

2017 EDITION

THE AUTONOMOUS VEHICLE GLOBAL STUDY



A perfect storm ready to wipe out risk

Free abstract

The most thorough report on driverless vehicles

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ABOUT PTOLEMUS CONSULTING GROUP



from Ptolemy, the Egyptian savant who built the 1st map of the world

PTOLEMUS is the first international strategy consulting & research firm specialised in the connected vehicle and the Internet of Things (IoT).

We help our clients apply strategic analysis to this fastmoving ecosystem, across all its industries (automotive, insurance, assistance, fleet management, road charging, mobile telecoms, etc.) and on an international basis.

PTOLEMUS, founded by Frederic Bruneteau, operates worldwide and is present in 9 countries: Belgium, Canada, France, Germany, Italy, Russia, South Africa, the UK and the US.

PTOLEMUS has performed 90 consulting assignments related to connected and autonomous vehicles.

For any enquiry, please send a message to <u>contact@ptolemus.com</u>

Our consulting services



Our 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	Al 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

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THE 10 AUTHORS OF THIS REPORT

Frederic Bruneteau, Managing Director, Brussels

MS, Management, HEC Paris and CEMS Master, University of Cologne



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

Having assisted dozens of clients such as Allianz, Generali, Telit, Michelin, Qualcomm and Toyota, he has become **one of the world's foremost experts in**

the field of telematics, quoted by numerous publications such as *The Economist* and *the Financial Times*. He has spoken at more than 40 international conferences on the subject.

Within PTOLEMUS, he has **led 70 assignments related to connected & autonomous vehicles** for leaders such as Aioi Nissay Dowa, Allianz, AXA, Bridgestone, CNES, Generali, HERE, Kapsch, Liberty Mutual, Michelin, Octo Telematics, Pioneer, Qualcomm, Telit, Thales Alenia Space and Toyota.

- He assisted one of the world's largest **insurance groups** in designing its **telematics strategy & business plan across Europe**;
- Led a global analysis of the market for cloud-based in-vehicle platforms, involving interviews with automotive OEMs worldwide;
- For one of the largest global car makers, he defined the insurance telematics and fleet management specifications of their future embedded device;
- For a space agency, assessed the **market potential of autonomous vehicles** for the satellite industry;

Frederic performed a complete review of this report.

Thomas Hallauer, Research Director, London

BA, International Business, South Bank University, London



Thomas Hallauer has gained 15 years of strategy, research and marketing experience in the domain of telematics and location-based services from companies such as Admiral, DriveFactor, Liberty Mutual, Michelin, Mobile Devices, Octo Telematics and Wunelli.

He is expert at highlighting new trends, unearthing profitable niches and marketing new products and services notably in the automotive, motor insurance, LBS, navigation and positioning industries.

Before PTOLEMUS, Thomas held management responsibilities with **Mobile Devices**, a leading provider of telematics technology platform and devices and with **TU Automotive**.

Thomas is the lead author of the ETC Global Study, the most thorough review of the Electronic Toll Collection and Road Charging market published in May 2015.

Thomas also reviewed and published the Connected Insurance Analytics Report and the UBI Global Study 2016, interviewing dozens of insurance companies.

Thomas led the research, writing and publishing of this report.

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Matthieu Noël, Manager, Paris

MS Automotive Engineering & Project Management, ESTACA, Paris and MS Marketing, HEC, Paris



Matthieu Noël has gained **6 years of consulting experience in the automotive sector** primarily helping car manufacturers such as **BMW**, **PSA Peugeot-Citroën**, **Renault-Nissan** and **Faurecia**.

Within PTOLEMUS, he has advised numerous clients such as **Admiral**, **Airbiquity**, **Allianz**, **Kapsch**, **Octo Telematics** or **Vodafone Automotive** in defining and implementing their strategy. He holds expert knowledge of domains such as connected vehicle data & analytics, OBD dongles, vehicle repair and maintenance, fleet telematics, fuel card services, ETC, UBI, autonomous vehicles, etc.

He led or participated in **more than 20 consulting assignments**, particularly in Usagebased Insurance (UBI), fleet management (FMS) and vehicle OBD data analytics for numerous applications such as vehicle remote diagnostics, eco-driving and driving behaviour analysis. He also recently contributed to the publication of the Insurance Telematics Global Study and Electronic Toll collection Global Study. He also regularly speaks at conferences.

Matthieu regularly speaks and moderates panels on automotive, mobility and telematics services at conferences. He recently presented the future of the UBI market at **Telematics India conference in Bangalore**.

Matthieu performed a complete review of this report.

Claire Elnécavé, Senior Expert, Brussels

MSc Management, Toulouse Management School



Claire Elnécavé has gained 12 years of experience for companies such as Accor, Arthur Andersen, Baloise Insurance, Baupost Group, Carrefour, CIC Securities, Coyote System, Pioneer, Sara Lee and Solvay.

She is expert at auditing and developing business models, financial statements, business plans, financial models and market models.

She built a 10-year forecast of the European telematics fleet management market for a \$40 billion American hedge fund.

Claire also recently built the **5-year insurance telematics business model** of a leading European connected car services operator. She also contributed to the organisation of a series of strategic workshops on telematics for an insurance company and built its telematics business plan.

She also recently investigated the UBI analytics strategic landscape and built detailed profiles of 10 major suppliers including Lexis-Nexis, Octo Telematics, Willis, Towers Watson, Verisk Analytics, etc.

She is also **leading the creation of the Autonomous Club**, a think tank focused on industry and regulatory evolutions driven by the emergence of autonomous vehicles.

For this report, Claire contributed to our analysis of major AV technology suppliers.

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Autonomous Vehicle Global Study 2017 Free Abstract

Alberto Lodieu, Senior Consultant, Paris

MBA, HEC Paris - BSc Industrial Engineering, Instituto Tecnologico y de Estudios Superiores de Monterrey



Alberto has gained 7 years of experience in strategic and operations consulting, helping organisations such as **CNES**, **Danlaw**, **Europ Assistance**, **the European Commission and Liberty Mutual**. He has specialised in the **financial services and transport** industries in projects related to corporate and competitive strategy, operations excellence and business analytics.

