

**2013  
EDITION**

**Free  
abstract**

The point of  
reference on  
telematic  
insurance

# **USAGE-BASED INSURANCE**

**Global Study**



*Catch up with the  
telematics revolution*

## ABOUT PTOLEMUS CONSULTING GROUP



PTOLEMUS is the **first strategy consulting firm entirely focused on telematics and location-based services.**

We help our clients apply strategic analysis to this fast-moving ecosystem, across all its industries (Automotive, consumer electronics, insurance, mobile telecoms, etc.) and on an international basis.

PTOLEMUS, founded by Frederic Bruneteau, operates worldwide and has Partners in Brussels, Paris, Munich, Milan and Boston.

It has also built a network of telematic specialists across the world to be able to analyse and address global mobility issues.

**PTOLEMUS has performed more than 15 assignments on insurance telematics.**

For any enquiry, please contact [contact@ptolemus.com](mailto:contact@ptolemus.com)

### Our consulting services

#### Strategy definition

Vision creation, strategic positioning, business plan development, board coaching & support

#### Investment assistance

Strategic due diligence, market assessment, feasibility study, M&A, post-acquisition plan

#### Procurement strategy

Specification of requirements & tender documents, launch of tenders, supplier negotiation & selection

#### Innovation management

Value proposition definition, product & services development, architecture design, assistance to launch

#### Business development

Partnership strategies, detection of opportunities, ecosystem-building, response to tenders

#### Implementation

Deployment plans, complex / high risk project & programme management, risk analysis & mitigation strategy

### Our fields of expertise

#### Car infotainment & navigation

Connected services (Traffic information, fuel prices, speed cameras, weather, parking, points of interest, social networking), driver monitoring, maps, smartphone integration, smartphone-, PND- or embedded navigation,

#### Usage-based charging

PAYD / PHYD insurance, road charging / electronic tolling, fleet leasing & rental, car sharing, Car As A Service, etc.

#### Telematics & Intelligent Transport Systems

ADAS, connected vehicle, crowd-sourcing, fleet management, eCall, bCall, SVR, tracking, vehicle data analytics (OBD / CAN-bus), VRM, V2X, xFCD

#### Positioning / Location enablement

#### M2M & connectivity

## YOUR PTOLEMUS CONSULTING GROUP CONTACTS

### BRUSSELS

**Frederic Bruneteau, Managing Director**

+32 487 96 19 02

fbruneteau@ptolemus.com

### PARIS

**Olivier Bourhis, Managing Partner**

+33 6 89 99 20 95

obourhis@ptolemus.com

### MILAN

**Sergio Tusa, Associate Partner**

+39 33 51 02 19 95

stusa@ptolemus.com

### HAMBURG

**Meinrad Zeller, Senior Expert**

+49 17 95 75 03 541

mzeller@ptolemus.com

### LONDON

**Alexandra Willard, Associate Partner**

+44 7730 954 310

awillard@ptolemus.com

**For more information about the study, contact**

**Thomas Hallauer**

+44 7973 889 392

Thallauer@ptolemus.com

And follow PTOLEMUS on Twitter: **@PTOLEMUS**

## THE AUTHORS OF THIS REPORT

### Frederic Bruneteau, Managing Director, Brussels ([fbruneteau@ptolemus.com](mailto:fbruneteau@ptolemus.com))



Mr. Bruneteau founded the PTOLEMUS Consulting Group on the conviction that pervasive location and connectivity would revolutionise the business of mobility.

He has 18 years of experience in 12 countries with companies such as TomTom, SFR Vodafone, Arthur D. Little and BNP Paribas.

Mr. Bruneteau has performed a dozen assignments on insurance telematics, notably the due diligence of Octo Telematics and the definition of an international UBI strategy & business plan for a large insurance group.

He has spoken at over 30 conferences on telematics and UBI in the last 5 years and is often called for interviews by publications such as *The Economist*, *The Wall Street Journal*, *Reuters*, *Telematics Update*, *Fleet News*, *Actuarial Post*, *Insurance Networking News*, etc.

Frederic led the writing of this report and notably held discussions with 100 companies in the insurance telematics domain.

### Thomas Hallauer, Director of Research & Marketing, London ([thallauer@ptolemus.com](mailto:thallauer@ptolemus.com))



Thomas Hallauer has gained 10 years of operational marketing experience in the domain of telematics and location-based services. He is an expert in new products and services notably in the automotive, motor insurance, navigation and positioning industries.

Before PTOLEMUS, Thomas held management responsibilities with **Mobile Devices**, a leading provider of telematic technology platform and devices.; and for **FC Business Intelligence** (*Telematics Update*).

Thomas wrote the *European Location Study*, the most comprehensive report on the global location industry. For this report, he notably researched the US and UK markets and interviewed more than 50 players in UBI.

### Matthieu Noël, Consultant, Paris ([mnoel@ptolemus.com](mailto:mnoel@ptolemus.com))



Mr. Noël has gained 4 years of consulting experience primarily helping clients in the automotive sector such as BMW, PSA Peugeot-Citroën, Renault-Nissan and Faurecia.

For this report, Matthieu has notably researched the Canadian, French, German, Russian, South African and Spanish markets and conducted interviews with companies such as Baseline Telematics, Discovery Insure, Hollard, Ingenie, Mapfre, PSA and Tapiola.

### Sergio Tusa, Associate Partner, Milan ([stusa@ptolemus.com](mailto:stusa@ptolemus.com))



Sergio Tusa has gained over 20 years of experience in the telematics, location-based services and automotive domains.

He has led several insurance telematics and stolen vehicle recovery projects, for clients such as Cobra Automotive Technologies, Ferrari, Fiat and Renault/Volvo Trucks.

He recently led the due diligence of one of the global leaders of insurance telematics.

## OUR PARTNER OSBORNE CLARKE

The legal and regulatory assessments of the European market for Usage-based Insurance as well as the changes in data privacy regulations were authored in partnership with Osborne Clarke.

### About Osborne Clarke

As one of Europe's leading technology law firms with a highly regarded automotive practice, we are well placed to advise clients at the cutting edge of automotive developments such as telematics.

Our in-depth industry experience means that we have a track record of helping businesses in the insurance telematics arena to resolve the key issues affecting them.

We have over 700 lawyers working across 15 offices in Belgium, France, Germany, Italy, Spain, Italy, the UK and North America. Our size and reach means we have the knowledge and resources to deliver - over the past three years we've acted for over 5,000 clients in 70 jurisdictions.

For further details, please contact any of our international experts:

Belgium  
Stefan Deswert  
T +32 2 515 9302  
stefan.deswert@osborneclarke.com

Germany  
Thomas Funke  
T +49 221 5108 4110  
thomas.funke@osborneclarke.com

Spain  
Rafael Garcia del Poyo  
T +34 91 576 44 76  
rafael.garciadelpoyo@osborneclarke.com

UK  
Simon Spooner  
T +44 117 917 4112  
simon.spooner@osborneclarke.com

France  
Claire Bouchenard  
T +33 1 55 37 36 36  
claire.bouchenard@osborneclarke.com

Italy  
Stefano Guerreschi  
T +39 030 2888 611  
stefano.guerreschi@osborneclarke.com

North America  
Steve Wilson  
T +1 650 462 4028  
steve.wilson@osborneclarke.com

UK  
Emily Jones  
T +44 117 917 3652  
emily.jones@osborneclarke.com



[www.osborneclarke.com](http://www.osborneclarke.com)

## OUR SINCERE THANKS

The richness of this report is largely based on the willingness of the "ecosystem" to co-operate and give its time and knowledge for the benefit of the wider society and economy.

We would like to particularly thank

- Our three guest interviewees;
- Everybody who kindly accepted to respond to our questions. A list of the companies we interviewed is available on page 27;
- Our families for their patience and understanding;
- All the 45 companies that responded to our survey of telematic solutions.

### Word Cloud



## FOREWORD

Our first report, published in June last year, was a resounding success. Thousands of insurers and other ecosystem players across the world read our [Insurance Telematics Study 2012](#).

Since then, PTOLEMUS has never been more active in this industry and we have been able to see the UBI industry transform rapidly. More than ever, we wish to make this study **the reference report on the subject**. This is reflected in its size, which has almost doubled, to nearly 800 pages!

In all markets, insurers are choosing to enter the era of Big Data in motor insurance, rather than rely on outdated underwriting practices.

This has led to a flurry of activity.

**In the last 18 months**, we have notably learnt that

- Progressive doubled its number of UBI customers to 1.4 million,
- There are now 7 insurers/brokers with more than 100,000 telematic customers (3 in the US and 4 in Europe),
- Insurers are launching telematics in new markets as different as Australia, Kenya, India and Belarus,
- The Canadian market has taken off thanks the launch of Desjardins' UBI programme,
- The European Commission has published the implementation acts of eCall, which mandate it across Europe from October 2015,
- The first smartphone-based policy, launched by Autoline in Northern Ireland, was a success, leading to claims reduction of more than 50%,
- Hughes Telematics was acquired by Verizon for \$612 million in cash and Octo Telematics is about to be sold,
- The Association of British Insurers published a good practice guide on how to sell telematic policies,
- The Test Achats ruling took effect, forbidding all European insurers to use gender as a rating factor,
- Numerous car makers including Ford, GM, PSA and Vauxhall have launched telematic programmes and
- Google launched a car insurance price comparator in several countries. In the UK, it already has 129 brokers registered in its system.

**In our view, all these changes required us to write a completely new report.**



In this study, we evaluate whether telematics will change the motor insurance market and **how profoundly it will impact it.**

We assess the present state of UBI globally and the challenges ahead.

We also identify and **propose solutions** to overcome them.

Last not but not least, we analyse the continuing evolution of the industry value chain and attempt to detect the winners and losers.

This report will provide **insights to insurers' management teams**, notably CEOs, CMOs, CIOs, Business Unit Directors and Directors in charge of risk management and claims management.

It will also interest assistance providers, automotive manufacturers, their tier-1 and tier-2 suppliers, telematics service providers (TSPs) and technology providers (TTPs), mobile network operators (MNOs), regulators and governments.

Our investigation also brings **responses to the following questions:**

- What do insurers have to gain from giving away discounts to their most valuable customers?
- Is UBI a model all automobile insurers must follow and what are its driving factors?
- What are the key challenges to expect when building a UBI programme and what actions must be taken by each party to face them?
- How to increase customer acceptance for usage-based insurance depending on segments and geographies?
- How to choose from the various technology solutions available and what are the criteria to compare them against each other?
- Which are the best suppliers for each type of solution and commercial target?
- How will the industry value chain evolve based on the actions of the principal agents?
- What is the business case for the mass introduction of PAYD/PHYD insurance?
- What is the expected market size for these products & services in the next 5 years?



To conduct what is the most comprehensive study ever written on insurance telematics, we have relied on

- Interviews with over 200 executives from all sides of the industry, from Allianz to Zurich,
- Nearly 5 years of primary research, notably a survey of available technology solutions,
- Building a motor insurer's business model for 6 markets, i.e. France, Germany, Italy, Russia, the UK and the US.
- Building a 10-year market model of all the primary and secondary markets by country and region so as to combine strategic and technology analysis with hard figures, and obviously,
- A review of applicable patents worldwide and the legal frameworks in key markets.
- Our consulting experience in the field of insurance telematics.

This report provides a **“one-stop-shop” analysis** of this complex emerging market across all regions of the globe. In our view, it is an **important read** for all insurers because:

- Numerous motor insurance market are facing structural losses due to heavy price competition and rising claim costs,
- Telematic insurance offerings have the potential to bring to underwriters a competitive advantage, notably a better pricing of risk,
- The eCall mandate and fast decreasing technology costs are paving the way for a mass-market launch,
- This analysis will help insurers learn from pioneers, overcome challenges, better understand how to place the value proposition and make informed decisions,
- An examination of the present business models and value chain is needed to prepare the market for the next phase of growth,
- It compares the leading telematic solutions available to insurers.

It has been a pleasure for us to conduct this study. We hope that you will enjoy reading it.

If your company plays a role in this business and has not been mentioned in our report, please let us know so that we can update it in the coming months.

Please send your comments to [insurance@ptolemus.com](mailto:insurance@ptolemus.com)

Thank you very much.

Sincerely,

Frederic Bruneteau  
Managing Director



## EXECUTIVE SUMMARY

### The globalisation of telematic insurance

1. Already common-place in Italy, the US and the UK, we estimate UBI will represent over **100 million policies** generating over **€50 billion in premiums** globally **by 2020** with market growth increasingly led by the US.
2. Telematic insurance is quickly **becoming a global phenomenon**. After Australia, Canada and India recently, a number of **new markets** will experience telematics in the coming months, notably in Latin America and Russia.
3. In most countries, **UBI will be used as a formidable recipe to break against established players and win profitable customers**. It will be used both by insurance start-ups and by larger, innovative companies. We also expect new players to seize the telematic opportunity as a way to enter the motor market.

### More ways to collect Big (driving) Data cost-efficiently

4. With the **growing dominance of the PHYD model**, insurers will increasingly need to answer the "*What is a safe driver?*" question with a more rigorous approach. The **quality, reliability and the completeness** of the dataset will be important, as will the analytical interpretation capability. **The defendability, ownership and transferability of policyholders' driving data** will also become increasingly relevant issues, which could lead to regulation in certain markets.
5. The **black box** will remain the leading technology overall and drive the **value added services market**, notably with bCall, eCall, stolen vehicle recovery, remote diagnostics, fuel management, electronic tolling, etc.
6. **OBD dongle solutions will remain dominant in the US and emerge in Europe in 2013-14**, notably in low premium markets. TSPs and insurers that ignore these will be at risk.
7. After **Autoline's successful experience**, the **smartphone will increasingly become a valid entry-level device to collect driving behaviour data**, notably in its hybrid implementation models. It will also be used as a **value added service provision-, customer relationship- and risk reduction-** (via driver feedback) **platform**.

### Market drivers and channels

8. Usage-based insurance has demonstrated its ability to **attract and retain the lowest risk drivers** of each segment. Premium **discounting will only represent one option**, new models focusing on driver benefits and claims management will also emerge.
9. Numerous automotive **OEMs will seize insurance partnership opportunities** to build or complement their connected services business, boosted by mandates such as eCall, ERA-Glonass, CONTRAN 245 and the US EOBR.
10. As seen in the US, **governments and regulators will gradually turn positive towards telematics**, notably to reduce traffic and CO<sub>2</sub> emissions.

## FOOD FOR THOUGHT

"We believe Snapshot is a **game changer** – representing the **future of auto insurance** as our mobile and interconnected world gives us the opportunity to offer immediate and substantial savings to our customers."



Glenn Renwick  
President & CEO, Progressive  
May 2011

"Adopting UBI [usage-based insurance] sooner rather than later will not **only attract better drivers** willing to participate, but will also allow carriers to build and maintain a database on numerous variables that influence loss costs."

Moody's Investor Service  
December 2011 **MOODY'S**

"Privacy is for old people"

Reid Hoffman  
CEO, LinkedIn  
January 2010



Steve Poizner  
California Insurance  
Commissioner  
December 2010

"The voluntary pay-as-you-drive initiative is an innovative program that will allow insurers to offer plans based on more accurate mileage, so that people who choose to drive less will pay less for auto insurance"

"The combination of technology and a sustained programme of working with drivers ... can help save lives on the roads, reduce costs and improve the working environment for drivers."



Robert Gremler  
Chief Risk Engineering Officer, Zurich  
November 2010

"Traditional car insurance relies on low mileage drivers subsidising high mileage drivers. If you don't drive a lot, you pay for the accidents of your high mileage neighbours. PAYD is a difficult innovation for existing insurance companies to follow because of this subsidy system."



Roger Grobler  
Chairman, Real Insurance  
September 2010

UK insurer  
October 2011

"I think in **5 years every major insurer will have a telematics offering in their portfolio.** I think PAYD / PHYD will still be a relatively niche product and insurers will target particular segments like young drivers."

"Everybody has a plan until they get punched in the face"

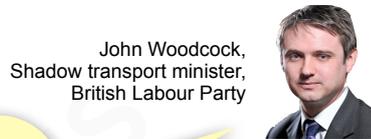
Mike Tyson,  
Professional boxer



"We have completely removed paper from the customer experience. Even the underwriting is done through electronic signature"



Michel Lungart  
CEO, Amaguiz  
December 2009



John Woodcock,  
Shadow transport minister,  
British Labour Party

"Labour would give insurance companies a year to put their house in order before considering forcing **every insurer to offer at least one black box product** to benefit safer drivers. That would benefit all responsible drivers - including women and younger people - who are being clobbered by sky-high premiums"

"Data is the new oil"



Clive Humby,  
Tesco,

"The decision of the European Court on equal treatment between men and women is creating a **big imbalance**. We must now price young male drivers the same way as young female drivers although their **accident risk is 4 times higher! Telematics is necessary, since it allows us to focus on other selection criteria than gender**"



Gérard Andreck,  
President, MACIF,  
July 2013



Warren Buffet  
Chairman & CEO,  
Berkshire Hathaway

"I am less likely to be involved in an accident than a 16-year old male because the younger man is trying to impress the girls"

"With standard insurance, the retention rate is about 50% and on the *Young Driver Insurance* program, this rate is about 70%"

Jacques Amselem,  
Allianz,  
August 2013



"Maybe there is some room for data aggregators but certain insurers such as **Allianz will want to go direct and establish direct relationships with OEMs**"



Caroline Currie,  
Autoline

Amy Kilmartin,  
Co-op insurance,  
June 2013



"There is a clear need for **standardisation of the datasets** in the UK"

Mike Brockman,  
CEO, Insure the box,  
July 2013



Chris Carver,  
Liberty Mutual,  
July 2013

"Between Insure the box and Wunelli, we have 300,000 customers and we have not had a single complaint about our handling of personal data. **Privacy is not a big issue at all**"

"Data costs are the straw that broke the camel's back"

Joel Laucher Deputy commissione,  
State of California Department Insurance  
June 2012

"The freedom to use rating factor is not the story in California"

"Privacy is not just a right...it's an emotion"



Simon Davies  
Privacy International  
January 2010

"At Wunelli, we have both PAYD & PHYD & claims data (both fault & non-fault) for over 15 000 devices now. **The data is absolute gold.** We can now calculate the probability of a future fault accident from only 1000 miles worth of data."



Paul Stacy  
IT & Innovation Director, Wunelli  
2011

"Our data shows that the vast majority of our customers are responding to our **'carrot' rather than 'stick' approach** and are improving their driving skills because they are rewarded for doing so.

Our scheme is only in its infancy, but it is clear that if telematics was taken up on a larger scale it could be a major step forward in improving the safety on Britain's roads."



David Neave, Director of General Insurance  
The Co-operative Insurance  
November 2011

French insurer  
February 2012

"This is clearly interesting but we will not be those that open and create the market"

"Customers will only buy a product they are attracted to. One of the things the insurance industry continues to get wrong is that it designs products for itself and not the customer. **Forget the actuarial stuff, what you need to do is design a product that customers want**, that fits on price comparison sites, and that you can compare with a conventional product."

"We consider our motor insurance as the must have accessory that customers don't want and hope never to use (...) No one knows better how to repair a Volkswagen group vehicle than the Volkswagen group approved paint and body shop network, therefore they are at the heart of our proposition. So when a customer does make a claim on our insurance we can guarantee that their vehicle will be returned to factory standards, **making our insurance the best accessory a customer will ever own or use.**"

Robert Cottrell  
Head of Insurance  
Volkswagen Financial Services (UK)

"PAYD saves money and is a more accurate and fairer method to price auto insurance (...) **PAYD pricing reduces inequities** by eliminating the subsidies low-mileage drivers currently pay for high-mileage drivers in the traditional pricing system."



Mike Brockman  
CEO, Insure the box  
April 2011



Joseph Ferreira, MIT Professor  
Eric Minikel, IBI Group  
November 2010

Andy Napoli  
President, Consumer Markets Division  
The Hartford  
December 2011



"The data is compelling. **This capability has really redefined the way we think about pricing auto.** Insurers that don't use telematics to price auto coverage will eventually attract poor drivers who were turned down for coverage by the insurers that do"

"**Someone who drives safe, can now prove it.** It's just like a credit rating, to carry your own driving score. We expect accidents to go down as drivers will **benefit financially from safe**



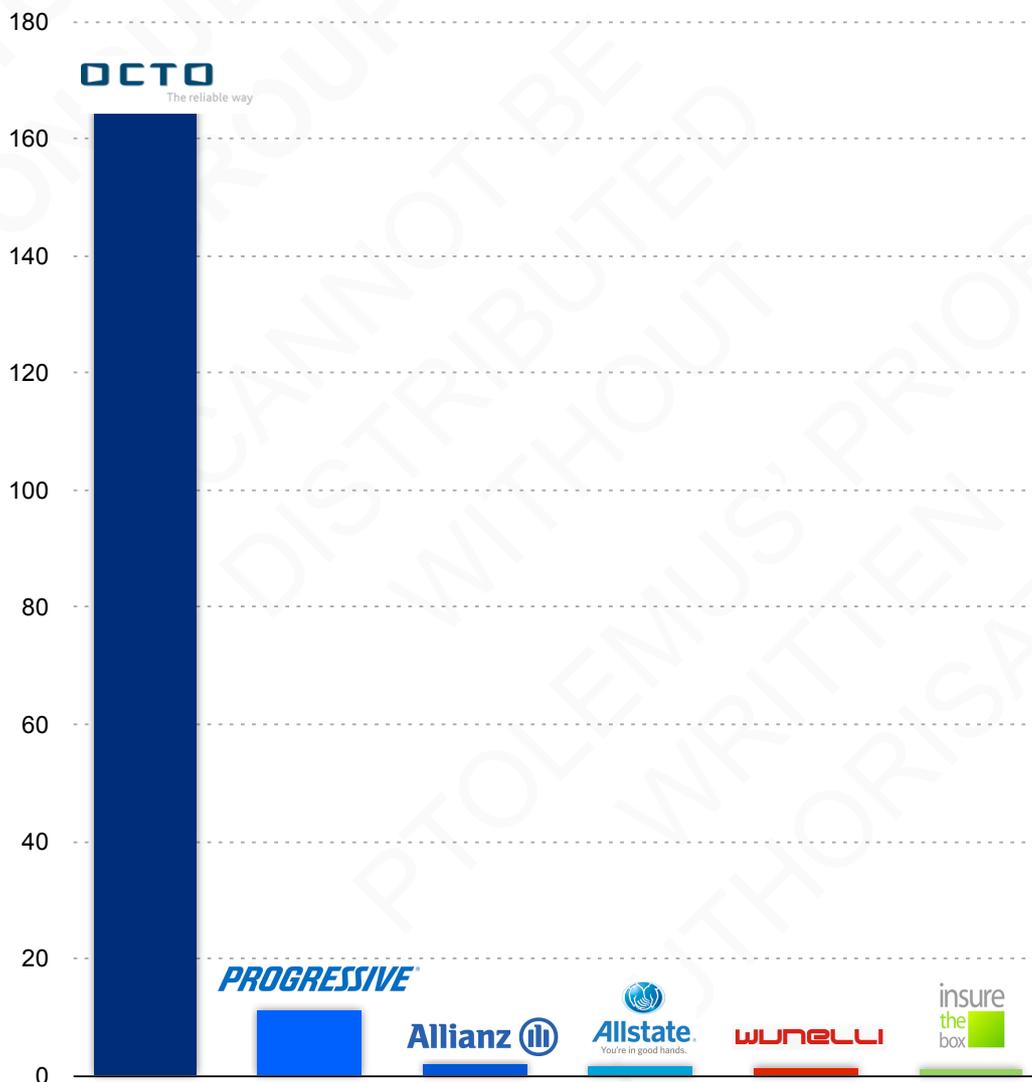
Yashish Dahiya  
CEO, Polciybazaar.com  
April 2013

## BIG (DRIVING) DATA

In our view, this chart sums up well why it is important for insurers to move early.

It also indicates that not all technologies and models lead to the same amount of data collected. Last but not least, it shows how certain start-ups have accumulated as much data as large insurance companies in a few years.

**Driving behaviour data recorded** (in billion kilometres)



Source: PTOLEMUS, Progressive Insurance, Octo Telematics, Allianz, Allstate, Wunelli, Insure the box, Insurance Daily, Real Insurance, Moody's, World Economic Forum, California Department of Insurance, News Assurances

## TABLE OF CONTENTS

<b>I. THE UBI MARKET FUNDAMENTALS</b>	<b>58</b>
<b>Introduction to insurance telematics</b>	<b>58</b>
What is insurance telematics?	58
UBI or insurance telematics?	59
<i>Self-reporting based policies</i>	61
<i>Telematics-based insurance</i>	63
SWOT analysis of the 3 main rating models	70
A European perspective on insurance telematics	73
The US market's appetite for telematics	76
Who is UBI for?	79
<i>The young market</i>	79
<i>The middle market</i>	80
<i>The senior driver segment</i>	81
<b>The motor insurance market predicaments</b>	<b>82</b>
A maturing business in the most advanced markets	82
Increasing churn	85
Rising claims costs	86
<i>Repair costs</i>	87
<i>Personal injury claims</i>	90
<i>Fraud</i>	92
Filing regulations	93
Limited investment income	97
The advent of online distribution	98
Sustainability of the mutualisation model	99
<b>II. WHY UBI SHOULD TAKE OFF... AND WHY IT HAS NOT YET</b>	<b>107</b>
<b>Analysing the drivers for UBI growth</b>	<b>107</b>
The benefits of telematics	107
Technological drivers	109
<i>More affordable black boxes</i>	110
<i>Richer OBD dongle solutions</i>	112
<i>Enticing hybrid opportunities</i>	118
<i>The changing role of smartphones</i>	121
<i>Reducing data costs</i>	130
<i>Less impact on the back-office</i>	132
Economic and market drivers	135
<i>Better risk management</i>	135
<i>Customer retention</i>	140
<i>Positive selection</i>	142
<i>Customers' improvement in driving behaviour</i>	144
<i>Telematics will come from competition</i>	145
Regulatory drivers	148
<i>The European eCall mandate (2004-2012)</i>	148
<i>The Viterbo judgment (2006) in Italy</i>	155
<i>The Test-Achats gender ruling (2011)</i>	156
<i>The Mario Monti legislation in Italy (2012)</i>	163
<i>Proposed changes to the European data protection landscape</i>	166
<b>Reasons why UBI has not taken off globally</b>	<b>168</b>
Challenges for insurers	168
<i>Privacy issues</i>	168
<i>Regulatory barriers</i>	169
<i>Intellectual property issues</i>	175
<i>Hurdles in implementation</i>	182

<i>Lack of a clear business case</i>	182
<i>Difficulty to convince indirect sales networks</i>	183
<i>A long deployment time</i>	184
<b>Challenges for consumers</b>	<b>185</b>
<i>Lack of sufficient and unbiased information</i>	185
<i>Privacy concerns</i>	188
<i>Potential conflict of interest</i>	189
<i>Financial uncertainty</i>	190
<b>What this means for the future</b>	<b>190</b>

**III.HOW TO CREATE A SUCCESSFUL USAGE BASED INSURANCE SERVICE 194**

**Learn from recent history 194**

<b>What do the pioneers teach us</b>	<b>194</b>
<i>2004-2008: Norwich Union</i>	194
<i>2008-2012: MAIF / MACIF</i>	198
<i>2007-2012: UNIQA</i>	200
<i>2004-2011: Progressive</i>	203
<i>Liberty Mutual</i>	206
<i>Ingenie</i>	208
<b>Learnings from Italy's telematic take-off</b>	<b>214</b>
<i>Unipol's model</i>	214
<i>Reasons for the Italian take-off</i>	216
<b>Synthesis of the learnings from the past</b>	<b>218</b>

**Reinvent the concept of motor insurer 222**

<b>Building a comprehensive customer value proposition</b>	<b>222</b>
<i>The rationale for value added services</i>	224
<i>How to chose the fundamental VAS services</i>	226
<i>Gamification and third party mobile services</i>	229
<b>Becoming an ISP (Insurance Service Provider)</b>	<b>231</b>
<b>Creating a positive customer experience</b>	<b>238</b>
<i>Follow best practices on relationship management in UBI</i>	238
<i>Create an original and balanced customer experience</i>	239
<b>Designing a privacy-enabled service</b>	<b>243</b>

**Build an attractive value proposition 245**

<b>Choosing the right distribution channels: the case for the aggregators</b>	<b>245</b>
<i>The aggregator model in the UK</i>	245
<b>Create a successful telematic product</b>	<b>253</b>
<i>Solve the black box installation issues</i>	253
<i>The OBD dongle installation</i>	255
<i>The evolution of the dongle and its usage</i>	256
<i>Build a smartphone solution</i>	259
<b>Raising the awareness and education of commercial channels</b>	<b>264</b>
<b>Building a customer-centric service</b>	<b>265</b>
<i>Model A: Selling insurance first</i>	265
<i>Model B: Selling the device first</i>	269
<b>Fastening the time-to-market</b>	<b>273</b>
<b>Building closer relationships with automobile manufacturers</b>	<b>275</b>
<b>Opportunities in the vehicle leasing and commercial segments</b>	<b>279</b>
<i>Usage-based Insurance in the leasing sector</i>	279
<i>Key benefits of UBI for the leasing and rental players</i>	281
<i>Building an effective commercial vehicle insurance telematics offering</i>	282

**How to make Big Data work for you 291**

<b>Extract value from data, truth and context</b>	<b>291</b>
<i>A better understanding of reality</i>	291
<i>A large amount of highly diverse data</i>	291
<i>Transforming raw data into meaningful information</i>	296

<i>Understanding accident data</i>	299
<b>The challenges of big data</b>	<b>300</b>
<i>Reducing data exchanges: the drivers</i>	300
<i>Building a privacy-enabled PHYD service</i>	300
<i>Making sense of temporarily available personal data</i>	302
<i>The security implications of insurance telematics</i>	305
<i>Comparison between the EU and US in terms of data protection</i>	310
<b>Data to the people</b>	<b>311</b>
<i>A sense of control</i>	311
<i>For a fleet, data goes wider than insurance</i>	312
<i>If the user owns the data, why isn't it portable?</i>	316
<b>Will data become a barrier to entry?</b>	<b>317</b>
<b>Exploit telematic insurance to lower your risks &amp; costs</b>	<b>320</b>
<b>The 3 miracles of telematics</b>	<b>320</b>
<i>The miracle of adverse selection</i>	320
<i>The miracle of self-selection</i>	322
<i>The miracle of measuring</i>	323
<b>The effect of telematics on claims</b>	<b>323</b>
<i>Claims managers are not yet using telematics data</i>	323
<i>How telematics reduces the cost of claims management</i>	324
<i>The end of Personal Injury (PI) referral fees?</i>	330
<i>Today's requirements from the claims departments</i>	334
<i>The US claims opportunity</i>	335
<b>The benefits of a driver-behaviour programme</b>	<b>342</b>
<i>In the consumer market</i>	342
<i>For commercial fleets</i>	349
<i>Transferring experience from the fleet world to the consumer market</i>	356
<b>Leveraging telematic data on the existing book</b>	<b>359</b>
<i>Improving standard customers' rating</i>	359
<i>Improving standard customers' pricing</i>	360
<b>Using telematics-based pricing to reduce risks</b>	<b>361</b>
<i>Capitalise on "loss aversion"</i>	361
<i>Incentivise behaviours that are the most likely to change</i>	361
<b>IV. BUILDING THE TECHNOLOGY SOLUTION</b>	<b>364</b>
<b>Defining your technology strategy</b>	<b>364</b>
<b>Selecting the technology</b>	<b>365</b>
<i>The On-Board Unit (or black box)</i>	365
<i>The wireless communication channel</i>	371
<b>Defining a purchasing strategy</b>	<b>372</b>
<i>Why a telematic solution needs to be carefully prepared</i>	372
<i>Ways to the supply market</i>	373
<i>The right organisation</i>	374
<b>The key selection criteria</b>	<b>375</b>
<b>The future integration of telematics into the IT system</b>	<b>378</b>
<i>The end of statistical risk</i>	378
<i>The implication for the insurer's IT system</i>	379
<b>Selecting your technology supplier(s)</b>	<b>380</b>
<b>The landscape of suppliers</b>	<b>380</b>
<b>Our evaluation of suppliers</b>	<b>386</b>
<i>The major players</i>	386
<i>Our ranking of suppliers</i>	389
<b>Solving the key supply issues?</b>	<b>396</b>
<b>How important is the hardware?</b>	<b>396</b>
<b>What is the winning hardware combination?</b>	<b>401</b>
<b>What are the new differentiating features?</b>	<b>403</b>

