

PTOLEMUS Consulting Group

PTOLEMUS in a nutshell

Strategies for Mobile Companies



October 2017 - Confidential

The consulting & research firm for the connected world

Consulting services

Strategy
definition

Investment
assistance

Procurement
strategy

Innovation
management

Business
development

Deployment

Market research services



Fields of expertise

Mobility services

Car pooling
Car sharing
Smart parking

Multimodal
mobility
Ride hailing

Road side
assistance
Tax refund

Vehicle services & telematics

bCall
eCall
FMS
SVT / SVR

Tracking
VRM
In-car Wi-Fi
Fuel cards

Parking
Navigation
Speed cameras
Traffic information

Usage-based charging

Car As A Service
Electronic Toll
Collection

Mobility-as-a-
Service
Road charging

UBI / PAYD
Vehicle rental
Vehicle leasing

Vehicle data & analytics

AI
CAN-bus
Crowd-sourcing
Data protection

Driving behaviour
OBD
Predictive
analytics

Remote
diagnostics
xFCD

Vehicle automation

ADAS

Autonomous
cars

Autonomous
trucks

Enabling technologies

Positioning (GNSS
/ WiFi / cellular)

M2M /
connectivity
Smartphones

Telematic devices
V2X

Clients across the mobility ecosystem...

