PTOLEMUS Consulting Group

Usage-based Insurance Global Study 2016

Presentation of the 3rd edition

January 2016 - PTOLEMUS intellectual property

PTOLEMUS is the first strategy consulting firm focused on telematics and geolocation

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,

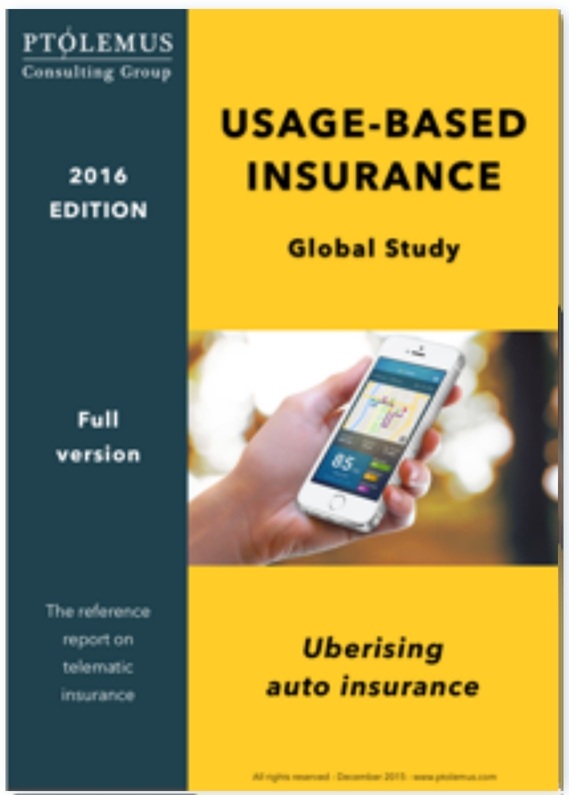
Usage-based charging
PAYD / PHYD insurance, road charging / electronic tolling, fleet leasing & rental, car sharing, Car As A Service, etc.

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

Not just the most comprehensive report on UBI, but the biggest ever written study on telematics



The reference report on the subject, quoted by The Economist, the Financial Times and the Wall Street Journal

- **1000+ pages of research using:**
  - 286 interviews in 28 countries
  - 5 years of research performed by 6 consultants in 4 countries
  - Insights from 25+ consulting projects
  - Our experience & vision of the ecosystem incl. OEMs and TSPs
  - 422 figures (charts, tables, etc.)
- **42 case studies** including Allianz, AllState, Carrot Insurance, Vodafone Auto, Ingenie, OnStar- Progressive, Discovery Insure, Liberty Mutual, Octo Telematics, Renault Amaguiz, State Farm, Unipol, Zurich
- A **handbook of 69 suppliers' solutions** including our own evaluation and ranking
- **28 insurance markets profiled**
- **2020 & 2030 market forecasts**
  - Canada, US, Latin America, Europe, Russia, South Africa, India, Chinese and Japan
  - Personal line / commercial line
  - Aftermarket / OEM
- **Analyses of the disruptive forces at play**
  - ADAS and autonomous vehicles
  - The eCall & ERA Glonass mandates
  - The rise of smartphone apps
  - Big Data & analytics
- Targeted **recommendations** for insurers, regulators, TSP, OEMs and operators

* Italy, the UK, France, Germany, Russia and the US

4 of the 8 authors of this report combine 60 years of experience in the automotive, telematics and connected services

Frederic Bruneteau, Managing Director, Brussels (fbruneteau@ptolemus.com)

Mr. Bruneteau has accumulated nearly 20 years of experience including 17 years of experience of the mobility domain and 8 years of strategic and financial advisory for companies such as Arthur D. Little, BNP Paribas, SFR Vodafone and TomTom.

He has become one of the world's foremost experts in the field of telematics, quoted by numerous publications such as *The Economist* and *Reuters*. He has spoken at more than 20 international conferences on the subject.

Matthieu Noël, Consultant, Paris (mnoel@ptolemus.com)

Matthieu Noël has gained 6 years of experience in the automotive industry covering technical, strategy, marketing and business development, including more than 4 years in consulting.

Mr Noël has performed more than 20 assignments in the automotive and telematics industries. He understands the business and strategic implications of new technologies in the mobility eco-system and can adapt quickly to new industries and situations.

Sergio Tusa, Associate Partner, Milan (stusa@ptolemus.com)

Sergio Tusa has gained over 20 years experience in the telematics, location-based services and automotive domains.
Before PTOLEMUS, Sergio held management responsibilities with Magneti Marelli (Fiat Group), Cobra Automotive, Nokia, Tele Atlas and Philips.He has led several insurance telematics and stolen vehicle recovery projects, for clients such as Cobra, Ferrari, Fiat and Renault/Volvo Trucks.

Thomas Hallauer, Director of Research & Marketing, London (thallauer@ptolemus.com)

Thomas Hallauer has gained 12 years of marketing experience in the domain of telematics and location-based services. He is an expert in new products and services notably in the telematics, motor insurance, electronic tolling and positioning industries.