Will we head towards leasing models for telematic devices?	408
What are the specific supply issues for commercial insurers?	410

**V. STRATEGIC ANALYSIS OF THE ECOSYSTEM'S EVOLUTION 412**

**Overview of the UBI strategic landscape 412**

The insurance telematics value chain	412
The global telematics battlefield	414
<i>How big is the opportunity?</i>	414
<i>Which players are interested?</i>	416

**The Original Equipment Market 420**

OnStar showed the way	420
The growing interest of OEMs in insurance	426
The nascent involvement of OEMs in insurance telematics	428
<i>The embedded / purchase model</i>	428
<i>The vehicle importer model</i>	432
<i>The rewards</i>	433
The challenges	434
Competition issues	436
<i>A dominant position</i>	436
<i>A monopoly situation?</i>	437
TSPs on board?	440

**The aftermarket 442**

A changing value chain	442
Movements in the telematic industry	444
<i>A rapid industry transformation</i>	444
<i>TSP survival strategies</i>	446
<i>Impact on the supply to the insurance market</i>	447
<i>Impact on the demand for telematic services</i>	448
<i>Room for automobile clubs?</i>	449

**Embedded or installed? 451**

State Farm, the aftermarket against the OEM	452
Evolution of the European market	457

**VI. QUANTIFYING THE UBI MARKET POTENTIAL 460**

**Maturity analysis by region 460**

Attractiveness of European markets to telematics	460
Attractiveness of other markets to telematics	464
The changing face of insurance telematics	480

**The business case for mass implementation 487**

The typical business case for an insurer	487
<i>Gross premium earned</i>	488
<i>Claims costs</i>	489
<i>Operating expenses</i>	491
<i>Profitability</i>	492
Country operator business case studies	493
<i>Italy</i>	494
<i>France</i>	498
<i>Germany</i>	500
<i>The USA</i>	502
<i>Russia</i>	504

**Market forecast - Personal line 507**

Current market size	507
Expected growth	509
<i>Our methodology</i>	509

<i>Global predictions</i>	510
<i>Which markets will significantly take off?</i>	512
<i>Which technology and channel will dominate?</i>	518
Current market size	528
Expected growth	530
<i>Worldwide</i>	530
<i>North America</i>	532
<i>Europe</i>	536
<b>Revenues for insurers</b>	<b>541</b>
Worldwide	541
North America	542
Europe	544
<b>Revenues for Telematics Technology Providers</b>	<b>549</b>
<b>Revenues for mobile operators</b>	<b>552</b>
<b>VII.CONCLUSIONS AND RECOMMENDATIONS</b>	<b>557</b>
<b>Conclusion</b>	<b>557</b>
<b>Recommendations to insurers</b>	<b>561</b>
Finding the right value proposition for consumers	561
Multiple deployment strategies	567
Business model	568
Why is now a good time to start usage-based insurance?	570
<b>Recommendations to governments and regulators</b>	<b>571</b>
<b>Recommendations to telematic solution providers</b>	<b>573</b>
<b>Recommendation to automotive OEMs and suppliers</b>	<b>576</b>
<b>Recommendations to mobile operators</b>	<b>577</b>
<b>VIII.CREDITS</b>	<b>579</b>
<b>IX.UBI GLOBAL HANDBOOK 2013</b>	<b>580</b>
<b>Insurer profiles</b>	<b>580</b>
<b>TSP profiles</b>	<b>628</b>
<b>TTP Profiles</b>	<b>698</b>
<b>Countries profiles</b>	<b>757</b>
<b>X.GLOSSARY</b>	<b>798</b>

## LIST OF FIGURES

- Fig. 1.1: Telematics: the car connects to the Internet
- Fig. 1.2: Let us share the same definitions
- Fig. 1.3: Progressive's TripSense plan and the TripSensor data logger
- Fig. 1.4: Real Insurance were one of the first to launch verified mileage programmes
- Fig. 1.5: In Belgium, Corona Direct commits to up to 50% savings with its pay-per-mile plan
- Fig. 1.6: The driving risk star
- Fig. 1.7: Hollard Insurance - "Car insurance is like your new gym contract"
- Fig. 1.8: Hollard Insurance' & Tracker's proposed plans (in South African Rands)
- Fig. 1.9: Liberty Mutual OnBoard Advisor's dashboard
- Fig. 1.10: Liberty Mutual OnBoard Advisor's dashboard
- Fig. 1.11: Discovery's Vitality Drive - The better you drive, the higher your Driver Quotient , the greater your rewards
- Fig. 1.12: SWOT of classic rating & pricing methodologies (Rating based on statistic risk factors)
- Fig. 1.13: SWOT of self-reporting methodologies (Rating based on insured's reporting of mileage)
- Fig. 1.14: SWOT of telematics-based methodologies (Rating based on customer's own records)
- Fig. 1.15: The web portal for Insure the box' customers
- Fig. 1.16: 130 PAYD and PHYD insurance trials and launches
- Fig. 1.17: UBI launches & trials around the world and some of the companies involved
- Fig. 1.18: Insurance telematics trials and launches in the US
- Fig. 1.19: Web-based tool: Road Aware from State Farm
- Fig. 1.20: Average claims frequency & severity of Italian drivers, by age
- Fig. 1.21: Non life insurance growth is flat in the most advanced markets
- Fig. 1.22: The European motor insurance market has entered a stagnation phase
- Fig. 1.23: Gross premiums in key European markets are on the decline (amount in €m)
- Fig. 1.24: Share of Europeans who have tried to switch their provider in the last 2 years (%)
- Fig. 1.25: Rising motor claims expenditures in Europe (€ in millions)
- Fig. 1.26: Number of road accidents and injured in Europe (in thousands)
- Fig. 1.27: Price index of automotive spare parts & accessories (100 = 1998)
- Fig. 1.28: The increasing cost of repair in the US
- Fig. 1.29: Five insurers have partnered with Assercar in France
- Fig. 1.30: Direct Line's mobile application helps German customers find partner workshops
- Fig. 1.31: Motor injury claims have increased by 70% in just 5 years in the UK
- Fig. 1.32: Share of motor claims with personal injury by region in 2009 (in % of total claims)
- Fig. 1.33: Vehicle collision questionable claims by referral reason, 2009 and 2010
- Fig. 1.34: Filing UBI programmes in the US
- Fig. 1.35: UBI programme filing criteria vary depending on each states
- Fig. 1.36: Financial income no longer healthy for French insurers (Net financial income as % of net premium)
- Fig. 1.37: Growth of the online channel in the US
- Fig. 1.38: European motor insurance average combined ratio (in %)
- Fig. 1.39: PICC becoming profitable again in 2011
- Fig. 1.40: Intense competition is pushing down average premiums in the Netherlands (in €)
- Fig. 1.41: Own damage profitability has fallen sharply as competition has heated up in Europe
- Fig. 1.42: The American private passenger car insurance market is still growing Net premiums written (\$ billion)
- Fig. 2.1: Comparison between traditional motor insurance and telematics-based insurance
- Fig. 2.2: The stages towards mastering a PAYD/PHYD insurance product
- Fig. 2.3: Potential solutions to bring connectivity to the insured vehicle
- Fig. 2.4: The average cost of a PHYD-capable black box\* (in €)
- Fig. 2.5: Progressive's OBD dongle installation guide

- Fig. 2.6: The race is on to access OBD install databases for all vehicle globally
- Fig. 2.7: The average cost of a PHYD-capable OBD dongle\* (in €)
- Fig. 2.8: The case for the cigarette lighter plug (CLP) is not fully made yet
- Fig. 2.9: The OBD port of the BMW 5 series is such that only the smallest dongle will work
- Fig. 2.9: Five options of hybrid solutions and sensors used in the dongle or the phone
- Fig. 2.10: Increasing use of GPS in mobile phones in Europe (in million units)
- Fig. 2.15: Alpine's ICS-X8 App Link Station, launched at the Frankfurt Motor Show
- Fig. 2.20: The Skymeter device works both as a thin client and an aggregating client
- Fig. 2.21: A modular design can enable to cost effectively set-up operations
- Fig. 2.22: Octo Telematics' back-office architecture
- Fig. 2.23: Octo Telematics' set-up
- Fig. 2.24: Probability of a crash-related claim increases with mileage in a given risk class
- Fig. 2.26: Existing risk pricing models augmented by use of telematics-captured data
- Fig. 2.27: Estimated premium loss by rating factor in the US market (2010)
- Fig. 2.28: Progressive Snapshot improves customer retention and satisfaction
- Fig. 2.29: Italy combines a high car penetration with low average use
- Fig. 2.30: Insure the box' customer dashboard incentivises customers to drive safely
- Fig. 2.31: Young Marmalade's customer driving record and location-based analysis
- Fig. 2.32: Telematics-based insurance predicts risks better than previous actuarial models
- Fig. 2.33: How eCall works
- Fig. 2.34: Footprint of HeERO eCall pilots.
- Fig. 2.35: Installed base of telematic systems in Western Europe (in millions)
- Fig. 2.36: NXP's ATOP multi-service module can support insurance telematics applications
- Fig. 2.37: The Viterbo judgement (No. 2956/2006)
- Fig. 2.38: Road fatalities by gender in EU countries (November 2012)
- Fig. 2.39: Changes in motor insurance premiums following a ban on the use of gender
- Fig. 2.40: The impact of gender ruling on prices in the UK (£)
- Fig. 2.41: Gender-focused brokers such as Sheila's Wheels are adapting to the ruling
- Fig. 2.42: ABI's advocacy of age-based pricing
- Fig. 2.43: Average cost of claims per policy, claims frequency and average premiums for motor insurance by age in the UK, 2011
- Fig. 2.44: UBI prices risk on actual behaviour rather than historical behaviour
- Fig. 2.45: Monti law - New decree on the black box functionalities (25th January 2013)
- Fig. 2.46: In the UK, personal data protection is the second highest source of concern
- Fig. 2.48: Extract from the CNIL's judgment against MAAF Assurances in November 2005
- Fig. 2.49: Abstract from the Progressive patent 8,090,598
- Fig. 2.50: The Xirgo device used exclusively by Progressive is also available to Progressive's UBI licensees
- Fig. 2.51: USAA teen's programme does not link rating and pricing yet.
- Fig. 2.53: Vivium's S2 pack for young drivers in Belgium
- Fig. 2.54: From the seed to the fruit - Typical telematic timeline for an incumbent insurer
- Fig. 2.58: Potential risk to privacy posed by the various motor insurance models
- Fig. 3.1: Norwich Union (NU): how preparation and money can still lead to failure
- Fig. 3.2: Norwich Union's Pay As You Drive rate table
- Fig. 3.3: Positive outcomes of the programme
- Fig. 3.4: Reasons for Norwich Union's failure
- Fig. 3.5: MAIF and MACIF, the first safety-centric offering
- Fig. 3.6: Uniq SafeLine - Safety & security, linked to the insurance policy
- Fig. 3.7: Uniq SafeLine - The offer
- Fig. 3.8: Evolution of Progressive's OBD devices
- Fig. 3.9: Progressive, the PAYD pioneer
- Fig. 3.10: US states where the Snapshot programme is offered

- Fig. 3.11: Steve Jobs - Innovation goes through multiple steps
- Fig. 3.12: Liberty Mutual solution
- Fig. 3.13: Eagle Medical service estimates its insurance savings at \$20,000-\$30,000 this year
- Fig. 3.14: Ingenie's telematics solution
- Fig. 3.15: Ingenie's mobile app
- Fig. 3.16: Ingenie's driving feedback
- Fig. 3.17: MyFirstCar stories from Ingenie
- Fig. 3.18: Ingenie's partnership with RED, the largest driving school in the UK
- Fig. 3.19: Km Sicuri by Unipol
- Fig. 3.20: Details of Unipol's MTPL telematics-enabled Km Sicuri offers
- Fig. 3.21: Italy has one of the highest rates of motor vehicles thefts (Share of motor vehicles stolen per year in %)
- Fig. 3.22: Learnings for insurers
- Fig. 3.23: Learnings for TSPs
- Fig. 3.24: Telematics-enabled value added services depend on the retained technology solution
- Fig. 3.25: Ancillary revenues have provided predictable profits to Admiral (in £)
- Fig. 3.26: 3rd Party connected services: Who will really benefit
- Fig. 3.27: Motor insurers have a relatively limited customer relationship today
- Fig. 3.28: Motor insurers falling in the commoditisation triangle
- Fig. 3.29: A new, virtuous circle, ISP (Insurance Service Provider)
- Fig. 3.30: Current customer touch points of motor insurance
- Fig. 3.31: The customer experience redesigned by telematics
- Fig. 3.32: StateFarm's Driver Feedback application for iPhone users
- Fig. 3.33: Farmers Insurance' iClaim and iFarmers applications - For managing claims and account respectively
- Fig. 3.34: Carrot Insurance's quarterly cash rewards
- Fig. 3.35: Carrot's target market is the riskiest edge of the young driver's niche
- Fig. 3.36: Carrot's KPI's shows the relation between engagement and risk
- Fig. 3.37: MoneySupermarket mobile based trial provided personalised driving reports
- Fig. 3.39: The aggregator model is set to spread across the countries with high UBI attractiveness scores
- Fig. 3.40: As of August 2013, Google Compare is back as a sponsored result in the UK and France
- Fig. 3.41: Mobiliz accredited installation centres in Montréal
- Fig. 3.42: Drive Rent & Cobra cross-selling
- Fig. 3.43: Typical locations of OBD ports can be challenging places for a connected device
- Fig. 3.44: RAC Advance is an OBD dongle offer with many possible models
- Fig. 3.46: The Admiral/Avis smartphone application partners
- Fig. 3.47: Smart phone, smart insurance
- Fig. 3.48: Smartphone UBI offerings in Europe and North America
- Fig. 3.49: Insurethebox - A rapid success (Policies sold per day)
- Fig. 3.50: Factors that would increase interest in UBI programmes
- Fig. 3.51: Audiovox aims directly at the end user, targeting the insurers later
- Fig. 3.52: Mobile Devices' Munic.box is sold as a scan tool for the driver
- Fig. 3.53: The short way to telematics
- Fig. 3.54: Volvo On Call smartphone application
- Fig. 3.55: Toyota's PAYD implementation in the G-BOOK
- Fig. 3.56: Renault's Total Security programme including commercial insurance in Italy
- Fig. 3.57: LeasePlan and RAC's new offering includes precise mileage and behaviour rating
- Fig. 3.58: Value added services the leasing companies can provide
- Fig. 3.59: The compelling case of Telematics for Insurances: some fleets examples
- Fig. 3.60: The pioneers of commercial line UBI and their telematic partners
- Fig. 3.61: The data source and type's range for fleet risk rating is widening
- Fig. 3.62: Zurich Fleet Intelligence: a comprehensive approach

- Fig. 3.63: Scale house where trucks are stopped for inspection
- Fig. 3.64: The cost of claims iceberg
- Fig. 3.65: Reported rates of fatalities and serious injuries by road class in the UK (Rate per billion vehicle miles)
- Fig. 3.66: Relevance for insurance of data obtained from 3 possible sources
- Fig. 3.67: Indicators of road risk levels exist in most European countries (here, in Spain)
- Fig. 3.68: A typical insurance telematics dataset
- Fig. 3.69: Transforming copper into gold - From raw data to meaningful KPIs
- Fig. 3.70: Analysing a crash
- Fig. 3.71: Example of a privacy-designed data handling process
- Fig. 3.72: The effect of vehicle's hacking on an odometer
- Fig. 3.73: GSM cracking software is available free on the Internet
- Fig. 3.74: Nearly 15 points of vulnerability to cyber attacks
- Fig. 3.75: Co-operative Insurance's PHYD customer dashboard
- Fig 3.76: The benefits of telematics for ALD Automotive go wider than insurance
- Fig.3.77: Telematics can decrease a vehicle TCO by up to 25%
- Fig. 3.78: Probability of fault accident as predicted by Wunelli's Driving DNATM
- Fig. 3.79: Impact of PHYD on customers' premiums
- Fig. 3.80: Impact of PHYD on the insurer's claims
- Fig. 3.81: 17 ways telematics can reduce the cost of claims
- Fig. 3.83: Quindell's business process services workflow
- Fig. 3.84: The symbiotic RAC / Quindell model
- Fig. 3.85: Safeco's Rewind programme
- Fig. 3.86: Progressive recent campaign against rate suckers could be applied to fraudsters
- Fig. 3.87: Increase in no-fault claim severity in selected states (2004-2011)
- Fig. 3.88 Rate of organised group questionable claims from 2008 to 2012 (per 100K people)
- Fig. 3.89: Translating raw data into understandable indicators - Genertel's Quality Driver
- Fig. 3.90: FairPay Insurance - Speaking the truth to the driver on a real-time basis
- Fig. 3.91: Mobileye's forward collision warning system
- Fig. 3.92: Available driver risk reduction tools and implementations - Consumer market
- Fig. 3.93: Yet unexploited ways to reduce personal line customers' risks
- Fig. 3.94: Share of customers who obtained the top score (5) in each category (%)
- Fig. 3.95: Causation of truck accidents (in %)
- Fig. 3.96: Zurich's Virtual Risk Manager
- Fig. 3.97: Zurich promises up to 20% fewer collisions... and a 10% cut of operation costs
- Fig. 3.98: Zurich has recruited a diverse set of partners
- Fig. 3.99: Rentokil's Own Damage incident rate
- Fig. 3.100: The DriveCam device records both the front traffic and the driver
- Fig. 3.101: Greenroad's trial with Iron Mountain
- Fig. 3.102: Causation of truck accidents... analysed further
- Fig. 3.103: Young Marmalade's fleet-like dashboard
- Fig. 3.104: AT&T's campaign against texting while driving
- Fig. 3.105: The indirect leverage effect of telematics on the existing book of business
- Fig. 3.106: Creating a carrot scheme by selecting smart incentive criteria
- Fig. 3.107: Leveraging telematics to become an ISP (Insurance Service Provider)
- Fig. 4.1: Taxonomy of possible technology solutions
- Fig. 4.2: UBI models and their strategic priorities
- Fig. 4.3: What device for what model: Theft and security
- Fig. 4.4: Which device for which model: PAYD and PHYD
- Fig. 4.5: Which device for which model: Automatic FNOL and crash management
- Fig. 4.6: Our telematics system's buyer 96-factor checklist

- Fig. 4.7: Our list of 95 insurance telematics suppliers by type and geography
- Fig. 4.8: Number of pilots / launches by TTPs - Worldwide
- Fig. 4.9: Number of pilots / launches by TSPs - Worldwide
- Fig. 4.10: The few pioneers are now joined by a large number of challengers
- Fig. 4.11: Telematics Technology Suppliers' share of worldwide UBI equipped vehicles
- Fig. 4.12: Insurance Telematics Service Providers' share of worldwide UBI equipped vehicles
- Fig. 4.13: The OBD logger CarChip Pro, sold by Davis Instruments at \$99
- Fig. 4.14: Ingenie's Android driver feedback application
- Fig. 4.15: Our worldwide ranking of Telematics Technology Providers
- Fig. 4.16: The top TTPs by technology (consumer market)
- Fig. 4.17: The top TTPs by customer segment
- Fig. 4.18: Our worldwide ranking of Telematics Service Providers
- Fig. 4.19: The top TSPs by technology
- Fig. 4.20: The top TSPs by customer segment
- Fig. 4.21: Examples of designs for a black box and an OBD dongle
- Fig. 4.22: OBD readiness vs. black box (Black Box) readiness of an insurer's customer segments
- Fig. 4.23: Octo Telematics' accident details provided to insurers
- Fig. 4.25: Liberty Mutual's comprehensive fleet savings calculator
- Fig. 5.1: The 7 steps of the insurance telematics value chain
- Fig. 5.2: Typical players on the insurance telematics value chain
- Fig. 5.4: The German car market is small compared to its car services market (Euros in billions)
- Fig. 5.5: The battlefield for the connected vehicle
- Fig. 5.6: OnStar provides a broad range of services
- Fig. 5.7: OnStar provides a broad range of services
- Fig. 5.8: OnStar's FMV device for non-GM vehicles
- Fig. 5.9: OnStar's Remote Link application for iPhone and Android Users
- Fig. 5.10: How the carmakers stack up in the telematics race
- Fig. 5.11: The benefits of Ensurance according to Volkswagen
- Fig. 5.12: Peugeot & Go, the future of motor insurance?
- Fig. 5.13: Just Add Fuel, the only financing packaging to roll all your car costs
- Fig. 5.14: The model for StateFarm's Drive Safe and Save plan
- Fig. 5.15: Vauxhall partnership with Ingenie for young drivers insurance
- Fig. 5.16: Citroen C1 Connexion fitted with Teletrac's black box and Direct Line insurance
- Fig. 5.17: Future value chain in the OEM insurance telematics market
- Fig. 5.18: GM opening its OnStar platform to third-party developers
- Fig. 5.19: Extract from Euro VI regulation opening OBD information to third parties
- Fig. 5.20: Current value chain in the aftermarket insurance telematics market
- Fig. 5.21: Future value chain in the aftermarket insurance telematics market
- Fig. 5.22: Leading fleet management companies active in Europe (Number of vehicles worldwide)
- Fig. 5.23: US Bank's Voyager Fleet Card and a typical fuel consumption report
- Fig. 5.24: State Farm's In-Drive offering adds a new dimension to insurance telematics
- Fig. 5.25: New features brought by State Farm's In-Drive
- Fig. 5.26: New features brought by State Farm's In-Drive
- Fig. 5.27: State Farm and Hughes have set aggressive prices to take on competition
- Fig. 5.28: OnStar's FMV vs. StateFarm's In-Drive compared
- Fig. 5.29: OEM vs. Aftermarket - How it compares for insurers
- Fig. 6.1: European Insurance Telematics Readiness Index - ITRI (0: lowest - 5: highest)
- Fig. 6.2: Correlation between number of trials / launches and insurance telematics readiness
- Fig. 6.3: Number of insurance telematics trials / launches in major non-European countries
- Fig. 6.4: State Farm's Road Trips and Road Aware for teen drivers and their parents

- Fig. 6.5: Tag N Go, a TSP focused on learning drivers
- Fig. 6.6: Desjardins' Ajusto telematics offer
- Fig. 6.7: Number of road fatalities by road type in Japan
- Fig. 6.8: Aioi's PAYD service for the G-Book
- Fig. 6.9: Real Insurance PAYD offer in Australia
- Fig. 6.10: Number of vehicles (in millions) and road accident victims (in '000s) in Russia
- Fig. 6.11: Detailed timetable for ERA-Glonass implementation
- Fig. 6.12: Gateway Insurance's PAYD offer
- Fig. 6.13: Hollard Pay As You Drive
- Fig. 6.14: Policybazaar's portal and PHYD initiative reported by the Hindustan Times
- Fig. 6.15: Worldwide Insurance Telematics Readiness Index - ITRI
- Fig. 6.16: The pilot phase is mostly over for insurance telematics
- Fig. 6.17: A fourth of attempts led to the telematics programme being stopped (worldwide)
- Fig. 6.18: Number of insurance telematics trials / launches by segment (worldwide)
- Fig. 6.19: Number of insurance telematics trials / launches by type (worldwide)
- Fig. 6.20: PAYD is dead. Long live PHYD!
- Fig. 6.21: Geolocation - For most Americans, the balance is right
- Fig. 6.22: Over 40% of UK consumers ready to adopt telematics
- Fig. 6.23: For many UK consumers, monetary benefits come before privacy
- Fig. 6.24: Percentage of customers who benefit from usage-based insurance
- Fig. 6.25: Impact on claims losses of a switch to insurance telematics
- Fig. 6.26: "Borderline" or "acceptable" things to do for UK insurance customers
- Fig. 6.27: Fraud represents between 7% and 15% of all claims value
- Fig. 6.28: Average decrease in claims thanks to telematics - Young driver market
- Fig. 6.29: Customer lifetime cash flows for an Italian insurer (in Euros)
- Fig. 6.30: The Italian telematics customer NPV dissected (in Euros)
- Fig. 6.31: Customer lifetime cash flows for a British insurer (in British Pounds)
- Fig. 6.32: The NPV of a British telematic customer dissected (in British Pounds)
- Fig. 6.33: Customer lifetime cash flows for a French insurer (in Euros)
- Fig. 6.34: The NPV of a French telematic customer analysed (in Euros)
- Fig. 6.35: Customer lifetime cash flows for a German insurer (in Euros)
- Fig. 6.36: The German telematic customer NPV dissected (in Euros)
- Fig. 6.37: Customer lifetime cash flows for an American insurer (in Dollars)
- Fig. 6.38: The US telematics customer NPV dissected (in US dollars)
- Fig. 6.39: Customer lifetime cash flows for a Russian insurer (in Euros)
- Fig. 6.40: The Russian telematics customer NPV dissected (in Euros)
- Fig. 6.41: Europe still represents almost than half of worldwide telematics-enabled policies
- Fig. 6.42: Share of telematic policies worldwide (% of total market personal line policies)
- Fig. 6.43: Cumulative base of UBI policies worldwide - Personal line (in millions)
- Fig. 6.44: Mobiliz, PHYD insurance made simple
- Fig. 6.45: Share of telematic policies in North America (% of total market personal line policies)
- Fig. 6.46: Cumulative number of telematic policies in North America - Personal line (in millions)
- Fig. 6.47: Share of telematics-enabled policies (% of total market personal line policies)
- Fig. 6.48: Cumulative number of telematic policies - Personal line market (in millions)
- Fig. 6.49: Telematic gross premiums generated - Personal line market (Euros in millions)
- Fig. 6.50: Insurance telematics policies by channel worldwide - Personal line market (in millions)
- Fig. 6.51: Telematic insurance policies by channel in Europe - Personal line market (in millions)
- Fig. 6.52: Telematic policies by channel in North America - Personal line market (in millions)
- Fig. 6.53: UBI policies by technology in Europe (% of total market personal line policies)
- Fig. 6.54: UBI policies by technology in North America (% of total market personal line policies)

- Fig. 6.55: Share of UBI policies by technology worldwide (% of total market personal line policies)
- Fig. 6.56: Insurer's revenues from VAS - Worldwide personal line market (Euros in millions)
- Fig. 6.57: Insurer's revenues from VAS - European personal line market (Euros in millions)
- Fig. 6.58: Share of VAS as a % of insurance premiums (in %)
- Fig. 6.59: Number of telematic insurance programmes in the commercial segment by country
- Fig. 6.60: Share of telematic policies in total worldwide commercial policies (in %)
- Fig. 6.61: UBI policies by channel - Worldwide commercial line market (in millions)
- Fig. 6.62: Breakdown of telematic policies by technology - Worldwide commercial market (in %)
- Fig. 6.63: TSPs selected by American commercial insurers
- Fig. 6.64: Share of telematic policies by technology - North American commercial market (in %)
- Fig. 6.65: Share of telematic policies in total North American commercial policies (in %)
- Fig. 6.66: Telematic policies by channel - North American commercial line market (in millions)
- Fig. 6.67: Long-term evolution of retail fuel prices in Europe and North America (in Euros)
- Fig. 6.68: Share of telematics-enabled policies in total commercial policies (in %)
- Fig. 6.69: Breakdown of telematics policies by technology - European commercial market (in %)
- Fig. 6.70: Telematic policies by channel - European commercial line market (in millions)
- Fig. 6.71: Cumulative base of telematics-enabled policies worldwide (in millions)
- Fig. 6.72: Worldwide motor insurance premiums generated from telematics (Euros in millions)
- Fig. 6.73: Cumulative base of telematic policies in the US (in millions)
- Fig. 6.74: North American motor insurance premiums generated from insurance telematics (Dollars in millions)
- Fig. 6.75: Cumulative base of telematics-enabled policies in Europe (in millions)
- Fig. 6.76: European motor insurance premiums generated from telematics (Euros in millions)
- Fig. 6.77: Total TSP revenues from insurance telematics worldwide (Euros in millions)
- Fig. 6.78: Revenues for TSPs by channel in Europe (Euros in millions)
- Fig. 6.79: Revenues for TSPs by channel in the North America (Dollars in millions)
- Fig. 6.80: Total TTP revenues from insurance telematics worldwide (Euros in millions)
- Fig. 6.81: TTP revenues breakdown from insurance telematics in Europe (Euros in millions)
- Fig. 6.82: TTP revenues breakdown from UBI in North America (Dollars in millions)
- Fig. 6.83: Total mobile operator revenues from insurance telematics worldwide (Euros in millions)
- Fig. 6.84: Total mobile operator revenues from insurance telematics in Europe (Euros in millions)
- Fig. 6.85: Wireless carrier revenues from UBI in North America (Dollars in millions)
- Fig. 6.86: Dodge Viper's connected infotainment system
- Fig. 7.1: CO2 emissions per capita (Metric tons / capita)
- Fig. 7.3: Unipol, the pioneer of UBI in Europe
- Fig. 7.4: Allie, the smart online assistance proposition from Allianz
- Fig. 7.5: Show me the box - Intesa SanPaolo's ViaggiaConMe
- Fig. 7.6: Autoline's phone app for car insurance
- Fig. 7.7: Insure the box, the online success of UBI

## LIST OF COMPANIES INTERVIEWED AND MENTIONED IN THIS REPORT

As part of our research, we have held discussions with 201 organisations in 18 countries including

- 81 insurers and brokers,
- 44 Telematics Service Providers (TSPs),
- 21 Telematics Technology Providers (TTPs),
- 19 automotive Original Equipment Manufacturers (OEMs) and tier-1 suppliers,
- 8 mobile operators,
- 8 data management companies,
- 5 financial investors.

We would like to **thank these organisations** for their precious contribution to this report. They are listed hereafter and will benefit from a discount on the [UBI Global Study](#).

We have also indicated the **362 companies mentioned** in this report.