Analytics providers



Automotive manufacturers & suppliers



Mobile telecom operators



Applications providers



Telematics solution providers



Fleet & fuel, ITS & regulators



Device / location suppliers



Insurers, aggregators & assistance providers



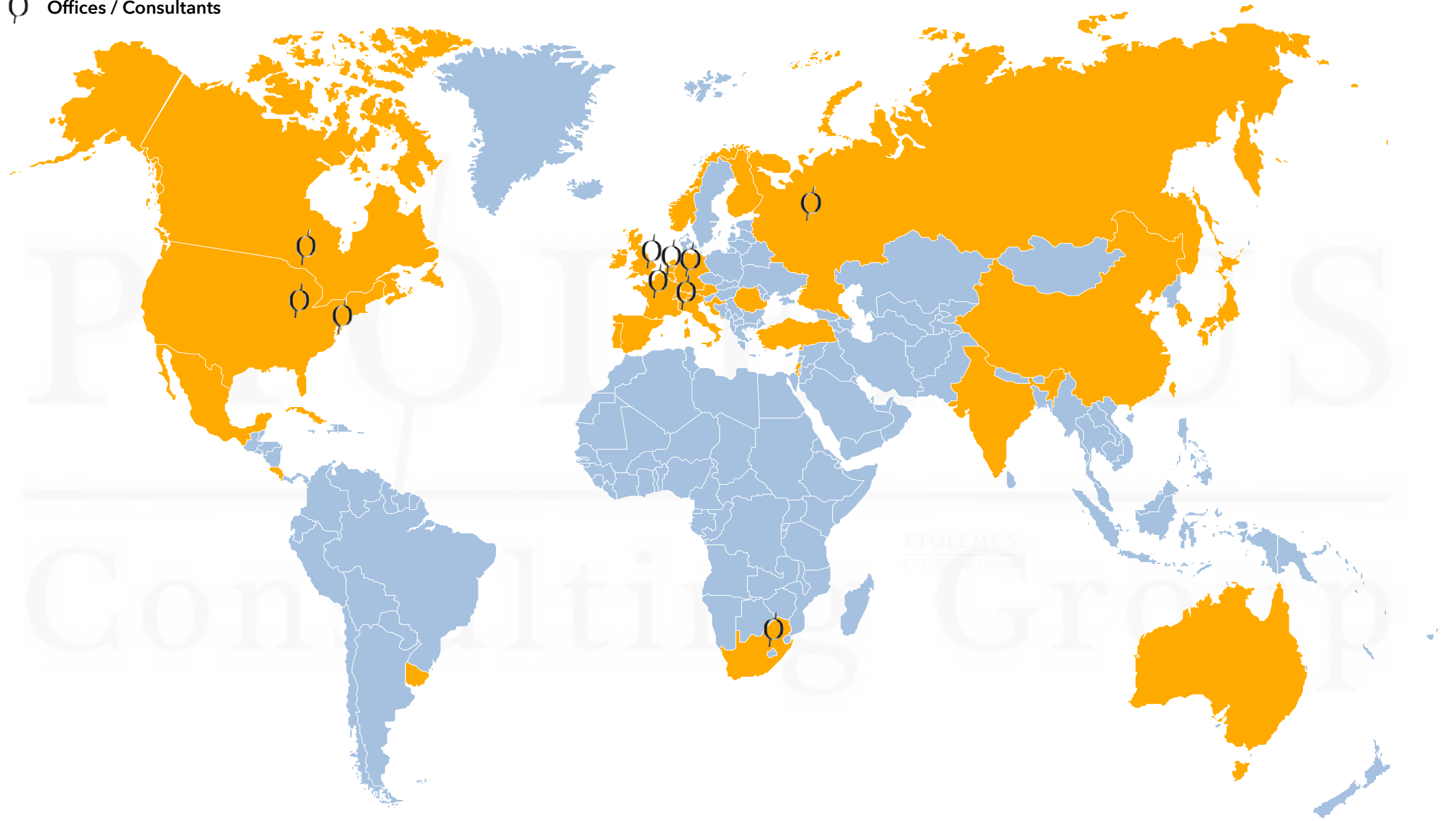
Banks & private equity investors



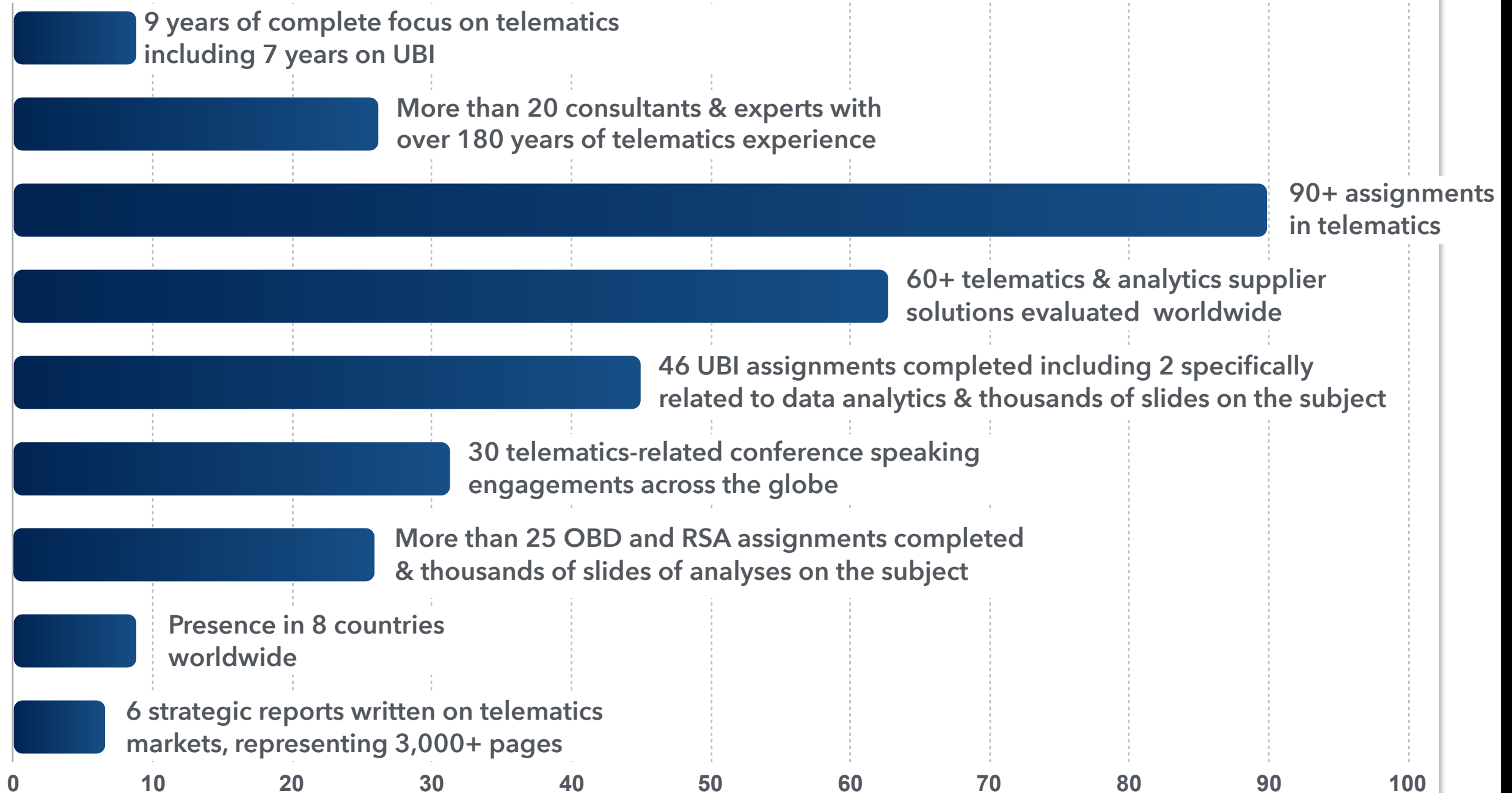
... and from around the globe

Clients

Offices / Consultants



PTOLEMUS brings an extensive experience especially in telematics insurance and roadside assistance industries



Nearly 100 strategy consulting assignments to help our clients define their connected services strategies...



Evaluated UBI market opportunities in Europe, Asia and Latin America

Mid-sized insurance group



Defined its future vehicle connected services global strategy

Global roadside assistance group



Defining strategic positioning in insurance telematics value chain

Global tier-1 automotive supplier



Evaluated the market potential of insurance telematics in Europe



Defined, built & implemented its new strategy in connected fleet vehicle services market

Major motorway operator



Helped the company define its connected services strategy



Defined strategy & business plan of its telematics business



Defined a telematics platform provider's B2B2C strategy



Helped European executive team understand the challenges & opportunities brought by UBI

Mid-sized insurance group



Helped define the insurance and fleet management specification of its eCall on-board unit

Global automotive OEM



Defined connected vehicle strategy to monetise driving behaviour & diagnostics data

Data aggregator



Developed 5-year insurance telematics device strategy & roadmap

