush. ■■■

HARMAN UI development suite for IVI systems

Harman announced its automated UI development suite for the automotive industry, enabling automakers to seamlessly create connected, multi-screen and secure In-Vehicle Infotainment (IVI) systems.

Key components of the Automated UI Development suite include:

- » A toolchain that enables product managers, designers and developers to innovate through realistic simulations and trace requirements through to deployment.
- » A Software Development Tool Kit (SDK) that simplifies the HMI design process through the support of multi-display solutions, including center display and rear-seat entertainment.

Key benefits of these components include:

- » The tool chain includes advanced features like continuous build and test automation for rapid high quality HMI builds.
- » Ability to reuse HMI business logic across different vehicle models and brands.
- » Support for different distributed system architectures such as Multi-SoC and Single SoC with Hypervisor.
- » Enablement of rapid, continuous development, including use of simulation, A more rapid evolution of the HMI throughout the vehicle lifecycle. ■■■

Mahindra to introduce Android Auto in its XUV500



androidauto

Mahindra soon will be introducing a new infotainment system to the XUV500, which will support Android Auto connectivity. Recently Android Auto has announced that now it can be installed on any car and has become a popular feature in various segments. Mahindra

wants to utilise this option to gain an advantage over the other cars. ■■■

Medium commercial vehicle telematics- an emerging segment

India is one of the potential markets for telematics solutions globally. Over the last four years, the country registered increased deployment of telematics solutions especially in commercial vehicle segment. Key application areas of the market include- cold chain, courier, pharma, retail and others. Presently, cold chain sector accounted for highest market share, followed by courier and others. Cold storage freight trailers are deploying telematics solutions to gather time-series data of the temperature inside the cargo container.

According to 6Wresearch, India Commercial Vehicles Telematics Market installed base is projected to reach 1.4 million by 2022. Increasing road accidents, security concerns and need for fleet management are driving the adoption of telematics solutions in the country. Additionally, benefits such as reducing fuel consumption and repair costs would further spur the growth of the market.

Ravindran Natarajan, Director Business Development, Trimble Navigation (Leading player of the industry) said, "Although, MCVs/ HCVs covered entire market, however Light-Commercial Vehicles (LCVs) segment is anticipated to excel in the coming years. This would be primarily due to overall structuring of e-commerce industry in relation with the change in entire supply chain logistics from first mile pick-up to last mile delivery."

He further added, "Telematics market penetration in HCVs segment would reach between 90-95% by 2022 owing to growing acceptability along with mandatory policies to install telematics solutions in various commercial vehicles."

The major companies in India commercial vehicles telematics market include- Arya Omnitalk, CMC, Dhanus Technologies, EFKON, TATA Motors (Tata FleetMan) and Trimble Navigation. ■■■

Letstrack announces launch of its app and devices in India

UK based Letstrack has announced launch of its App and Devices in India. Letstrak Kiddo, Letstrack Personal Tracker, Letstrack Bike Series, Letstrack Basic+ and Letstrack Prima are few of the key Devices, which will be made available in India at online portals, neighborhood mobile & accessories stores and electronic & gadget retail chains. Letstrack is available on both iOS and Android platform. ■■■

Automotive grade Zen Telematics from Ei Labs

The ZEN telematics is built for OEMs from the ground up and is fully automotive grade. It is centered around popular auto grade processor V850 from Renesas and runs faster by about 20% than the previous platforms. It has high speed CAN enabled as a standard feature. In addition to the serial interface the unit has its own 3 AXIS MEMS accelerometer and Gyro. A temperature sensor is also available to take independent ambient temperature measurement. The device also supports a direct IOT interface to the user smart phone, making it versatile and enabling usage based insurance and enhancing remote debugging. This is probably the first in the industry. Also thrown in are Digital and Analog Input and Output capabilities. Ei Labs offers a PIN based door Lock/Unlock solution for Mobility solutions in the self drive space. The board supports UnTethered Dead Reckoning GPS technology, which means you never lose the GPS fix even if you are in a parking lot. Once again it is a first in the Indian Telematics scene. The board supports factory build of 2G / 3G / 4G data connections, making it easy to make seamless transitions as the cost for 4G modules decreases and the footprint improves. ■■■

ZoomCar to install Mobileye ADAS

Zoomcar has signed an agreement with Mobileye, wherein Mobileye's optical ADAS will be installed in Zoomcar vehicles. The ADAS system has a small camera installed at the wind shield of the car. It provides three primary warning types: lane departure, headway monitoring, and forward collision warning. Mobileye ADAS has been installed by Zoomcar in the first 40 Mahindra and Ford vehicles starting with New Delhi, and will be followed by other metros. The company has plans to add Mobileye ADAS to over 10,000 cars by the end of 2017.