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

Based on interviews of more than 200 new companies in 30 countries including 86 insurers & brokers

Organisation
AAA Club Partner
Achmea
ADAC
Admiral France - L'O Assurances
Admiral Insuranc
Ageas Continental Eu
Agnik
AIG
Aioi Nissay Dowa Insu
Airmax Group
ALD Automotive
Allianz
Allianz
Allianz
Allianz
Allstate Insuranc
Altima Assurance
Amadeus Capital Par
Amaguiz (Groupan
American Family
AnyDATA Corporat
Aplicom
Arval
Association of British I
Atos
ATrack Technolog
Audiovox
Autoline
Autosaint (Fresh! Insu Group)
Aviva (formerly Norv Union)
Axa Assistance
Axa Belgium
Axa Global P&C
Axa Matrix Risk Consu
Axa Re
Axa UK
Baseline telematic
BGL Group Ltd
Bird & Bird
BluO Fund

Organisation	Country
BMW	
Bouygues Telecom	
Cambridge Mobile Telem Inc.	

Company name	Country
AIG	UK
Aioi Nissay Dowa Insurance	Worldwid
Alcatel-Lucent	France
ALD Automotive	France
Allianz	Europe
Allianz Global Assistance	Europe
Allstate Insurance	USA
Alo@Assurances	France
Alpine	Japan
Altea	Italy
Altech Netstar	South Afri
Altima Assurances	France
Amadeus Capital Partners	UK
Amaguiz (Groupama)	France
American Family	USA
Amodo	Slovenia
ANIA	Italy
ANWB	Netherlan
AnyDATA Corporation	USA
Aplicom	Finland
Apple	USA
ARM Holdings	UK
Arval	France
ASFA	France
Assercar	France
Assicurazioni Navale	Italy
Association of British Insurers	UK
Assurland.com	France
Atmel	USA
Atos	France
ATrack Technology	Taiwan
Audatex	USA
Audi	Germany
Audiovox	USA
AutoDirect Insurance	UK
Autoline	UK
Autoliv	Europe
Autosaint (Fresh! Insurance)	UK
Aviva (formerly Norwich Union)	UK

Company name	Country	Sector
Market IP	Belgium	
Marks & Spencer	UK	
Marmalade Group	UK	
Masternaut	Europe	
Matmut Assurances	France	
Mercedes Benz	Germany	
Meta System	Italy	
Michelin	France	
Mitsubishi Electric	Japan	
Mix Telematics	South Africa	
Mobile Devices	France	
Mobileye	Israel	
Modus	USA	
MOJIO	USA	
Money Super Market	UK	
Montezemolo & Partners	Italy	
Moody's	USA	
MORE TH>N	UK	
Motaquote	UK	
Movelo	Sweden	
MyDrive Solutions	UK	
Nationwide Insurance	USA	
Navteq / HERE	France	
navya	France	
ND a Islandi Ehf	Island	
NIS Glonass	Russia	
Nissan Europe	Europ	
Nissan Motor Corporation	USA	
No Nonsense Insurance	N. Ireland	
Nokia	Finland	
Norton Rose	UK	
Novacom Europe	Netherlands	
Novatel Wireless	Worldwide	
NTT DoCoMo	Japan	
NXP	Netherlands	
ÖAMTC	Austria	
OBD Experts	UK	
Octo Telematics	Italy	
OECD	France	
		ADAS - MVCM
		Broker
		General insurance

Company name	Country	Sec
CLAL Insurance	Israel	General i
Clarion	Japan	In-car audio
CMA Claims	UK	Claims
CNIL (Commission Nationale de l'Information et des Libertés)	France	Data protect
Co-operative Insurance	UK	General i
Cobra Automotive Tech.	Italy	TSP
Cognizant	USA	Enterprise reso
Compagnie Générale d'Automatisme (CGA HBS)	France	Enginee
Comparethemarket.com	UK	Online com
Confused.com	UK	Online com
Continental	France	Tier-1 s
Corona Direct	Belgium	Bro
Corporate Vehicle Observatory	France	Research
Covea Group	France	General i
Coverbox	UK	Consumer
Coverhound	USA	General i
Coyote	Europe	Tl
Crédit Mutuel Arkea	France	Consumer
cTrack (Digicore)	South Africa	TS
Cybit Masternaut	UK	TS
Daimler Fleetboard	Germany	TS
Daimler Insurance Services	Germany	OE
Danlaw	USA	Tl
Data Tec Co Ltd	Japan	OD
Davis Instruments	USA	Tl
DBV Winterthur	Germany	General i
Delphi	USA	Tier-1 s
Denso	Germany	Tier-1 s
Department of Transportation	USA	Gover
Detector	Spain	TS
Deutsche Telekom	Germany	MN
Diamonds	UK	Insuranc
Direct Line Germany	Germany	Consumer
Discovery Insure	South Africa	Consumer
Disruptive Capital Partners	UK	Private e
Diva	UK	Insurance broker
Dixon's	UK	Consumer electronics retail chain
Drive Power	USA	Data management provider