Insurance Telematic Service Provider



For TomTom, developed its 3-year global roadmap on content & services



Defined and implemented LIVE services strategy for in-car navigation



... perform market sizing, due diligence & business planning projects...



Conducted the commercial due diligence of Octo Telematics



Led the technology due diligence of Arvento, the leading Turkish fleet management service provider



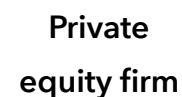
Conducted a global review and forecast of the Usage-Based Insurance market



Assisted in the acquisition of Tracker UK, a supplier of SVR, FMS & UBI solutions



Performed the commercial due diligence of a leading telematics service provider worldwide



Led commercial due diligence of Wunelli, a UK data management service provider



Led technology due diligence of Lytx, a US video-based fleet Telematics Service Provider



Assisted in evaluating the opportunity of investing into Octo Telematics



Conducted the vendor due diligence of VTraffic, a leading traffic information provider



Assisted in the strategic & technology evaluation of an Irish fleet Telematics Service Provider



Performed the vendor due diligence of Cobra Automotive prior to its acquisition by Vodafone



Assisted in the review of the global insurance telematics market



Performed a global review of the telematics insurance market



Evaluated the business plan of Cobra Automotive



... and help them deliver their strategy



Assisted the creation of a telematics insurance programme, including scoring and pricing scheme

Major European insurance group



Built and implemented the product strategy of a British Telematics Solution provider