Alberto has participated in more than 20 projects to help organisations identify, define and implement the initiatives needed to achieve or preserve their leadership position.

In his last 5 assignments, Alberto has helped multinational companies, willing to succeed in the connected vehicle market, to define their **global go-to market strategies**.

Before joining PTOLEMUS, Alberto worked for Deloitte Consulting in their strategy and operations practice. Additionally, he has participated as a strategic and financial advisor in investment projects both in **Europe and Latin America**.

For this report, Alberto analysed the evolution of the relationship between drivers and cars and the acceptance of AVs by customers.

Sahand Malek, Consultant, Brussels

PhD, Automotive Engineering, University of Bath, & MS, Mechanical Engineering, University of Birmingham



Sahand Malek has gained almost 5 years of experience in automotive research and development projects on vehicle On-Board Diagnostics (OBD), data management and analytics, Usage-Based Insurance (UBI) and Advanced Driving Assistance Systems (ADAS).

He notably conducted an extensive academic study on the effect of driving behaviour on fuel consumption and road safety that led to the development of various frameworks and post-processing methods to analyse driving data. He managed to identify, classify, and model driving behaviour differences from real-world data from fleet drivers.

He also gained extensive experience in **conducting projects that are using on-board diagnostics tools (OBD)**, portable emission measurement systems (PEMS) and location-based sensors.

He has in-depth knowledge about many aspects of traffic and transportation science, as well as automotive engineering. He has proficient statistical and technical knowledge, and he is capable of providing advice on both managerial and technical levels.

Sahand recently led the writing of our recently published Connected Insurance Analytics Report.

For this report, Sahand built our bottom-up market forecasts and scenarios of the ADAS and AV markets globally.

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Philippe Brousse, Senior Business Analyst, Brussels

MSc Eng., ENSIMAG & MS Strategy ESSEC, Paris



Philippe has gained 3 years of experience in strategy and market research for companies such as CGI Business Consulting, Danlaw, Europ Assistance, the European Commission, Kapsch, Octo Telematics and Safran Morpho.

He has performed multiple assignments in the connected mobility domain such as:

- The definition of a global payment provider's connected services strategy for the consumer market,
- An assessment of the Benelux fleet telematics management market for a North American TSP,
- The evaluation of the EU fleet telematics management market for a \$40 billion US hedge fund,

As part of our Connected Mobility Forecast, he conducted the analysis and 5-year forecasts of the markets for bCall, UBI, fleet management, and in-vehicle WiFi hotspots worldwide.

For this report, Philippe contributed to the building of our bottom-up market forecasts of the ADAS and AV markets globally.

Justin Hamilton, Senior Business Analyst, London

BA, Politics, Univ. of East Anglia and M.Litt. International Relations, University of St Andrews



Justin has more than 4 years of experience within the transportation, mobility and road user charging market. He conducts quantitative and qualitative analysis of global trends and developments in mobility, electronic road pricing and intelligent transport solutions.

Before joining PTOLEMUS, Justin launched Road User Charging Magazine and is frequently published in journals such as *Thinking Highways*, *Tolling Review* and *Tolltrans*.

His recent projects include:

- A comprehensive ranking of global ETC service providers, systems integrators and technology suppliers worldwide,
- For one of the world's largest roadside assistance companies, investigated **new digital assistance models** and analysed their breakthrough impact on the value chain,
- The writing of our UBI Global Study 2016, the reference research on the connected insurance market, quoted by *Fortune*, *Forbes*, the *Financial Times*, *Reuters*, *Corriere della Serra*, etc.
- A global analysis of the car sharing, car pooling, car leasing and car rental markets for our recently published Connected Mobility Forecast 2016.

For this report, Justin explored the relationship between autonomous cars and mobility and evaluated the factors driving the timeline of automation.

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Autonomous Vehicle Global Study 2017 Free Abstract

Yaron Steinfeld, Business Analyst, Paris

MSc Sustainable Development, HEC Paris and BBA, Business Administration, University of South California



Yaron Steinfeld has gained experience in strategy and market research for organisations such as Cleia, CNES, HERE, LafargeHolcim and Octo Telematics.

Yaron has worked on several connected mobility projects related to vehicle data, UBI, roadside assistance, car pooling.

For example he recently participated to the UBI market review of a major insurance telematics solution provider. He also participated to the global analysis of the market for cloud-based in-vehicle platforms, involving interviews with car makers worldwide.

Yaron brings a unique perspective to PTOLEMUS through his interest and experience related to smart cities. His focus is on analysing how technology merges with transportation to create solutions for better functioning, more liveable urban environments.

Finally, Yaron contributes to the research and analysis for our **quarterly quantitative** dashboard of the global UBI market.

For this report, Yaron led our analysis of the impact of ADAS and AV technologies on the number of accidents and their severity.

Matthew Cobbold, Business Analyst, London

MEng (Hons) in Civil and Environmental Engineering, Imperial College London



Matthew has gained 2 years of strategy and research experience for companies such as Strategy& (PWC group), Ernst & Young and WS Atkins.

He holds a strong experience in computational modelling and mathematical analysis.

Matthew has **performed several research and market modelling projects** for construction, pharmaceutical and telecommunication industries.

He recently participated to the commercial due diligence of a cyber security solution provider. Matthew conducted researches and interviewed experts to size the hardware security modules market.

For this report, Matthew contributed to our model of the impact of AVs on insurance claims and premiums.

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FOREWORD

When discussing autonomous cars, Mary Barra, GM's CEO, stated: "The auto industry will change more in the next 5 to 10 years than it has in the last 50."

The most insightful portion of this quote is not necessarily the use of the word change, nor the timeline attached. Rather, it is the inclusion of the automotive industry as a whole.

Reflecting the way we have approached this report, **change will not be limited to just car manufacturers, suppliers or dealers.** Change will be wholesale. It will have an impact far beyond the great motor cities of Detroit, Wolfsburg, Aichi, Birmingham and Turin. The shock waves will be felt equally by financial districts, insurance hubs, political centres and technology clusters across the globe.