Company name	Country	Sector
Generali France	France	General insurance
Generali Group	Italy	General insurance
Genertel (Generali Group)	Italy	Consumer insurance
Geotab	USA	
GirlMotor	UK	
GMAC Insurance	USA	
gocompare.com	UK	
Good Technology	USA	
Google	USA	
Greenroad Technologies	USA	
Groupama	UK	
Grupo Nacional Provincial	Mexico	
Hannover re	Worldwide	
Harman	USA	
Hastings Direct	UK	
HDI Gerling	Global	
HERE (formerly Navteq)	Worldwide	
High Point Auto Insurance	USA	
Himex (Evogi Group)	USA	
Hitachi	Japan	
Hollard Insurance	South Africa	
Honda	Japan	
HopeRun Technology	USA	
HUK-Coburg	Germany	
Hyundai	South Korea	
IBM	USA	
ID Macif	France	
IDM Trucking	USA	
If Insurance	Sweden	
iGate	UK	
iGo4	UK	
iKube	UK	
IMA	France	
iMetrik Global	USA	
IMS	Canada	
Industrial Alliance	Canada	
ICO (Information Commissioner's Office)	UK	
Infrasure	UK	
	Finland	
	Spain	
	UK	

Organisation	Country
Telekom Austria Group	Austria
Telenor Connexion	UK
Telit	Italy
Telogis	USA
Teradata Aster	USA
Texa	Italy
The AA	UK
The Co-operative Insurance	UK
The Floow	UK
The Hartford	USA
TomTom	Netherlands
TomTom Business Solutions	UK
Touring	Belgium
Toyota	Belgium
Toyota Insurance Management	Belgium
Toyota Insurance Management	UK
Trac Global	UK
Tracker	South Africa
Traqueur	France
Trafficmaster	UK
Transics	Belgium
Travelers Insurance	USA
Trimble MRM	USA
TRL	UK
Uniqa	Austria
Uralsib	Russia
US Department of Transport	USA
Vehcon	USA
Verizon Telematics	USA
Viasat	Italy
Vivium (P&V Group)	Belgium
Vodafone	UK
Volvo Cars	Sweden
Wireless Car	Sweden
Wunelli	UK
Xirgo Technologies	USA
Young Marmalade	UK
Zurich	Italy
Zurich	UK
Zurich Financial Services	France

The main document is 810 pages of analysis, examples, case studies, forecasts and recommendations

6 ways telematics will disrupt insurance analysed

1- **BIG DatAnalytics: the future scores and actuarial models**

- How to leverage telematics with analytics.
- Which data to collect and what factors to rate.
- How to use contextual information
- 10 analytics company profiles.

2- **The impact of autonomous safety functions on the motor insurance industry**

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

3- **The benefits and (lost) opportunities of telematics in accident and claims management**