On this occasion Zoomcar Co-founder and CEO Greg Moran opined that the purpose of the Mobileye technology is to provide real-time assistance to its customers so they can avoid potentially dangerous accidents. He regarded this moment as enormously important because it helps bolster the community's confidence in the safety of self-drive.

Over time, the vehicles would remain in even better condition, thereby allowing even more individuals the opportunity to experience the freedom of self-drive.

Michael Hirsh, regional manager, India at Mobileye regarded this phase as exciting times, given the pace of technological acceleration in India in all sectors, and degree of commitment as demonstrated by Zoomcar, he said he believes Indians can look forward to experiencing lifesaving ADAS technologies in the immediate term. ■■■

Bajaj Allianz Drive-Smart

Bajaj Allianz, has recently launched a telematics insurance product Drive-Smart.

The company would be offering a device which can be plugged into OBD II port.

This device can be connected to the smartphones of the customers and the customers can use it via an app available both on android and iOS.

The OBD device gathers and transmits data on the usage and other 'quality of driving' parameters. The usage based insurance allows the customers to avail discounts as much as 30% on their next premium and thus incentivises safe driving. The earlier methodology of calculation of premium caused the good drivers subsidising the bad ones.

The device transmits data to an App on the smartphone from where it can be transmitted to the company.

The alerts can be generated on the mobile of the owner whenever the vehicle crosses the geofence -a sort of GPS fence, over-speeding and towing.

Alerts are also generated by the system on the car in form of lights. The intensity of light depicts the whenever certain conditions are breached.

This helps the drivers to improve their driving and hence gain discounts on their premiums. This also comes with an option of 24x7 assistance.

It is available in three packages Classic, Premium and Prestige based on the years the car has been used. ■■■

Bits & Bytes

'Mixed traffic', is not the latest Cocktail on the Bar menu, but a subject of intense research and development in the field of Connected Automated Driving. It is the cumulative efforts of various R&D teams to establish a system that can effectively resolve the randomness of reality in everyday driving conditions. The key goals are: to establish an integration of the in-vehicle intelligence with a fleet of heterogeneous vehicles on-road and to synergise inter-vehicular (V2V) communications with roadside infrastructure (V2I and V2X).

Let's simplify and try to gain a high level clarity of these technical concepts.

Firstly, a fully autonomous vehicle will be able to perceive its surroundings, identify objects, take decisions real-time and communicate with other vehicles, as well as the ITS (Intelligent Traffic System) enabled 'Smart-Cities' and highways. Secondly, legacy vehicles, which can be retro-fitted with semi-autonomous capability will be able to communicate V2V as well as V2I. However, the system will only provide instructions to the driver and expect prompt action and compliance.

This hybrid scenario is likely to last a few decades until all vehicles are equipped with Self-Drive and ITS is implemented across the road infrastructure.

This approach is termed as co-operative mobility, achieved via standardisation of in-vehicle CAN (controller area network) messages, decentralised communications between the vehicles in 'mixed traffic' and seamless connectivity using G5 (EU-ITS std. 802.11p for wireless V2V communication) and 5G. Furthermore, RTK (Real Time Kinematic) technology allows cm-level accuracy to facilitate smooth crossing over of the mixed traffic at interchanges in the city as well as on the highways.

What is required for the industry to actualise this for everyday use?

Firstly, large areas need to be approved by



Magesh Srinivasan
Global Sales Director - Connected Car
HCL Technologies

Governments around the world to allow continuous verification of use cases under development. Secondly, standardisation of in-vehicle autonomous systems, ITS architecture and telecommunications, is required to be quickly achieved. Early adoption of standards across the ecosystem, will enable effective communications across all systems: CAN, V2V, V2I, V2X. Lastly, social acceptance and user engagement is crucial to make these systems work, especially in mixed traffic scenarios. User interface or HMI need to be redefined to enable intuitive learning by new age drivers, who will need to unlearn old driving habits and relearn automated driving scenarios and then graduate to fully autonomous 'smart mobility'.