Today, vehicle automation is somewhat limited to Advanced Driver Assistance Systems (ADAS) such as automatic emergency braking and lane keeping assist. These level 2 autonomous features began appearing in cars many years ago and their incorporation in new models has steadily increased amid competition among OEMs and occasional regulatory mandates.

Yet, **despite their potential to reduce accidents, these features have been mostly ignored by insurers so far** and have had little effect on premiums.



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In the last 12 months, we have seen an acceleration in autonomous development, supported by a large number of ground-breaking announcements, deals and partnerships from all major players across the autonomous vehicle value chain, including:

- Intel's \$15 billion acquisition of leading vision-sensing provider Mobileye;
- **GM's \$1 billion acquisition** of the 40-person strong software and artificial intelligence developer Cruise Automation;
- Ford's \$1 billion investment in unknown start-up ARGO-AI, accompanied by a joint \$150 million investment in lidar manufacturer Velodyne and investment in Civil Maps;
- Apple's \$1 billion investment in Chinese ride hailing platform Didi Chuxing;
- Uber's \$680 million acquisition of self-driving start-up Otto;
- Daimler, BMW and Audi's joint \$3 billion acquisition of HD map provider HERE;
- Intel's acquisitions of deep learning developer, Nervana Systems and vision processor Movidius;
- **Microsoft's partnerships** with Toyota, Renault Nissan and Volvo;
- Google's decision to spin-off and re-brand their self-driving car division **Waymo and** the subsequent partnerships with Honda and Fiat Chrysler;
- Mobileye's partnerships with GM, Intel, Wabco, BMW, Delphi and Volkswagen;
- **Nvidia's** emergence as a key supplier of deep learning and processing components to Tesla, Honda, Volvo, Audi, Daimler, BMW, VW and Baidu;
- Allianz' launch of insurance policies for semi-autonomous and driverless cars;
- The UK Government's proposed **Vehicle Technology and Aviation Bill**, which mandates insurance coverage for autonomous cars both when the drivers are in control and when they are not.

All are examples of different players moving to ensure they are not let behind in the race to develop and deploy highly automated vehicles (HAVs). The scale of some of these transactions underlines the seriousness with which all stakeholders are approaching the issue. What was once though to be science fiction is likely to become a reality much sooner than most people are aware.



"Speeding, officer? You'll have to ask the self-driving car."

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Car manufacturers are undoubtedly in the eye of the autonomous vehicle storm, but they are not alone. At each step of the way they are accompanied by **a growing ecosystem of players**, consisting of insurance companies, regulators, suppliers, mobility providers, investors, cities, telematics service providers and, of course, the drivers themselves.

With this in mind and reflecting on the magnitude of adjustment which will necessarily take place across numerous industries - many of which have enjoyed decades of stability - we felt the time was right to publish this report. The scope of this study reflects this, with 600 pages of crucial analysis covering the evolution and future of the technology and the risk management it will involve.

Crucially, the report considers the implications all levels of automation will have on accident risks. By leveraging our experience as global thought leaders in Usage-Based Insurance (UBI) and insurance analytics, we have considered the impact of ADAS (level 2), through to level 3 automation and finally fully autonomous and driverless (level 4) vehicles.

Using the building blocks outlined below, interviewing the marketplace and leveraging our skills in forecasting and analysis, we are confident we have constructed **the most** comprehensive and insightful report on autonomous vehicles available today.



The AV Global Study 2017: methodology and key outputs

Source: PTOLEMUS

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Autonomous Vehicle Global Study 2017 Free Abstract

This report further benefits from:

- 18 months of desk research in the connected mobility market,
- The insights from 90 consulting assignments on connected & autonomous driving;
- Interviews with over 40 executives from across the automotive landscape,
- A review of worldwide mergers, acquisitions and strategic undertakings by applicable companies.

It has been a pleasure for us to write this report. 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 thomas@ptolemus.com.

Sincerely,

Frederic Bruneteau

Managing Director

Autonomous Vehicle Global Study 2017 Free Abstract

TABLE OF CONTENTS

I. THE KEY BENEFITS AND CHALLENGES OF ADAS

1. What are ADAS and autonomous functions?

- A. The 4 human cognitive processes
- B. The 4 steps of ADAS evolution
- C. The 6 major systems group
- D. The 5 levels of automation (... or is it 4?)
- E. Today's OEM involvement

2. What is at stake here?

- A. Analysis of the impacts of automation
- B. 10 other markets that will be affected by ADAS
- C. Alongside the evolution of ADAS, EV will emerge

3. The key technologies involved and their evolution

- A. Passive to active to ADAS safety systems
- B. Upfitted and embedded safety systems
- C. The building blocs of ADAS
- D. The 12 gates left to cross before cars are automated

II. LEARNINGS FROM THE RESEARCH AND TRIALS

- 1. The public-funded European projects
- 2. The biggest spenders in R&D budgets
- 3. The first steps in commercial vehicle automation

III. HOW AUTOMATION IS CHANGING THE CAR INDUSTRY

1. The evolution of the car-driver relationship

- A. Measuring and anticipating customer resistance/ acceptance
- B. How autonomous vehicle will manage re-engagement in the future
- C. Analysis of the emerging challenges in re-engagement process
- D. Assessment of the OEM-Driver communication and the required changes
- E. ADAS data management strategy

PTÓLEMUS

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

2. The transition to autonomous driving from the customer perspective

- A. The new challenges of buying, selling, and using ADAS
- B. Segmenting the ADAS technologies
- C. The business case for the customer
- D. The business case for the level 4 driverless scenario

3. What can we learn from the Tesla crashes

- A. Analysis of the 4 cases
- B. Tesla's response
- C. Tesla's liability

4. Assessment of the core manufacturers' and suppliers' strategies and the evolving landscape

- A. OEM profiles
- B. The imminent future for OEMS
- C. How the OEMs compare
- **D. Supplier Profiles**
- E. The role of technology suppliers in automation
- F. Comparing the core suppliers

SECTION IV: CALCULATING THE IMPACT OF ADAS ON INSURANCE COSTS / REVENUES

1. ADAS testing and market penetration evolution

- A. Safety testing stakeholder landscape
- B. The role of NCAPs in the deployment of ADAS safety technologies
- C. Quantifying the adoption of ADAS in 3 mature, developed markets

2. How to calculate the impact on claims and premiums

- A. The challenge behind calculating the impact of ADAS
- B. Modelling the impact of ADAS and automation on claims reduction
- C. ADAS impact on claims reduction
- D. Calculating the impact of ADAS on accident reduction
- E. Next steps to better calculate claims and premium reduction
- F. How to calculate the impact of ADAS on Premium Expenditure

3. Impact of autonomous functions on the UBI proposition

- A. Calculating the impact of ADAS features on driver behaviour and UBI scores
- B. Will automation signal the end of UBI?