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

4- **The advent of mobile-based UBI becoming the default proposition**

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

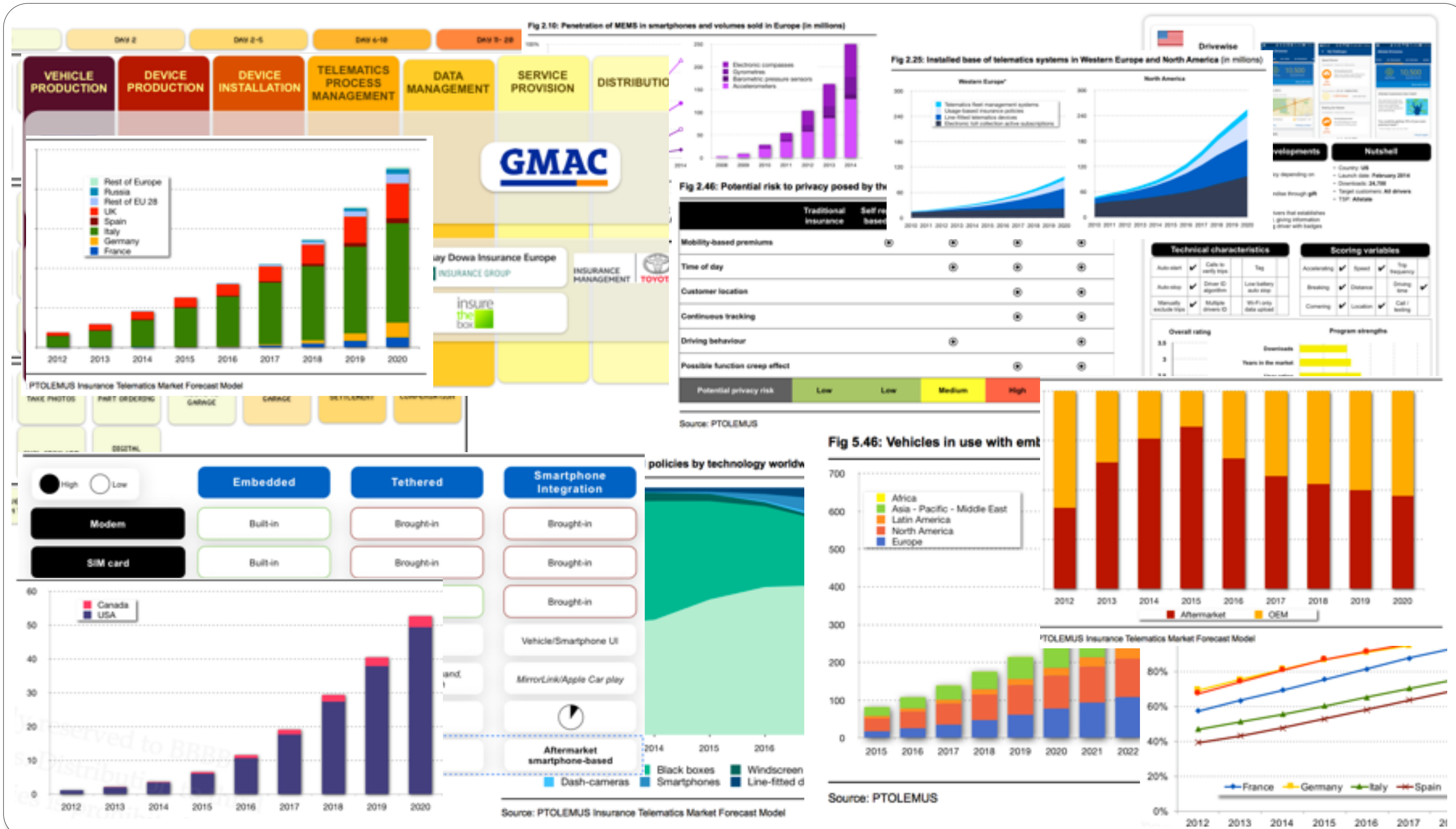
5- **The present and future usage of the OBD dongle and its data**

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

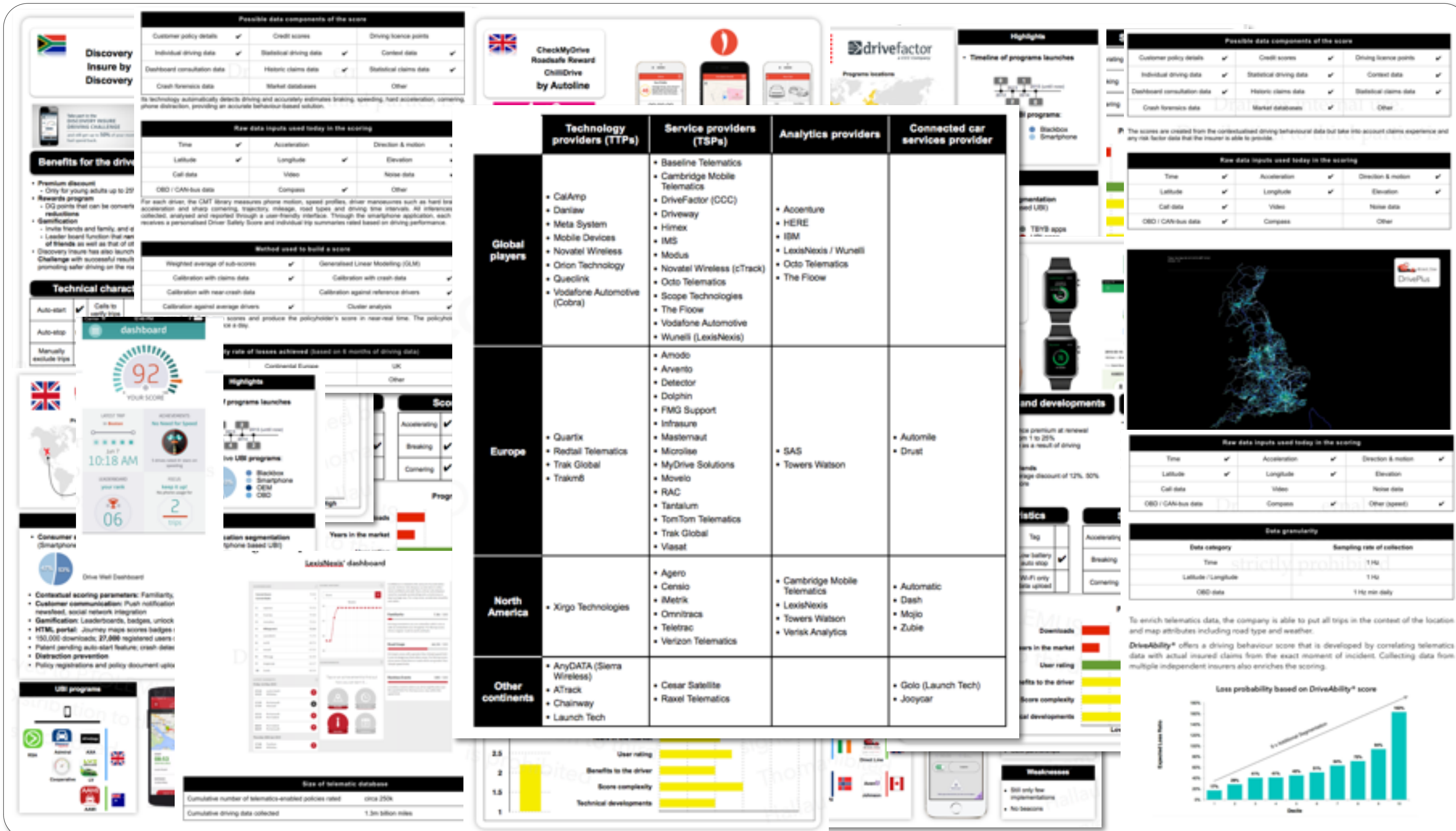
6- **The rapidly changing role of car manufacturers in the UBI market**