The key benefit will be reduction of accidental deaths and injury caused by (in)human error caused under the influence of stress, distraction or alcohol. Human intelligence is giving birth to artificial intelligence, in order, to protect and improve the lives of human beings. ■■■

NTUC introduces telematics insurance in Singapore

NTUC Income ("Income"), Singapore's leading composite insurer, has introduced two innovative motor insurance schemes – Drive Master and FlexiMileage – which allow private car owners to influence what they would pay for motor insurance premiums based on their driving behaviours.

With the advancement of telematics technology, real-time data on driving behaviours such as drivers' speed, manoeuvres, drive time and mileage can be collated to better assess and manage risks. Leveraging such technology in Drive Master and FlexiMileage, Income has successfully brought about a step change in pricing motor insurance premiums by introducing tiered savings to reward good driving behaviours and low-mileage driving.

FlexiMileage

FlexiMileage is a usage-based scheme that is specially designed for drivers whose lifestyle requires them to spend less time on the road. FlexiMileage enables these drivers to save more on

their insurance premiums if they were to drive their vehicles for 9,000 kilometres or less per year.

Drivers can look forward to a discount of 35% of their current premium amount if they drive below 5,000 kilometres a year. For those who clock between 5,000 and 9,000 kilometres a year, they stand to save 20% from what they pay now.

To participate in the scheme, drivers must first apply for FlexiMileage online before visiting the Income Motor Service Centre (MSC) to install the telematics device in their private cars, free of charge, within 14 days of the application. The device will capture the mileage travelled by the vehicle and does not store personal data.

The mileage discount will be accorded immediately at sign up to existing and new Income motor insurance policyholders if they can show proof and verify that their vehicle mileage falls within the scheme's kilometre tiers at the MSC.

There is no penalty imposed if drivers who subscribe to FlexiMileage exceed the mileage requirement. They merely do not enjoy the premium discounts upon renewal of their motor insurance.

All private car owners, including off-peak car owners, are eligible for Drive Master and FlexiMileage.

While both schemes are mutually exclusive, private cars owners are only

eligible to sign up for one scheme per car. Any premium discounts that are accorded to eligible drivers on these schemes are in addition to the loyalty and no-claim discounts that they currently enjoy.

Drive Master

Designed to reward drivers for good driving behaviours, Drive Master applies telematics innovation via a free smartphone application to automatically track and assess drivers' speed, manoeuvres, drive time and mileage when they embark on a journey.

Based on these criteria, the application will award the driver a cumulative score which is updated after each drive. Drivers who participate in Drive Master must drive a minimum mileage of 5,000 km and allow data related to their driving behaviours be shared via the Drive Master application for six consecutive months. Only those who achieve an average score of 70 and above will enjoy savings of between 5 and 20% on their motor insurance premiums, depending on how they score.

To help drivers in general gain insights to their driving behaviours, make improvements and to promote overall road safety in Singapore, Income has made the Drive Master application available for free to all drivers. However, one must be an Income motor insurance policyholder to enjoy the premium ■■■

Insurance Telematics Trends

North America

- Market Leader
- Safety driven
- Range of value added services

Europe

- Early adopter
- Mature market- UK, Italy

China & Far East

- Fast growth expected

Africa

- Could have demonstration pockets
- Theft/Security Driven

South East Asia

- Initial stage of adoption
- Security Driven

South America

- Growth opportunities
- Regulatory framework assistance

Australia & New Zealand

- Exiting service provider
- Emerging region



cleanCity

Waste Management System

Implementing a successful waste management policy and action plan includes,

-  **Saving money on what you buy**
Using raw materials, packaging and equipments more efficiently means you won't have to buy that much
-  **Meeting your environmental obligations**
Having effective policies and procedures in place should make it cheaper and easier for your business to comply with waste regulations
-  **Cutting your waste disposal costs**
Efficient waste management will reduce the amount of waste your business produces
-  **Finding new sources of revenue**
You may find that some of your waste products can even be sold to other businesses for them to reuse or recycle

*“ We can save our environment by effective use of **cleanCity** ”*



uffizio

info@uffizio.in | 08155055101

CONNECTED Vehicles 2017

18 January, Hilton Chennai



Join us at :

Vehicle Telematics 2017

April, New Delhi

Vehicle Tracking, Fuel Monitoring, Driver Behaviour

Telematics India 2017

August, Pune

Telematics, Connected Car, ADAS, Self-Driving Cars

TELEMATICS WIRE



Call us for early association benefits: +91 87440 88838