V. THE ENVIRONMENTAL FACTORS INFLUENCING THE TIMELINE

1. The current regulations and how they impact the evolution of ADAS and automation

- A. the Vienna Convention
- B. Regulations for experimenting on autonomous functions
- C. Traffic Rules (national and international conventions
- D. Technical Vehicle Regulations
- E. Civil and criminal law do they apply as is or are changes needed?
- F. How to insure automated vehicles: Insurance code changes required
- G. Data privacy issues

2. Country-by-country assessment

3. Five questions to solve the liability issue

- A. Is there such thing as an ethical dilemma?
- B. Risks and responsibilities for the OEMs
- C. What are the risks for other stakeholders?
- D. How to demonstrate liability?
- E. What are the liability rules today?
- F. Recommendations on how to limit liability today with the deployment of ADAS functions

4. Technical factors affecting the timeline

- A. Understanding the autonomous vehicle architecture
- B. The 5 necessary technological components of ADAS systems
- C. Safety technologies on the market
- D. Data management
- E. Cost evolution and effect on ADAS adoption

VI. THE AUTONOMOUS VEHICLE VALUE CHAIN AND CHANNELS TO MARKET

1. The battle for control of the autonomous vehicle value chain

A. Partnerships and acquisitions

B. The competition for control

2. Mobility as a service: The route to market for driverless cars

A. Car sharing

PTOLEMUS Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

- B. Ride hailing
- C. OEMs are taking control of mobility services

VII. ADAS AND AV GLOBAL MARKET FORECASTS

1. Introduction and methodology

2. ADAS and AV global forecast main outputs

- A. Automotive market forecast
- B. How automation will affect the insurance market

VIII. CONCLUSIONS

1. Timeline for the evolution of assistance and automation

- A. Expectations vary between stakeholders
- B. The evolution of the function stack
- C. Do we believe HAVs will arrive earlier than expected?
- D. The path to growth of the driverless car

2. The main benefits of ADAS systems quantified

- A. Impact on claims
- B. Impact on premiums
- C. Return on investment for the driver
- D. Impact on the UBI market

3. The key factors influencing ADAS/automation adoption

- A. Technology evolution
- B. Autonomous vehicles delivery strategy: key takeaways
- C. Machine driver delivery strategy: key takeaways
- D. Will automation increase vehicle prices?

4. Liability and insurance takeaways

- A. How will HAVs be insured?
- B. Who is liable if a automated vehicles crashes?
- C. What will the OEMs do?

5. Modelling the driverless vehicle introduction

- A. Market entry strategies for the driverless car
- B. Scenarios to integrate with city traffic
- C. Regulating the introduction of driverless cars
- D. Forecasting the evolution of autonomous vehicles

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INTRODUCTION

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"You'll never own a car again. I have two and a half year old boys. They're not going to drive when they turn 18. They're going to have an autonomous car driving them around."



Peter Diamandis, Founder, XPRIZE Foundation

"The autonomous age has dawned and Honda, like all automakers, is working to refine and advance this technology to achieve our goal for a collision-free society in the 2040 timeframe."

> Frank Paluch, President, R&D Americas





James Dalton, Director of General Insurance Policy, ABI

The growth in features like automatic braking and lane assistance systems may give drivers a false sense of security that they can relax while their car looks after them. ······

Representative of the German Federal Office for Motor Vehicles (KBA) discussing Tesla's *Copilot* function "If the word beta-phase means an incomplete status of the software, the KBA would not authorise (such) a functionality."

"When the steam engine arrived, the horse wasn't just killed off, it became a hobby for enthusiasts.

And that's what will happen to cars, and I will continue to drive cars because I like driving cars."



Jeremy Clarkson, Broadcaster

"We don't want driverless to be the next GM food."



David Williams, Technical Director, AXA Insurance

"You can't be half-pregnant or partially pregnant and a car can't be partially autonomous."

Jochen Haab, Head of Active Safety, Mercedes Benz discussing Tesla's Autopilot





Jen-Hyun Huang CEO Nvidia

"Developing a fully autonomous car is an end-to-end systems problem – from the incar supercomputer, to Al algorithms, to an always-updated 3D map in the cloud"

Travis Kalanick, CEO, Uber



So if that's happening, what would happen if we weren't a part of that future? If we weren't part of the autonomy thing? Then the future passes us by basically, in a very expeditious and efficient way."

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Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

LIST OF FIGURES

Fig. 0.1: Key partnerships, investments and acquisitions across the autonomous car value chain

Fig. 0.2: Future winners and losers as autonomous vehicles come to market

Fig. 1.1: New technologies assist or substitute human capabilities

Fig. 1.2: ADAS functions impact on safety and automation

Fig. 1.3: Mainstream safety features most impactful on collision risks

Fig. 1.4: Society of Automotive Engineers (SAE) levels of automation

Fig. 1.5: The UK representation of the SAE levels

Fig. 1.6: Illustrative examples of Operating Design Domains (ODD) and their restrictions

Fig. 1.7: Correspondence of UNECE autonomous function categories with SAE levels of automation

Fig. 1.8: The levels of automation and their impact

Fig. 1.9: OEM involvement in ADAS in 2017

Fig. 1.10: Bodily injury claims by accident location

Fig. 1.11: Main causes and types of motor accidents

Fig. 1.12: Estimated impact of core ADAS functions across 3 markets

Fig. 1.13: The evolving sophistication of ADAS solutions

Fig. 1.14: Impact of ADAS on the insurer's loss ratio

Fig. 1.15: The public's expectation and understanding of driverless cars are not in line with the offering