Company name	Country	Sector	Discussion	Mentioned
AA	UK	Automobile club		✓
AAA Club Partners	USA	Automobile club	✓	✓
Accutek Ind.	USA	ODM		✓
Achmea	Netherlands	General insurance	✓	✓
ACI	Italy	Automobile club		✓
ACTA	France	Roadside assistance provider		✓
ACT Concepts	France	Telematic Service Provider		✓
Assercar	France	Repair centres		✓
ADAC	Germany	Automobile club	✓	✓
Admiral France - L'Olivier Assurances	France	Motor insurance	✓	
Admiral Insurance	UK	General insurance	✓	✓
Ageas Continental Europe	Global	General insurance	✓	✓
Agero	USA	Automobile club / TSP	✓	✓
Agnik	USA	Data management	✓	✓
AIG	UK	General insurance	✓	✓
AI Insurance	UK	General insurance	✓	✓

Company name	Country	Sector	Discussion	Mentioned
<b>Aioi Nissay Dowa Insurance Europe</b>	UK	General insurance	✓	
<b>Aioi Nissay Dowa Insurance</b>	Japan	General insurance	✓	✓
<b>Airmax Group</b>	UK	TSP	✓	✓
<b>Aisin AW Europe</b>	Belgium	Tier-1 supplier		✓
<b>Alcatel-Lucent</b>	France	Telecom equipment vendor		✓
<b>ALD Automotive</b>	France	Leasing company	✓	✓
<b>Allianz</b>	France	General insurance	✓	✓
<b>Allianz</b>	Germany	General insurance	✓	✓
<b>Allianz</b>	Italy	General insurance	✓	✓
<b>Allianz</b>	Switzerland	General insurance	✓	
<b>Allianz</b>	UK	General insurance		✓
<b>Allstate Insurance</b>	USA	General insurance	✓	✓
<b>Alo@Assurances</b>	France	Consumer insurance		✓
<b>Alpine</b>	Japan	In-car audio equipment		✓
<b>Altea</b>	Italy	TSP		✓
<b>Altech Netstar</b>	South Africa	TSP		✓
<b>Altima Assurances</b>	France	General insurance	✓	✓
<b>Amadeus Capital Partners</b>	UK	Private equity fund	✓	✓
<b>Amaguiz (Groupama)</b>	France	Consumer insurance	✓	✓
<b>American Family</b>	USA	General insurance	✓	✓
<b>ANIA</b>	Italy	Insurance trade association		✓
<b>ANWB</b>	Netherlands	Automobile club		✓
<b>AnyDATA Corporation</b>	USA	TTP	✓	✓
<b>Aplicom</b>	Finland	TSP/TTP	✓	✓
<b>Apple</b>	USA	Consumer electronics vendor		✓
<b>ARM Holdings</b>	UK	Processor design vendor		✓
<b>Arval</b>	France	Leasing company	✓	
<b>ASFA</b>	France	Insurance trade association		✓
<b>Assicurazioni Navale</b>	Italy	General insurance		✓
<b>Association of British Insurers</b>	UK	General insurance	✓	✓
<b>Assurland.com</b>	France	Online comparison site		✓
<b>Atmel</b>	USA	Semi-conductors vendor		✓
<b>Atos</b>	France	IT integrator	✓	✓
<b>ATrack Technology</b>	Taiwan	TTP	✓	✓
<b>Audi</b>	Germany	Automotive OEM		✓

Company name	Country	Sector	Discussion	Mentioned
Audiovox	USA	TTP	✓	✓
AutoDirect Insurance	UK	Consumer insurance		✓
Autoline	UK	Broker	✓	✓
Autosaint (Fresh! Insurance Group)	UK	Broker	✓	✓
Aviva (formerly Norwich Union)	UK	General insurance	✓	✓
Axa Assistance	France	Roadside assistance provider	✓	
Axa Belgium	Belgium	General insurance	✓	✓
Axa Global P&C	France	General insurance	✓	✓
Axa Matrix Risk Consultants	France	Commercial insurance	✓	✓
Axa Re	France	Reinsurance	✓	
Axa UK	UK	General insurance	✓	✓
Barnes & Noble	USA	Book distribution chain		✓
Baseline telematics	Canada	TSP	✓	✓
B&Q	UK	Restaurant chain		✓
BDI (Bundes-beauftragte für den Datenschutz und die Informationsfreiheit)	Germany	Data protection authority		✓
Best Buy	USA	Electronics retail chain		✓
BGL Group Ltd	UK	General insurance	✓	
Bird & Bird	France	Law firm	✓	
BlaBlaCar	UK	Car sharing firm	✓	
Blockbuster	USA	Video rental chain		✓
BluO Fund	Luxembourg	Private equity fund	✓	✓
BMW	Germany	Automotive OEM	✓	✓
BNP Paribas Cardif	Chile	General insurance	✓	
BNP Paribas Cardif	France	General insurance	✓	
Bouygues Telecom	France	Mobile operator	✓	✓
British Airways	South Africa	Airlines		✓
BT Software & Research	USA	Telecommunications operator		✓
Budget Insurance	UK	Personal line insurance		✓
Bull	France	IT integrator		✓
Cambridge Mobile Telematics, Inc.	USA	TTP	✓	
Cap Gemini	France	IT integrator		✓
Carrot Insurance	UK	General insurance	✓	✓
CDL	UK	Software provider	✓	
Cellocator (Pointer Telocation)	Israel	TTP / TSP	✓	✓

Company name	Country	Sector	Discussion	Mentioned
<b>GEN (European Committee for Standardisation)</b>	Belgium	Standardisation organisation		✓
<b>CertEurope</b>	France	Trusted third party services		✓
<b>Cesar Satellite</b>	Russia	TSP	✓	✓
<b>Cinterion</b>	Germany	Connectivity module provider		✓
<b>Cinven</b>	UK	Private equity firm	✓	
<b>CLAL Insurance</b>	Israel	General insurance		✓
<b>Clarion</b>	Japan	In-car audio equipment		✓
<b>CMA Claims</b>	UK	Claims adjuster	✓	
<b>CNIL (Commission Nationale de l'Information et des Libertés)</b>	France	Data protection authority	✓	✓
<b>Cobra Automotive Tech.</b>	Italy	TSP / TTP	✓	✓
<b>Cognizant</b>	USA	Enterprise resource software	✓	✓
<b>Compagnie Générale d'Automatisme (CGA HBS)</b>	France	Engineering firm		✓
<b>Comparethemarket.com</b>	UK	Online comparison site		✓
<b>Confused.com</b>	UK	Online comparison site	✓	✓
<b>Continental</b>	France	Tier-1 supplier	✓	✓
<b>Co-operative Insurance</b>	UK	General insurance	✓	✓
<b>Corona Direct</b>	Belgium	Broker	✓	✓
<b>Corporate Vehicle Observatory</b>	France	Research institution	✓	
<b>Covea Group</b>	France	General insurance	✓	✓
<b>Coverbox</b>	UK	Consumer insurance	✓	✓
<b>Coverhound</b>	USA	General insurance	✓	
<b>Crédit Mutuel Arkea</b>	France	Consumer insurance	✓	
<b>cTrack (Digicore)</b>	South Africa	TSP	✓	✓
<b>Cybit Masternaut</b>	UK	TSP	✓	✓
<b>Daimler Fleetboard</b>	Germany	TSP		✓
<b>Daimler Insurance Services</b>	Germany	OEM	✓	✓
<b>Danlaw</b>	USA	TTP	✓	✓
<b>Data Tec Co Ltd</b>	Japan	ODM		✓
<b>Davis Instruments</b>	USA	TTP	✓	✓
<b>DBV Winterthur</b>	Germany	General insurance		✓
<b>Delphi</b>	USA	Tier-1 supplier		✓
<b>Denso</b>	Germany	Tier-1 supplier	✓	✓
<b>Department of Transportation</b>	USA	Government		✓
<b>Detector</b>	Spain	TSP	✓	✓
<b>Deutsche Telekom</b>	Germany	Mobile operator	✓	✓

Company name	Country	Sector	Discussion	Mentioned
Diamonds	UK	Insurance broker		✓
Direct Line Germany	Germany	Consumer insurance		✓
Disruptive Capital Partners	UK	Private equity firm	✓	✓
Discovery Insure	South Africa	Consumer insurance	✓	✓
Diva	UK	Insurance broker		✓
Dixon's	UK	Consumer electronics retail chain		✓
Drive Service	Italy	Repair & maintenance services	✓	✓
DriveCam	USA	TTP	✓	✓
DriveFactor	USA	General insurance	✓	✓
Drive Power	USA	Data management provider		✓
DriveProfiler	Global	Telematics solution provider	✓	✓
Earnix	USA	Data management provider	✓	✓
Elmic Systems	USA	Embedded software		✓
Equity Red Star	UK	General insurance	✓	✓
ERTICO - ITS Europe	Belgium	Trade association	✓	
Euromaster	France	Installation network	✓	
European Data Protection Supervisor (EDPS)	Belgium	Data protection authority	✓	✓
Europcar	South Africa	Vehicle rental		✓
European Commission	Belgium	Government	✓	✓
European Court of Justice	Belgium	Government		✓
Exigen	USA	Insurance software provider		✓
F&I	USA	Magazine		✓
Farmers Insurance	USA	General insurance	✓	✓
Faurecia	France	Automotive supplier	✓	
Fédération Internationale de l'Automobile (FIA)	Belgium	Trade association	✓	
Fiat	Italy	Automotive OEM		✓
Financial Times	UK	Newspaper		✓
Fleet Logistics	UK	TSP		✓
Fleetmatics / Sagequest	USA	TSP		✓
FMG	UK	TSP	✓	✓
FMSCA (Federal Motor Carrier Safety Administration)	USA	Government		✓
Focus	Germany	Magazine		✓
Foley & Lardner	USA	Law firm		✓
Ford	USA	Automotive OEM		✓
Fujitsu Ten	Japan	Automotive supplier		✓

Company name	Country	Sector	Discussion	Mentioned
Garmin	USA	Electronics		✓
GE Equipment Services	USA	Fleet management company		✓
General Motors	USA	Automotive OEM		✓
Generali France	France	General insurance	✓	✓
Generali Group	Italy	General insurance	✓	✓
Generali Group	Italy	General insurance	✓	✓
Genertel (Generali Group)	Italy	Consumer insurance	✓	✓
Geotab	USA	TSP	✓	✓
GiriMotor	UK	Insurance broker		✓
GMAC Insurance	USA	Consumer insurance		✓
gocompare.com	UK	Financial services comparison website	✓	✓
Good Technology	USA	Mobile handset vendor		✓
Google	USA	Search engine		✓
Greenroad Technologies	USA	TSP	✓	✓
Groupama	UK	General insurance	✓	✓
Grupo Nacional Provincial	Mexico	General insurance		✓
Harman	USA	Tier-1 supplier		✓
Hastings Direct	UK	General insurance	✓	✓
HDI-Gerling Industrial Insurance Co	Global	General insurance	✓	
High Point Auto Insurance	USA	Personal line insurance		✓
Himex	USA	TSP	✓	✓
Hitachi	Japan	Conglomerate		✓
Hollard Insurance	South Africa	General insurance	✓	✓
Honda	Japan	Automotive OEM		✓
HopeRun Technology	USA	Software development	✓	
HUK-Coburg	Germany	General insurance		✓
Hyundai	South Korea	Automotive OEM		✓
Hyundai Mobis	South Korea	Tier-1 supplier		✓
IBI Group	USA	Studies		✓
IBM	USA	IT integrator		✓
ID Macif	France	Consumer insurance		✓
IDM Trucking	USA	Transportation		✓
iGate	UK	Software development	✓	
iGo4	UK	General insurance	✓	
iKube	UK	Consumer insurance		✓

Company name	Country	Sector	Discussion	Mentioned
IMA	France	Roadside assistance provider	✓	✓
iMetrik Global	USA	TTP	✓	✓
IMS	Canada	TSP	✓	✓
Industrial Alliance, Insurance and Financial Services Inc.	Canada	General insurance	✓	✓
Information Commissioner's Office	UK	Data protection authority		✓
ING	Netherlands	Consumer insurance	✓	
Ingenie	UK	Broker	✓	✓
Innosurance	Australia	Commercial insurance		✓
Insurance Europe	Belgium	Insurance trade association		✓
Insure the box	UK	Consumer insurance	✓	✓
Intellimec IMS	Canada	TSP	✓	✓
Interactive Driving Systems	USA	Risk management solutions		✓
International Road Union	Switzerland	Trade association		✓
Intesa San Paolo Assicuri	Italy	General insurance		✓
Iron Mountain	UK	Storage services		✓
ISACA (Information Systems Audit & Control Association)	Worldwide	Trade association		✓
Iveco	Italy	Automotive OEM		✓
IVOX	USA	Risk management solutions	✓	✓
Ixonos	Finland	Software developer		✓
Jambit	Germany	IT integrator		✓
KDDI	Japan	Mobile operator		✓
Kia Motors	South Korea	Automotive OEM		✓
KKR	UK	Private equity fund	✓	
KPN	Netherlands	Mobile operator	✓	✓
Kuantic	France	TTP		✓
Ladybird	UK	Insurance broker		✓
Leaseplan	UK	Leasing company	✓	✓
Lexis-Nexis	USA	Enterprise resource software		✓
LG Electronics	South Korea	Consumer electronics vendor		✓
Liberty Mutual	USA	General insurance	✓	✓
LinkedIn	USA	Social networking		✓
LocX	USA	TSP	✓	✓
Lysanda	UK	TTP/TSP	✓	✓
MAAF Assurances	France	General insurance		✓
MACIF Assurances	France	General insurance	✓	✓

Company name	Country	Sector	Discussion	Mentioned
<b>Magneti Marelli</b>	France	Tier-1 supplier	✓	✓
<b>Magneti Marelli</b>	USA	Tier-1 supplier	✓	✓
<b>MAIF Assurances</b>	France	General insurance	✓	✓
<b>Mapfre</b>	Spain	General insurance	✓	✓
<b>Markerstudy Group</b>	UK	Consumer insurance	✓	✓
<b>Market IP</b>	Belgium	Software developer	✓	
<b>Marks &amp; Spencer</b>	UK	Retail		✓
<b>Marmalade Group</b>	UK	General insurance	✓	✓
<b>Masternaut</b>	France	TSP	✓	✓
<b>Masternaut</b>	UK	TSP	✓	✓
<b>Matmut Assurances</b>	France	General insurance		✓
<b>Mercedes Benz</b>	Germany	Automotive OEM		✓
<b>Meta System</b>	Italy	TTP	✓	✓
<b>Metaskil</b>	UK	Software developer	✓	✓
<b>Michelin</b>	France	Tyre manufacturer	✓	
<b>MileMeter</b>	USA	Consumer insurance		✓
<b>Mitsubishi Electric</b>	Japan	Conglomerate		✓
<b>Mix Telematics</b>	South Africa	TSP	✓	✓
<b>Mobile Devices</b>	France	TTP	✓	✓
<b>Mobileye</b>	Israel	TTP		✓
<b>Modus</b>	USA	TSP	✓	✓
<b>Money Super Market</b>	UK	Financial services comparison website	✓	✓
<b>Montezemolo &amp; Partners</b>	Italy	Private equity fund	✓	✓
<b>Moody's</b>	USA	Rating agency		✓
<b>MORE TH&gt;N</b>	UK	Consumer insurance		✓
<b>Motaquote</b>	UK	Consumer insurance		✓
<b>Motorola Mobility</b>	USA	Mobile phone vendor		✓
<b>Movelo</b>	Sweden	TTP, TSP	✓	✓
<b>MyDrive Solutions</b>	UK	TTP, TSP, Data management	✓	✓
<b>Nationwide Insurance</b>	USA	General insurance		✓
<b>Navteq / HERE</b>	France	Map provider	✓	✓
<b>ND a Islandi Ehf</b>	Island	n.a.		✓
<b>News of the World</b>	UK	Newspaper		✓
<b>NIS Glonass</b>	Russia	Public-private partnership		✓
<b>Nissan</b>	USA	Automotive OEM	✓	✓

Company name	Country	Sector	Discussion	Mentioned
Nokia	Finland	Mobile phone vendor		✓
Nononsense Insurance	Ireland	General insurance	✓	✓
Norton Rose	UK	Law firm	✓	
Norwegian Biotronics	Norway	n.a.		✓
Novacom Europe	Netherlands	TSP		✓
NTT DoCoMo	Japan	Mobile operator	✓	✓
NXP	Netherlands	Chipset vendor	✓	✓
ÖAMTC	Austria	Automobile club		✓
OBD Experts	UK	Software developer	✓	✓
Octo Telematics	Italy	TSP	✓	✓
OECD	France	International organisation	✓	✓
Omnitracs Europe	Netherlands	TSP	✓	✓
Oracle	USA	Enterprise resource planning software		✓
Orange	UK	Mobile operator		✓
Orange Business Services	France	Integrator / TSP	✓	✓
Orion Technology	Taiwan	TTP	✓	✓
ÖSA (Öffentlichen Versicherungen Sachsen-Anhalt)	Germany	General insurance	✓	✓
Osborne Clarke	Global	Law firm	✓	✓
Pacifica Assurances	France	General insurance		✓
Panasonic	Japan	In-car electronics		✓
PayGo Systems	Israel	TTP / TSP	✓	✓
Perr&Knight	USA	Actuarial consulting firm	✓	✓
PHS Datashred	UK	Business services		✓
Pioneer	Japan	In-car electronics		✓
Plymouth Rock	USA	General insurance	✓	✓
Polis Direct	Netherlands	Consumer insurance		✓
Privacy International	UK	Non-governmental organisation		✓
Progressive Insurance	USA	Consumer insurance	✓	✓
PSA Peugeot Citroën	France	Automotive OEM	✓	✓
Punch Telematix	Belgium	TSP		✓
QNX	Canada	Embedded software		✓
Quality Planning	USA	Insurance services		✓
Quanta	Brazil	TTP	✓	
Quindell Portfolio	Global	TSP	✓	✓
RAC	UK	Automobile club	✓	✓

Company name	Country	Sector	Discussion	Mentioned
RACE	Spain	Automobile club		✓
RBS Insurance	UK	General insurance		✓
Real Insurance	Australia	Consumer insurance		✓
Reala Mutua	Italy	General insurance		✓
RealVNC	UK	Embedded software		✓
Redburn	UK	Brokerage firm	✓	
Redtail Plextek	UK	TSP	✓	✓
RelayRides	USA	Car sharing provider		✓
Renault	France	Automotive OEM	✓	✓
Renault Trucks	France	Automotive OEM		✓
Renesas	USA	Semiconductors		✓
Robert Bosch	Germany	Tier-1 supplier		✓
Rosno (Allianz Group)	Russia	General insurance		✓
Royal & Sun Alliance	UK	General insurance		✓
Royal Exchange	Nigeria	General insurance	✓	
RS Fleet Installations	UK	Installation network	✓	✓
RX Networks	Canada	Positioning solution provider	✓	
Safeco	USA	General insurance	✓	✓
SageQuest	USA	TSP		✓
Samsung	South Korea	Consumer electronics vendor		✓
Sanford Bernstein	USA	Asset management	✓	
SAP AG	Germany	Enterprise resource software	✓	✓
Sara	Italy	General insurance		✓
SAS Institute	USA	Enterprise resource software	✓	✓
Scania	Sweden	Automotive OEM	✓	✓
Scope Technologies	Singapore	TSP/TTP	✓	✓
Second Opinion Financial Systems	USA	Software developer		✓
Seesam	Latvia	General insurance		✓
Sensomatix	Israel	Data management	✓	✓
SFEREN	France	General insurance		✓
Sheila's Wheels	UK	Insurance broker		✓
Sierra Wireless	Canada	Connectivity module provider		✓
SIRF (CSR Group)	UK	Chipset vendor		✓
Skymeter	Canada	TTP	✓	✓
SmartDrive	USA	TTP		✓

Company name	Country	Sector	Discussion	Mentioned
<b>Société Générale</b>	France	Bank		✓
<b>Sogessur</b>	France	General insurance		✓
<b>Solly Azar (Verspieren Group)</b>	France	Insurance broker	✓	✓
<b>Sony</b>	Japan	Consumer electronics vendor		✓
<b>Sony Ericsson</b>	Japan	Mobile phone vendor		✓
<b>Sompo Research Institute</b>	Japan	General insurance	✓	✓
<b>Sprint Nextel</b>	USA	Mobile operator	✓	✓
<b>SSP</b>	USA	Data management	✓	✓
<b>Standard &amp; Poor's</b>	France	Rating agency	✓	✓
<b>State Farm Insurance</b>	USA	General insurance	✓	✓
<b>Stellar International</b>	Ireland	n.a.		✓
<b>Stok Nederland</b>	Netherlands	TSP	✓	
<b>T-Matic</b>	Poland	TSP	✓	✓
<b>T-Mobile</b>	Germany	Mobile operator		✓
<b>Tag N Go</b>	USA	TSP	✓	✓
<b>Tapiola</b>	Finland	General insurance	✓	✓
<b>TCS</b>	Switzerland	Automobile club		✓
<b>Telefonica digital</b>	Spain	Mobile operator	✓	✓
<b>Telefonica UK</b>	UK	Mobile operator	✓	✓
<b>Telekom Austria Group</b>	Austria	Mobile operator	✓	
<b>Telenav</b>	USA	Navigation / MRM provider		✓
<b>Telenor Connexion</b>	UK	TSP	✓	
<b>Teletrac</b>	USA	TSP		✓
<b>Telit</b>	Italy	Connectivity module provider	✓	✓
<b>Telogis</b>	USA	TSP	✓	✓
<b>Teradata Aster</b>	USA	Data management systems	✓	
<b>Test-Achats</b>	Belgium	Consumer rights organisation		✓
<b>Texa</b>	Italy	TTP	✓	✓
<b>Thatcham</b>	UK	Certification company		✓
<b>The AA</b>	UK	Automobile club	✓	✓
<b>The Carphone Warehouse</b>	UK	Telecommunications retail		✓
<b>The Co-operative Insurance</b>	UK	General insurance	✓	✓
<b>The Floop</b>	UK	TSP	✓	✓
<b>The Hartford</b>	USA	General insurance	✓	✓
<b>The Sun</b>	UK	Newspaper		✓

Company name	Country	Sector	Discussion	Mentioned
The Wall Street Journal	USA	Newspaper		✓
Thélem Assurances	France	General insurance		✓
Tiger Wheel & Tyre	South Africa	Tyre fitment centre		✓
Tokio Marine Risk Consulting	Japan	Risk consulting firm		✓
Toll Collect	Germany	Road charging provider		✓
TomTom	Netherlands	Consumer electronics vendor	✓	✓
TomTom Business Solutions	UK	TSP	✓	✓
Touring	Belgium	Automobile club	✓	✓
Toyota	Belgium	Automotive OEM	✓	✓
Toyota Insurance Management	Belgium	Motor insurance	✓	✓
Toyota Insurance Management	UK	Motor insurance	✓	
Toys'R Us	South Africa	Games stores		✓
Trac Global	UK	Testing and certification company	✓	✓
Tracker	South Africa	TSP	✓	✓
Tracker Network (UK)	UK	TSP		✓
Traqueur	France	TSP	✓	✓
Trafficmaster	UK	TSP	✓	✓
Transics	Belgium	TSP	✓	✓
Travelers Insurance	USA	General insurance	✓	✓
Trimble MRM	USA	TSP	✓	✓
Transport Research Laboratory	UK	Research institution	✓	
uBlox	Switzerland	Chipset vendor		✓
UGF Group	Italy	General insurance		✓
Unipol	Italy	General insurance	✓	✓
Uniq	Austria	General insurance	✓	✓
Uralsib	Russia	General insurance	✓	✓
US Bank	USA	Bank		✓
US Department of Transport	USA	Government	✓	✓
Valeo	France	Tier-1 supplier		✓
Vanguard plc	UK	Mobile phone retailer		✓
Vauxhall	UK	Automotive OEM		✓
Vector Capital	USA	Private equity firm		✓
Vehcon	USA	TSP	✓	
Verisk Insurance Solutions	USA	Software developer	✓	✓
Verizon Telematics (formerly Hughes)	USA	TSP	✓	✓

Company name	Country	Sector	Discussion	Mentioned
Viasat	Italy	TSP	✓	✓
Vivium (P&V Group)	Belgium	General insurance	✓	✓
Vodafone	UK	Mobile operator	✓	✓
Volkswagen	Germany	Automotive OEM		✓
Volkswagen Financial Services (UK)	UK	Financial services		✓
Volvo Cars	Sweden	Automotive OEM	✓	✓
Volvo Trucks	Sweden	Automotive OEM		✓
Wireless Car	Sweden	TSP	✓	
Wunelli	UK	TSP	✓	✓
Xirgo Technologies	USA	TTP	✓	✓
Young Marmalade	UK	General insurance	✓	✓
Zurich	Italy	Consumer insurance	✓	
Zurich	UK	Consumer insurance	✓	✓
Zurich Financial Services	France	Commercial insurance	✓	✓
Zurich Fleet Intelligence	UK	Commercial insurance	✓	✓

© PTOLEMUS - [www.ptolemus.com](http://www.ptolemus.com) - Usage-based Insurance Global Study - 2013 - All rights reserved  
The present report is strictly reserved for the use of the licensee and may not be distributed to any other entity by the licensee

©  
DISTRIB  
WITHOUT  
PTOLEMUS' PRI  
WRITTEN  
AUTHORISATION

## LIST OF COMPANIES PROFILED IN THIS REPORT

As part of our analysis, we have built nearly 70 profiles of all major telematic insurers and providers. We would like to thank these organisations for their precious contribution to this report. They are listed hereafter and will benefit from a discount on the [UBI Global Study](#).

	Insurers / brokers	Technology providers (TTPs)	Service providers (TSPs)
Europe	<ul style="list-style-type: none"> <li>• Allianz</li> <li>• Amaguiz (Groupama)</li> <li>• Axa</li> <li>• Co-operative</li> <li>• Generali</li> <li>• Ingenie</li> <li>• Insure the box</li> <li>• Unipol</li> </ul>	<ul style="list-style-type: none"> <li>• Aplicom</li> <li>• Kuantic</li> <li>• Movelo</li> <li>• Redtail Telematics</li> <li>• Trak Global</li> </ul>	<ul style="list-style-type: none"> <li>• Amodo</li> <li>• Detector</li> <li>• FMG Support</li> <li>• Lysanda</li> <li>• Masternaut</li> <li>• MyDrive Solutions</li> <li>• Quartix</li> <li>• Tracker UK</li> <li>• Traqueur</li> <li>• Viasat</li> <li>• Wunelli</li> </ul>
North America	<ul style="list-style-type: none"> <li>• Allstate</li> <li>• American Family</li> <li>• Esurance</li> <li>• Industrial Alliance</li> <li>• Liberty Mutual</li> <li>• National General</li> <li>• Nationwide</li> <li>• Progressive</li> <li>• State Farm</li> <li>• The Hartford</li> <li>• Travelers</li> <li>• USAA</li> </ul>	<ul style="list-style-type: none"> <li>• AnyData</li> <li>• Danlaw</li> <li>• Enfora (Novatel Wireless)</li> <li>• Geotab</li> <li>• Skymeter</li> <li>• Xirgo Technologies</li> </ul>	<ul style="list-style-type: none"> <li>• Baseline Telematics</li> <li>• Himex (formerly Evogi)</li> <li>• iMetrik</li> <li>• IMS</li> <li>• Modus</li> <li>• Omnitrac (formerly Qualcomm Enterprise Services)</li> <li>• Telogis</li> <li>• Verizon Telematics (formerly Hughes)</li> </ul>
Other continents	<ul style="list-style-type: none"> <li>• Discovery</li> <li>• Hollard</li> </ul>	<ul style="list-style-type: none"> <li>• ATrack</li> <li>• Orion Technology</li> </ul>	
Global	<ul style="list-style-type: none"> <li>• Mapfre</li> <li>• Zurich</li> </ul>	<ul style="list-style-type: none"> <li>• Cobra Automotive Technologies</li> <li>• Meta System</li> <li>• Mobile Devices</li> <li>• PayGo Systems</li> <li>• Pointer Cellocator</li> <li>• Scope</li> <li>• Texa</li> </ul>	<ul style="list-style-type: none"> <li>• Cobra</li> <li>• DriveFactor (formerly Crimson Informatics)</li> <li>• Digicore cTrack</li> <li>• Octo Telematics</li> <li>• Teletrac</li> <li>• TomTom Business Solutions</li> </ul>

**Published in October 2013**

© 2012 PTOLEMUS  
Rue Cervantes 15  
1190 Brussels - Belgium  
[contact@ptolemus.com](mailto:contact@ptolemus.com)

#### **Disclosure**

The recommendations and opinions expressed in this study reflect PTOLEMUS' independent and objective views. However, PTOLEMUS cannot provide any guarantee as to the accuracy of the information provided or the reliability of its analyses and forecasts.

Cover photo courtesy of Aberhold Advanced Postproduction

#### **All rights reserved**

All material presented in this report, unless specifically indicated otherwise, is under copyright to PTOLEMUS. None of the material, nor its content, nor any copy of it, may be altered in any way, or transmitted to or distributed to any other party or published, without the prior express written permission of PTOLEMUS. No part of this report may be reproduced, recorded, photocopied, entered into a spreadsheet or an information storage or retrieval system of any kind by any means, electronic, mechanical, or otherwise without the express written authorisation of PTOLEMUS.

Licensees shall be able to quote facts, figures and analyses contained in the present report within their organisation or publicly provided they quote PTOLEMUS Consulting Group as its exclusive source.

These clauses shall not apply to otherwise publicly available information.

## INTERVIEW

**DAVE PRATT**

**GENERAL MANAGER, UBI**

**PROGRESSIVE INSURANCE**

**PROGRESSIVE®**



**Can we say that *Snapshot* is now a mainstream insurance programme at Progressive?**

It has been and still is an optional programme. Customers do not have to choose to participate but lots of customers are choosing to. So it is growing quickly.

It is fair to say that when you look at our shoppers in our direct channels, **about a third** of the people now opt for *Snapshot*. We have got thousands and thousands of people signing up for *Snapshot* every day.

**The European market for UBI has picked up first with certain high premium segments. Is *Snapshot* primarily attracting the low mileage/low premium segment or is it more the "safe" drivers in high premium segments?**

We offer *Snapshot* to every single driver. I suspect that people who are paying more for insurance would be more likely to try it and take advantage of the savings but it is definitely a **broad market programme available to everybody**.

I don't think we see a huge difference in the premium between the people who opt in for *Snapshot* and those who don't. It's interesting, we have done market research and what we hear is that about a third of the population really don't want to participate.

They are genuinely concerned about their privacy and don't want an insurance company to know much about their driving behaviour.

So a big part of the population just isn't interested and that's fine, it is an optional offer. But there is an even bigger part of the population that is willing to share driving information to save money on insurance.



**You are the biggest insurance telematics success in the US but looking at the bigger picture, why is this revolution not happening even faster.**

**Why isn't it like, for example, the iPhone?**

I think it is just a very different product category. The iPhone is a new invention, people did not have anything like it before. What we are doing with UBI is an innovation in auto insurance but it is still auto insurance.

So many people simply renew their insurance policy every time the bill comes and don't even think much about it. What we are seeing

**Where does *Snapshot* stand today? What are the key facts & figures you can share with us?**

The *Snapshot* programme is growing quickly and has become a very important part of our business. We have now more than **1.4 million customers** opting for *Snapshot* over the last 12 months, a 40% increase over 2012.

At the end of Q2 2013, our trailing 12 months premiums for *Snapshot* customers were over \$1.7 billion. This represents an **increase of 70%** in the last 12 months.

We also have now collected more than 7 billion miles of driving data. We have amassed a very big dataset that helps us study driving behaviour and understand what represents safe driving.

is that for people thinking about changing insurance, this is a very appealing offer.

It actually **is being adopted very quickly** but there is still a large part of the population that does not think about auto insurance much. So it will take some time for that group to get interested and try it out.