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

Illustrated by 422 graphs validating each statement



Complemented by 78 company and solution profiles

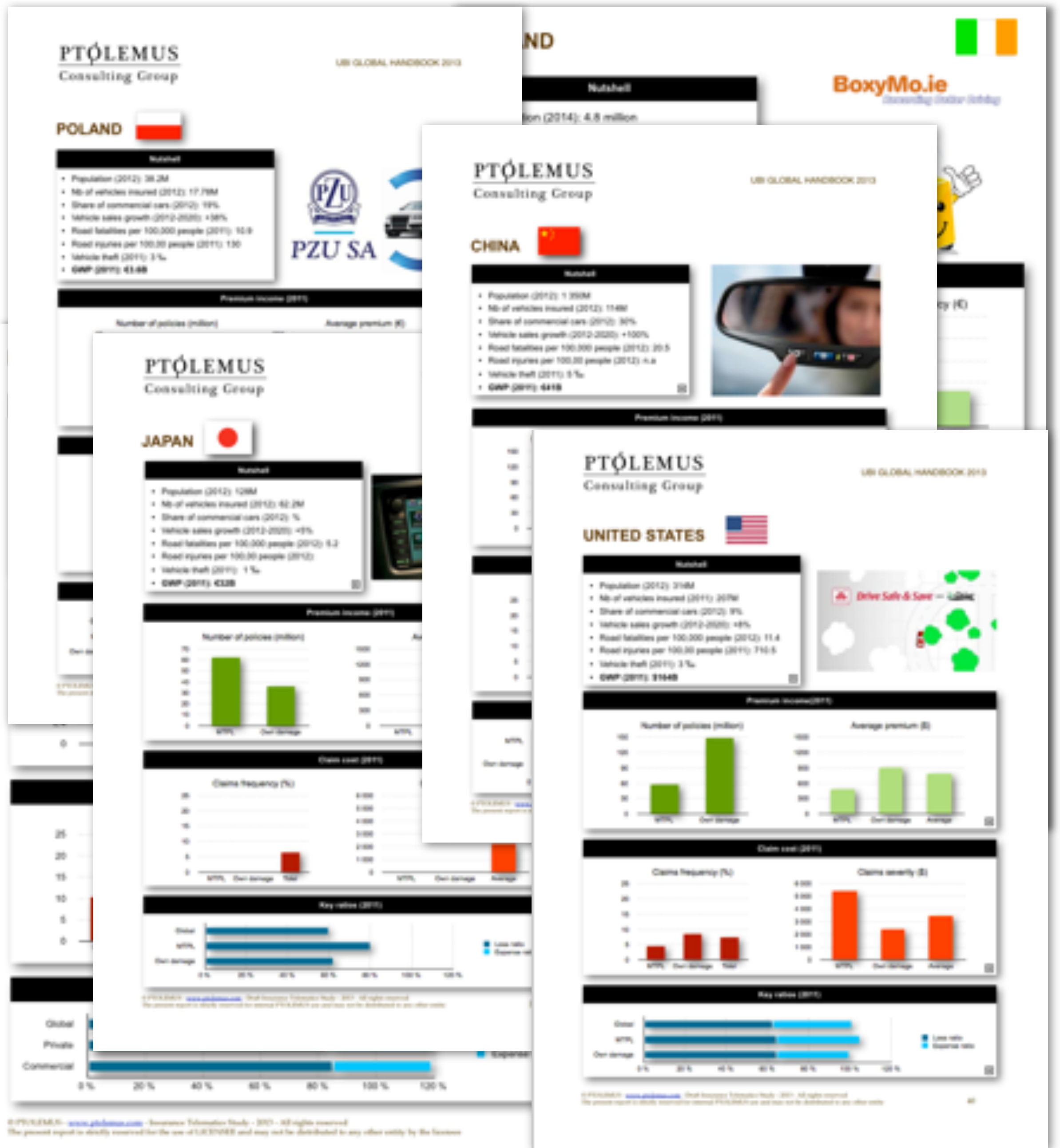


	Technology providers (TTPs)	Service providers (TSPs)	Analytics providers	Connected car services provider
Global players	• CalAmp • Danlaw • Meta System • Mobile Devices • Novatel Wireless • Orion Technology • Queclink • Vodafone Automotive (Cobra)	• Baseline Telematics • Cambridge Mobile Telematics • DriveFactor (CCC) • Driveway • Himex • IMS • Modus • Novatel Wireless (cTrack) • Octo Telematics • Scope Technologies • The Floow • Vodafone Automotive • Wunelli (LexisNexis)	• Accenture • HERE • IBM • LexisNexis / Wunelli • Octo Telematics • The Floow	
Europe	• Quartix • Redtail Telematics • Trak Global • Trakm8	• Amodo • Arvento • Detector • Dolphin • FMG Support • Infrasure • Masternaut • Microlise • MyDrive Solutions • Movelo • RAC • Tantalum • TomTom Telematics • Trak Global • Viasat	• SAS • Towers Watson	• Automile • Drust
North America	• Xirgo Technologies	• Agero • Censio • iMetrik • Omnitracs • Teletrac • Verizon Telematics	• Cambridge Mobile Telematics • LexisNexis • Towers Watson • Verisk Analytics	• Automatic • Dash • Mojio • Zubie
Other continents	• AnyDATA (Sierra Wireless) • ATrack • Chainway • Launch Tech	• Cesar Satellite • Raxel Telematics		• Golo (Launch Tech) • Jooycar

A worldwide comparison of key geographical markets

28 countries analysed in depth

- Critical rating data includes
  - Gross written **premiums**
  - Number of **policies**
  - Cost of **claims**
  - Loss and expense **ratios**
- Influential **economic parameters** and **UBI activity** analysed
- **Environment factors** presented such as:
  - Claims frequency and severity
  - Vehicle **density**,
  - **Theft** rate or
  - Cultural factors
- **Readiness index** for each national market



The first insurance market forecast to estimate the impact of autonomous safety functions