Defined & implemented its partnership strategy in the connected vehicle ecosystem

Major motorway operator



Evaluated the technical & safety characteristics of a telematics solution using an OBD dongle

Mid-sized insurance group



For its fleet, evaluated the benefits of telematics and scheduling solutions



Assisted in sourcing an OBD dongle for mass deployment in China

Major telematics service provider



Evaluated the solution of an Irish fleet Telematics Service Provider

Strategic investor



Assisted in sourcing a driving behaviour database across Europe

Global tier-1 automotive supplier



Assisted in identifying relevant vehicle data available from the

Global roadside assistance group



Assisted in identifying all building blocks of its telematics solution and

Global roadside assistance group



Designed a digital roadside assistant solution using OBD dongles & car data

Global roadside assistance group



Built the predictive maintenance solution leveraging vehicle's OBD

Global roadside assistance group



Assisted in developing its usage-based charging telematics business



For the leading Russian TSP, performed the technical audit of its IT platform



PTOLEMUS brings unparalleled depth of knowledge in connected and autonomous vehicle services



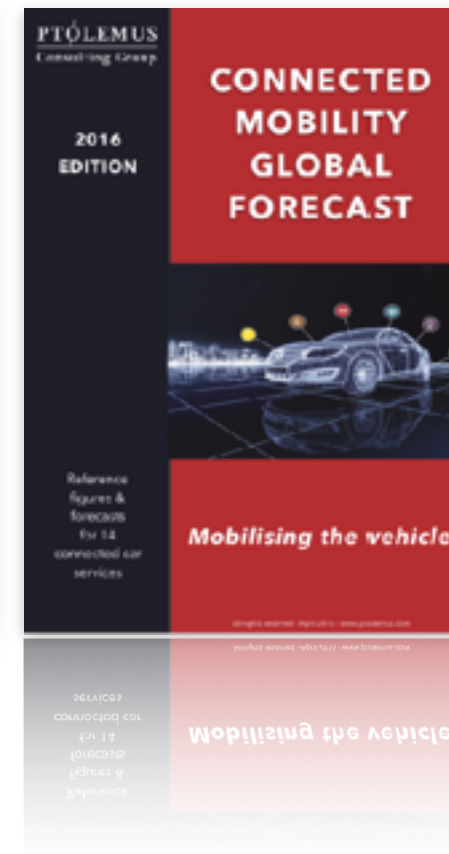
The reference report on the subject, quoted by The Economist, the Financial Times and the Wall Street Journal



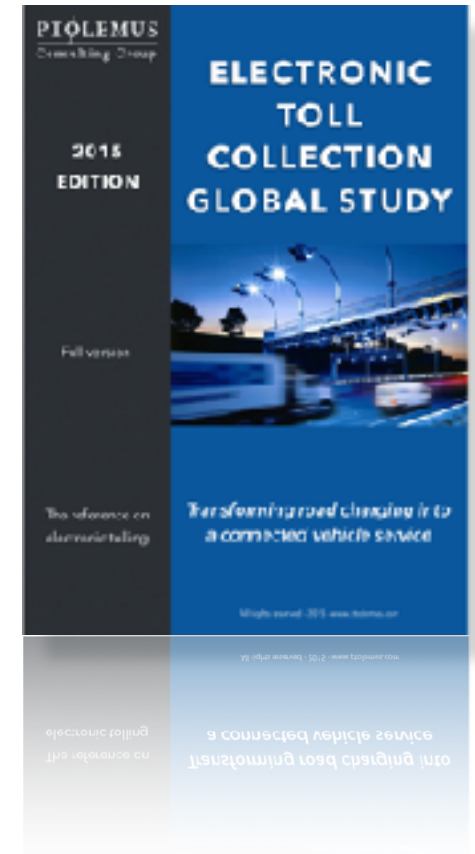
The most comprehensive research on insurance analytics