Fig. 1.16: Total number of shared passenger cars in use (thousand)

Fig. 1.17: Impacts of the L4 driverless car

Fig. 1.18: Passenger cars with embedded connectivity in Europe (million)

Fig. 1.19: How car sharing, electrification and autonomy promote each other

Fig. 1.20: New passenger car sales worldwide (million) - mutually exclusive categories

Fig. 1.21: The 2 categories of safety technologies

Fig. 1.22: The 5 necessary technological components of ADAS systems

Fig. 1.23: The 12 gates to automation

Fig. 2.1: Timeline and research areas of some of the European programmes

Fig. 2.2: Comparison of some of the ADAS projects worldwide

Fig. 3.1: Willingness to acquire a car with automated technology

Fig. 3.2: The consumer decision making journey for current level 2 ADAS systems

Fig. 3.3: Level of concern on issues relating to self-driving cars

Fig. 3.4: The 4 stages of driver relationship with ADAS

Fig. 3.5: Emerging HMI challenges

Fig. 3.6: HMI challenges and solutions

Fig. 3.7: Machine interventions included with level 2 ADAS features

Fig. 3.8: The complexity and risk involved in driver re-engagement

PTÓLEMUS

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

Fig. 3.9: Voluntary and involuntary triggers for re-engagement

Fig. 3.10: Autonomous software disengagements during testing by cause - Delphi & Waymo

Fig. 3.11: Time taken by drivers to re-gain vehicle control (seconds)

Fig. 3.12: Time taken for vehicle to disengage, Tesla testing 2015/16

Fig. 3.13: Re-engagement times when involved with non-driving related tasks & alert reaction times

Fig. 3.14: Variables to be considered when assessing re-engagement

Fig. 3.15: The changing nature of autonomous communication

Fig. 3.16: The array of vehicle and customer data types available

Fig. 3.17: Ownership of the data sets is not one-sided

Fig. 3.18: The leasing market growth is partially the result of the mobility model's strength

Fig. 3.19: Data type requirement and access from each stakeholders

Fig. 3.20: Routes for third party access to car data

Fig. 3.21: The 4 possible data exchange models

Fig. 3.22: The data hub/clearing house data workflow

Fig. 3.23: Vehicle protection offered by collision avoidance ADAS

Fig. 3.24: Vehicle protection offered by frontal collision avoidance systems

Fig. 3.25: Vehicle protection offered by angle collision avoidance systems

Fig. 3.26: Vehicle protection offered by lateral collision avoidance systems

Fig. 3.27: Vehicle protection offered by parking systems

Fig. 3.28: Annual ROI at Level 1 - Micro-urban segment

Fig. 3.29: Annual ROI at Level 2 - Family segment

Fig. 3.30: Annual ROI at Level 2 - Luxury segment

Fig. 3.31: Annual ROI at Level 3 - Family segment

Fig. 3.32: Annual ROI at Level 3 - Luxury segment

Fig. 3.33: Annual ROI at Level 4 - Family segment

Fig. 3.34: Annual ROI at Level 4 - Luxury segment

Fig. 3.35: Annual ROI for typical passenger taxi operator at Level

Fig. 3.36: The transformation of mobility companies under the driverless scenario

Fig. 3.37: The transformation of mobility companies under the driverless scenario

Fig. 3.38: The transformation of mobility companies under the driverless scenario

Fig. 3.39: The transformation of mobility companies under the driverless scenario

Fig. 3.40: Impact on mobility business for each transition scenario

Fig. 3.41: ADAS adoption among OEMs

Fig. 3.42: OEMs autonomous testing summary

Fig. 3.43: Patent index - automation and ADAS

Fig. 3.44: OEM partnership index

Fig. 3.45: Total R&D spending for 2015 (€ billion)

Fig. 3.46: OEM ambition and strategic direction index

PTÓLEMUS

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

Fig. 3.47: OEM rankings Fig. 3.48: Total R&D as a % of revenue for 2015 Fig. 3.49: Supplier Rating Fig. 4.1: NCAPs worldwide Fig. 4.2: Global NCAP safety testing Fig. 4.3: Euro NCAP rating of AEB for the Mercedes Benz E-class Fig. 4.4: The progression of new technologies from survey to inclusion in ratings Fig. 4.5: Mapping the progression of standardisation of new safety technologies Fig. 4.6: Euro NCAP's dual rating system (Kia Niro with and without ADAS) Fig. 4.7: IIHS points system for AEB testing Fig. 4.8: J NCAP timeline for implementation of new tests for advanced safety Fig. 4.9: Global NCAP's Stop The Crash campaign Fig. 4.10: US - Summary of ADAS availability Fig. 4.11: US - Availability and pricing for frontal collision avoidance ADAS Fig. 4.12: US - Availability and pricing for lateral collision avoidance ADAS Fig. 4.13: US - Availability and pricing for pedestrian, parking, and cruise ADAS Fig. 4.14: UK - Summary of ADAS availability Fig. 4.15: UK - Availability and pricing for frontal collision avoidance ADAS Fig. 4.16: UK - Availability and pricing for lateral collision avoidance ADAS Fig 4.17: UK - Availability and pricing for pedestrian, parking, and cruise ADAS Fig. 4.18: Germany - Availability and pricing for frontal collision avoidance ADAS Fig. 4.19: Germany - Availability and pricing for frontal collision avoidance ADAS Fig. 4.20: Germany - Availability and pricing for lateral collision avoidance ADAS Fig. 4.21: Germany - Availability and pricing for pedestrian, parking, and cruise ADAS Fig. 4.22: Overall estimated availability of frontal and lateral collision ADAS across all markets Fig. 4.23: Overall estimated availability of pedestrian, parking and cruise ADAS across all markets Fig. 4.24: Vehicle protection offered by collision avoidance ADAS Fig. 4.25: 5 factors affecting ADAS' potential Fig. 4.26: US - Impact of ADAS on the reduction in addressable claims value (%) Fig. 4.27: ADAS impact on addressable claims value in the US Fig. 4.28: UK - Impact of ADAS on the reduction in addressable claims value (%) Fig. 4.29: ADAS impact on addressable claims value in the UK Fig. 4.30: Germany - Impact of ADAS on the reduction in addressable claims value (%) Fig. 4.31: ADAS impact on addressable claims value in Germany Fig. 4.32: Impact of ADAS categories on claims cost reduction Fig. 4.33: Value added of ADAS on the vehicle level US, UK, Germany Fig. 4.34: Crash scenario types used in the model Fig. 4.35: Reduction of crashes per year across US, UK and Germany due to ADAS and Automation up to 2030