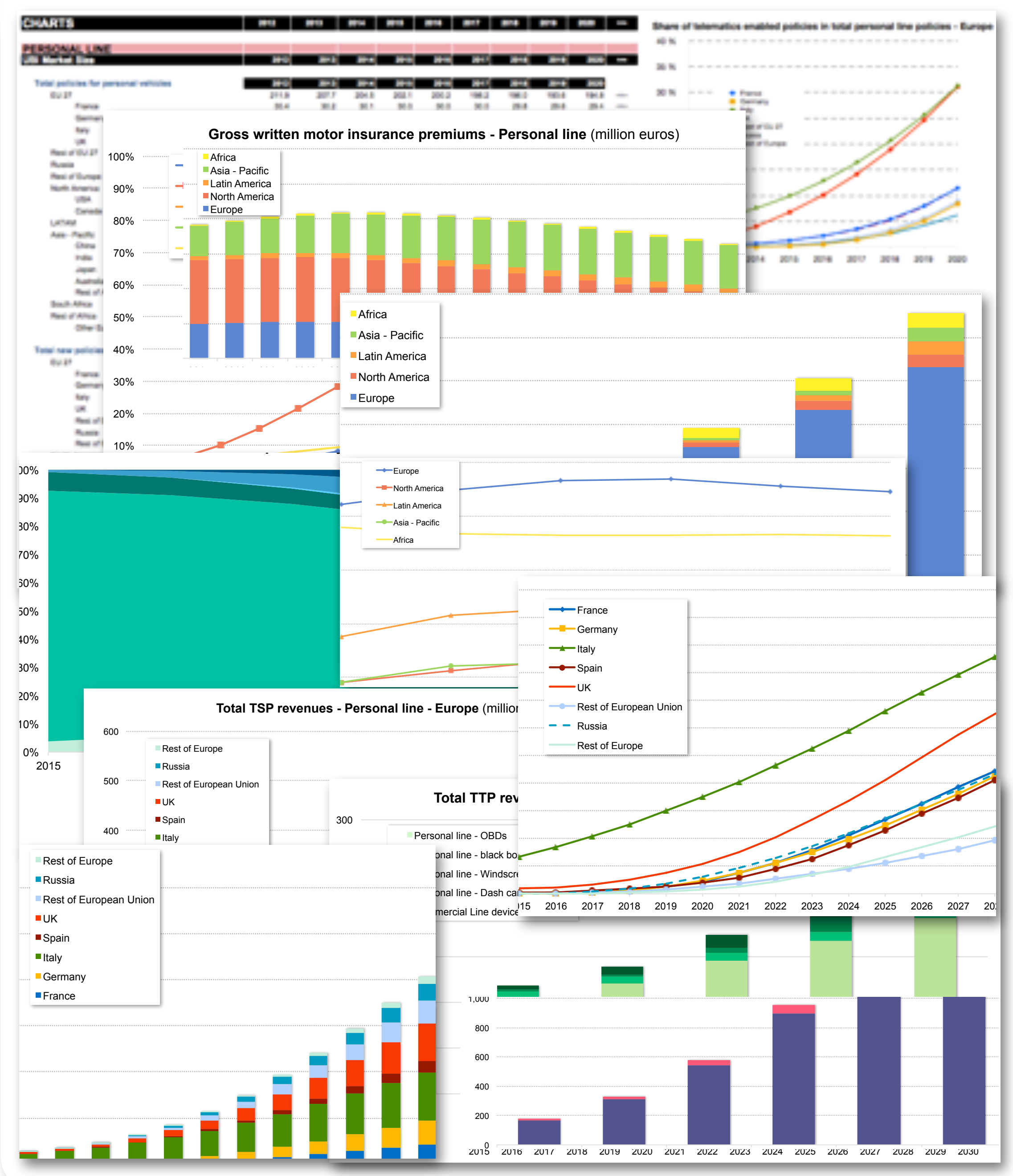
Market forecasts to 2020 and 2030

- Over 2400 line Excel sheet based on our 6000-line bottom up model using more than 2500 lines of inputs.
- Updated until January 2016 with the latest available market figures compiled from interviews and secondary research

Split by geography, technology and business models

- 16 areas including USA, Canada, France, Germany, Italy, UK, Japan, China, India, Brazil, South Africa, Russia, LATAM, etc.
- 7 technologies (line-fitted OBUs, professionally installed and self installed black boxes, light OBD dongles, connected OBD dongles, windscreen devices & CLAs, smartphones)
- Differentiated by channels and segments: aftermarket / OEM, personal / commercial, channels…