The most thorough analysis of ADAS and AVs



Referenced figures and forecasts for 14 connected car services



The reference on electronic road charging

PTOLEMUS has published its third UBI report revealing how UBI will become mainstream and 'uberise' the auto insurance



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

- **1,300 pages of analysis using:**
 - 286 interviews in 28 countries
 - 5 years of research performed by 6 consultants in 4 countries
 - Insights from 30 consulting projects
 - 350+ 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 60 suppliers' solutions** including our own evaluation and rankings of TSPs, TTPs and analytics providers
- **30 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
 - eCall & ERA Glonass mandates
 - The rise of smartphone apps
 - Big Data & analytics
- Targeted **recommendations** to insurers, regulators, TSP, OEMs and operators

We also just published the most comprehensive analysis of the connected insurance analytics market and solutions



- Analysis of the pricing and data management policies of the **27 largest UBI programmes** including :
 - Admiral, Allianz, Allstate, American Family, AXA, Generali, Desjardins, Direct Line Group, State Farm, The Hartford, UnipolSai, Uniqa and Zurich
- Based on **40 in-depth interviews** with Telematics Service Providers (TSPs), analytics providers and insurers
- **5 interviews transcribed:** Nationwide, Insurethebox, LexisNexis Wunelli, Octo Telematics and The Floow
- Illustrated by case studies from companies using advance analytics such as: Progressive, Generali, Insure the box and many more
- Profile and review of **10 advanced analytics suppliers** active in UBI
 - Accenture, Cambridge Mobile Telematics, Cognizant, HERE, IBM, IMS, SAS, Verisk Analytics and Willis Towers Watson
- Findings and recommendations **validated by 150 academic papers** and journals
- All that in a **340+ page document with over 150 graphs and tables**
- Resulting in **20 best practices** including recommendations on how to record and process driving data, score drivers and interact with them.

We also issue a quarterly dashboard of the UBI market



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

- **100-page barometer of the global UBI industry**
 - Covers 360 companies
 - Issued on a quarterly basis
 - 230 charts, tables & figures
- **A global dashboard covering**
 - Mature markets: US, Canada, France, Germany, Italy, Spain, UK
 - Emerging markets: APAC, Australia, Benelux, China, Latin America, other European markets
- **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 all key 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

The Autonomous Vehicle Global Study quantifies the impact of ADAS & AVs on safety and on the ecosystem



- **600+ pages of research using:**
 - 60 interviews in 8 countries
 - 12 months of research performed by 10 consultants
 - A uniquely precise and complete methodology
 - over 200 figures (charts, tables, etc.)
- Assessment of the **key factors affecting the start, the acceleration speed and the penetration** of the different level of automation from today to 2030
 - Overview of the regulatory background, applicable regulation, evolution and trends globally
 - Complete analysis of the technology building blocks including suppliers and cost analysis
 - A global quantitative analysis of the mobility market and its role in delivering driverless cars
- **27 ADAS explained** and their impact on claims analysed
- **21 OEMs and technology providers** analysed and their AV strategy compared
- **A qualitative & quantitative evaluation of the impacts of automation on**
 - Safety
 - Personal data protection
 - Connected services
 - The automotive industry
 - The risk sector
- **2015-2030 bottom-up ADAS & AV market forecasts**
 - Global forecast over 18 markets
 - ADAS and AV **penetration forecast by level and car segment**
 - Forecast on crash volumes and severity, claims costs and insurance premiums

THE AUTONOMOUS CLUB

PTOLEMUS
Consulting Group

The European think tank on connected
& automated vehicles

LYSIOS
PUBLIC AFFAIRS

- The Autonomous Club (TAC) is an **open, non-profit association** of corporate members to inform and brainstorm on strategic issues around the connected and autonomous vehicle
- **TAC aims to:**
 - Encourage a convergent political approach
 - Help stakeholders from different sectors speak to each other and build constructive relationships
 - Offer a privileged link with institutional stakeholders in a more informal setting
 - Discuss issues in depth and openly within the confidentiality of the Club
 - Providing clear conclusions/final statements
- The club meets every other month, generally in **Brussels**