**Is this because all they hear is a message about price as the sole differentiator? There has not been much emphasis on services or value-added services yet.**

**Do you think you could play a role going forward on that front?**

There are diverging opinions on this issue. I think the opportunity to save money by proving that you are a safe driver is the most important benefit that comes with UBI. I know that there are other value-added services that some companies are offering but to me what matters most to customers is the chance to **prove that they are good drivers and save money**. That core benefit is what we are focused on.

**Progressive has been one of the few insurers that has managed to successfully sell UBI both online and through physical channels.**

**What types of customers are attracted by one or the other?**

We see a broad mix of customers that matches the demographics of the US and that is typically true both online and at our local independent agents. We really **do not see much difference by channel**.

Of course, you will be less likely to shop around if your price is already very low. But for the people who are interested in shopping, we are finding that interest is very high in *Snapshot*.

We have had **better results in the direct channels** than with our local agents. *Snapshot* represents an extra step that the local agent has to take in the sales process. The programme's design **does not include an immediate discount**, so it does not give you a lower price at point of sales. I think it has been an obstacle for some of the agents.

Our product will need to continue to evolve to make it more and more appealing. We will have to keep working with our agents to see what would make *Snapshot* more appealing and have them offer it to more of their customers.



**Do you think part of the problem might be that the concept of UBI is complex to explain and agents basically sell what most people know?**

In the face-to-face relationship that an agent has, there's usually more opportunity to explain it better.

But actually, **explaining Snapshot is very simple**. We just say: "We send you a device; you plug it into your car; and it will collect information on how you drive; and if you're a safe driver, you qualify for a discount". People understand that very easily.

Simplicity is one of the reason why we have had good success at

getting people to sign up even through the direct channels.

**With UBI programmes, agents do not control the price any more and the dashboard is now a direct link between the driver and its insurance.**

**Do you think agents run the risk of losing the customers relationship to a certain extent?**

I have not heard that from our agents at all. We are very careful about protecting the agents' relationship with their customer because we know that the customer chose to go to the agent for a reason.

We want to support the agent and I think our agents understand that. I have not perceived any concern about customers using the web tools as a relationship problem.

You could say that there is not any extra incentive for the agent to sell *Snapshot*. But we do not agree, we make agents know that customers who sign up for *Snapshot* and earn discounts **tend to stay with us longer**.

There is a demonstrated retention benefit for the agency if they sign up a customers on *Snapshot*. It might not be immediate but it is long term.

**On the technology side, the provider's landscape is changing fast but you have been working with Xirgo for several years now.**

**Should suppliers now start come and see you?**

So the short answer is no, suppliers should not come and see us. We still have an exclusive relationship with Xirgo and we are very happy with this working relationship.

We have **no plans to investigate different suppliers**.

**Glen Renwick, your CEO, mentioned in a recent interview that your smartphone-based UBI data collection solution was ready.**

**Why don't you launch it? Is it really ready?**

In March this year, we actually have launched an app that is on Apple's Appstore - the *Snapshot* app. It is almost like a game. It will track your driving, show your score and you can earn badges for safe driving. From there, customers that tried and liked the app can sign up for *Snapshot* or buy a policy.

The real incentive for people is to see how their driving really stacks up. We do not have a smartphone app that actually collects the data for insurance discount.

I am still uncertain about using the phone to collect data and then rate on it. We are still investigating and comparing the data that we get from our plug-in device to see if the phone is an adequate solution for us in the long term. We have not made a decision there yet.

**Numerous insurers are still not convinced that UBI can be profitable.**

**Have you observed the reduction in claims that was expected from telematics insurance?**

We said publicly that we were confident that our UBI book of business will meet our profit targets over the life of those policies. So we believe that Progressive is operating profitably in UBI.

And we said that the customers who opt in for *Snapshot* and earn discounts have lower than average loss ratios and they have better than average customer retention. So we think there is evidence we

are attracting good customers to *Snapshot* and keeping them longer.

**The Snapshot approach has its advantages but since there is no permanent recording or monitoring, you cannot expect to use it as an anti-fraud or anti-theft device.**

**With hardware prices going down, would you expect that to change one day?**

In the long term, there may be changes in how we collect data. We have gone with the approach of collecting data for 6 months to reduce the cost of the devices and data collection. That has worked out very well, so we were able to drive the cost of the programme down significantly. But that means we only get 6 months worth of data.



In the long term, we might get data from OEM telematics devices like *OnStar* or from mobile devices. Then, it might make economic sense for us to collect data for a longer period, but we are not there yet.

So those are ideas we are studying but for now we are sticking with our model where we plug in the device and just do that for 6 months.

**Talking about car makers, do you believe that there is a possible partnership model and are you moving in that direction?**

We hope so, yes. We are in conversations with several of the OEMs and we would like to get the data on driving behaviour directly from the car if possible - Rather than having to send a device out. So I think the idea is they are a likely source of data for us in the future.

**In the long term, Google and several car makers such as Toyota and Volkswagen expect to launch autonomous and driver-less cars.**

**Do you think it will spell the end of the auto insurance business?**

No, we think that those new technologies that help to avoid accidents - so not only the autonomous car but many new technical improvements in cars - need to be watched closely. Actually we talked about this issue in a presentation we did in May.

If you go back 30 years and look at history - from 1992 through 2011 - accident frequency in the US was down 22%. There are fewer accidents today but in current dollars over the same period, severity was up 56%. Overall, the market is still growing because it costs more per accident to repair the cars.

We also looked at the various safety technologies that are coming into the market and tried to forecast how they will effect the insurance business.

The summary is that we expect to see slow growth in the market and that it will take a long time for a technology like the driverless car to work its way into the fleet of vehicles that actually are on the road. It is an important topic for us to pay attention to but we do not think that it is something that effects our business in the short term.

**Do you see an opportunity to play a service provider role in the connected car segment? Insurance is probably the biggest service stream already in terms of revenues.**

That is not the approach that we have been talking about. It is an interesting idea but we are more focused on talking with the OEMs about partnering to **get the insurance data we need** from the telematics devices that they are building into the cars.

**Did your position in UBI have any effect on your company's stock price?**

**After all, you are in a unique position related to your patents in that domain.**

I am not sure. Our stock has performed well and Progressive is growing and profitable. *Snapshot* is contributing to that growth but I don't know how to separate, the effect of *Snapshot* on the stock price from the other work that we are doing.

Progressive has been an innovative company in motor insurance in general so, we could point to lots of innovations Progressive has brought to car insurance.

I think our results in the market place benefit from not only *Snapshot* but all our innovations.

For example our **concierge claims service**. We have claims service centres where the driver can drop his/her car off and we will take care of the whole repair process.

The customer comes into the service centre, picks up a rental car, goes on his way, and then we call when the car is ready. They just bring the rental car back and pick up the fixed vehicles. It is a service level that takes away all the hassles of getting your car fixed.

**And on top of that, you control the repair cost, the rental cost and reduce the opportunity for fraud...**

It is just another example of a different way of doing insurance that is better for the customer and helps us keep the price low.



**Most US insurers want to replicate your success now.**

**With the patents you have in place, don't you fear that some companies could claim that you are infringing on competition?**

No, I don't think so. We have made a global offer to our competitors to license our intellectual property. We have had conversations with literally dozens of companies about whether or not they wanted to participate in that programme.

We actually announced recently that USAA has decided to participate. That's the biggest company that has actually signed an agreement so far. We had a June 30<sup>th</sup> deadline for that particular offer and we are **still in conversations with several companies** that contacted us before the deadline. We are finishing the discussions with them about participating.

**If your success continues in the US, do you think you should export the model to other countries?**

We still see so much growth opportunity in the US, that is where our focus is today. We do

not have broad international operations so in the near term, we will concentrate on *Snapshot* in the US.

**Do you expect one day to also deploy telematics UBI to your commercial line fleet customers? And would you then take a similar approach than Snapshot with this segment?**

Yes, I think that is likely. We do not have *Snapshot* available for our commercial or special lines products yet but it seems reasonable that at some future point we should be able to offer that.

**My last question is really about the relatively high level of premiums in the US market.**

**Do you think the permanent recording model using black boxes, like in Europe, will ever be used in the personal line in the US?**

**The additional costs are already covered in many other markets by high premiums, significant claims reductions, fraud detection and also direct driver feedback...**

As technology continues to change, the answer to that question might change. With our current technology I would say no. I doubt that we would go to a model where we keep the device plugged into your car forever because it is just too expensive.

But if there is an emerging technology that helps drive down the cost of collecting the data, then maybe my opinion would change.

We will obviously pay close attention to how the competitive market evolve but I think in terms of the Progressive's model, it is **not likely that we will ever get into the permanently installed black box approach.**

*Interview performed on 5<sup>th</sup> August 2013 by Frederic Bruneteau*

**INTERVIEW**

**FABIO SBIANCHI, CEO  
OCTO TELEMATICS**



to market take off, the *commodatum* / device leasing model.

Another key success factor is the strategic goal we have pursued since our foundation: to promote “industrialisation” of the insurance telematics industry.

We see this as a distinctive feature of Octo’s way of doing business and that will give us great advantages in the future.

**How fast do you expect the market to take off in Europe? Where will it be in 2020 (for example as a % of total policyholders)? Do you expect regulatory projects such as eCall to bring business opportunities to Octo with car & truck manufacturers?**

We see a fast take off of the European market, driven by the connected car phenomenon. We expect that the number of connected cars will reach 70 million in 2025. Even if not all of them will be insurance telematics ready, this will be a dramatic accelerator.

**Do you expect the Monti law to be implemented in Italy? What will be its impact on the telematic market, on insurers and on Octo?**

Currently, we see the implementation of the Monti law slowing down. Theoretically the law should have a positive impact on the market, provided that some issues about potential additional costs for insurance companies are managed.

However, our business plan does not take any sudden incremental improvement into account, in terms of new activations deriving from the law itself.

**Why have most Italian insurers not embraced behaviour-based pricing? Will they follow Generali's lead in that respect?**

We are seeing **greater adoption of behaviour-based products in Italy** today. In broad terms, we noticed a phenomenon by which continental Europe insurers are adding behaviour-based features to crash and claims services.

At the same time, US and UK insurers, historically

**Octo has been one of the founders of the insurance telematics industry. What has allowed Octo to succeed where many others have failed?**

We believe that our critical success factors have been the capability to understand insurance companies' needs. This means conceiving, designing and implementing services that are able to: reward good driving behaviour; improve insurance’s claims management process efficiency, reconstruct accident dynamic and accelerate the claims indemnification process.

To facilitate adoption of our services, we have designed and deployed a business model that removes barriers

interested in UBI, are showing greater interest in crash and claims services.

**Low-premium countries such as Germany and France have been very slow to adopt telematics? Where will the breakthrough come from?**

We consider the connected car as an inescapable trend, able to start a breakthrough in these markets.

**How fast do you expect the market to take off in the US? Where will it be in 2020 (for example as a % of total policyholders)?**

We expect a fast take off of the US market, driven by the connected car trends. In 2020, we expect that insurance telematics policyholders will account for up to 31% of the total.

**Octo's position in the US market is much weaker than in Europe. Can you really become a dominant player in the world's largest motor insurance market?**

Yes we believe so. Our target is to become a top 5 insurance telematics service provider in that market. We started operation in mid 2011 and currently, we are serving 7 insurance companies that step by step, state by state, are spreading their telematics offer in the whole of the US. We have more than doubled our new activation target for the first semester 2013.



**Do you see the OBD dongle playing a role in other markets than in the US? Which markets?**

Yes, to a lower extent. The most promising market seems to be the UK.

**Octo has largely been promoting the black box as the key solution for insurance telematics. However, many insurers are launching smartphone-based solutions, notably in the UK. Will you propose such a solution?**

Smartphone-based solutions are already in the Octo portfolio, used as a presentation layer, the connectivity, a "teaser" or as the On-Board Unit.



**Octo often claims that it holds a very large database of customer driving behaviour data. To which extent is this data yours? How useful can it be for your insurance customers concretely? In the long term, is it Octo's role to control the data?**

We confirm that Octo owns the largest database in the world of customer driving behaviour data.

Personal Data is covered by Privacy regulation. This data belongs to the end-customer, the policyholder. Octo is authorised to process personal data within the scope of the contracted services and as long as there is a valid business justification to retain and process it, i.e. until the contract expires.

Without consenting to this rule, the policyholder would not receive the telematic services. As such, there is no business risk of not receiving such authorisation, since consent is a pre-requisite to subscribing to a telematic policy.

On the other hand, anonymised data is not covered by European privacy regulations and can be used by Octo without being subject to legal or regulatory constraints. Octo complies with these principles in every geography where it operates and we do not foresee any regulatory trend aimed at substantially changing this principle.

**Do you believe a certain level of data standardisation should be promoted to enable insurers and policyholders to benefit from data portability?**

Given the nascent state of the industry, we don't expect a prescriptive approach coming from regulators in

different geographies.

If we want to leverage on experience coming from different industries, e.g. mobile telecoms and utilities, a likely regulatory approach could be to recognise and spread those practices and standards that have been widely adopted, rather than dictate the practice or standard itself.

As soon as the telematics adoption takes off, the concepts of portability of telematic policies or transferability of telematic data will be part of the regulatory discussion.

Octo's strategy is to arrive to that moment being the de-facto market standard for data format and usage practices and, as such, being able to have influence in the decision.

In any case, both the portability of policies and the transferability of customer data can be seen as a removal of potential demand inhibitors and as such, as positive actions to increase market adoption.

As a conclusion, we see this potential regulatory trend not as a threat but an opportunity.

**Google just launched its insurance price comparator in several European countries. Do you see them as a new competitor potentially (e.g. via its Android handsets)?**

We don't play and we do not intend to play in that field but the potential entry of Google or other high tech giants confirm the attractiveness of the market.

**What are your ambitions in the OEM UBI market? Do you expect regulatory mandates such as eCall, CONTRAN 245, ERA-Glonass or the US EOBR to bring business opportunities to Octo with car & truck manufacturers?**

We don't think that eCall and other regulations will have a strong impact on Octo's 2013-2017 industrial plan.

This is caused both by its implementation timeframe (starting after 2015 if not delayed again) and approach (it will start only for new car models, registered after regulation starting data).

Nevertheless, we see eCall and other regulations in the long term being a great demand booster for telematic services.



**In the end, your success depends on the insurers' success. What would be your key advice to them?**

You are totally right, our success depends on the capability to support and enable improvement of insurance companies business performance.

Our suggestion to succeed in telematics is to approach the theme focusing on 3 key drivers: improving financial results, transforming insurance business processes and leveraging big volumes of data.

It's possible to succeed in pursuing these key drivers only after having deeply analysed the business environment and the insurance customer portfolio, clustering it according to their correct risk exposure.

*Interview performed on 9<sup>th</sup> September 2013 by Frederic Bruneteau*

## INTERVIEW

### CARMINE CARELLA, CEO

### COBRA TELEMATICS



**For a start, Carmine, could you please explain to us the roots of Cobra?**

Cobra Automotive Technologies was created by Serafine Memmola in 1975 as a manufacturer of automotive electronic systems, such as anti-theft alarm solutions, parking sensors, etc. We started in the aftermarket and then gradually shifted to become a supplier to car makers, notably Japanese, German OEMs and Renault.

Serafine and I founded **Cobra Telematics** at the end of 2002. At that time, Cobra generated around €25 million in revenues.

Thanks to connectivity, we wanted to improve drivers' quality of life, notably to provide faster assistance in the case of a theft or a crash.

Connectivity can significantly improve vehicle services.

Before entering the UBI market in 2008, Cobra Telematics has been successful in the automotive market and as a **24/7 Assistance Service Provider** and a **provider of Stolen Vehicle Recovery (SVR) services**. We started as business entirely focused on the B2B market.

We have reached this success using our initial funding of €3 million. We have had a track record of profits since the beginning.

In 2009, we partnered with Tracker South Africa to develop a service proposition.

**For a start, Carmine, would you mind recalling us the main facts & figures about Cobra?**

Cobra AT generated revenues of €156 million in 2012. It has about 250,000 telematic subscribers and equips approximately 60,000 vehicles with UBI solutions.

**Cobra is a leader of the Stolen Vehicle Recovery business. What does it consist in?**

It is about alert management, i.e. Assisting the customer before the theft, and then , if necessary, SVR.



So this is not only about recovering a vehicle but about assisting the customer in such circumstances.

To the automatic / telematic process, we add a human dimension.

We prefer the name of **Theft-management services** because we can detect the intrusion or the movement of the vehicle regardless if it has been stolen. Any unauthorised activity generates alerts to our Control Room.

Much information comes to us in the case of an OE product. Slightly less in the case of aftermarket products.

**Cobra is better known for Stolen Vehicle Recovery services than UBI. What led the company to develop solutions for insurers?**

We also wanted to enter the crash alert assistance. We saw that insurers were more interested in this than car makers.

In 2004, we competed for the Italian government-led *Checkbox* project and made a very detailed proposal on crash management and crash analysis. ISVAP (now IVASS), the insurance regulator, nonetheless selected Octo Telematics, which helped them tremendously because it received a €3 million funding from the Italian government; it won trials with 18 insurers in Italy, representing 185 000 vehicles.

This made Octo the number one player in Italy, which represents 2/3 of their connections. This has led them to become the world leader. We believe that their global leadership is not sustainable given the competition from numerous major players and the growth of many other countries.

### Is SVR a mature, declining business in your view?

These services are growing fast in all countries where crime is abundant.

If you are in Latin America, in Russia, in South Italy in or South Africa, these services are very useful and popular.

In less dangerous countries such as Switzerland, you can provide only SVR services, i.e. a notification comes only when the subscriber informs you that the vehicle has been stolen. Our role is then to recover this vehicle on an international basis.

In any case, the customer is interested in being supported in the case of an emergency. For example, when there is an aggression, we provide a **panic button**. An alert is transmitted to the Security Centre if there is a

danger for the driver or the passengers.

We can also **remotely immobilise** vehicles in almost all EU countries, in Norway, Switzerland, Russia and Eastern European states. Even in safe countries, there are spots of dangerous activities, e.g. around Berlin, Amsterdam, etc.



We can even **permanently monitor** a car in very unsafe sectors. For example, geo-fencing alerts can be transmitted.

### LoJack is your main competitor...

We actually have a business relationship with them. We use **LoJack** technology to offer pure SVR services in Argentina and Uruguay, as their system does not offer alert management.

For partnerships with car-makers, assistance services or insurance telematics, they tend to involve Cobra.



We are not competitors because they provide entry-level features and we provide much more sophisticated services.

LoJack is very large but generates revenues primarily from selling devices in the US, Latin America, South Africa etc. We are the **number one to provide theft management services in Europe**.

Most luxury brands are our customers, notably Porsche, Bentley, etc.

### You invested in Wunelli a few years ago. Has your investment paid off?

### Does it bring also strategic benefits to Cobra to address the fast growing UK market?

In 2006, after our IPO (Initial Public Offering), we had the idea of looking for a partner in the UK market to develop insurance telematics solution.

Paul Stacy and Sandy Dunn provided the idea of driving behaviour. We provided the idea of crash analysis and crash assistance. Our inspiration was GM's OnStar and Volvo's OnCall services.

Cobra Wunelli was our first insurance telematics business, and it happened just after the failure of Norwich Union!

First of all, in financial terms, the value of Wunelli has increased significantly.

From an industrial perspective, we have the opportunity of focusing on the biggest cContinental market and notably Italy and they have focused on the UK's highly competitive market.

We are benefiting from their experience in this highly innovative market.

Synergies also exist in the exchange of know-how. For example, we provide them our experience of crash analysis. And they offer us their smartphone applications experience.

We are focused on professionally-installed devices installed in the vehicle while their core competence relates to OBD dongles and smartphones.

**What would you say differentiates your solution from your competitors in this crowded market place?**

We combine the unique experience of 24/7 security & safety assistance, similar to OnStar's; and the experience of insurance telematics and driving behaviour.

We are unique in this ability to provide both services.

In addition, our presence in the retail channel enables us to develop many new applications for these markets.

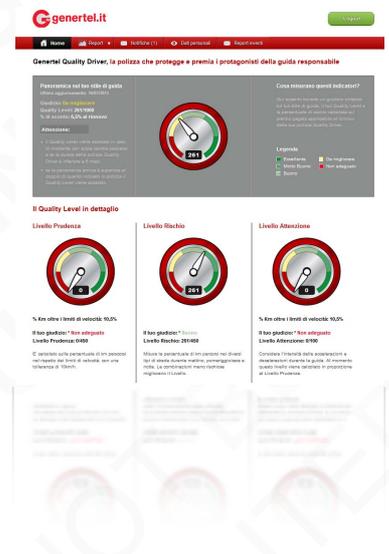
**Generali is your main UBI client today. Why did they retain Cobra? How big is the opportunity?**

It has been a long process. First, we were appointed by Genertel for an interesting initiative regarding driving behaviour. We had gained experience from our UK experience with Wunelli and they wanted to replicate this success. Our crash experience and project management experience were also a differentiator.

Then 1<sup>1/2</sup> year afterwards, they chose to select a strategic preferred partner. Then the investigation criteria were larger: global presence, assistance experience, ability to innovate, price competitiveness, etc.

Cobra Telematics managed to show that we could be a more

global partner to them, with significant international experience.



Today, we are deploying with them numerous different products with several entities, notably Genertel but also large companies such as Alleanza Toro, Ina Assitalia, Fairy, etc.

Some of these offers include PHYD, others PAYD but all include a rich, 24/7 offer of crash-related services and theft management services.

In addition, we are deploying an important pilot with them in Brazil and discussing deployments in a number of other countries.

We expect to be present in almost all Generali markets where it deploys telematics.

**Is this Brazilian deployment related to the CONTRAN 245 mandate?**

Not at the beginning because the mandate has not been enacted but we will be able to switch it on in due course.

There will probably be 2 different products, both related to theft management. One of them could

include a driver behaviour component.

With Generali Do Brasil, we are also speaking with certain car makers.

For Generali, this will be the first showcase of 2<sup>nd</sup> generation telematic products, i.e. beyond SVR services.

**What are the interactions between your SVR and your UBI solutions?**

The linkages between theft and insurance telematics solutions are much higher in risky areas, e.g. in the South of Italy.

In Switzerland, the theft component is very simple.

But we have the ability to have only one hardware and to differentiate through applications.

A complete theft management solution requires many more sensors, actuators and accessories than an UBI solution and are more expensive. But if we talk about an SVR-only solution, the specifications are very close to UBI devices and the price points are very close.

**Therefore, UBI and entry-level theft management services (SVR services) can easily be combined.**



**Do you expect dongles to play a big role? What about smartphones?**

Actually I believe a lot in the combination of both devices!

The big OBD dongles including all features are complex to fit in Europe, although mobile operators like these because they sell two SIM cards and data plans.

In Europe, a better model is a light OBD dongle, connected via Bluetooth to the driver's smartphone. Such a solution can have a great role in low fraud, low theft markets.

**Do you have a solution like that already?**

We have a Bluetooth-enabled device that we can design and manufacture. On the smartphone side, we trust the strong experience acquired by Wunelli.

**Will these solutions become a big market?**

Not in Latin America but a lot in the UK. This depends on several factors such as fraud, theft, churn rate, etc. Italy will continue to be driven by black boxes.

In the **US**, we will see both OBD dongles and OBD dongles combined with smartphones. We do not see smartphone-only solutions take-off.

**Progressive** has been very good to create its roll-over OBD dongle model. It is a great way to do customer self-selection.

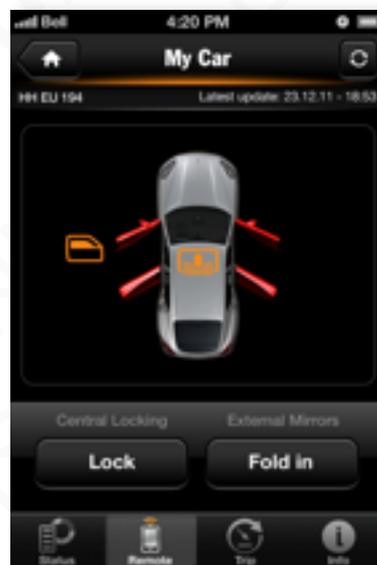
But we believe they will do something else. Other companies

should not copy them and choose another strategy.

**Cobra is selling to many car makers...**

We have relationships with certain brands in the Volkswagen group, notably Porsche and Audi.

Case by case, we have relationships with the Volkswagen and Bentley brands, activities with Honda in Asia, Mitsubishi in North America.



Then country by country, we have many activities with national sales entities. For example, we have an excellent relationship with Renault Nissan in Italy.

Cobra Electronics is also a strong supplier to Kia Hyundai in Korea.

Cobra Telematics could clearly leverage all these manufacturing relationships to develop its telematic footprint.

**Do you expect them to offer telematic insurance, for example, when eCall will be implemented?**

Yes, absolutely, we could become a multi-service provider to OEMs.

We expect to focus on existing partnerships with car makers and a few others, as they require a privileged relationship on the OEM side.

On the other side, in the 2015-20 period, there will be an interest to equip all new cars that do not have a line-fitted eCall system with aftermarket devices.

The network of European partners we have created will be well positioned to work with the local OEMs' sales organisations.

**What would be the business model for these aftermarket services?**

We would offer a package to customers who do not have access to newly type-approved models. It would be an option to be selected by end-users. eCall would be provided by PSAPs but we can act as a private assistance provider and filter calls to government-authorised PSAPs.

This is within the law. There is a 5-year window of opportunity to sell other services too, such as theft management services, insurance telematics, etc.

*Interview performed on 11<sup>th</sup> September 2013 by Frederic Bruneteau*

## GLOSSARY

<b>3G</b>	Third generation mobile networks
<b>4G</b>	Fourth generation of cellular wireless standards (LTE)
<b>ADAS</b>	Advanced Driver Assistance System
<b>API</b>	Application Programming Interface
<b>bCall</b>	Breakdown call, i.e. a location-based roadside assistance service
<b>BOM</b>	Bill of Material
<b>CAAS</b>	Car As A Service
<b>CAN-bus</b>	Controller Area Network bus (One of the car's network)
<b>CASCO</b>	Casualty & Collision (equivalent to comprehensive insurance)
<b>CEN</b>	The European committee of standardisation
<b>CLP</b>	Cigarette Lighter Plug
<b>CONTRAN</b>	Conselho Nacional de Trânsito (National Traffic Council, Brazil)
<b>CPM</b>	Cost Per Thousand
<b>CRM</b>	Customer relationship management
<b>CTR</b>	Click Through Rate
<b>DoI</b>	Department of Insurance
<b>DQ</b>	Driver Quotient
<b>DSRC</b>	Dedicated Short Range Communications
<b>DTC</b>	Diagnostic Trouble Code
<b>eCall</b>	Emergency call, the pan-european assistance system which will be integrated in all new EU car models from October 2015
<b>EC</b>	European Commission
<b>ECU</b>	Engine Control Unit
<b>EDR</b>	Electronic Data Recorder
<b>EETS</b>	European Electronic Toll Service
<b>eFNOL</b>	Electronic First Notification Of Loss
<b>EOBD-II</b>	European On Board Diagnostics
<b>EOBR</b>	Electronic On Board Recorder
<b>EV</b>	Electric Vehicle
<b>FCD</b>	Floating Car Data
<b>FMD</b>	Floating Mobile Data
<b>FMS</b>	Fleet Management System
<b>FNOL</b>	First Notification Of Loss
<b>GAP</b>	Guaranteed Auto Protection insurance
<b>GIS</b>	Geographic Information System
<b>GNSS</b>	Global Navigation Satellite System
<b>GPRS</b>	General Packet Radio Service
<b>GPS</b>	Global Positioning System

<b>HD Radio</b>	Stands for Hybrid Digital Radio, America's most widespread digital radio standard to broadcast audio & data
<b>HGV</b>	Heavy Goods Vehicle
<b>ITS</b>	Intelligent Transport Systems
<b>IVR</b>	Interactive Voice Response system
<b>IPR</b>	Intellectual Property
<b>KPI</b>	Key performance Indicator
<b>LBA</b>	Location-Based Advertising
<b>LBM</b>	Location-Based Marketing (e.g. promotional coupons)
<b>LCV</b>	Light Commercial Vehicle
<b>LTE</b>	Long Term Evolution, aka 4G mobile networks
<b>M2M</b>	Machine to Machine
<b>MEMS</b>	Micro-Electro-Mechanical System
<b>MNO</b>	Mobile Network Operators
<b>MTPL</b>	Motor Third Party Liability
<b>MVR</b>	Motor Vehicle Records
<b>NCD</b>	No Claims Discount status
<b>NCTS</b>	National Computerized Transit System
<b>NFC</b>	Near Field Communication
<b>OBD</b>	On-Board Diagnostics
<b>OBU</b>	On-Board (telematic) Unit
<b>OEM</b>	Original Equipment Manufacturer
<b>OS</b>	Operating System
<b>OTA</b>	Over The Air
<b>PAYD</b>	Pay As You Drive insurance
<b>PC</b>	Passenger Cars
<b>P&amp;C</b>	Property & Casualty
<b>PCB</b>	Printed Circuit Board
<b>PHYD</b>	Pay How You Drive insurance
<b>PID</b>	Parameter ID
<b>PIP</b>	Personal Injury Insurance
<b>PND</b>	Portable Navigation Device
<b>POI</b>	Point Of Interest
<b>POS</b>	Point Of Sales
<b>PPC</b>	Price Per Click
<b>PSAP</b>	Public Service Answering Point (for emergencies)
<b>QoS</b>	Quality of Service
<b>RFID</b>	Radio-Frequency Identification
<b>SAAS</b>	Software As A Service

<b>SVR</b>	Stolen Vehicle Recovery
<b>SVT</b>	Stolen Vehicle Tracking
<b>TCO</b>	Total Cost of Ownership
<b>TPS eCall</b>	Third-Party Service eCall, connected to a private assistance provider (e.g. IMA for PSA or Allianz Örtungs for BMW)
<b>TSP</b>	Telematics Service Provider
<b>TTP</b>	Telematics Technology Provider
<b>UBI</b>	Usage-Based Insurance
<b>UMTS</b>	Universal Mobile Telecommunications System, one of the 3G cellular technologies. The only one in Europe
<b>V2V</b>	Vehicle to Vehicle
<b>VAR</b>	Value Added Reseller
<b>VAS</b>	Value Added Services
<b>VMS</b>	Variable Message Signs, displaying traffic information on key motorways
<b>VIN</b>	Vehicle Identification Number
<b>VPN</b>	Virtual Private Network
<b>VRM</b>	Vehicle Relationship Management
<b>WMS</b>	Warehouse Management System

CAN BE DISTRIBUTED WITHOUT PTOLEMUS' PRIOR WRITTEN AUTHORISATION

## I. THE UBI MARKET FUNDAMENTALS

### A. Introduction to insurance telematics

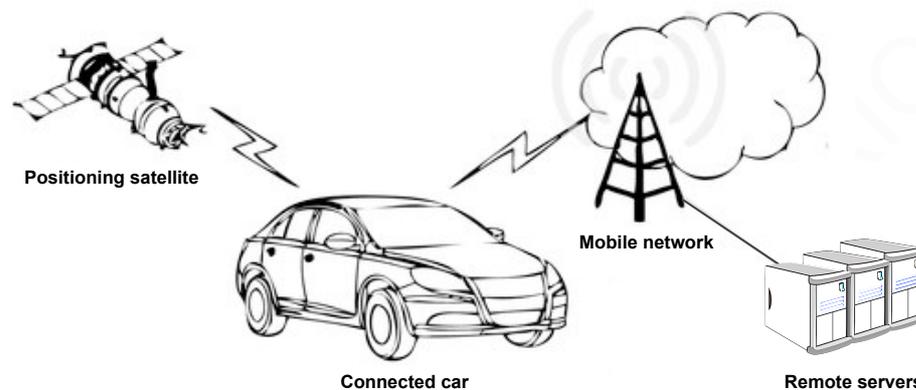
#### 1. What is insurance telematics?