- **The impact of ADAS & autonomous cars on premiums**

Market size (volumes & revenues) **for insurers, TSPs, TTPs, OEMs and MNOs**



The legal landscape explained by legal experts

- **Identify the regulatory drivers that will influence your UBI strategy, including:**
  - The **requirement on insurers** regarding data management and protection
  - The **eCall, ERA Glonass** and **EOBR** mandates
  - The **Viberto** Judgement
  - The **European Data Protection Directive** progress
  - The **privacy regulations** and industry best practices
  - The **patents** in place and current **Intellectual property** litigation proceedings

Osborne Clarke

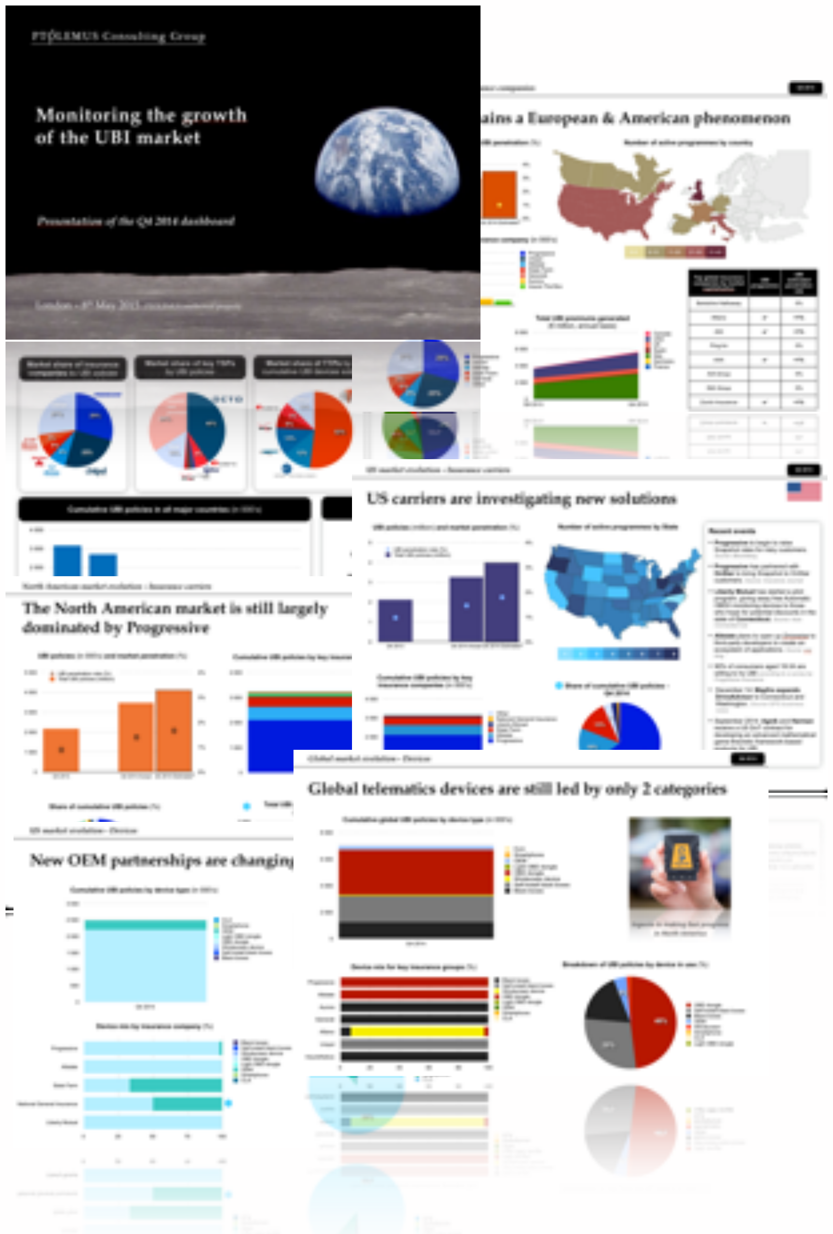
The UBI Study is a searchable PDF document that can be used by the whole company, worldwide