Key areas the Club will be focusing on:

- European regulations affecting the autonomous vehicle market
- Control over and access to connected & automated vehicle data
- Economics of CAV's related services
- Customers' acceptance & public level of interest
- The impact of automated vehicles on urban mobility
- Forthcoming European research projects identification
- Business, technical and privacy issues
- Requirements on roads infrastructure

Institutions represented as of today

- | | | |
|---------------------------------|-----------------------|-----------------------|
| • Allianz | • EIT Digital | • Pioneer Europe |
| • Athlon Car Lease | • European Commission | • Renault-Nissan |
| • Axa Insurance | • Leaseurope | • STIB |
| • Baloise | • Octo Telematics | • Swiss Re |
| • Dutch Association of Insurers | • Osborne Clarke | • VAB & KBC Insurance |

The Connected Mobility Forecast examines how connectivity is revolutionising 14 car services



It brings the most comprehensive analysis of connected mobility markets ever published



220-page analysis of 14 mobility markets

- The future evolution of the complete connected mobility sector analysed
- 75 charts encapsulating the essence of the mobility market evolution
- 18 countries and areas covered

14 analyses of mobility services worldwide including

- Delivery, service and business models
- Devices & technologies used
- The value chain for each service
- Regulatory and competitive environment
- All major current and future market trends in each market
- 650 stakeholders mentioned
- All key mergers & acquisitions
- Connectivity uptake in each region
- Key volume & revenue drivers

Global, regional and country-wide volume & revenue forecasts

- Bottom-up forecasts of 14 connected services and their underlying markets
- Revenues generated for both Mobility Service Providers (MSPs) and their Connected Solutions Providers (CSPs)
- Number of connected cars by service measured and forecast across 18 global markets along with service penetration rates

4,200-line market forecast output data sheet including:

- The total addressable market in volume and value seen from the MSP and the CSP perspective
- The total underlying volumes and revenues by country
- The volume and revenue bottom-up forecasts for MSPs and CSPs
- The split between OEM and aftermarket volumes & revenues

PTOLEMUS has published the most comprehensive report on road user charging / electronic tolling



More than a report, a real strategic market analysis

- **650-page analysis of the global electronic tolling landscape based on:**
 - 120 interviews in 12 countries
 - 230 figures and charts
 - 3 years of hands-on experience advising key players in the ecosystem
- **A comparative assessment of all tolling technologies, models and trends**
 - ANPR, DSRC, Infrared, GNSS, RFID & WAVE technologies & business models compared
 - Evolution path from toll gates, ETC to MLFF
 - The new trends: big car data, mobile tolling, mobility pricing and sustainable mobility
- **An in-depth review of ETC markets worldwide**
 - 35 countries in Europe, America, Asia & Africa profiled and analysed
 - 14 case studies including ATI, AutoPass, BroBizz, Ecotaxe, e-way, Hu-Go, LKW Maut, PrePass, Via Verde, etc.
- **A decryption of regulatory evolutions**
 - Bill 810, eCall, EETS, ERA Glonass, REETS, Resolution 005 AGEPAR
 - 43 standards & all major patents listed: 6C, ARTEFATO, CEN, ETSI, ISO, etc.
- **A detailed analysis of all major players' strategies & solutions**
 - Their development strategies in the new value chain compared
- 23 company profiles, from Atlantia to Xerox
- 35 tolling markets compared
- **Toll operator market models**
 - Toll connected services opportunity analysis
 - Markets' readiness for connected services
 - Integration with 11 VAS and 5 connected services
- **2010-25 bottom-up market forecasts**
 - Estimates of the number of devices sold, vehicles subscribed by technology & vehicle type
 - **36 countries covered** in Europe, North America, South Africa, India, China, Japan, Korea and South East Asia

A growing recognition

They mention PTOLEMUS



PTOLEMUS Consulting Group

Strategies for Mobile Companies

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