Did you ever wonder why your motor insurer asks for your age, gender, address and claims history while calculating your premium?

Wouldn't it be more appropriate to see how, when, where and how much you are driving instead?

That is exactly what the proponents of telematics-based insurance are advocating. Telematics is the integrated use of telecommunications and information technology for vehicles. It is mostly widely used for providing services such as real-time navigation, roadside assistance, vehicle tracking and, more recently, motor insurance.

**Fig. 1.1: Telematics: the car connects to the Internet**



Source: PTOLEMUS, Embedded Computing Design

Insurance telematics is thus the use of telematics by motor insurers with an objective to adjust the premium to the actual risk.

In this report, we shall study telematics-enabled Usage-Based Insurance (UBI) programmes such as Pay-As-You-Drive (PAYD) and Pay-How-You-Drive (PHYD). We will also evaluate ancillary value added services that are often provided by insurers such as stolen vehicle recovery and remote vehicle diagnostics among others.

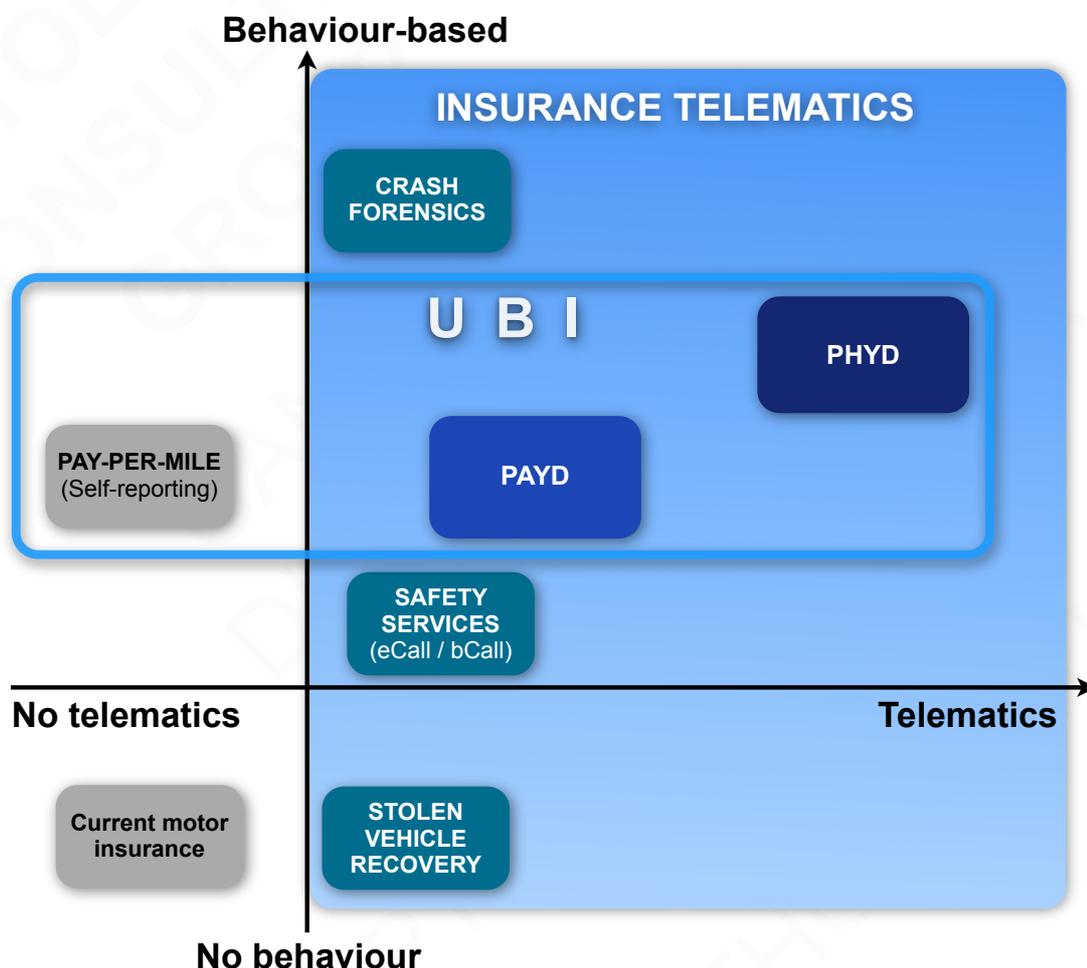
It is important to note that while the car's **geo-location** adds precious data for the premium to be calculated, **insurers do not need to record it and even less to store it for a telematic insurance plan**. For example, numerous PHYD policies are based on driving behaviours, primarily driven by acceleration, braking and cornering patterns.

## 2. UBI or insurance telematics?

Although the concepts of Usage-based Insurance (UBI) and insurance telematics are often used one for the other, they actually are different.

In fact, UBI is a notion that includes all policies that make the premium depend on the level of usage of the driver. As we will see in this paragraph, not all these policies require a telematic unit in the car. On the other hand, insurance telematics only includes policies with a connected device enabling the data transmission from the car to the insurer.

Fig. 1.2: Let us share the same definitions



Source: PTOLEMUS

In the graph above, the telematics axes highlight how much and how often the device transmit data from the vehicle. The behaviour axes show how much data is being sent about the driver and/or the car. In the case of crash detection, for

example, up to 400 points of information are sent per second before during and after the crash detailing the behaviour of the vehicle.

Insurers' work on usage-based insurance policies goes back more than 15 years ago. The first UBI tests were performed in the US in 1997 with Progressive and GMAC offering PAYD discounts using GPS and the cellular networks. Progressive's first patent was approved in 1995 and it conducted its first public test in 1999 using GPS and the cellular networks.

UBI really first sprung up in the United States of America in August 2004 with the launch of **Progressive Insurance's TripSense** product. Launched in Minnesota, it enabled participants to save up to 25% on their renewal premiums depending on how much and when they drove. The data were collected by a telematic device connected on the vehicle's On-Board Diagnostic (OBD) port.

**Fig. 1.3: Progressive's TripSense plan and the TripSensor data logger**



Source: Progressive Insurance

It was a revolutionary concept in its own right and opened many new opportunities to insurers.

It became the first ever motor insurance offering which used a consumer's actual behaviour data to price his/her risk rather than the risk pooling system that has been the mainstay of motor insurers for decades.

Progressive met with equal praise and skepticism. Numerous press articles highlighted the risks of a "Big Brother approach". While some appreciated its potential to price insurance premiums more fairly, reduce driving and promote safer driving habits, others were concerned by the cost of the technology, the potential invasion of consumer privacy and the difficulties in creating a sustainable business model.

Today UBI offerings are based on a various range of pricing models:

- **Self-reporting based insurance:** the premium is calculated based on the driver's report of its mileage;
- **Pay-As-You-Drive (PAYD)** - also called Pay-As-You-Go (PAYG): a device in the vehicle sends mileage data to the insurance company. The premium is entirely or partly mileage-based (Sometimes combined with time and location data);
- **Pay-How-You-Drive (PHYD):** a device in the vehicle sends driving style data to the insurance company. The premium evolves with the driver's risk rating.

From the start, the programmes primarily aimed at positively selecting drivers, attracting new customers and retaining them longer. Since the insurance regulations varied greatly between states and privacy issues was a concern, the PAYD model initially took off in a wider number of US states because it did not require vehicle location data.

Yet we can classify UBI policies in two main categories with remarkably distinct characteristics and business models: **self-reporting** based policies and **telematics-based** policies.

### a. Self-reporting based policies

These policies calculate the premium's amount primarily on the total distance driven **as reported by customers** through the odometer of the car. Customers are required to communicate the odometer reading at specific intervals (e.g. at the annual renewal of the policy) and sometimes the insurer performs random checks on customers to ensure that the reported reading is accurate.

For insurers, these policies are easy to implement and to integrate with existing operations. In numerous countries, a few insurers have implemented these.

For example, as early as in 2004, **Polis Direct** introduced in the Netherlands a 'kilometre policy' whereby the customer's premium could increase or decrease by up to 50% based on his actual mileage against his forecast mileage.

In the US, **MileMeter**, a Texas-based start-up, introduced in 2008 a pay-per-mile policy that claimed to save customers up to 75% on their motor insurance premium. They require customers to provide a **digital photograph** of their odometer at the time of renewal of policy, which happens every 6 months. Customers had to prepay for 6,000 miles at a time or 6 months at a time. The rate per mile is calculated by the company based on the age, location, car model and past history of the driver.

**Fig. 1.4: Real Insurance were one of the first to launch verified mileage programmes**



Source: Real Insurance

In September 2008, a similar service was also launched by **Real Insurance** in Australia, called *Pay as you drive*. It relies on customers to faithfully report their odometer readings at the time of purchase, renewal or filing a claim. They include a fixed base amount in their quote with a variable rate per mile.

Similar schemes were introduced by **Corona Direct** in Belgium, **MAAF** in France and **State Farm** in the US.

**Fig. 1.5: In Belgium, Corona Direct commits to up to 50% savings with its pay-per-mile plan**



Source: Corona Direct

Thus, non-telematic UBI programmes use the similar statistical factors to assess the risk level of a customer. However, they levy the premium entirely or partly based on his / her actual mileage rather than as a fixed lump sum per annum.

However, these insurers suffer from a number of **drawbacks**.

First, the **odometer accuracy** is affected by factors such as tyre size and wear & tear which can lead to greater error in risk pricing;

Such systems also generally rely on the customer's honesty to calculate the periodic mileage but there is a clear **conflict of interest** for the consumer, which makes the system unreliable;

In addition, there is a **greater risk of fraud**. For example, it is easy to imagine photographs of fake odometers. This makes the system not easily scalable;

The **system does not gather any additional driver behaviour data** that can be used for more accurate risk pricing such as the time of the day when the vehicle was driven, the type of road on which it was driven, the distance per trip, his/her driving style, etc.

Finally, there is **no opportunity for generating additional revenue** through the sale of ancillary services.

In a nutshell, because mileage is the most important variable in the assessment of risk, policies based on odometer readings bring a step forward in the analysis and the pricing of risk.

However, numerous other variables can also add risk-rating accuracy. This is what telematics-based insurance can deliver.

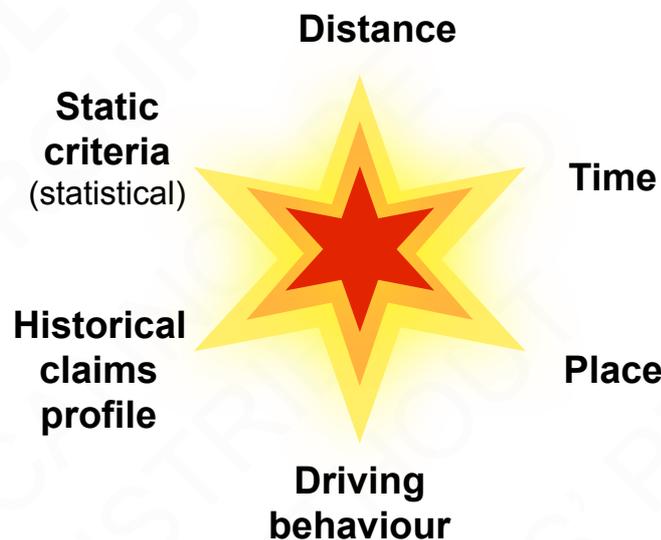
**b. Telematics-based insurance**

At the outset, most current insurance policies use static / statistical criteria to evaluate drivers' risks, notably age, gender, vehicle make & age, place of residence, occupation, etc.

After a certain period in the relationship, insurers take into account the customer's historical claims profile, also called No Claims Discount (NCD) status. In most countries, this translates into a bonus or malus.

Telematic insurance is a policy based on these 2 sets of criteria and **4 new, dynamic parameters**.

**Fig. 1.6: The driving risk star**



Source: PTOLEMUS

As mentioned earlier, telematic insurance policies were first started in the United States by Progressive Insurance in 2004.

They were called *Pay-as-you-drive* to indicate that the consumer's insurance premium would have a direct correlation with the total distance that he/she drove. A GPS device is generally installed in the car to track the distance driven and is automatically transmitted to the insurer.

It offered significant **improvements** over the non-telematic UBI products, notably:

- A GPS device can measure the distance travelled with greater accuracy as compared to an ordinary odometer;
- It does not rely on the consumer's honesty while reporting the annual mileage;
- The on-board unit (OBU) can be configured to track other parameters that can help the insurer to more accurately price the risk of the consumer;
- It can be used to deliver other driver services such as stolen vehicle recovery, emergency call, breakdown call and real-time traffic information.

Today, **telematics-enabled insurance policies are offered in 5 different continents to over 4.5 million subscribers.**

Insurance companies have developed various innovative business models to market these policies and the technological platform has improved to reduce the implementation cost and effort, increase the data collected and support a plethora of value added services to meet the needs of different consumer groups.

### ***The simplicity of Pay As You Drive (PAYD)***

In 2006, **Hollard Insurance**, the international insurance group, launched in South Africa the first commercial Pay As You Drive policy based on a black box solution. It targeted low mileage drivers, notably women, as well as young drivers.

It promised

- A reduction of the premium in case of an annual mileage below 25 000 km,
- The first 400 km free,
- A stolen vehicle tracking device,
- An emergency assistance button inside your car,
- A coverage including the way to a business meeting,
- Electronic logbooks of the distance covered available for tax purposes.

The company has maintained and expanded its PAYD offer to **6 different DrivePlan options**, based on the number of kilometres insured per month: *Drive-500, Drive-750, Drive-1000, Drive-1250, Drive-1500* and even an unlimited plan, *DriveMax*.

Premiums are collected monthly, on the first day of the month. **As with a mobile phone subscription**, if the driver exceeds his plan's included kilometres, he/she pays a variable cost per month. However, the user can roll over non-used kilometres from one month to another.

Hollard's pay as you drive offer is sold through direct channels, via a call centre and online.

**Fig. 1.7: Hollard Insurance - "Car insurance is like your new gym contract"**

**Don't pay for what you don't use**

LESSON 05

save as much as **30%** per month

SMS SAVE TO 41363  
www.payd.co.za

Source: Hollard Insurance

To market it, Hollard has even launched TV advertising campaigns that promise **discounts of up to 30%**. The main message is simple: pay only for what you need. Standard motor insurance contracts, similarly to fitness clubs, force customers to pay for something they do not need. By measuring what they actually need, discounts are possible.

Interestingly, Hollard supports several tracking devices, notably Tracker's SkyTrax or Hollard's own device (supplied by Scope Technologies).

To leverage Tracker's large customer base in South Africa due to a high rate of vehicle theft, **Hollard has also opened its *Pay as You Drive* plan to Tracker subscribers.**

In both cases, the customer pays a monthly subscription fee equivalent to €5-12 to rent the device. The €12 option notably includes stolen vehicle tracking, as shown in the following table. If his/her car is equipped with a device already, it can be used as well.

However, the model differs in one important dimension, the duration of the contract. The Hollard contract is a monthly agreement whereas Tracker requests a 3-year commitment.

Obviously, kilometre-based policies are a big step forward compared to standard flat-rate policies in approximating risks.

While remaining simple to understand, PAYD policies reward low mileage drivers, who, in almost all cases, carry lower risks. This is a big advantage compared to **standard policies, which de facto represent a subsidy of low mileage drivers to "road warriors".**

**However, PAYD does not take into account the behaviour of drivers.** For example, a trip on Saturday night will cost the same amount as a trip on Tuesday at 3 PM. In our view, this explains why the marketing focus of Hollard has been on women and pensioned workers, rather than on young drivers.

This is the reason why several insurers have launched telematics-enabled policies that take other factors than mileage into account. These are named **Pay How You Drive (PHYD)** policies.

**Fig. 1.8: Hollard Insurance' & Tracker's proposed plans** (in South African Rands)

Included items	Service provider		
	Hollard Insurance (Scope's device)	Tracker	
	DriveMate	SkyTrax Data	SkyTrax Recover
Mileage reporting	✓	✓	✓
Driving behaviour reporting*	✓	✓	✓
Roadside assistance	✓	✓	✓
Medical assistance	✓	✓	✓
Detailed trip reports	✓	✓	✓
Stolen vehicle recovery			✓
Automatic health checks			✓
High risk zone notification			✓
International roaming			(✓)
SMS polling			(✓) (R1 / request)
<b>Monthly cost for PAYD clients</b>	R60 / month	R58 / month	R133 / month
<b>Contract term</b>	Monthly contract	36 months	36 months
<b>Cancellation policy</b>	No cancellation cost if device is returned	Payment of R796	

Note: (✓) indicates an optional feature; \* Driver behaviour is not used in the policy pricing.

Source: Hollard Insurance

### ***The accuracy of Pay How You Drive (PHYD)***

In June 2009, **Liberty Mutual** launched such a scheme towards commercial fleets, in partnership with GE Commercial Finance and US Bank, the provider of fuel cards.

Built on Sensomatix' (now part of Verisk Analytics) driver behaviour software, it used tracking boxes from multiple TSPs (Telematics Service Providers): Geotab, Teletrac, Telenav and Telogis. Sensomatix' software platform provides driving behaviour data and risk scores to the insurer. To optimise the data generated, Liberty Mutual has selected devices that integrate accelerometers.

Therefore, in addition to mileage and the time of trips, it **records potentially dangerous events** such as speeding, cornering, harsh breaking, lane-changing, etc.

Liberty Mutual proposes fleets to increase the safety of their drivers and reduce their insurance premium and their fuel consumption thanks to 3 sets of indicators, integrated into a **single fleet dashboard**, shown below:

- A safety score, based on at-risk driving habits,
- A fuel score, conditioned on the use of the US Bank Voyager Fleet Card,
- An insurance discount score.

**Fig. 1.9: Liberty Mutual OnBoard Advisor's dashboard**



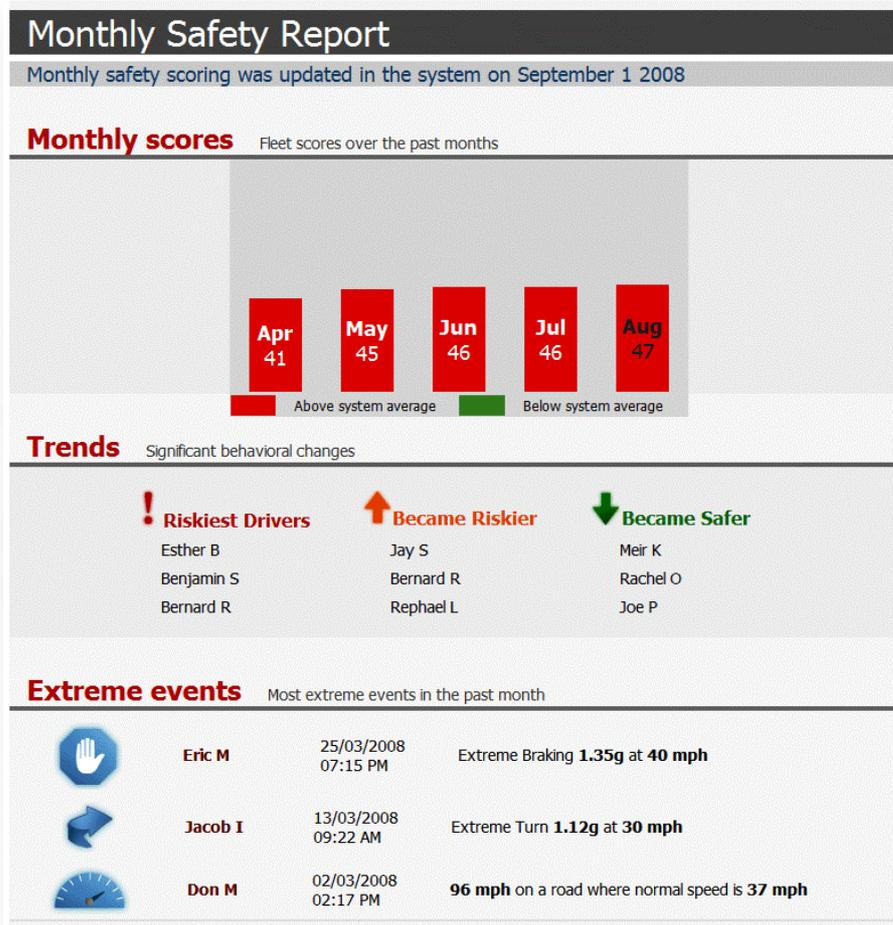
Source: Liberty Mutual

The fleet manager obtains statistics on the level of performance of its fleet and individual drivers. Such a report is shown hereafter.

If the fleet's company regularly monitors driving behaviours and provides monthly and direct feedback to drivers, Liberty Mutual promises **premium discounts of up to 40%** and typical reductions of 12-15% in fuel and insurance costs.

Thanks to Liberty Mutual's system, the fleet owner can promote safe driving behaviours and prevent accidents from happening. In addition to a fairer insurance policy, it delivers an **improvement in safety**.

**Fig. 1.10: Liberty Mutual OnBoard Advisor's dashboard**



Source: Liberty Mutual

While it is possible to question the impact on privacy of PHYD, it is clear that **actual behaviour-based insurance is a major improvement in the fairness of the insurance risk pooling system.**

**Discovery Insurance**, a South African personal insurance provider, has even coined the term of **DQ** ("Driver Quotient") in its commercial offering to show that the driver was ultimately in control of the premium he / she pays. We will be interested to read studies on the correlation between IQ and DQ...

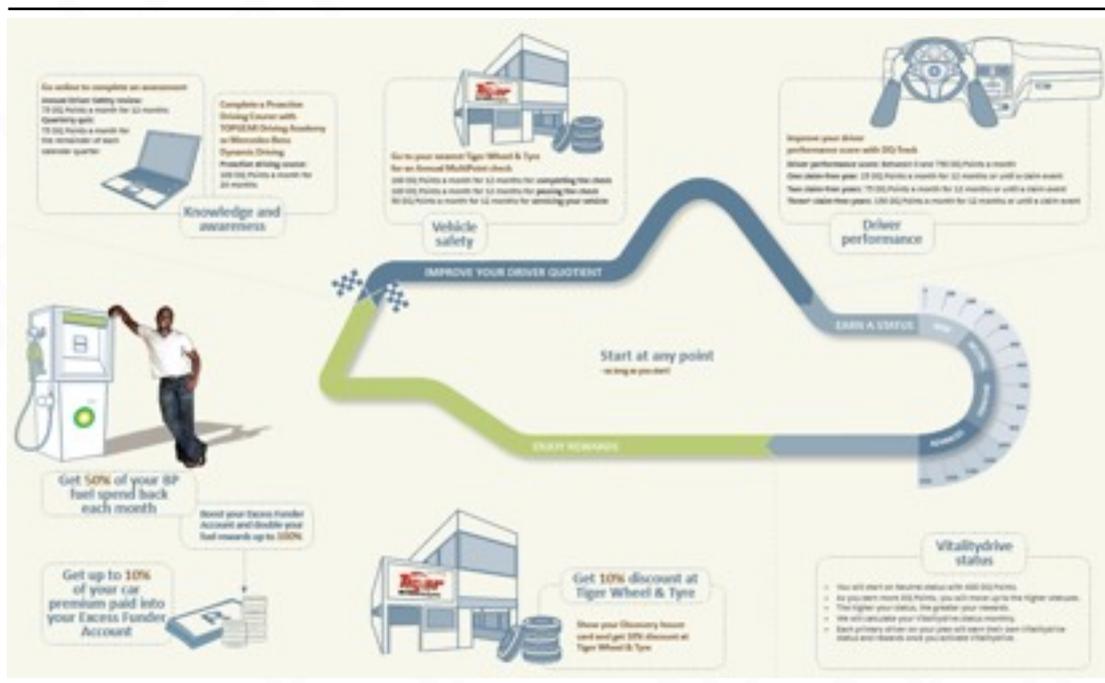
Discovery has launched a comprehensive Pay How You Drive (PHYD) programme called *VitalityDrive* that rewards good behaviour. If the customer drives well, he / she will earn DQ Points based on his / her behaviour and the more DQ Points he earns, the greater his / her reward is.

The programme is detailed in the next figure.

As part of its plan, **Discovery offers a large range of side benefits** that go beyond a reduction in the premium:

- Up to 50% discounts at BP gas stations for holders of the Discovery card;
- Up to 10% discounts at Tiger Wheel & Tyre, a network of tyre fitment centres specialising in performance wheels and tyres;
- Up to 10 % of the monthly premium allocated to an excess funder account; Funds can be used to pay the excess in the case of a claim or 50% of the balance can be withdrawn after 3 years.

**Fig. 1.11: Discovery's *Vitality Drive* - The better you drive, the higher your Driver Quotient , the greater your rewards**



Source: Discovery Insure

To help the driver earn extra DQ Points, Discovery proposes its customers to

- Use an interactive online tool to see their past trip information and driver records;
- Follow a *VitalityDrive* accredited pro-active driving course every year or a quarterly online quiz to win DQ Points;
- Take their vehicle to Tiger Wheel & Tyre for an annual multipoint check and ensure it is safe to drive;
- Read their safe driving articles and learn more about good driving practices and useful tips.

### 3. SWOT analysis of the 3 main rating models

We sum up thereafter the strengths, weaknesses, opportunities and threats of the three afore-mentioned key models.

**Fig. 1.12: SWOT of classic rating & pricing methodologies** (Rating based on statistic risk factors)

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>✓ Well understood by underwriters, agents and brokers</li> <li>✓ Well understood and accepted by customers</li> <li>✓ Vast amount of statistics available to correlate risk factors and claim statistics</li> <li>✓ Already built and well integrated into existing insurance IT (CRM, billing, claims management) systems</li> <li>✓ Low cost as does not require a device / an installation</li> <li>✓ Impact on privacy is limited to initial declaration by customer</li> </ul>	<ul style="list-style-type: none"> <li>* Based on statistical data, not individual behavioural data</li> <li>* Not dynamic - Based on risk factors at the time of first set up (afterwards, this depends on the willingness of the customer)</li> <li>* Significant delay between actual claims data and pricing decisions, generally resulting in 12 months time lag in pricing (an increase of claims in year N leads to increased premiums in year N+1)</li> <li>* Incentive to improve driving is indirect (better driving does not prevent accidents) and delayed (time to obtain a bonus)</li> <li>* Facilitates fraud as it is largely based on customers' own declarations</li> <li>* In case of an incorrect declaration, the risk exists of having an accident without indemnification</li> <li>* Limited opportunities to develop direct link with the customer (except through smartphone)</li> <li>* No ability to recover vehicle in case of theft</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>★ More and more statistical data sets are available, making the rating more accurate every day</li> </ul>	<ul style="list-style-type: none"> <li>◆ Rising costs of insurance for young &amp; senior drivers makes it unaffordable to drive in certain countries (notably the UK), pushing these segments towards telematics</li> <li>◆ Best customer segments generally pay more than they should, which could push them towards telematics-based solutions</li> <li>◆ Acceptance of traditional risk factors is decreasing as they are increasingly seen as sheer discrimination (cf. "post-coding" debate between ABI and the Conservative Party in the UK)</li> <li>◆ Gender ruling and other similar anti-discrimination rulings or European directives could prevent the use of the most useful risk factors (Age, postcode, etc.)</li> <li>◆ In Europe and Russia, mandated eCall and ERA-Glonass could push automotive OEMs to sell insurance themselves and even become insurers (as part of a larger motor finance unit)</li> </ul>

Source: PTOLEMUS

**Fig. 1.13: SWOT of self-reporting methodologies** (Rating based on insured's reporting of mileage)

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>✓ Simple model, easy to explain for brokers and direct agents</li> <li>✓ Well accepted by customers, which leads to good volumes</li> <li>✓ Positive incentive to drive less, leading to lower risks</li> <li>✓ Indirect positive effects on the environment (CO<sub>2</sub> emissions, noise, etc.)</li> <li>✓ Indirect positive effects on fuel consumption</li> <li>✓ Low cost as does not require a device / an installation</li> </ul>	<ul style="list-style-type: none"> <li>* Based on trust, i.e. fraud is very easy</li> <li>* Does not integrate other behavioural factors than mileage (e.g. driving times)</li> <li>* Declaration cannot easily be requested more often than on a yearly basis, resulting in 12 months time lag in pricing (an increase of claims in year N leads to increased premiums in year N+1)</li> <li>* Incentive to improve driving is indirect (better driving does not prevent accidents) and delayed (time to obtain a bonus)</li> <li>* Facilitates fraud as it is largely based on customers' own declarations</li> <li>* Little opportunities to develop direct link with the customer (except through smartphone)</li> <li>* No ability to recover vehicle in case of theft</li> <li>* Little control over risks in case of fleets</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>★ Increase in petrol prices pushes such usage-based models</li> <li>★ More and more data sets are available, making the rating more accurate every day</li> <li>★ Large diffusion of smartphones enables insurers to request customers to more easily send a digital photograph of their odometer</li> </ul>	<ul style="list-style-type: none"> <li>◆ Rising costs of insurance for young &amp; senior drivers makes it unaffordable to drive in certain countries (notably the UK), pushing these segments towards telematics</li> <li>◆ Certain attractive customer segments will still pay more than they should, which could push them towards telematics-based solutions</li> <li>◆ Acceptance of traditional risk factors is decreasing as they are increasingly seen as sheer discrimination (cf. "post-coding" debate between ABI and the Conservative Party in the UK)</li> <li>◆ Gender ruling and other similar anti-discrimination rulings or European directives could prevent the use of the most useful risk factors (Age, postcode, etc.)</li> <li>◆ In Europe and Russia, mandated eCall and ERA-Glonass could push automotive OEMs to sell insurance themselves and even become insurers (as part of a larger motor finance unit)</li> </ul>

Source: PTOLEMUS

**Fig. 1.14: SWOT of telematics-based methodologies** (Rating based on customer's own records)

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>✓ Individual pricing, based on actual driving behaviour (mileage, time, place, style, etc.)</li> <li>✓ Positive incentive to drive less, leading to lower risks</li> <li>✓ Indirect positive effects on the environment (CO<sub>2</sub> emissions, noise, etc.)</li> <li>✓ Indirect positive effects on fuel consumption</li> <li>✓ Ability to recover the vehicle in case of theft (for models with a black box)</li> <li>✓ Ability to provide eCall services and thus reduce the number of fatalities</li> <li>✓ Ability to strongly reduce fraud</li> <li>✓ Ability to provide actual driving data to actuarial models</li> <li>✓ Strong incentive to improve driving skills and style</li> <li>✓ Ability to adjust pricing on a dynamic basis (to the customer's driving behaviour and to market changing patterns)</li> </ul>	<ul style="list-style-type: none"> <li>* Unclear effect of telematics for the motor insurance market as a whole (risk of decreasing its size)</li> <li>* Cost of purchasing and installing (and potentially decommissioning) the device - Except for OBD models and smartphone applications</li> <li>* Difficult business case, notably in low motor premium markets</li> <li>* Complex business case for low premium drivers</li> <li>* Perception of possible infringements on privacy (Big Brother effect)</li> <li>* Requires a strong CRM system</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>★ Decreasing cost of telematics devices</li> <li>★ Better acceptance of customer for the use of privacy data</li> <li>★ Ability to discriminate based on real risks instead of gender-based, age-based pricing that will / may become unlawful</li> <li>★ Live customer feedback possible (thanks to a display in the car)</li> <li>★ Low cost, self installed EOBD dongle solutions</li> <li>★ Ability to sell more value added services (Real-time traffic information, vehicle locator, roadside assistance, remote diagnostics, etc.)</li> <li>★ Use of more accurate CAN bus-related data</li> <li>★ eCall becoming compulsory for new car models in the EU from October 2015</li> <li>★ ERA Glonass becoming compulsory for new car models in Russia in 2014-15</li> <li>★ Brazilian stolen vehicle tracking mandate (CONTRAN 245) could be enacted in 2014</li> <li>★ Growing market of connected vehicles</li> </ul>	<ul style="list-style-type: none"> <li>◆ Risk of backlash against "customer tracking"</li> <li>◆ Laws preventing insurers to charge for the rental of the device (as latest Italian law)</li> <li>◆ Interest of OEMs for value added services around the connected vehicles as insurance service provision</li> </ul>

Source: PTOLEMUS

#### 4. A European perspective on insurance telematics

The European insurance telematics market emerged in 2006, with the launch of Norwich Union's PAYD programme in the UK. Although that programme was eventually stopped in 2008, PAYD continued to flourish in Europe.