PTÓLEMUS

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

Fig. 4.36: Driver score equation Fig. 4.37: Coefficients used to score drivers Fig. 4.38: PTOLEMUS driving score and criteria Fig. 4.39: Driver score cards with no ADAS Fig. 4.40: ADAS functions impacting Fig. 4.41: Subcategories of ADAS functions Fig. 4.42: Impact index of automation on behaviour metrics Fig. 4.43: Impact of automation on behaviour and individual scores Fig. 4.44: Impact of OBD, Smartphone and ADAS on risk profile Fig. 4.45: Impact of the ADAS and automation on the UBI market and the TelematicsService Providers (TSPs) Fig. 5.1: Where to test HAVs in the US should be considered carefully Fig. 5.2: Worldwide development in testing and regulation (for detailed US map see above) Fig. 5.3: The true level of interest from the state regulators Fig. 5.4: The suggestion of liability depends on automation levels Fig. 5.5: Autonomous vehicle architecture Fig. 5.6: Functions supported by different radar frequencies Fig. 5.7: The evolution of Velodyne's lidar range Fig. 5.8: Quanergy solid state LiDAR range Fig. 5.9: Pepperl+Fuchs range of ultrasonic sensors Fig. 5.10: Sensor fusion technology Fig. 5.11: Comparison of key sensors based on technical capabilities Fig. 5.12: Comparison of key sensors based on functional capabilities Fig. 5.13: The increase in computational requirements from higher automation Fig. 5.14: Software algorithms and data processing Fig. 5.15: The effect of mapping on ADAS Fig. 5.16: Comparing approaches to map data collection Fig. 5.17: CivilMaps' approach to 3D mapping Fig. 5.18: The 4 key challenges mapping the environment Fig. 5.19: Data flow in and out of SENSORIS interface Fig. 5.20: The ADAS horizon Fig. 5.21: Scope of the navigation data standard Fig. 5.22: The 2 categories of safety technologies Fig. 5.23: ESC braking technology Fig. 5.24: EDR implementation in the US and EU Fig. 5.25: Embedded ADAS systems and related technologies Fig. 5.26: Autonomous emergency braking Fig. 5.27: ACC signal and information flows Fig. 5.28: Highway pilot systems on the market Fig. 5.29: Rear parking aid sensors

PTÓLEMUS

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

Fig. 5.30: Night vision systems & alerts

Fig. 5.31: Sources and types of data

Fig. 5.32: Data processing in an autonomous vehicle's sensing and control system

Fig. 5.33: The evolution in memory devices

Fig. 5.34: Total cost of automation to the OEMS - methodology

Fig. 5.35: Total cost of automation to the OEM - per vehicle at 2016 prices (\in)

Fig. 5.36: Cost of key components to the OEMs (based on 2016 cost in €)

Fig. 5.37: Overall systems cost evolution (based on 2016 cost in €)

Fig. 6.1: The autonomous vehicle value chain

Fig. 6.2: Actors in the autonomous vehicle value chain

Fig. 6.3: Key partnerships, investments and acquisitions across the autonomous vehicle value chain

Fig. 6.4: Software and mobility services represent the two most powerful blocks

Fig. 6.5: Total R&D spending among leading autonomous car developers

Fig. 6.6: Car sharing and ride hailing: the two dominant mobility service platforms

Fig. 6.7: Car sharing schemes with more than 500,000 members (2016)

Fig. 6.8: Car sharing schemes with OEM investment, partnership or ownership

Fig. 6.9: Major ride hailing platforms by the numbers, year end 2016

Fig. 6.10: Non-OEM controlled ride hailing platform valuations, Dec 2016

Fig. 6.11: Uber's unstoppable rise

Fig. 6.12: OEMs are rapidly consolidating their position as mobility service providers

Fig. 6.13: OEM mobility rankings

Fig. 7.1: Our model timeframe is up to 2030 and it focuses on passenger cars

Fig. 7.2: Estimated start date for 4 levels of autonomous technology (sample illustration)

Fig. 7.3: Technology introduction steps between vehicle class (sample illustration)

Fig. 7.4: We defined specific weights for each metric at each level

Fig. 7.5: Penetration of passenger cars with assistance and automated driving features in total passenger car sales (%, worldwide)

Fig. 7.6: New passenger cars sold with ADAS and autonomous features (million)

Fig. 7.7: Penetration of autonomous features in total passenger car sales (L2 or L3 or L4, %)

Fig. 7.8: 20 countries with the largest road network and proportion of highways

Fig. 7.9: New passenger cars sold with conditional automation (million)

Fig. 7.10: New passenger car sales - Worldwide (mutually exclusive categories, million)

Fig. 7.11: New passenger car sales in Europe (left) and the US (right) - (million, mutually exclusive categories)

Fig. 7.12: New passenger car sales in LATAM (left) and Asia Pacific (right) - (million, mutually exclusive categories)

Fig. 7.13: Passenger cars on the road with assistance and automated driving features worldwide (million)

Fig. 7.14: Penetration in passenger cars on the road - Left: all levels per region. - Right: per level in Europe

PTÓLEMUS

INTRODUCTION

Consulting Group

Autonomous Vehicle Global Study 2017 Free Abstract

Fig. 7.15: Contribution of the vehicles in use on total claims paid in Europe (%)

Fig. 7.16: Contribution of the vehicles in use on total claims paid in 4 countries (%)

Fig. 7.17: Motor insurance claims size - passenger cars - worldwide (€ million)

Fig. 7.18: Total number of connected shared passenger cars in use (thousand)