More than a report, a real strategic market analysis

Reports	Full Study	Full Study with 2020 & 2030 market forecasts
Contents	• 900+-page study (PDF format, password-protected) • 50 TSP and TTP company profiles • 30 country profiles	• 900+-page study (PDF format, password-protected) • Market forecasts outputs with graphs (Excel format, password-protected) • 50 TSP and TTP company profiles • 30 country profiles
Company-wide licence	**€ 6,995** *Approx. $6,595*	**€ 7,995** *Approx. $7,495*

For more information and to order the study, contact us at thomas@ptolemus.com

We also issue a quarterly dashboard of the UBI market



All the hard data you need to define & adjust your strategy

- **60-page barometer of the global UBI industry**
  - Covers 170 companies
  - Covers the US, Canada, France, Germany, Italy, Spain and the UK
  - Issued on a quarterly basis
  - 190 charts, tables & figures
- **Leverages both public information and primary research**
  - A large set of public information collected from conferences, desk research, etc.
  - Supplemented and validated by primary research & data (Interviews, supplier questionnaires, own market forecasts, etc.)
- **Brings most important market news**
- **Estimates UBI volumes and sales for all main players**
  - Insurance companies
  - TSPs
  - Technology providers
- **Deciphers the key market trends**
  - UBI penetration
  - Number of programmes
  - Mix by business model (PAYD, PHYD, TBYB, etc.)
  - Market share of all main insurers, TSPs and device makers
  - Technology mix (Black boxes, OBD, apps, etc.)
  - Business line mix
  - Segment mix (Young drivers, mature drivers, etc.)
  - Channel mix aftermarket / OEM

PTOLEMUS Consulting Group

Strategies for Mobile Companies

Brussels - Chicago - Paris - London -
Hannover - Milan - Boston

www.ptolemus.com

For more information, contact Thomas Hallauer at

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Clients across the mobility ecosystem…

Analytics providers

AAA, Cognizant, Google, here, LexisNexis, sas, Towers Watson, Wunelli

Automotive manufacturers & suppliers

Agero, Airbiquity, cobra, Directed, Danlaw, intel, Harman, Michelin, Meta System, Qoros, Qualcomm, Sierra Wireless, Telit, Toyota, Toyota Tsusho

Mobile telecom operators

SFR, Sprint, SK telecom, Telefónica, Telekom Austria Group, verizon

Applications providers

BMJ Group, censio, CCC Information Services Inc, Commedi, Coyote, TomTom, ESRI, Movelo, tdf, RoadPilot, wejo

Telematics solution providers

Arkan, arvento, drivefactor, FleetComplete, Fleetmatics, Eliocity, Himex, IMS, Lysanda, LoJack, Mobile Devices, Octo, Orion, Quartix, Queclink, Quindell, SafeFleet, smobil, Sistema

ITS operators, regulators & fleets

Arval, Brisa, Edenred, Efkon, CGI, egis, Euromaster, European Commission, Thales, Nomad Digital, Norbit, Sofico, Sick, UTA, Vitronic

Device / location suppliers

Andrew, Nokia Connecting People, Deveryware, cnes, gmv, Navizon, Thales Alenia Space, Sysnav, vizio, TruePosition, TechnoCom

Insurers, aggregators & assistance providers

Admiral, Aioi Nissay Dowa Insurance, MS&AD Insurance Group, Allianz, AXA, Baloise, carrot, Co vea, Desjardins, europ assistance, Generali, The Hartford, HUK, Inter Mutuelles Assistance, Ингосстрах, Menora Mivtachim, Mondial Assistance, Promutuel, Liberty Mutual, Macif, OUT surance, RSA, Sompo Japan, smile direct, telesure, Tokio Marine, youi, Zurich

Banks & private equity investors

Amadeus Capital Partners Limited, The Baupost Group, Goldman Sachs, Cinven, Disruptive Capital Finance, Renova Group, Leonardo & Co., Hutton Collins Partners LLP, New Amsterdam Growth Capital LLC, Nomura, Investcorp, Hellman & Friedman, Montezemolo & Partners, Pamplona Capital Management, INTEK Group