In July 2013, there were **2.1 million telematic insurance customers in Europe** with a majority of them concentrated in Italy, the UK, France and Spain.

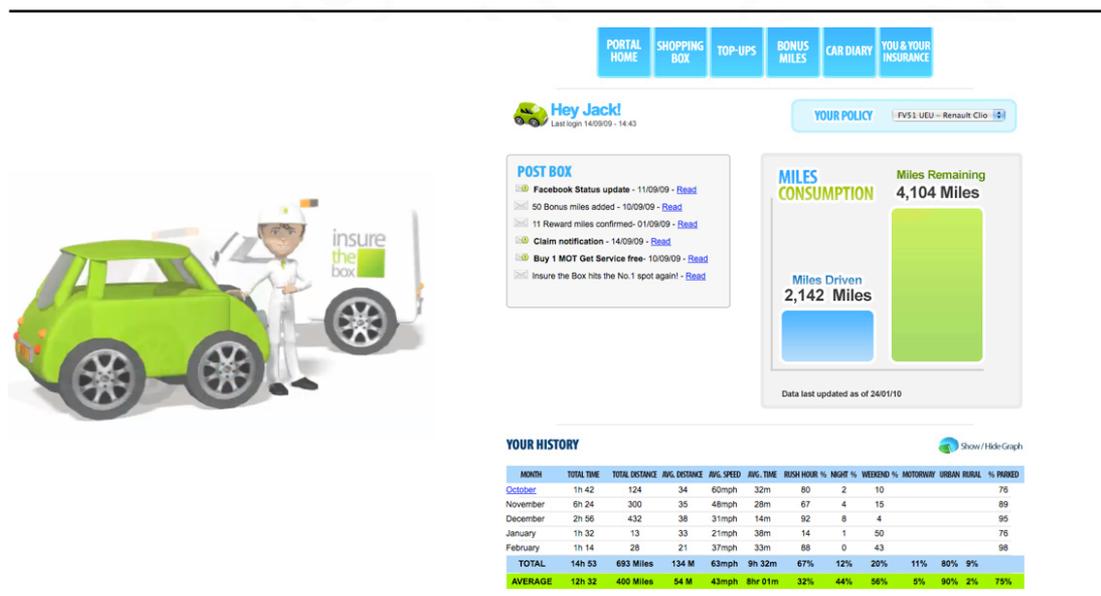
Indeed, Europe has become **the most important market for insurance telematics** and is becoming a field of experimentation for the entire industry.

A number of **innovative business models** have emerged and an increasing level of consumer acceptance is being witnessed. This is particularly visible in the **young driver segment** where most of the trials and nationwide launches have been focusing on. Young drivers are the perfect target for European trials since they pay more, have more accidents and care less about privacy.

In January 2009, **Wunelli**, a telematic service provider partly owned by Cobra Automotive Technologies, launched the **Coverbox** panel in the UK in partnership with a number of leading insurance companies including Allianz, Groupama, The Co-operative Insurance, Sabre and Markerstudy 'to prove to the insurance industry that telematics can work effectively with motor insurance and assist in reducing risk.'

More recently, **Insure the box**, a provider of telematic insurance in the UK, has partnered with brands such as Marks & Spencer, The Carphone Warehouse, B&Q, Dixon's, etc. It offers its customers 'Reward Miles' (i.e. discounts on their motor insurance) when they shop online through its dedicated portal.

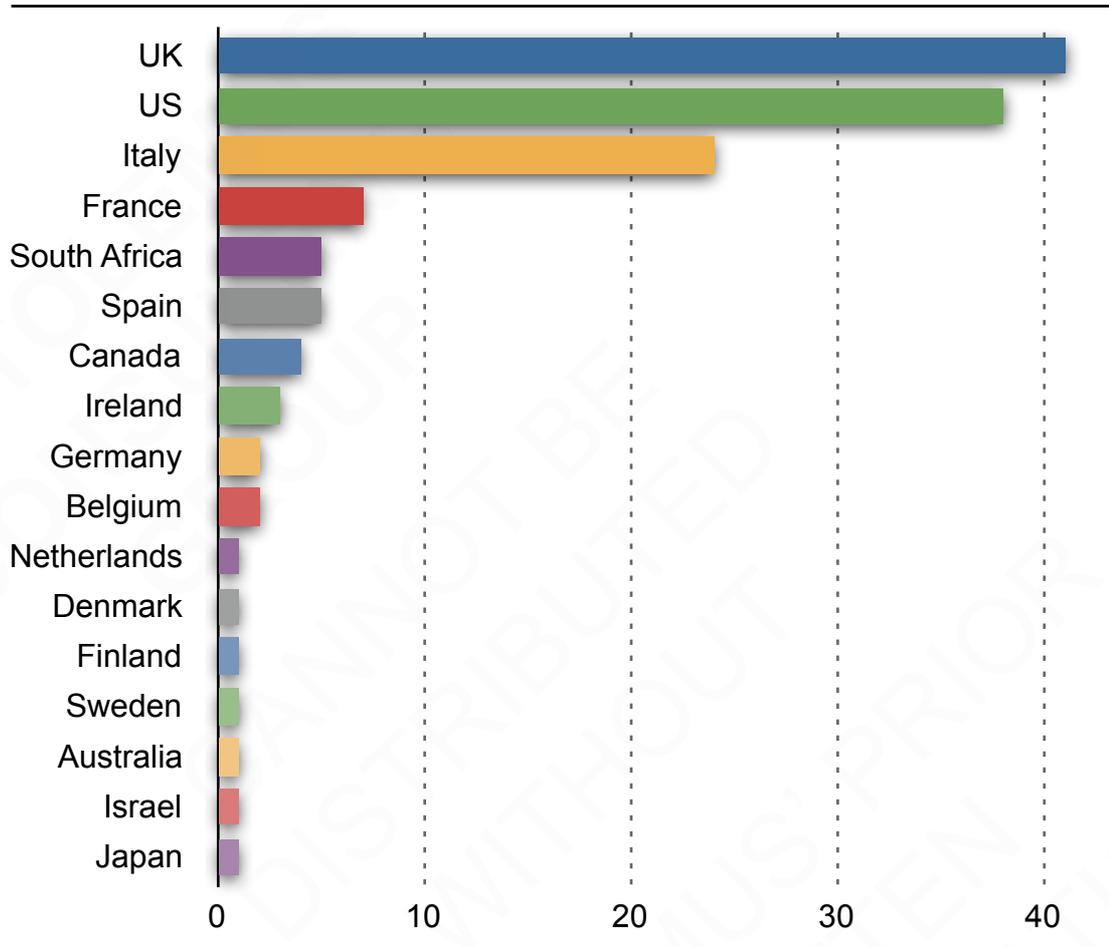
Fig. 1.15: The web portal for Insure the box' customers



Source: Insure the box

This high level of activity and innovation proves that insurance telematics is also taking hold in Europe. The difficult economic environment in Europe has further encouraged consumers to look at new ways to cut their costs.

**Fig. 1.16: 130 PAYD and PHYD insurance trials and launches**



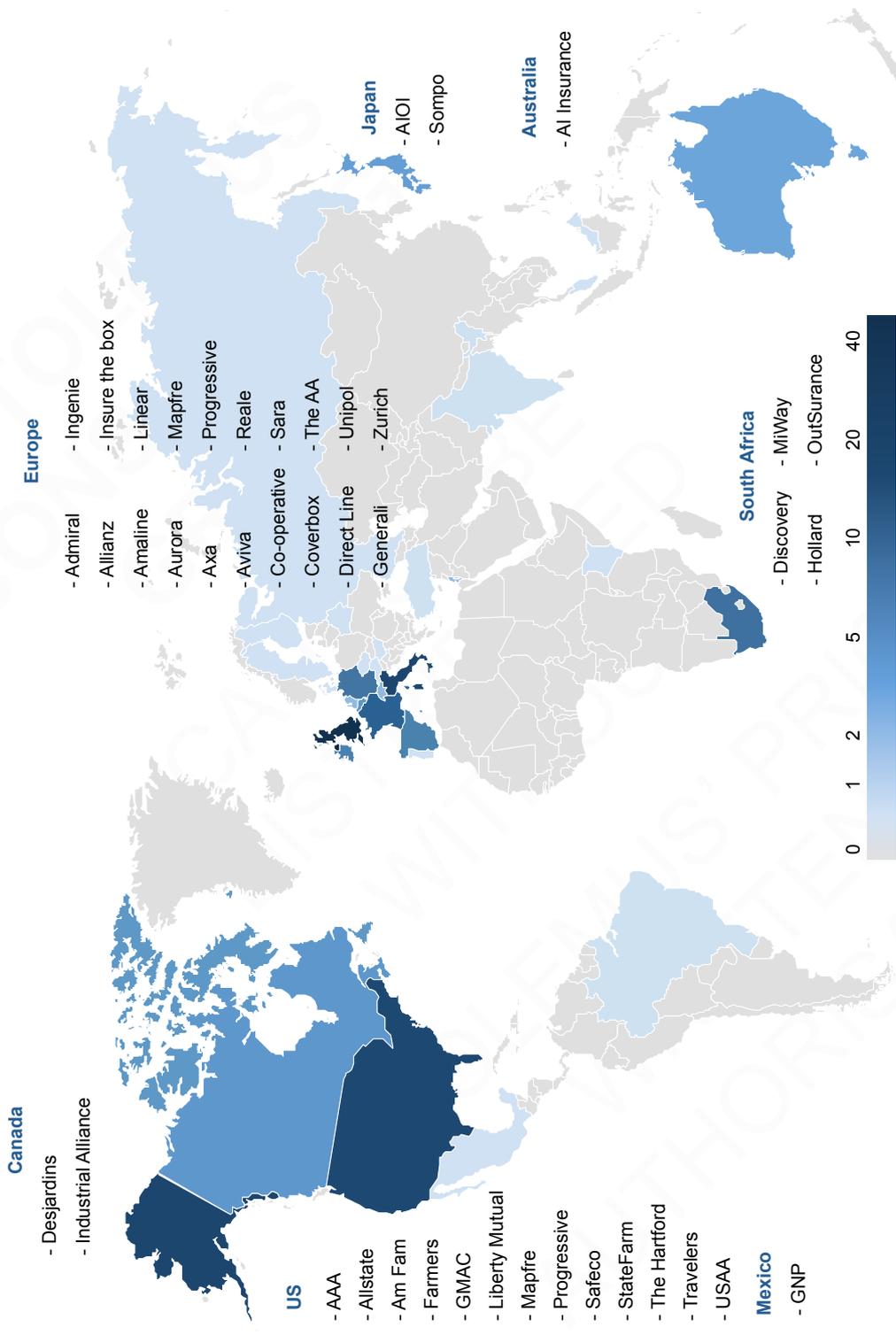
Source: PTOLEMUS

Numerous insurers are finally willing to seriously consider telematics as an option. The recent rulings on gender discrimination and the ITS (Intelligent Transport Systems) directive are likely to give further impetus to the growth of insurance telematics in Europe. The effects of the ITS directive are analysed in section II.A.5

With all this optimism however, there is also the **need of a reality check**, as several hurdles still remain before telematic insurance products and accompanying services can become a common sight.

As of today, we have mapped the numbers of trials and programmes launched globally. While most markets are already described in the chart above, it is interesting to see that numerous trials are also taking place in secondary markets.

**Fig. 1.17: UBI launches & trials around the world and some of the companies involved**



Source: PTOLEMUS

## 5. The US market's appetite for telematics

In the US, the OBD-II dongle became the device of choice from the start. All vehicles produced after 1995 have an **accessible OBD-II port**, power and some diagnostic data available. The low cost, self-install solution could therefore be **aimed at the general public** and not just at specific, high premium segments.

Progressive's *Snapshot* success triggered a wave of trials from most national carriers (Geico being the notable exception). A few patterns have appeared:

- The number of test devices needed to research has been underestimated,
- The amount of devices needed for the first trials has been overestimated,
- And once the programme was on, the consumer pick-up has been underestimated.

In fact, acceptance rate and (conservative) take-up estimates were all **wrong sometimes by a factor of 2 or 3**. Nationwide predicted that 10% of their new sales would take up the device offer. In their initial pilots, the actual rate was nearly 30%.

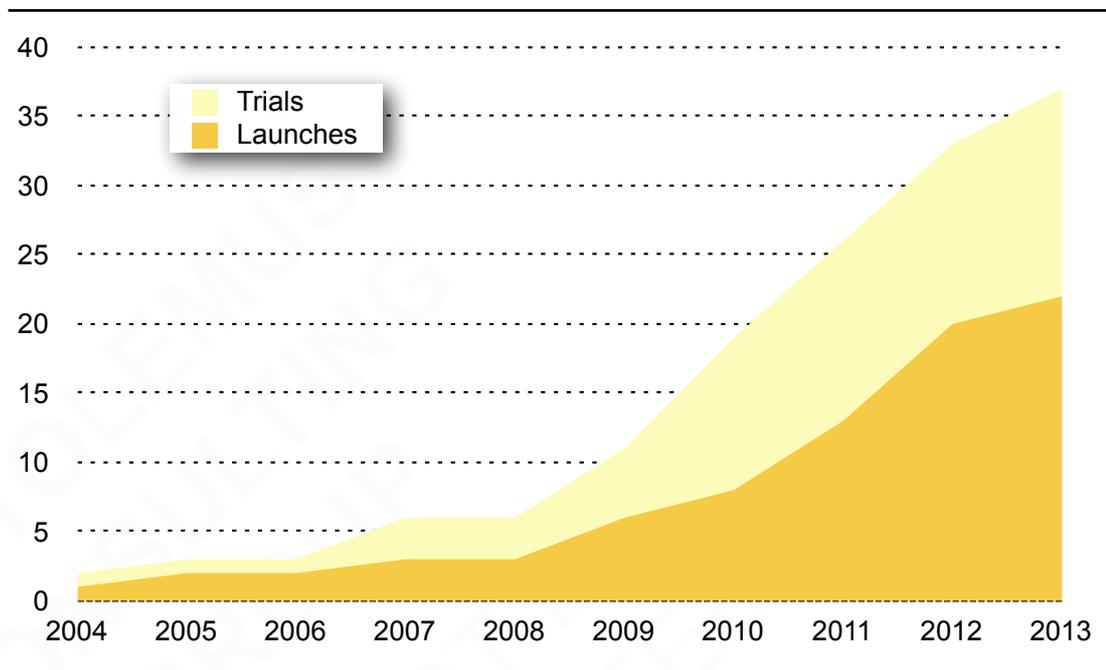
Allstate found that depending on how much the agents were pushing *DriveWise*, the take up in certain states was as high as 50% of new contracts using the device. They had been expecting 10-15%.

On the other hand, some of the carriers chose not to roll out UBI after the initial trials or restricted their public offering to **specifically targeted, very narrow niches** such as teen drivers or accident forgiveness. Some of these programmes, such as USAA's *Young Driver Intelligence* programme did not even include behaviour-based pricing in order to avoid Progressive's patents.

**In 2011, the US market accelerated again** under the influence of 4 factors:

- Progressive's advertising campaign had been very **effective at educating and motivating drivers** to switch to UBI,
- The **lack of concern about privacy from young drivers** was totally underestimated,
- The **recession** had pushed people to find new ways to save money,
- The launch of new original offers supported by millions in advertising created an **initial rush**.

**Fig. 1.18: Insurance telematics trials and launches in the US**



Source: PTOLEMUS

### ***US insurance carriers have very specific reasons to go to UBI***

- **Positive selection:** the first entrants had the advantage of being able to attract the drivers that thought they were safe and that were ready to prove it. Further market entries continue to place a strong emphasis on the self-selection process and the forthcoming smartphone applications that US carriers are expected to launch in fall 2013 will emphasise that trend.
- **Customer acquisition:** the dongle is a very simple tool to demonstrate savings. A driver does not need to be insured by the programme to start using the programme. After the observatory period, the carrier can demonstrate the discount to the potential customer and acquire it.
- **Customer retention:** this is often hidden from view of the public strategic presentation but our research has shown it is a very strong argument for US carriers. The device in the vehicle as well as the relationship created and the year-2 discount are all factors motivating the driver to stay with his/her own insurance. Since the families are often combining their assets into one insurance contract, it is competitively essential for every carrier to include a UBI programme in their portfolio.

How carriers have gone to market has also been very different than in Europe.

- **Technology exclusivity:** Technology understanding and ownership has been placed at the centre of the US carrier's strategic decision process. This has resulted in early bilateral exclusive partnerships such as those between Progressive and Xirgo or between Allstate and GM.
- **Deeper involvement:** Carriers have done it by themselves first, using TSPs after the trials. Large companies have created programmes themselves rather than new brands or subsidiaries to provide UBI. As a result, there are **no pure-play** UBI insurers in the US.
- **Actuaries' flexibility:** rather than always looking for the best data and trusting nothing else, US carriers have started from the philosophy that "**some data is better than no data**". As a result, PAYD programmes have started based on *some* mileage provided by the vehicle or the fleet manager. Zurich North America, Liberty Mutual and State Farm have shown examples of what is to come; actuaries are now able to enhance their pricing mechanism with a variety of data type, quality and source.

Smaller and later entrants have then chosen to use Telematic Service Provider (TSP) partners to reduce their exposure to the fast service evolution and create more differentiation as the competition started to increase.

TSPs are also more adept at bearing the weight of rapid service and technology evolution and the churn resulting from supporting many and new devices. The models, partnerships and services using TSPs are detailed in Section III.

### ***One carrier has noticeably stayed on the side***

**Geico** is the second biggest insurance group in the US but has not yet shown signs of interest in UBI. Despite spending more than **\$1 billion in advertising** in 2012, ahead of Allstate at \$829 million, State Farm at \$778 million and Progressive with \$526 million according to SNL Financial, Geico's enthusiasm for technology has been limited to smartphone applications.

Warren Buffett's Berkshire Hathaway Inc., Geico's parent group said in May that they were watching what Progressive does "with interest," but had no plans to roll out a similar product adding there were other ways to segment customers.

Other reasons for Geico to stay on the side could include regulations and the current patent situation. We analyse this in details in the section III.B.1.

## 6. Who is UBI for?

### a. The young market

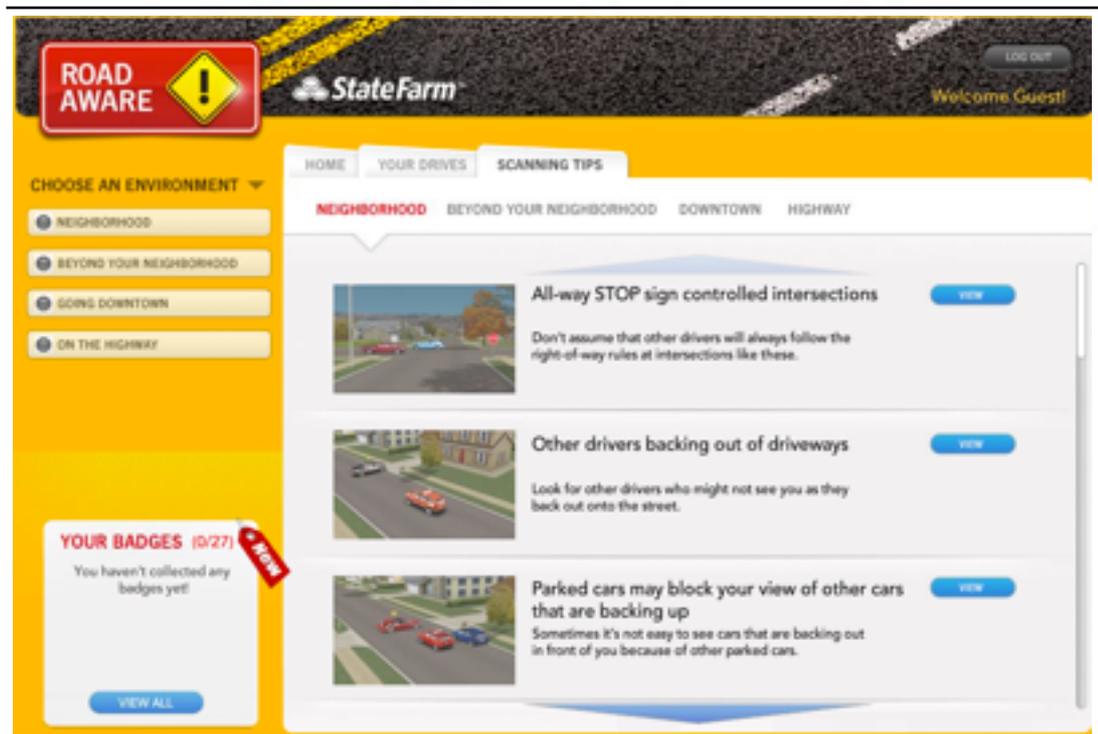
Globally, the teen/youth market is a very strategic market to target with UBI and safety-related services.

However, the **UK's early focus on young drivers has been more the exception than the rule**. Most insurers are looking at the young market for small scale trials, whether for technology testing or gathering data. However, a business model based on an accident-prone driver paying individually more than €2,000 in premiums is **difficult to scale** over many other segments.

The young driver market in the US and other countries, such as France, is seen as a minority niche. In many countries, most young drivers' policies are an extension of their parents', and it is therefore uncommon for a new driver to have an insurance policy in his own name. US law actually requires **the owner of the vehicle to be the policyholder**, irrespective of who the driver is, and drivers living at the same address must specifically be covered on the same policy.

**Teen programmes** are, however, common and requested by parents, especially in the US since drivers receive their first car earlier than in many other countries. These programmes are designed to bring security and surveillance, with monitoring done by the parents.

Fig. 1.19: Web-based tool: *Road Aware* from State Farm



Source: State Farm

State Farm offers *Road Trips*, a web-based tool that **gives parents 3-minute tutorials** on how to teach their teens critical driving skills. It also allows them to log their teen's progress. They also offer *Road Aware*, a free online tool to help teens learn to anticipate road hazards.

The opportunity is there for carriers interested in loss prevention as well as looking at communicating on safety and improving driving behaviour. American Family already has a *TeenSafe* programme that helps parents rate their teens' driving, but **does not price a policy using that rate**. The insurer believes the teenage/young driver market is, in fact, very fertile and will see many companies pursuing the segment in the near future.

Smartphone applications are also common, but they are yet to evolve into fully fledged UBI service offerings. This is an obvious step forward, since, for a lot of carriers in the US, the **churn costs** are very high in that segment, with a lot of **uninsured drivers** and a very **low retention rate**. We assess the first steps, the business opportunities and the viable models in section II.A

### **b. The middle market**

We define the middle market as the age group above 30 and below 65 years old. UK insurers see the middle market as a second stage target. Retention being a very difficult proposition after two years, they are looking at options using different reward propositions (rather than discounts), **different devices and different service types**. For all the European insurers we interviewed, the middle segment is where the business model becomes very complex, since the cost of the device is too high for the premium, the discount too low and therefore the proposition less appealing.

In the US, the middle market is where the majority of the offerings are, as we saw earlier. It is also where the offers will have to evolve rapidly to attract the majority of drivers still not using UBI.

In our view, there are **several potential strategies** to address this segment.

The first one, deployed in the US, is to **rely on low cost telematic solutions**. It has proven effective.

The second one is to target subsegments that have higher than average premiums, e.g. customers in **high risk areas**, high end car owners, etc. This is the strategy chosen by Genertel, Generali's online unit, in Italy.

A third one is to provide paid-for **value-added services** to increase unitary revenues. The Verein öffentlicher Versicherer in Germany and Uniqa in Austria have deployed such models.

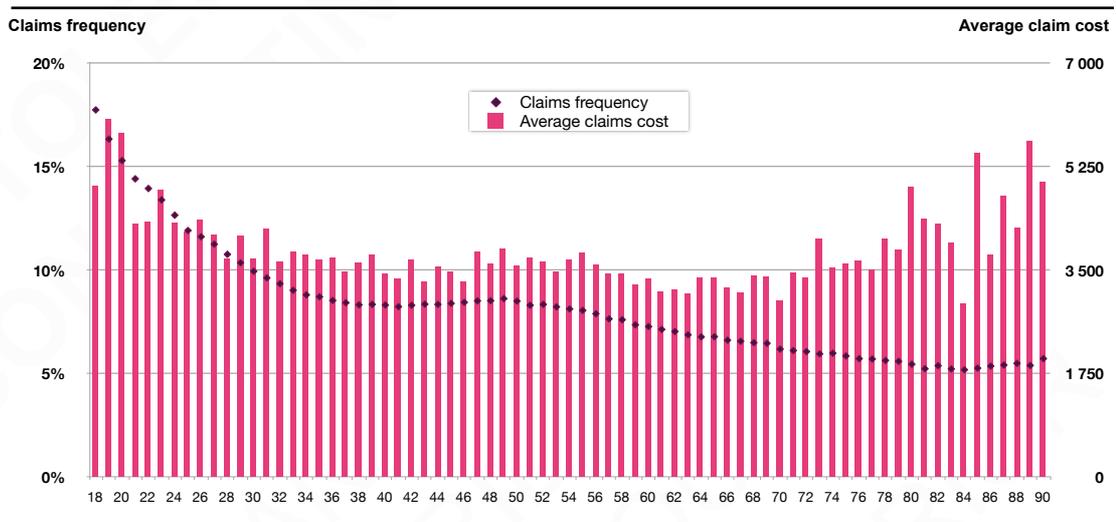
We will evaluate the effectiveness of these strategies in the section II.

**c. The senior driver segment**

Berkshire Hathaway’s 82-year-old Chairman and CEO, Warren Buffet, recently said that he is less likely to be involved in an accident than a 16-year-old male because the younger man is “trying to impress the girls”.

In fact, the losses generated by older drivers, notably above 75, are often **comparable to those of younger drivers**. As shown below for Italy, while the frequency of claims remains lower, the severity of these can be very high.

**Fig. 1.20: Average claims frequency & severity of Italian drivers, by age**



Source: ANIA, PTOLEMUS - Note: 2010 statistics for MTPL insurance; Claims cost in Euros.

The population in the US, Europe and in numerous emerging markets is ageing rapidly, and the premiums increase steadily once drivers reach the age of 60. Yet this is a **segment that is never addressed specifically**. Generally older drivers do not tailgate or take corners too fast, but can be too slow and miss turns, which is dangerous in a completely different way.

The problem is that, unless set up specifically, most telematic programmes do not regard this as dangerous driving.

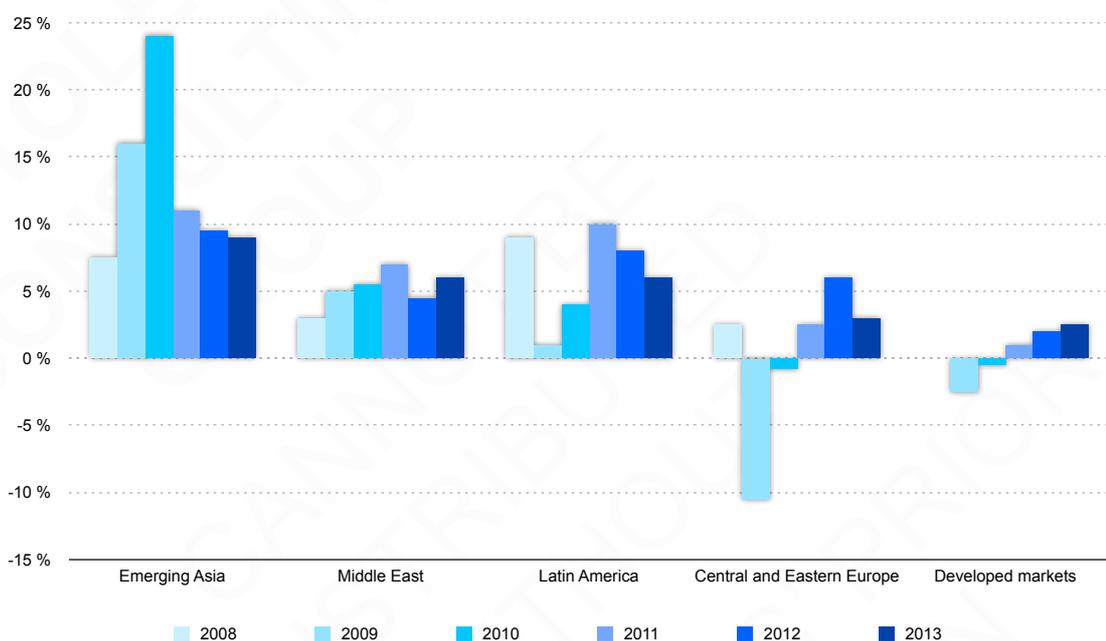
In fact, today’s **insurance telematics does not work for old drivers**. The thresholds on breaking and accelerating are tuned to isolate only impatient or aggressive driving. Older drivers do cause accidents, due to different causes. Also, they drive much fewer miles, since they do not have to commute anymore. **The present models of PAYD and PHYD would need to be entirely rethought to apply for this segment.**

## B. The motor insurance market predicaments

### 1. A maturing business in the most advanced markets

As shown in the figure below, there is a wide contrast between the growth in the most developed markets, comprising notably North America, Western Europe and Japan, and other regions.

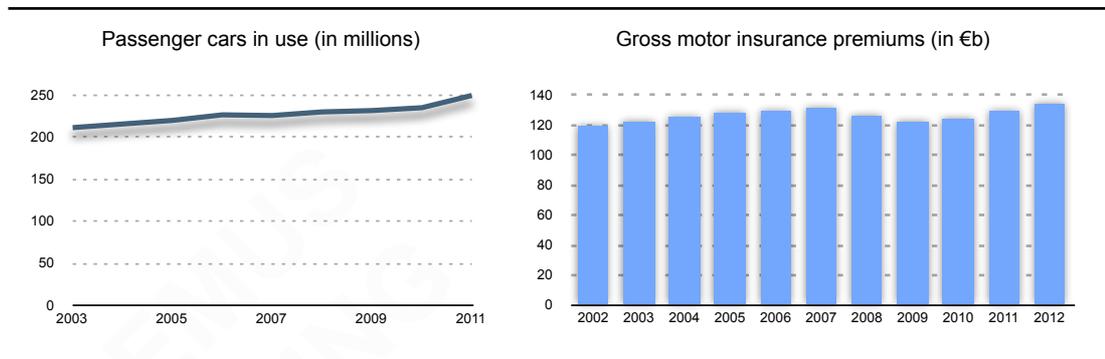
**Fig. 1.21: Non life insurance growth is flat in the most advanced markets**



Source: Swiss RE

While the number of passenger cars in use is growing at an average growth rate of 1-2%, the European motor insurance market has stagnated. As shown in the figure thereafter, premiums generated by the industry were the same in 2011 as in 2006. Given that the number of passenger cars in use has increased in all countries, this obviously means that the average premium has decreased.