Fig. 7.19: Motor insurance claims size - passenger cars - Europe (left) - US (right) (€ million) Fig. 7.20: Contribution of vehicles in use with autonomous features on auto insurance premiums (%, Europe)

Fig. 7.21: Contribution of vehicles in use with autonomous features on motor insurance premiums (%)

Fig. 7.22: Gross written motor insurance premiums - passenger cars - worldwide (€ million)

Fig. 7.23: Gross written motor insurance premiums in Europe (passenger cars, € million)

Fig. 7.24: Gross written motor insurance premiums - Passenger cars - North America (\$ million)

Fig. 8.1: The European Commission's timeline for connected & autonomous vehicles

Fig. 8.2: The building blocks of automation

Fig. 8.3: Estimated start date for the 4 levels of autonomous technology

Fig. 8.4: Driverless car growth path as a share of commercial cars sold (%)

Fig. 8.5: Impact of ADAS categories on claims cost reduction

Fig. 8.6: Impact of automation on total US collision claims value

Fig. 8.7: Impact of automation on total UK collision claims value

Fig. 8.8: Reduction of crashes across US, UK and Germany due to ADAS and Autonomy up to 2030

Fig. 8.9: Impact of automation on total Germany collision claims value

Fig. 8.10: Contribution of vehicles in use with autonomous features on auto insurance premiums (%, Europe)

Fig. 8.11: Potential premium reduction per vehicle in US, UK and Germany*

Fig. 8.12: Average annual value of ADAS and AV for all vehicle segments

Fig. 8.13: Impact of ADAS and automation on the UBI market

Fig. 8.14: Criticality of technologies for autonomous driving

Fig. 8.15: Autonomous cars could face many dangers in the future

Fig. 8.16: The slow introduction to driverless shuttles worldwide

Fig. 8.17: Output of scenario 1: accelerated introduction

Fig. 8.18: Output of scenario 2: safety mandate and curtailed automation

Fig. 8.19: Output of scenario 3: level 3 is skipped altogether

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Autonomous Vehicle Global Study 2017 Free Abstract

LIST OF PROFILED COMPANIES

In this report, we assessed 23 companies looking at their core strategy on automation, their active and planned tests and trials, the technology used, the relevant market activities (such as partnership)

They have then been ranked using 6 criteria: ADAS development, testing programmes, published patents, relevant market activities, R&D spending and strategic focus.

Profiles, assessments, sub-criteria definitions and ranking per criteria can be found in Section III. 4

OEMs	Technology suppliers
ουγο	BOSCH
DAIMLER PSA PEUGEOT CITROËN	Ontinental
	DELPHI
Jord TESLA	HARMAN
	MOBILEVE
The Power of Dreams GROUP	
НУШПОВІ	Valeo
JAGUAR CAND- NOVER VAYNO Google	



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LIST OF COMPANIES MENTIONED IN THE STUDY

During the last 18 months, **PTOLEMUS research team interviewed 60 executives in organisations** such as Allianz, Continental, Daimler, GM, Harman, HERE, Mobileye, PSA, TomTom, Valeo, Volkswagen, Volvo, Swiss Re, Toyota, etc.

We list below all 250 companies mentioned in the Autonomous Vehicle Global Study.

Company	Туре	Company	Туре
Association of British Insurers	Insurer	Lyft	Mobility Services Provider
Advanced Scientific Concepts	Automotive supplier	Magna Electronics	Automotive supplier
Ageas	Insurer	Magneti Marelli	Automotive supplier
Aisin AW	Tier-1 supplier	Mahindra	OEM
Alfa Romeo	OEM	Maserati	OEM
Allianz	Insurer	Maven	Mobility Services Provider
Alphabet	Software/AI developer	Maybach	OEM
Alpine	Automotive supplier	Mazda	OEM
Amazon	Software/AI developer	Mercedes Benz	OEM
AND Products	Mapping provider	Metromile	Insurer
Apple	Software/AI developer	Micron	Automotive supplier
ARGO AI	Software/AI developer	Microsoft	Software/AI developer
ARUP	Research/ standards institute	MINES Paris Tech	Research/standards institute
Athlon	Mobility Services provider	Mini	OEM
Atkins	Research/ standards institute	Mitsubishi Electric Automotive Europe	Automotive supplier
ATZuche	Mobility Services Provider	Mitsubishi Motors	OEM

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Company	Туре	Company	Туре
Audatex	Software developer	Mobileye	Autonomous systems developer
Audi	OEM	MOIA	Mobility Services Provider
Autoglass	Breakdown services	Moovel	Mobility Services Provider
Autoliv	Automotive supplier	Movidius	Automotive supplier
Autonavi	Mapping provider	Movimento	Software developer
Autonomos	Software/AI developer	Multicity	Mobility Services Provider
Autotalks	Automotive supplier	Munich RE, NA	Insurer
AXA	Insurer	MyTaxi	Mobility Services Provider
BAE Systems	Automotive supplier	NASA	Software/AI developer
Baidu	Software/AI developer	National Highway Traffic Safety Administration	Regulator/ Government agencies
Belron International ltd	Breakdown services provider	Nauto	Automotive supplier
Blacklane	Mobility Services Provider	NavInfo	Mapping provider
BMW Group	OEM	Navya	OEM
Bolloré	Mobility Services Provider	Nexteer	Automotive supplier
Bosch	Automotive supplier	Nicigo ADAS	Automotive supplier
BYD Co.	Automotive supplier	Nirenberg Neuroscience	Software/AI developer
Capgemini	Software developer	nuTonomy	Software/AI developer
Car2Go	Mobility Services Provider	NVIDIA	Automotive supplier
Careco	Mobility Services Provider	NXP	Automotive supplier
Careem	Mobility Services Provider	02	Telecom infrastructure
Carglass	Breakdown services	Octo Telematics	Telematics service provider