**Fig. 1.22: The European motor insurance market has entered a stagnation phase**



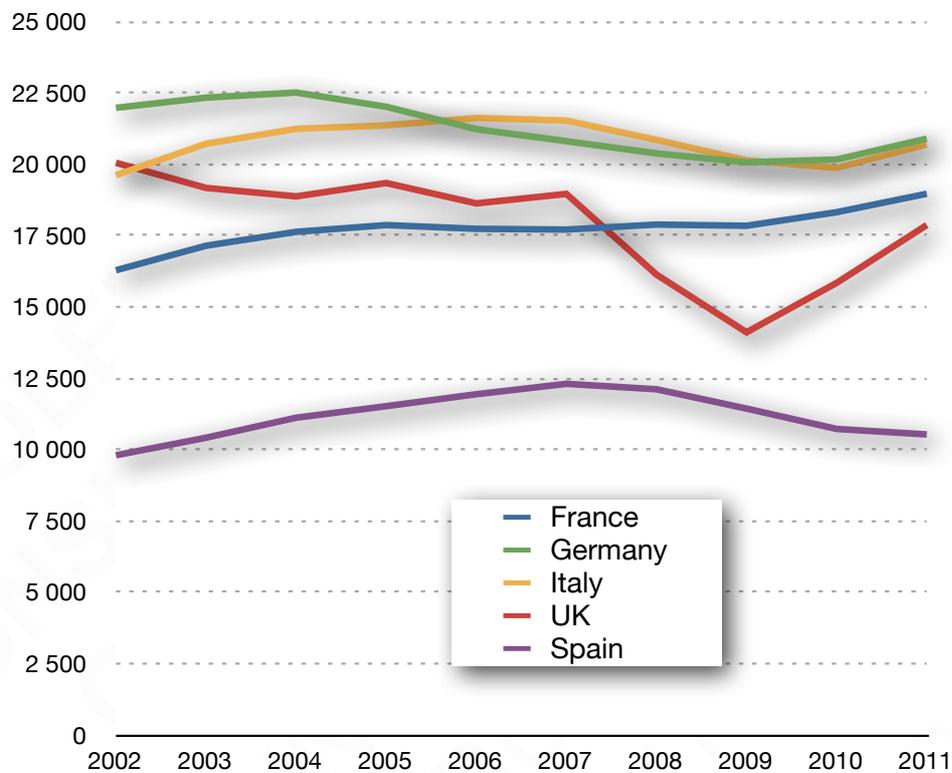
Source: Insurance Europe

Most of the largest markets, notably Germany, Italy, the UK and Spain, have declined in the last 5 years, notably due to the economic recession. The most affected country has been the United Kingdom, probably due to a more cyclical economy.

However, we must qualify this description. The French market has constantly grown in the last 10 years. Similarly, supposedly highly competitive and mature countries such as Belgium and the Netherlands have experienced total premium increases by respectively 27% and 9% between 2002 and 2011.

In addition, all new EU countries such as Poland and Romania have experienced rapid growth in the last 10 years. For example, the Romanian market has been multiplied more than 6 times during the period.

**Fig. 1.23: Gross premiums in key European markets are on the decline (amount in €m)**



Source: Insurance Europe

With gross premiums stabilising and average premiums falling, **insurers in mature markets need to look at new ways of maintaining profitability.**

In certain markets, insurance premiums are rising again, notably in the UK. Admiral reported increases of 12% in 2009, 23% in 2010 and 11% in 2011 but their premiums decreased again by 9% in 2012 to £579.

However, this stagnation of premiums is aggravated by the **rise in claim expenditures**. Numerous insurers continue to see their profitability deteriorate, notably due to the increase in personal and bodily injury claims, which has a strong impact on average severity.

The Financial Services Authority (FSA), which notably regulates motor insurers in the UK, recently reported that the combined operating ratios for the market reached 105% in 2011. This implies that insurers lost about 5p for every £1 they collected in premiums.

## 2. Increasing churn

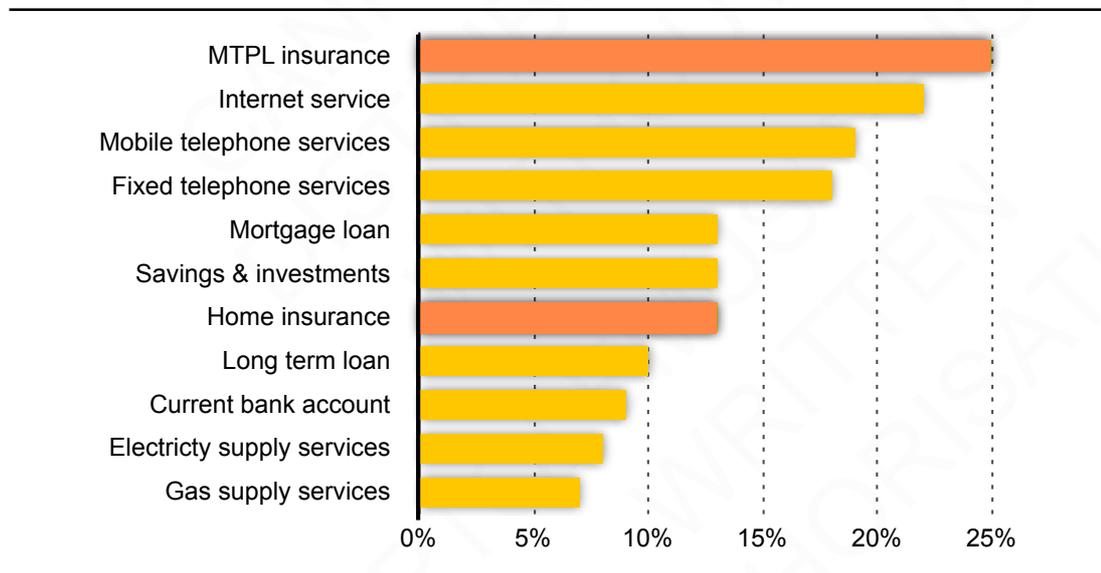
It is difficult to evaluate whether competition has increased in the European market. For example, Insurance Europe, the association of European insurers, does not publish average premium statistics across a long period.

In particular, it is not clear whether the decrease in the number of motor insurers in the EU (from 1 385 in 2002 to 1 099 in 2007) is due to more intense competition or simple capitalistic concentration moves. Even in growing markets such as France, the number of motor insurance companies has been cut by 25% between 2000 and 2009.

While motor insurers' combined ratio exceeds 100 in a large number of countries, this does not in itself indicate increased competition. Many interviewed insurers have indicated that motor insurance is the entry point to a larger offering comprising property- and life insurance. As such, **most insurers "subsidise" their motor insurance activity** and consider it as a **customer acquisition cost**.

Nonetheless, it is true that in most EU countries **it has become easier for customers to switch insurance providers**, as the chart below attests. There is a noticeable difference between home insurance and motor insurance (MTPL in that case), which is affected by a much higher churn level.

**Fig. 1.24: Share of Europeans who have tried to switch their provider in the last 2 years (%)**



Source: European Commission - Euromonitor January 2009

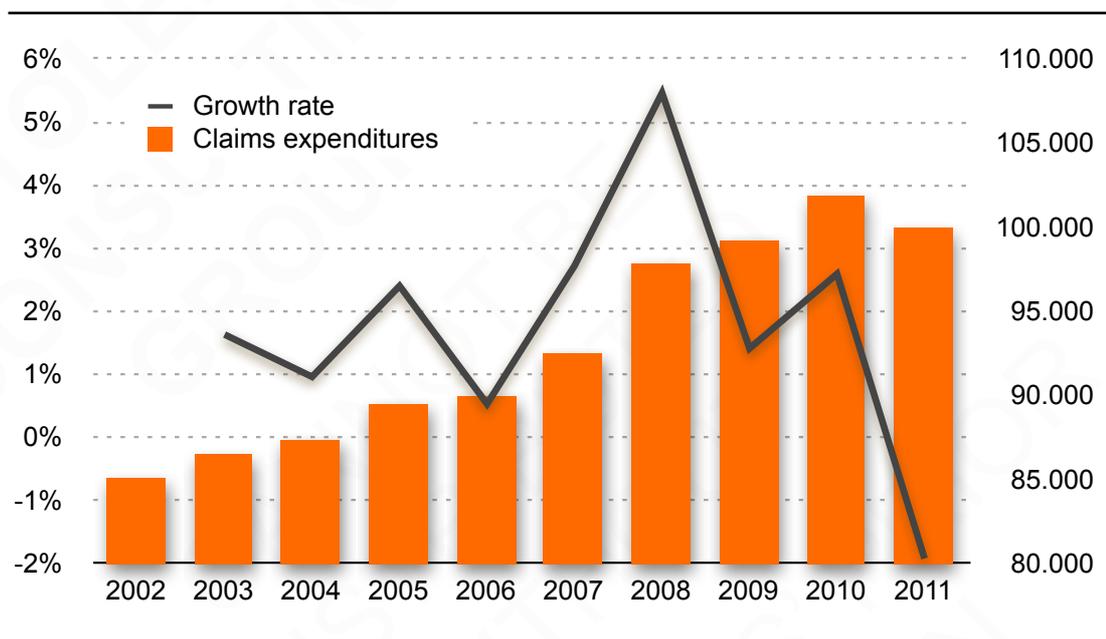
This is due to the growing role of direct insurers, online comparison tools, aggregators, etc. Increasingly, changing your motor insurance provider is just one click away.

### 3. Rising claims costs

A key feature of the present day motor insurance market is the increasing outlay on claims. While the number of accidents has decreased, the actual expenditure on claims has increased across all major European markets.

According to Insurance Europe, total claims have grown almost 20% in the period between 2002-2010 across Europe. While the claims ratio decreased at the beginning of the decade, it has not stopped growing since 2005.

**Fig. 1.25: Rising motor claims expenditures in Europe (€ in millions)**

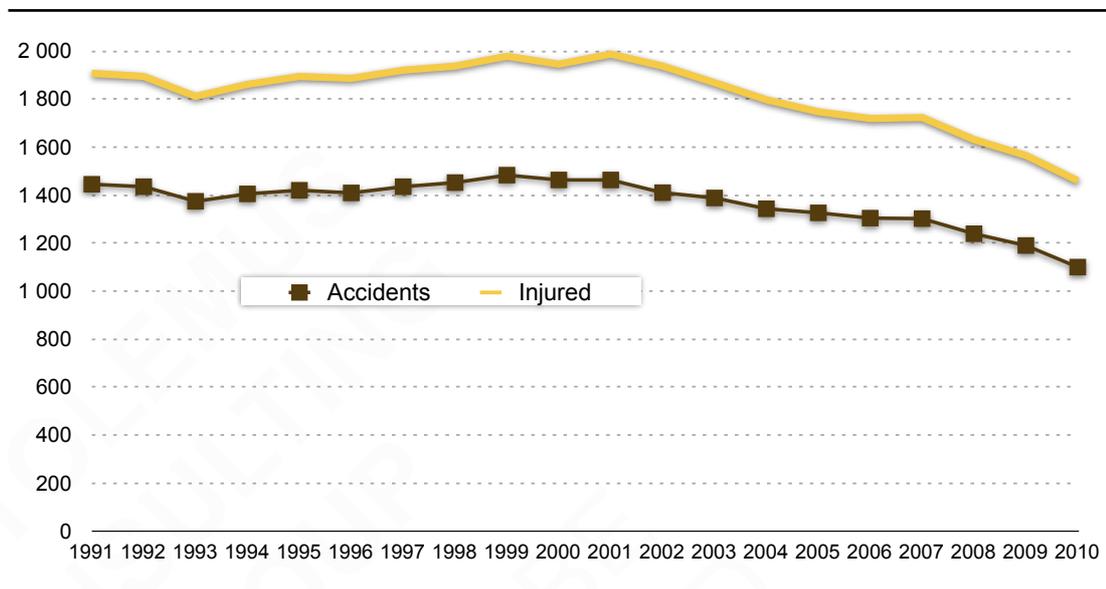


Source: Insurance Europe (EU 27)

**This growth of claims costs goes against the long-term trend in the reduction of accident volumes and the number of fatalities.**

Between 2000 and 2010, the number of fatalities in Europe has decreased by 38%. The number of injuries has decreased by 20%, as shown in the chart hereafter.

**Fig. 1.26: Number of road accidents and injured in Europe (in thousands)**



Source: European Commission (Directorate General Energy and Transport)

The increase in claim costs can be attributed to 3 main factors, namely repair costs, personal injuries costs and fraud.

We describe each of these thereafter.

### **a. Repair costs**

The claim costs for motor insurers have been rising steadily across Europe and this is in part due to the rising prices of spare parts and repairs.

It is estimated that automotive OEMs generate up to 25% of their net income from spare parts. They leverage the fact that competition virtually does not exist in this market as the customer cannot choose its part supplier. **The prices of spare parts have increased by 22% on average in the last decade** in the European Union.

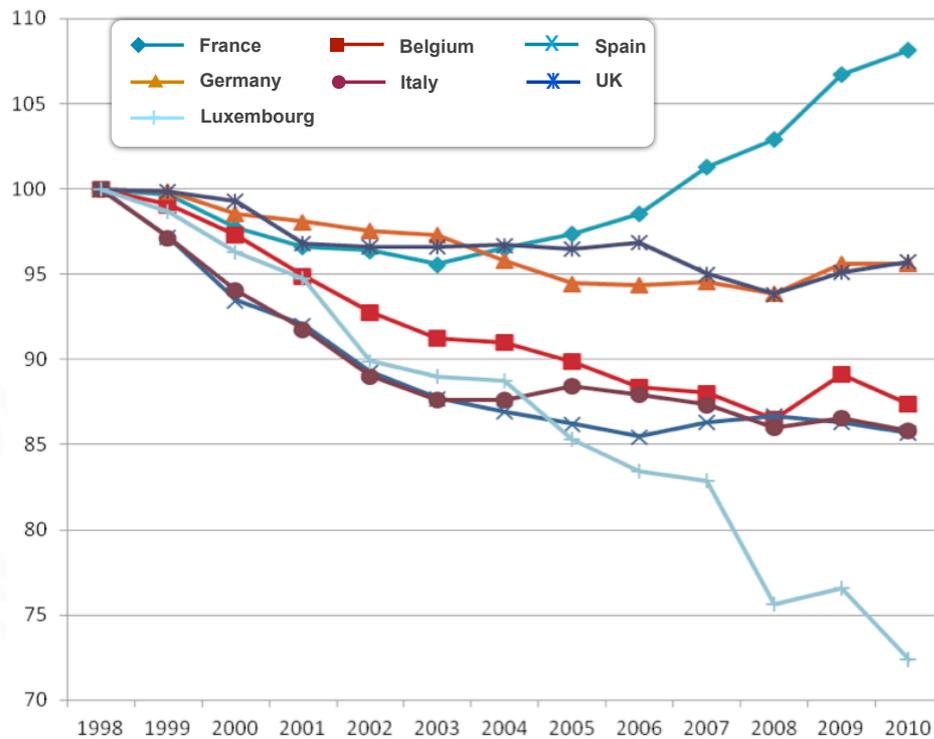
However, the EU market is not uniform in that respect.

In **France**, the price of spare parts (excluding tyres) has increased by 25% between January 2005 and October 2010 - as shown in the chart thereafter. In addition, 85% of bodywork repair revenues are generated by insurance claims and the repair centres controlled by car makers generate 53% of the sector's revenues.

This has led the French Competition Authority to launch an investigation in July 2011 and a public consultation on the subject in April 2012.

In October 2012, the Authority recommended the market for visible spare parts (hoods, bumpers, windshields, mirrors, etc...) to be gradually opened up in the coming years. Although its recommendations are not binding, they could lead to law-making initiatives at the French or European level.

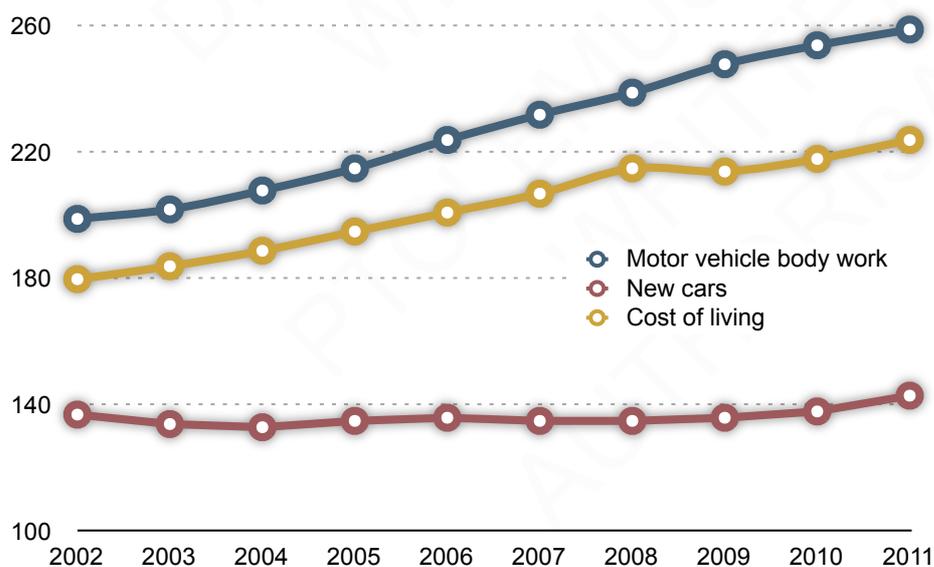
**Fig. 1.27: Price index of automotive spare parts & accessories (100 = 1998)**



Source: Eurostat (Prices in real terms)

In the US, the price increase has been felt particularly badly in the cost of repair as the graph below indicates.

**Fig. 1.28: The increasing cost of repair in the US**



Source: US Bureau of Labor Statistics

Unless public bodies mandate an open market for spare parts, this trend is likely to remain.

Manufacturer-run workshops tend to be more expensive than others and as such, insurers tend to discourage their customers from using them.

In certain countries, such as the UK, spare parts' prices have now grown but general repair and maintenance prices have increased very fast - 50% more than inflation between 1998 and 2010.

To counter this, most motor insurers are now tying up with certain "**preferred partners**" in order to cut down their claim costs.

This is the case of Pacifica, Generali, Aviva, Thélem Assurances and Sogessur, which have partnered with Assercar in France. The insurance companies have even taken a stake in the company's capital.

**Fig. 1.29: Five insurers have partnered with Assercar in France**

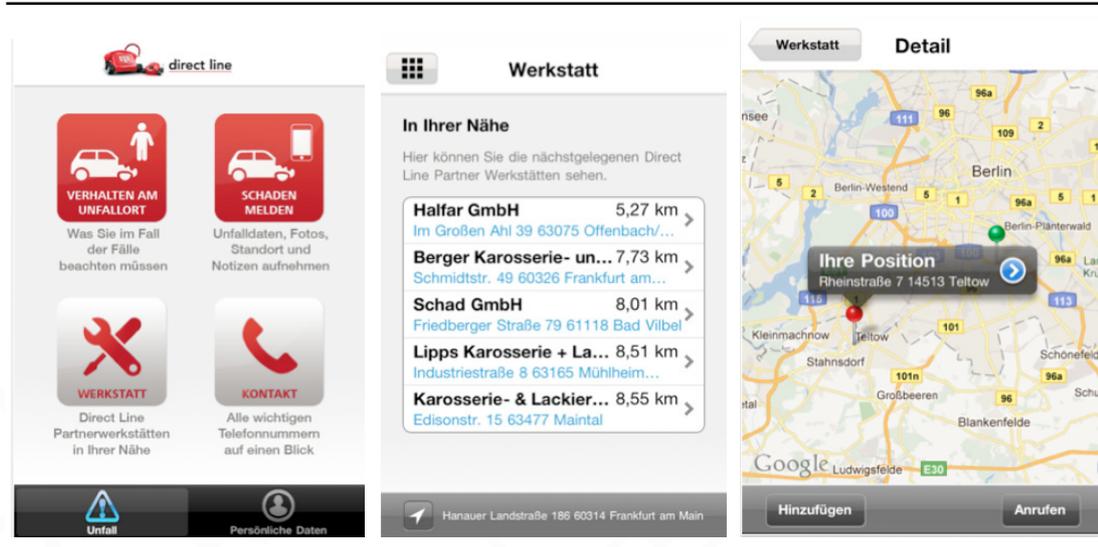


Source: Assercar

However, promoting the use of these partner networks remains a challenge, notably because insured customers tend to go the closest garage (or the garage they are used to) when they have an accident.

This explains why numerous insurance houses have launched mobile applications that notably guide their customers to the nearest certified repair centre.

Fig. 1.30: Direct Line's mobile application helps German customers find partner workshops



Source: Direct Line Deutschland

## b. Personal injury claims

Despite the decrease in the number of injuries during the last decade, personal injury claims have risen dramatically in certain countries in Europe in the last decade, most noticeably in the UK, France, Poland and Italy.

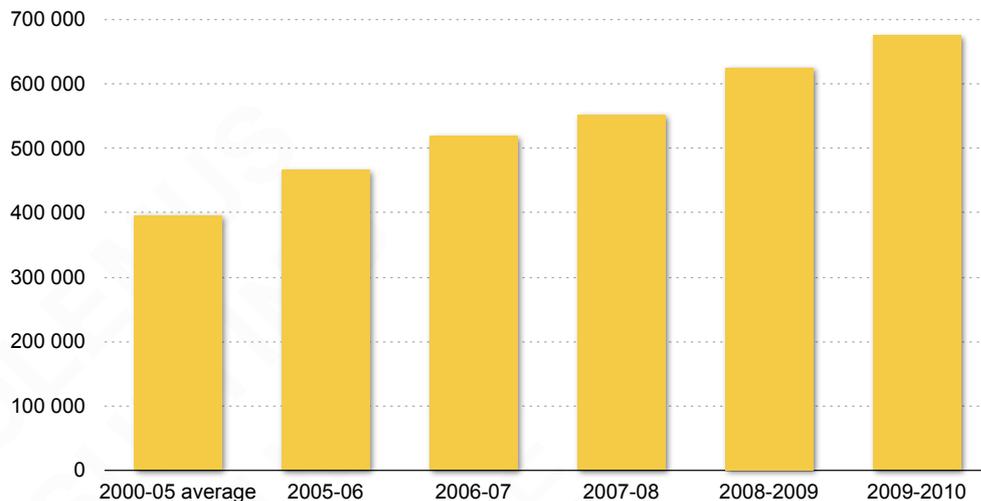
In the EU, personal injury claims grew by an average of 2.3% per annum between 2003-2006 and represented about 14% of all motor insurance claims. However, in certain countries such as Italy, they accounted for almost 22% of all claims.

In the UK, the increase in personal injury claims despite the simultaneous fall in the number of accidents is being attributed to the increasing preponderance of **claims management companies**. It has become much easier for a claimant to seek compensation for personal injury through these firms. A large number of these solicitors also work on a contingent fee, better known as "no-win, no-fee" basis, which provides an incentive for them to seek exaggerated and even fraudulent claims.

While certain insurance companies have severely opposed these firms and some of their business practices (such as referral fees), there can be no doubt that they have also helped the public in claiming their right to compensation for injury.

Data from the Compensation Recovery Unit in the UK shows that the number of personal injury claims from motor accidents has **grown by almost 10% annually**. In 2011-12, there were 547,405 claims related to whiplash injuries. These injuries cannot be verified through a medical exam and the cost of related claims represented **£90 on each British drivers policy**, according to ABI, the Association of British Insurers.

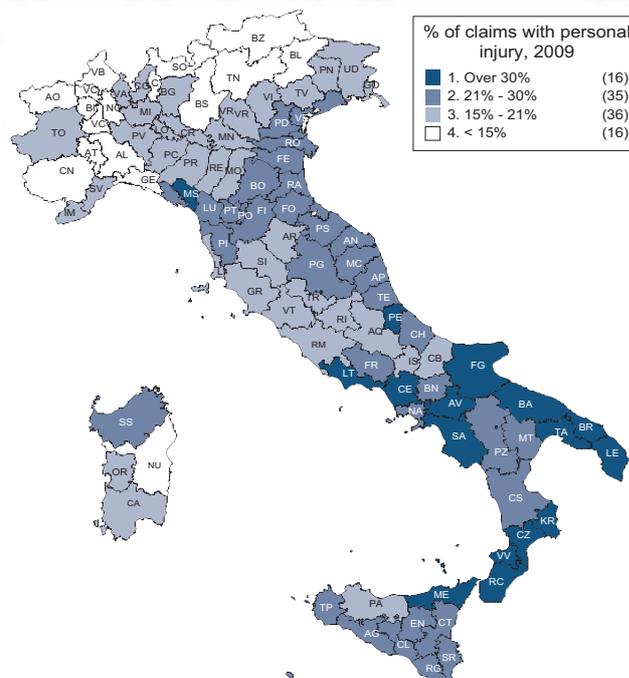
**Fig. 1.31: Motor injury claims have increased by 70% in just 5 years in the UK**



Source: Compensation Recovery Unit, UK

In **Italy**, the situation has become even more worrying. According to ANIA, the Italian insurance association, personal injury claims have become a major issue, representing **two thirds (€9 billion) of total damages paid**. Bodily injury claims represented 21.7% of all claims in 2009, about 10 percentage points more than the EU average. In certain geographic areas, it even exceeds 40%, clearly indicating fraud.

**Fig. 1.32: Share of motor claims with personal injury by region in 2009 (in % of total claims)**



Source: ANIA

Since personal injuries typically involve significantly higher claim expenditures for the insurer, an increase in the proportion of these claims results in higher total claims expenditures.

According to Insurance Europe estimates, **personal injury claims** account for about 14% of all claims recorded by European insurers but represent **more than 50% of all claims expenditures**.

This is verified by examining figure from individual countries such as **Belgium** where personal injury claims accounted for only 9% of all personal motor claims in 2009 but they accounted for 48% of total claim expenditures...

On average, a personal injury claim costs **three times the average cost of all claims**.

### **c. Fraud**

Motor insurers have been reporting increased instances of fraud in the last 3 years. According to the ABI (Association of British Insurers), the value of fraudulent motor claims covered by insurers has topped £600 million in 2012.

They reveal that during this year, insurers detected 42,700 dishonest or exaggerated claims, the equivalent of **820 a week**, with a total value of around £614 million or £12 million a week.

Fraud includes fraudulent claims, staged accidents, phantom passenger claims and underwriting frauds i.e. non-disclosure of information or false disclosure in order to get a more favourable rate of insurance premium.

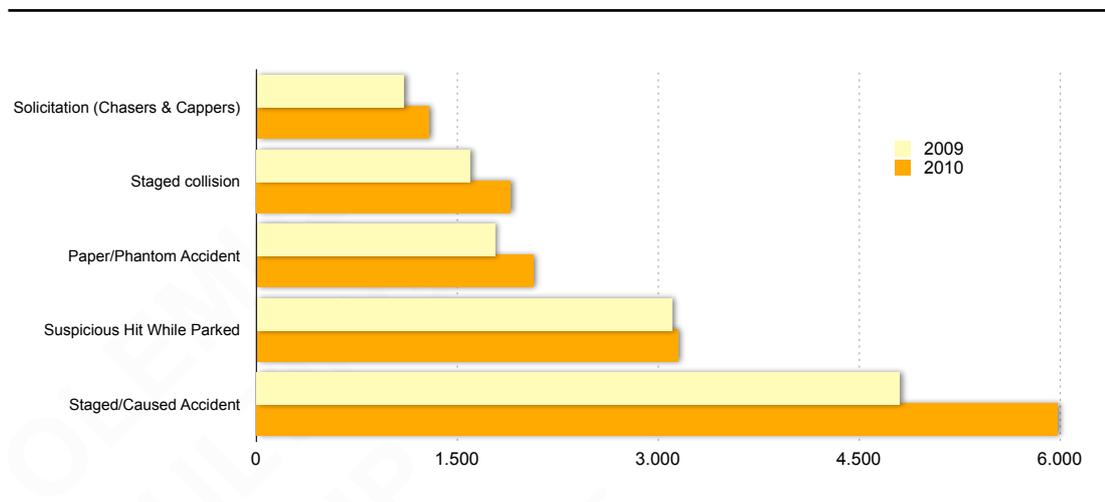
Whiplash injury claims in particular have drawn the ire of insurers who believe they are often used for fraudulent and exaggerated claims.

For example, actuaries know that adults have rising accident rates when they reach the 45-55 age bracket. This is because parents often take out motor insurance on a car in their own name despite the car being primarily driven by their 16-25 year old child.

In the US, questionable personal injury protection (PIP) claims involving staged accidents surged by 52% in 2009 and then 17% in 2010. For 2011, early estimates suggest an even larger increase.

As an illustration, we looked at the evolution of insurance crimes in the US.

**Fig. 1.33: Vehicle collision questionable claims by referral reason, 2009 and 2010**



Source: National Insurance Crime Bureau

This situation is partly caused by the **no-fault regime** that prevails in certain states. In a no-fault state, the insurance company pays for injuries to its customers and its passengers regardless of who is at fault. Most no-fault states allow the victim to sue the at-fault driver if **they have sustained serious injuries**. The gravity and value threshold attached to the injury needed to sue depends on the states.

For example, Florida is a no-fault state and suffers from rampant **no-fault fraud** problem. In 2010, the average Florida driver's fraud tax was \$49 per vehicle, it rose to \$84 in 2011 – an increase of 72%.

Despite their best efforts, insurers are yet to find an effective solution to tackle fraud. Telematics could play a role. We will cover this in more depth in Section VI.A.1.

## 4. Filing regulations

The filing regulation in the US is particularly difficult to deal with in the case of UBI. As a new rating factor appears relatively rarely, on average **every 12 years**, it is very difficult for the insurance establishment to decide what to do with it. In fact, the last innovation in rating was the controversial use of **credit-based insurance score**.

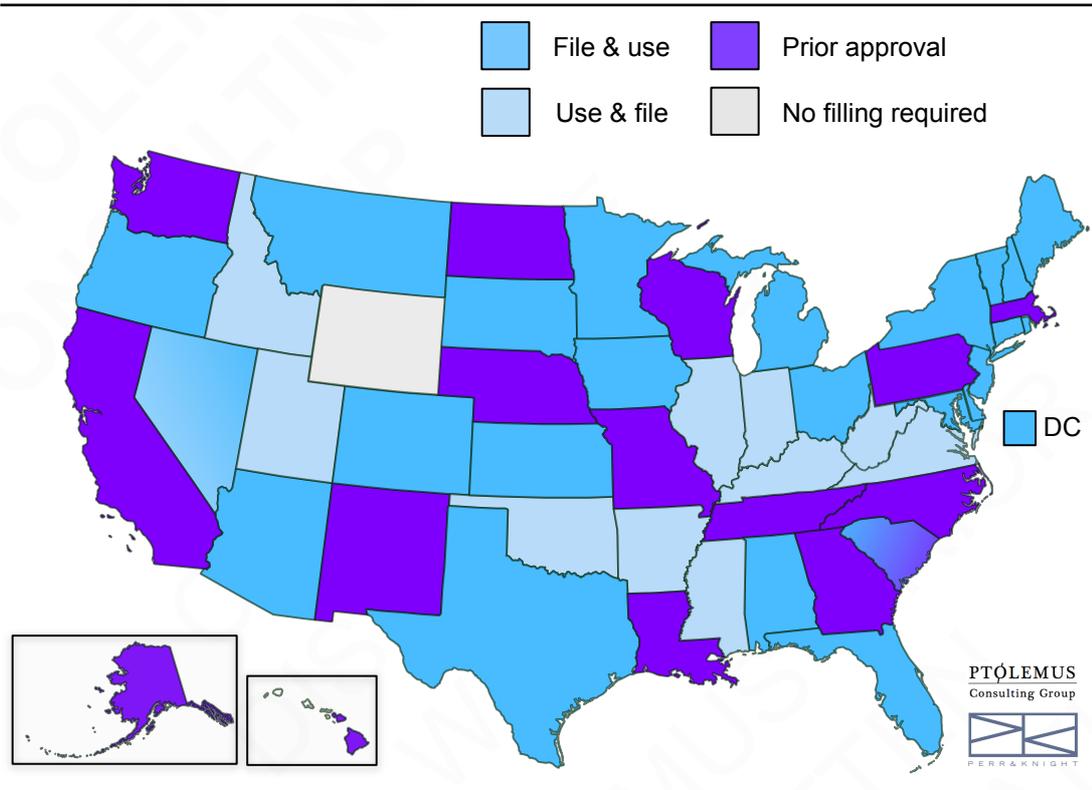
Fortunately, it is simpler to explain why driving behaviour rather than the ability to pay one's bills affects one's risk rating and premium pricing.

The difficulty comes mainly from the unknown and the variety of decisions taken or not taken at state level. State Departments of Insurance all have different ethos and disclosed priorities, but they all agree on many things: **customer protection** and **competition protection**, while keeping **stable price levels** and **fairness** in the rating mechanisms.

The implementation of the last factor is where the departments differ most from state to state. New rating factors need to take the test and be proven non-discriminatory, not excessive and not inadequate. They also need to take into account existing restrictions on usable criteria such as age, race, gender, etc...

There are three main types of filing: File&Use, Use&File and Prior Approval. We mapped out the basic information below, each state has differences in the filing process.

**Fig. 1.34: Filing UBI programmes in the US**



Source: Perr&Knight, PTOLEMUS

Then comes the filing itself. All states do not agree on what is a state secret. This is not only about the type of data gathered by the device and how it is weighted into the final pricing mechanism.

State Departments of Insurance and the public are worried about how the **telematic data can be augmented** with other datasets to transform it into contextual data. For example, a dataset combining time of day + behaviour data + the map of licensed establishments could demonstrate the possibility that a driver took to the road after drinking alcohol.

At the same time, the more transparent the carriers are with the way they use the data, the more likely they might become liable to end up in court against Progressive (if they are found to infringe its patents).

The main criteria to look at for filing UBI policies in each state include

- Whether the filing is required or not,
- Whether the filing is **open** or not (disclosure of the criteria used in rating),
- Whether the filing is **transparent** or not (disclosure of the rating mechanisms),
- Other **exceptions** in the rating criteria, such as a ban on the use of age, location, etc...

Other regulated risk calculation factors that the state department will look at include:

- Respect of consumer privacy,
- Rates based on factors that individual drivers can control,
- Rate stability - Certain states attempt to do so by controlling the rates, while others attempt to foster competition in order to drive rates down.

Some of the states have already started to take action related to UBI and we have summarised some of the known decisions, or exceptions below.

**Illinois** has passed regulations that promote PAYD but indirectly inhibit PHYD.

Illinois has "open rating laws" whereby the insurers can choose their risk rating factors freely, which originally promoted PAYD. However, the same law requires the open posting of the ratings systems, so PHYD programmes would be required to share their predictive modelling formulae.

In fact, **Pennsylvania, Maryland, Massachusetts** and **Texas** also require the open filing of the pricing and rating formulae.

In the state of **Washington**, the DoI (Department of Insurance) accepts a separate confidential filing for trade secret information.

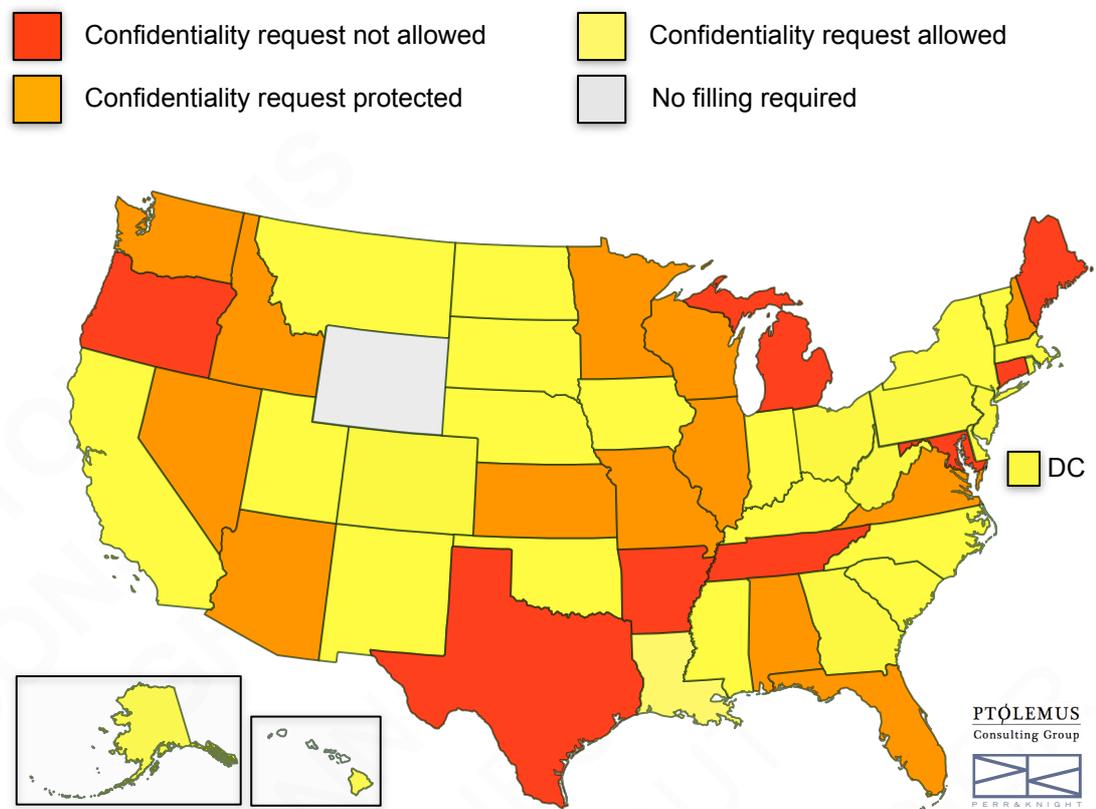
Telematic devices to collect actual mileage are specifically permitted in **California**. But collecting additional information, such as when, where or how the car is driven, is prohibited.

As Joel Laucher, a deputy commissioner for the State of California Department of Insurance, puts it: "The freedom to use any rating factor is not the story in California."

Ironically, California was also the **first state to implement Electronic Data Recorder (EDR) statutes** which require vehicle owners' consent before retrieving accident reconstruction information. We analyse the impact of EDRs on insurance claims in section III.E.2.e

We attempted to map out the situation in the following figure, considering that the information is often vague and changes often.

**Fig. 1.35: UBI programme filing criteria vary depending on each states**



Source: Perr&Knight, PTOLEMUS

Confidentiality is required to file a UBI programme in order to protect the IP of the rating algorithm. In some states, specific steps have been taken to protect the filing. For example in New Jersey, a separate section is dedicated to the rating algorithms for on-board sensors.

In Wyoming, filing is not required as the state is considered a competitive market.

Finally, in **North Carolina**, the situation is again very different. A bill was passed in April 2013 to authorise UBI offerings in the state. In the same week, another bill was passed to re-instate the driver age as a determining factor in calculation of the insurance premium.

### **Smartphone UBI**

No filing has ever been proposed for mobile-only UBI solutions. Our understanding is that there are no immediately recognisable impediments to provide smartphone-based UBI. The DoIs do not concern themselves with the accuracy of the data the programmes are collecting.

They are however asking how the data is transferred to the insurance and require the driver to be informed of what the smartphone does in relation to the rating.

We expect new rules to be added by carriers in their filing explaining that alongside the plug-in device, the policy is using data from the smartphone. A separate filing will only be required if the carrier has no prior UBI filing.

Yet the players that are bullish about mobile-based UBI argue the battle is not about the sophisticated use of the data and the DoIs are not concerned about the device used. There is in fact nothing in the states' filing rules (when they have any) that suggests anything about a **required connection between the driver and the car**. We analyse hybrid offerings and opportunities in section II A. d.

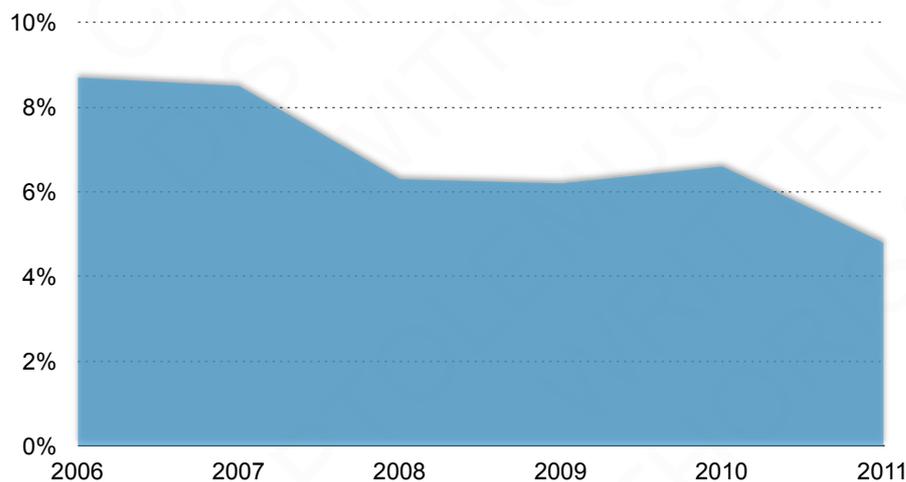
### 5. Limited investment income

With insurance underwriting being largely unprofitable due to the high price competition and market stagnation, motor insurers had come to rely on income from investments to stay profitable.

Due to the financial crisis however, insurers have seen returns on their investments drop significantly after 2007.

This is confirmed by the recent results of the French motor insurance industry, which have seen net financial income as a percentage of net premiums drop from 9.6% in 2007 to 5.6% in 2011. This is shown on the next chart.

**Fig. 1.36: Financial income no longer healthy for French insurers** (Net financial income as % of net premium)



Source: FFSA

**Since 2009, the situation has again deteriorated** due to the bad performance of stock markets and uncertainties around sovereign debt risks. For example, Admiral Group reported an investment income of 2.8% of net earned premiums in 2012.

The impact of this fall will be more pronounced on insurance companies predominantly focused on the motor car market such as the Admiral Group and AutoDirect, as they cannot cross-subsidise the losses against other insurance businesses.

To make the situation more complex, since the 2008 financial crisis, all insurers have been affected by a decrease in the growth and sometimes a decline in collected life insurance premiums.

This puts even **more pressure on re-establishing profitability** in their motor insurance business.

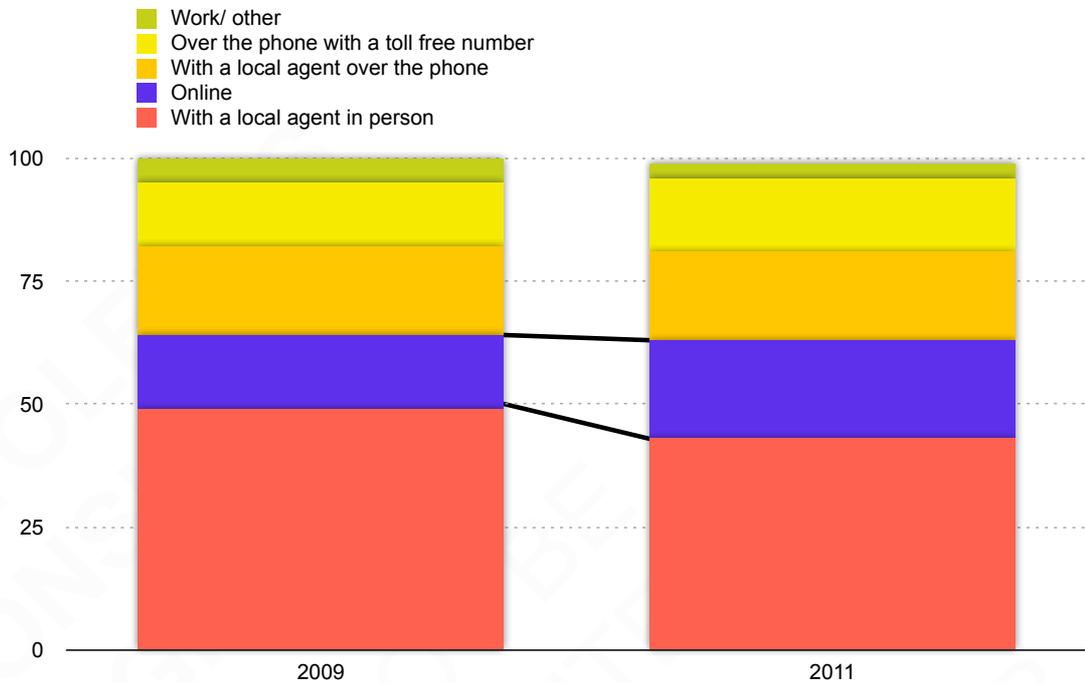
## 6. The advent of online distribution

In numerous countries, direct online distribution has significantly altered the playing field for insurance companies.

For example, **43% of private car insurance sold in the UK in 2010 was through direct channels** such as telephone and the web. In France, the FFSA reports that 45% of motor insurance was sold by insurers directly to consumers.

Online price comparison websites such as comparethemarket.com, confused.com in the UK, assurland.com and LeLynx.fr in France or CoverHound in the US have served to increase transparency and direct competition between insurers. As product differentiation between insurers is minimal, price comparison has become easier.

**Fig. 1.37: Growth of the online channel in the US**



Source: 2011 comScore Auto insurance survey

Furthermore, when purchasing through these online comparison websites, customers may not pay the same amount of attention to the details of each policy and the service quality. As a result, the price differences between insurers are highlighted.

It also makes the customers self-select the appropriate policy, which can sometimes lead to misinformed decisions, as they no longer receive the assistance of a specialist advisor such as the broker.

On the other hand, the Internet allows the insurers to directly distribute their products and facilitates more direct interaction with the end consumers.

## 7. Sustainability of the mutualisation model

The present model, based on the mutualisation of risks, no longer seems to serve well the motor insurance industry. It seems that **the industry is moving from a cyclical pattern to a more structural deterioration of business conditions.**

Claim costs continue to rise sharply while insurers are finding it difficult to increase premiums proportionately due to strong price competition. This is confirmed by the French motor insurance industry, which witnessed a 5.1% increase in motor claims in 2009 while total premiums actually decreased by 0.2%. The motor insurance

industry is becoming chronically unprofitable and as such it is imperative for insurers to devise new solutions to combat these market forces.

The present **mutualisation model** of motor insurance assigns customers into different risk classes on the basis of geographic and demographic characteristics. The risk level of a particular customer segment is then determined by analysing historical claims data. Such a system incorporates a certain degree of **systemic error** as all members of a particular risk class are not homogenous in their actual risk exposure and it relies on cross-subsidisation to balance a relatively high-risk customer against a relatively low-risk customer.

The recent **Test Achats ruling**, also called "gender ruling", by the European Court of Justice is a big threat to the preservation of the mutualisation model as is. It is described in detail in Section II.B.3 of this report. In a nutshell, it forbids insurers to take gender into account as a risk factor.

This could significantly reduce the accuracy of current risk pricing models by preventing a difference between low-risk (women) and high-risk consumers (men) in a particular risk class. This in turn could incentivise these low-risk consumers to look at other pricing options or deter them from seeking insurance altogether.

**Product differentiation**, especially in MTPL, is **minimal** and although service has become a focus area for most insurers, customer touch-points are too few and far apart to have a big impact on purchase behaviour.

As a result, we expect strong price competition to continue in the foreseeable future. The high instances of fraud are also hurting the industry and thus far insurers have struggled to find a workable solution to combat this.

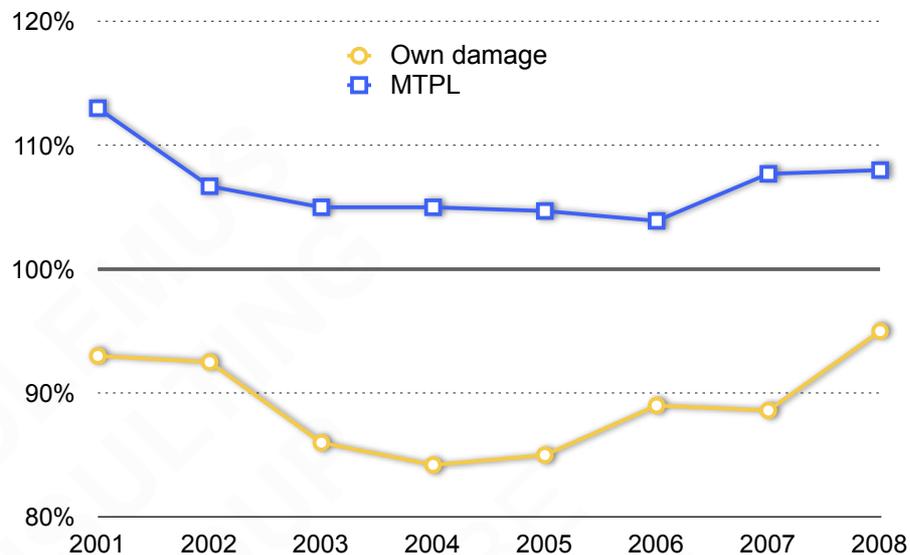
Therefore, we believe that **the present mutualisation model is no longer the optimal solution for the industry:**

- Low mileage drivers pay for road warriors;
- Prudent drivers subsidise drivers that display an aggressive behaviour;
- Honest drivers pay for fraudsters;
- Better protected drivers (which take Own Damage policies) subsidise customers with minimal coverage (MTPL policies) and
- Last but not least, customers without cars pay for those who own a car (due to the fact that other insurance activities subsidise the loss making automobile insurance business).

Therefore, the **current system goes against fairness** but also against safety, against the preservation of the environment and even against a better protection against risks.

In our view, **this is not the most efficient model any longer**. Moreover, it is not sustainable. Such high levels of losses will be difficult to support in the long run as the profitability of other sectors deteriorate, notably life insurance.

**Fig. 1.38: European motor insurance average combined ratio (in %)**



Note: Combined ratio = (Claims expenditure + operating expenses) / gross earned premiums on home territory  
Source: Insurance Europe

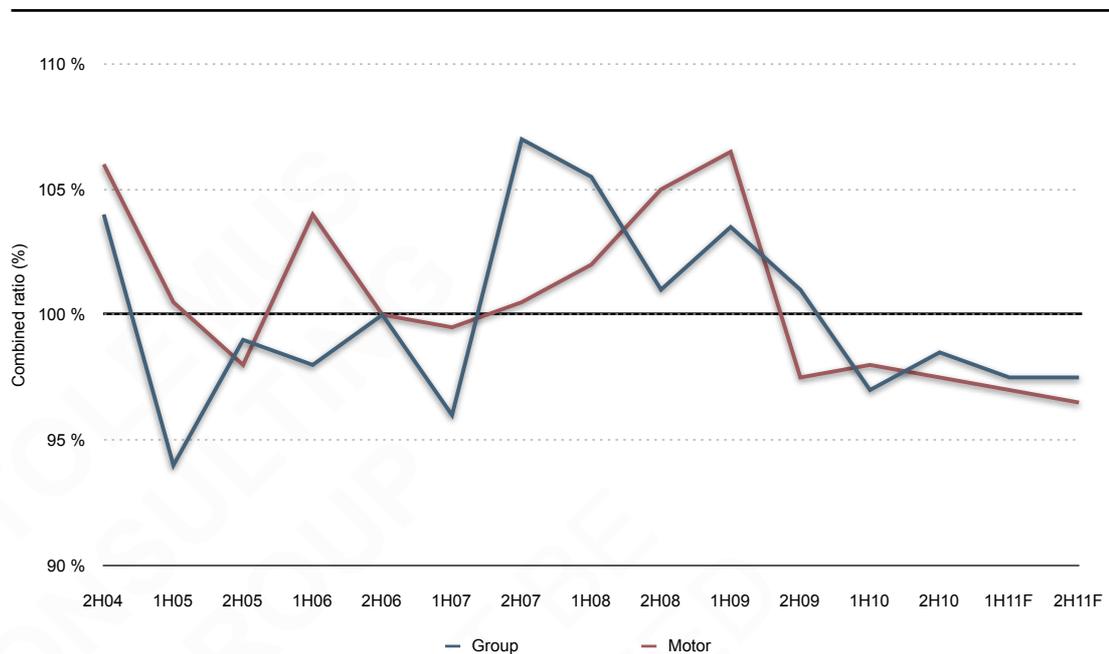
While the sector could initiate a large cost-cutting exercise (as has been the case in the Netherlands for instance), we believe that an improved evaluation of risks and a more active management of drivers' behaviours could offer significantly better prospects to insurers.

**In other words, the motor insurance market offers favourable conditions for a change towards more modern methods of risk pricing.**

However this gloomy picture is not universal, in many countries such as Chile, most insurers benefit from a **growing vehicle market and healthy combined ratio**

Similarly **in China**, insurers such as PLCC are becoming profitable again.

**Fig. 1.39: PICC becoming profitable again in 2011**



Source: PICC, Credit Suisse estimates

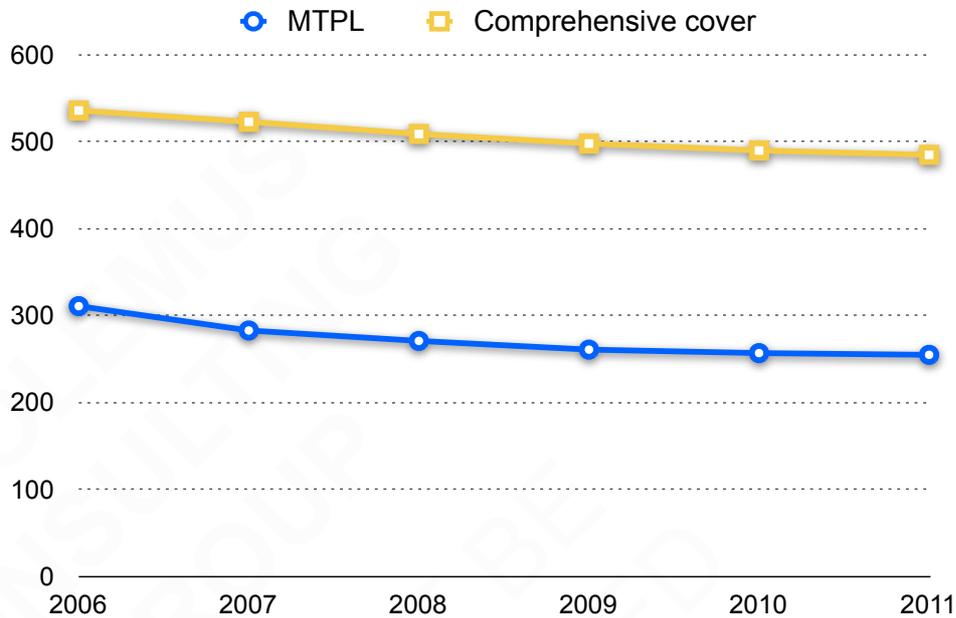
Let us now have a look at the two main segments of the motor insurance market, i.e. the Motor Third-Party Liability (MTPL) segment and the Own Damage insurance segment.

**MTPL** is the minimum mandatory cover in all major European economies. It accounts for the **majority of the market premiums, except in a few countries, notably France**. MTPL insurance covers customers against claims for bodily injuries, death and loss or damage to property raised by third-parties. As MTPL insurance products are fairly homogenous, consumers found their purchase decisions almost solely on price. This has in turn resulted in extreme price competition in this segment and **underwriting profitability has remained negative every year since 2001 for the European region**.

The MTPL combined ratio (ratio of total expenditures against gross premiums earned) increased from 104.2% to 108.1% between 2006 to 2008 signifying that underwriting motor insurance has increasingly become a loss-making business. Given the cyclical nature of the insurance industry, this seems to mark the beginning of another tough period for motor insurers with rising costs and falling profitability.

In the **Netherlands** for example, motor insurers are struggling to pass on the increasing costs to the customers due to the intense competition. While total claims expenditure has increased by 17% between 2006 and 2011, the net premiums written have actually decreased by 2% in the same period. Thus the average premium per policy for MTPL and comprehensive insurance has fallen every year from 2006 to 2011 - which has adversely affected underwriting profitability.

**Fig. 1.40: Intense competition is pushing down average premiums in the Netherlands (in €)**



Source: VVN

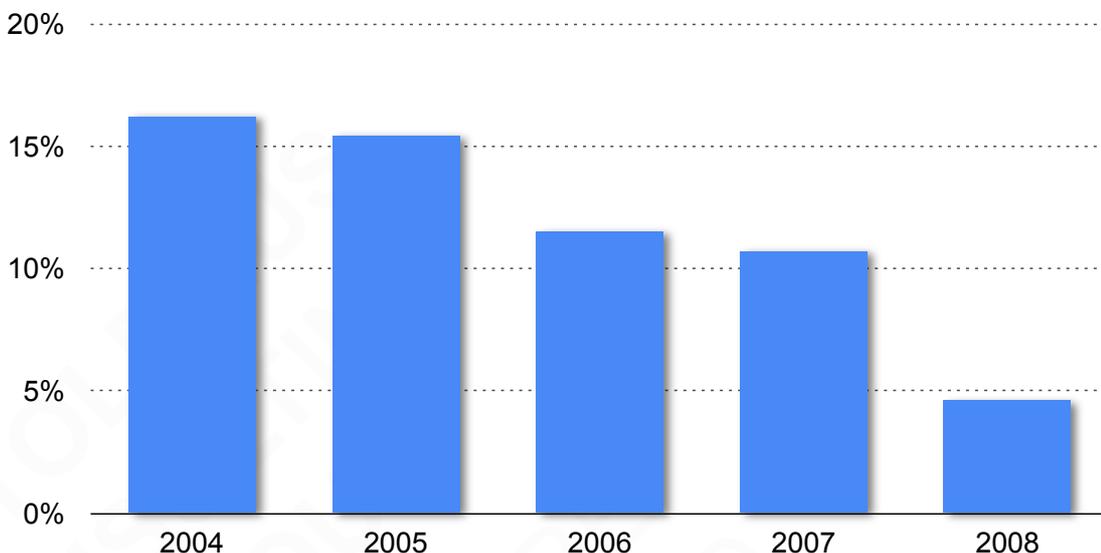
The **own damage** insurance is an additional cover that protects the insured against accidental fire or theft of his vehicle as well as damage to his vehicle in the event of an accident where he/she is at fault. Along with the MTPL insurance, it is known as a **comprehensive insurance** cover. Own damage insurance is generally taken out on newer vehicles that are more valuable and expensive to repair.

So far, the price competition in this segment has been less intensive than in the MTPL segment since product differentiation is higher. Comprehensive insurance being optional, the products are structured to meet the needs of the different consumer segments rather than to comply with regulatory requirements.

However, even in this segment, the **profitability has fallen sharply** in recent years. According to the latest data released by Insurance Europe, the claims ratio for own-damage policies in Europe has increased from 61.3% in 2005 to 70.9% in 2008.

In the same period, underwriting margins have decreased from 15.4% to 4.6%. This trend is likely to continue in 2010 and 2011 bringing down underwriting profitability even further.

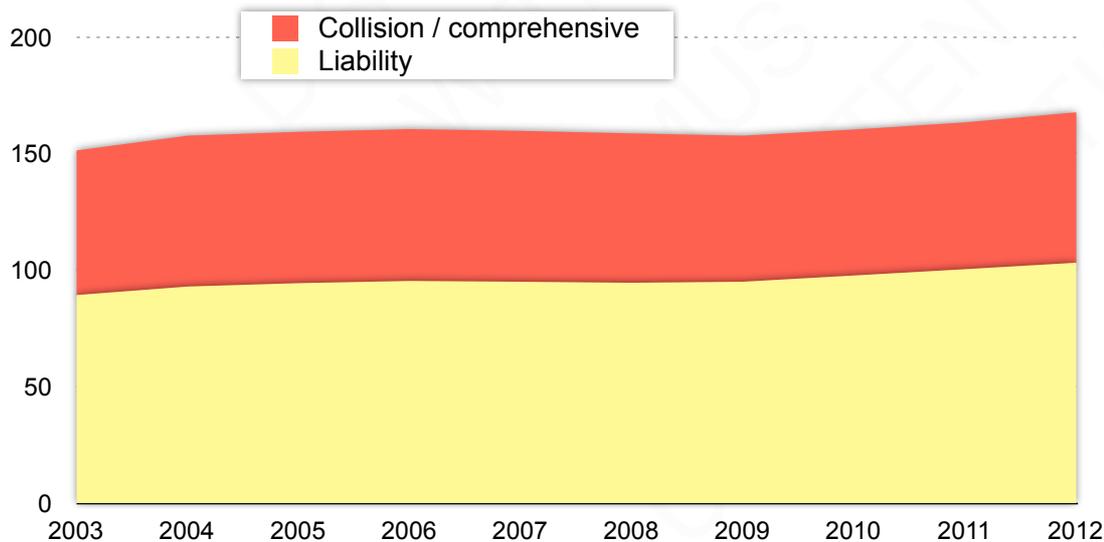
**Fig. 1.41: Own damage profitability has fallen sharply as competition has heated up in Europe**



Source: Insurance Europe

**In the US**, the situation is less dramatic, as the market is still growing, particularly in the MTPL segment. However, the CAGR between 2003 and 2012 was only 1.1% p.a.

**Fig. 1.42: The American private passenger car insurance market is still growing** Net premiums written (\$ billion)



Source: Insurance Information Institute, SNL Financial

In addition, an increasing level of churn is driven by the customer's ability to obtain and compare prices on the Internet. For example, in 2011, 54% of new buyers requested their quote via the Internet, according to JD Power and Associates.

This is leading to a continuation of the commoditisation process, which is leading to reduced or negative margins.

Thus, it is evident that motor insurers are facing **increasing pressure on their bottom lines**, in part due to aggressive pricing by competitors, and need to find ways to differentiate themselves more effectively.



**END OF THE FREE ABSTRACT**

To purchase the UBI Global Study,  
please visit [www.ptolemus.com/ubi](http://www.ptolemus.com/ubi)