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Company	Туре	Company	Туре
CATAPULT UK	Research/standards institute	Ola	Mobility Services Provider
Centro Tecnologico de l'Automocion Galicia (CTAG)	Research/ standards institute	Opel	OEM
CESVIMAP	Research/ standards institute	Otto	Software/AI developer
Chariot	Mobility Services Provider	Ottomatika	Software/AI developer
Chrysler	OEM	OuiCar	Mobility Services Provider
Cisco	Telecom infrastructure	Oxbotica	Autonomous systems developer
Cite lib	Mobility Services Provider	Panasonic	Automotive supplier
Civil Maps	Mapping provider	Paravan Industry	Autonomous systems developer
Cloud made	Software/AI developer	Pearl Auto	Autonomous systems developer
Со-ор	Insurer	Peiker	Automotive supplier
Cohda Wireless	Automotive supplier	Peloton	Autonomous systems developer
Comma.ai	Autonomous systems developer	Pepperl+Fuchs	Automotive supplier
Communauto l'autonomie	Mobility Services Provider	Perrone Robotics	Autonomous systems developer
Continental	Automotive supplier	Pilot Automotive	Autonomous systems developer
Control-Tec	Software developer	Pioneer	Automotive supplier
Cruise Automation	Software/AI developer	PPZuche	Mobility Services Provider
CTAG	Research/standards institute	PSA Peugeot Citroen	OEM
CVTA	Automotive trade association	QNX	Software developer
DAF Trucks	OEM	Qualcomm	Automotive supplier
Daimler AG	OEM	Quanergy Systems	Automotive supplier
Daimler Insurance Services	Insurer	RAC	Breakdown services

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Company	Туре	Company	Туре
Delphi	Automotive supplier	RDM Group	Automotive supplier
DeNA	Software/AI developer	ReachNow	Mobility Services Provider
DENSO	Automotive supplier	Renault Nissan Alliance	OEM
DfT	Regulator/ Government agencies	Renesas Electronics Corporation	Automotive supplier
Didi Chuxing	Mobility Services Provider	Ridecell	Mobility Services Provider
Dodge	OEM	RideScout	Mobility Services Provider
Drive.ai	Autonomous systems developer	Rolls Royce	OEM
DriveNow	Mobility Services Provider	RSA	Insurer
Drivy	Mobility Services Provider	Safe drive systems	Automotive supplier
Elektrobit	Mapping provider	Safran	Research/standards institute
Engineering and Physical Sciences Research Council	Research/standards institute	SAIC (UK)	Automotive supplier
Enjoy	Mobility Services Provider	SAIPS	Software/AI developer
Ericsson	Telecom infrastructure	Samsung	Automotive supplier
Ertico	Research/standards institute	Savari	Automotive supplier
Euro NCAP	Research/standards institute	Seeo	Automotive supplier
European Commission	Regulator/ Government agencies	Siemens	Automotive supplier
Facebook	Software/AI developer	Sixt SE	Mobility Services Provider
Faraday Future	OEM	Skoda	OEM
Farmers Insurance	Insurer	Smart	OEM
Fiat Chrysler Automobiles	OEM	SMMT	Automotive trade association
First Direct	Mobility Services Provider	SoftBank	Software/AI developer

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Company	Туре	Company	Туре
Folksam	Insurer	STMicroelectronics	Automotive supplier
Ford	OEM	Subaru	OEM
Ford Carsharing	Mobility Services Provider	Sunfleet	Mobility Services Provider
Free2Move	Mobility Services Provider	Suzuki	OEM
Freescale	Automotive supplier	SWECO	Research/ standards institute
Fujitsu Ltd.	Automotive supplier	Swiss Reinsurance Company Ltd	Insurer
Garmin	Mapping provider	Takata Corporation	Automotive supplier
General Motors	OEM	Tata	OEM
Getaround	Mobility Services Provider	Tesla	OEM
Gett	Mobility Services Provider	Texas Instruments	Automotive supplier
Global NCAP	Research/standards institute	Thatcham Research	Research/standards institute
GoDrive	Mobility Services Provider	The Alliance for Transportation Innovation	Automotive trade association
Google	Software/AI developer	The Floow	Telematics service provider
Grab	Mobility Services Provider	Times Car Plus	Mobility Services Provider
Greenwheels	Mobility Services Provider	TomTom	Mapping provider
HailO	Mobility Services Provider	TorcRobotics	Autonomous systems developer
Harman International	Automotive supplier	Toshiba	Automotive supplier
Hella KGaA Hueck & Co	Automotive supplier	Towersec	Software developer
HERE	Mapping provider	Toyota	OEM
Highways England	Regulator/ Government agency	TriQuint	Automotive supplier
Hitachi Automotive systems	Automotive supplier	TRL	Research/standards institute

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Company	Туре	Company	Туре
Honda	OEM	TRW	Automotive supplier
Horiba Mira	OEM	Tula	Automotive supplier
Horizon Robotic	Autonomous systems developer	Turo	Mobility Services Provider
Huawei	Telecom infrastructure	Uber	Mobility Services Provider
Hyundai	OEM	Uisee	Software developer
lbeo automotive	Automotive supplier	UNECE	Regulator/ Government agencies
IBM	Software developer	Valeo	Automotive supplier
IBM Watson	Software/AI developer	Vedecom	Research/standards institute
If P&C Insurance	Insurer	Velodyne	Automotive supplier
Infineon	Automotive supplier	Visteon	Automotive supplier
Infiniti	OEM	Vodafone	Telecom infrastructure
InMotion	Mobility Services Provider	Volkswagen	OEM
Insurance Europe	Insurer	Volvo Car Group	OEM
Insurance Institute for Highway Safety	Research/standards institute	Voxx international	Automotive supplier
Intel	Automotive supplier	Wabco	Automotive supplier
Jaguar Land Rover	OEM	WaiveCar	Mobility Services Provider
Jeep	OEM	Waymo	OEM
Karhoo	Mobility Services Provider	Yandex	Software/AI developer
Koolicar	Mobility Services Provider	Zenrin	Mapping provider
leddartech	Automotive supplier	ZF Lenksysteme	Automotive supplier
LG Electronics	Automotive supplier	ZF TRW	Automotive supplier

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Company	Туре	Company	Туре
Lincoln	OEM	Zipcar	Mobility Services Provider
Local Motors	OEM	Zoomcar	Mobility Services Provider
		Zurich Insurance Company	Insurer



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Disclosure

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