

Self-Driving Cars and Light Trucks: Market Shares, Strategies, and Forecasts, Worldwide, 2017 to 2023

<https://marketpublishers.com/r/S39762F0092EN.html>

Date: July 2017

Pages: 1005

Price: US\$ 4,200.00 (Single User License)

ID: S39762F0092EN

Abstracts

LEXINGTON, Massachusetts (July 14, 2017) – WinterGreen Research announces that it has published a new study *Self-Driving Cars and Light trucks: Market Shares, Strategy, and Forecasts, Worldwide, 2015 to 2021*. The 2017 study has 1,005 pages, 356 tables and figures. Worldwide markets are poised to achieve significant growth as self-driving cars and light trucks permit users to implement automated driving. Fleet vehicles from Uber, Google and similar users are likely to be the early adopter groups. Tesla, Mercedes, and Audi are among the vendors with a leadership position in the personal luxury vehicle self-driving car markets,

Every car maker seeks to participate in this self-driving personal vehicle market. The ability to do so depends on implementing next generation technology that is very expensive to get working. Vendors are seeking to work together to set standards and develop shared modules that provide basic functionality. Cameras, sensors, artificial intelligence software, and LiDAR are among the modules being developed.

Autonomous vehicle technology has the potential to institute major change in personal mobility. Autonomous cars are the next generation of manual cars, poised to provide thrust for a large replacement market. Autonomous vehicles are the base for building a personal car services, particularly in large cities. Carmakers and Silicon Valley companies bring different skills to the task of building a self-driving car. Together they are finding common ground to transform the personal vehicle industry. One thing they are unlikely to transform is performance.

Every person who owns a vehicle has a preference on performance. The Tesla has gained recognition for offering a self-driving vehicle, but it is first and foremost a performance vehicle. This characteristic will not change as self-driving vehicles come on the market. People like the customization of features and functions in their car.

This customization aspect of self-driving vehicles does not get talked about much, but it is a very important part of the industry. It will not go away just because cars are run by software. From auto racing to personal preference, every car has its own personality and its own comfort. Performance is part of the package. Every car maker seeks to participate in this self-driving personal vehicle market with a distinctive offering. The ability to have unique appeal to customers depends on implementing next generation technology in a manner that works effectively and is relatively inexpensive to implement. Apple, IBM, and Google are sure to be among the significant software vendors for all the self-driving car and light truck market participants. IBM has a huge head start with its excellent middleware branded integrated solutions that are hardened and reliable. Google has mindshare and early market success with its early market trials.

As automated process hits the auto industry as a disruptive force, it parallels the automated piloting of the airline industry that saw significant labor savings implementation. Automated vehicle driving can be done anywhere just by connecting the car to integrated adaptive cruise control, adaptive steering and braking, and lane assist systems all working off one central processor.

Self-driving cars and light trucks incrementally add automated process to driving. As software is added to cars and light trucks it is done in concert with modification to the steering, braking, and other automotive systems. Autonomous functions for vehicles are increasingly adopted.

Change is incremental, we do not have fully functioning self-driving cars immediately, rather, steering, collision avoidance, parking, test driving, series of camera and radar based monitoring systems, lane assist, and adaptive cruise control are being implemented, presaging rapid adoption of self-driving cars and light trucks as the various functions mature and work in the real world.

According to Susan Eustis, team leader for the preparation of the study, "The market for self-driving car and light truck vehicles is anticipated to expand in parallel with the deployment of appropriate roadway controls funded by government programs. The large public investments for self-driving vehicles so far has been for development of technology that works for military purposes. The extension of this type of automated system to commercial fleet vehicles will be rapid after 2019"

The self-driving car designs amalgamate a group of features to represent an automated process solution. These include the hardware, the software middleware, the steering

system, adaptive cruise control, numerous software applications, an integrated systems approach, and related services. Significant investments in research and development are necessary as the emerging self-driving cars and light trucks industry builds on incremental technology roll outs.

Self-driving car and light truck commercial market shipments forecasts indicate that markets beginning to develop in 2016 will rise to \$3.6 trillion by 2023. Spectacular growth is a result of various moves toward autonomous vehicles that can go across the US by themselves, provide automated navigation, integrated braking and steering. Most auto vendors have gone beyond the testing stage to offer vehicles that have strong navigation capability.

Safety modules are complimented by mapping vehicles that provide navigation. The Tesla and other vehicles provide driver alerts but fall sort of complete self-driving. Market driving forces relate primarily to the need for increased safety and personalization for autos.

Car manufacturers are positioning with self-driving car models to meet demand at the high end, and in every category of car and light truck. Many self-driving vehicle car vendors are making automation for personal vehicles and light trucks a reality.

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, Report Linker, and electronics.ca,.

WinterGreen Research is positioned to help customers face challenges that define the modern enterprises. The increasingly global nature of science, technology and engineering is a reflection of the implementation of the globally integrated enterprise. Customers trust WinterGreen Research to work alongside them to ensure the success of the participation in a particular market segment. WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

This self-driving car and truck shipment analysis is based on consideration of the

metrics for the number of cars shipped, percent of cars outfitted with automated cruise control, and probable market penetrations of robot cars. Experience of testers using the cars and light trucks is another factor that contributes to development of triangulation regarding market forecasts for the sector. The increasingly global nature of science, technology and engineering is a reflection of the implementation of the globally integrated enterprise. Customers trust wintergreen research to work alongside them to ensure the success of the participation in a particular market segment.

WinterGreen Research supports various market segment programs; provides trusted technical services to the marketing departments. It carries out accurate market share and forecast analysis services for a range of commercial and government customers globally. These are all vital market research support solutions requiring trust and integrity.

Contents

SELF-DRIVING CARS AND LIGHT TRUCKS: MARKET SHARES, MARKET

Strategy, and Market Forecasts, 2017 to 2023

Self-Driving Cars and Light Trucks Executive Summary

Self-Driving Car and Light Truck Market Driving Forces

Self-Driving Cars, Light Trucks, SUVs

Self-Driving Cars/Connected Cars/Transportation

Self-Driving Car and Light Truck Market Shares

Self-Driving Car and Light Truck Market Forecasts

Self-Driving Car Forecasts

1. SELF-DRIVING CARS AND TRUCKS MARKET DEFINITION AND MARKET DYNAMICS

1.1 Autonomous Cars Provide More Efficient Traffic Infrastructure And Greater Safety

1.1.1 Airplanes Already Land Themselves

1.1.2 Electric Charging Infrastructure

1.2 Advanced Technology

1.2.1 Adaptive Cruise Control

1.2.2 Automatic Braking Technologies

1.2.3 Automatic Brakes

1.2.4 Vehicles With Automatic Braking

1.2.5 Driver-Assist Technologies

1.2.6 Ford TAP Self-Driving Auto Control System

1.3 Legal Hurdles Remain

1.3.1 Self-driving Cars and Trucks Operation

1.3.2 Self-driving Cars and Trucks Technology Trends

1.3.3 Vehicle Sharing

1.4 Urban Move to Mega Cities

1.5 Self-driving Car Enabling Technologies

1.5.1 Sensor Processing

1.5.2 Machine Autonomy

1.5.3 Agricultural Robotic Use of Global Positioning

1.5.4 Military Spending On Self-Driving Vehicles

2. SELF-DRIVING PERSONAL VEHICLES MARKET SHARES AND MARKET FORECASTS

2.1 Self-Driving Car and Light Truck Market Driving Forces

2.1.1 Self-Driving Cars, Light Trucks, SUVs

2.1.2 Self-Driving Cars/Connected Cars/Transportation

2.2 Self-Driving Car and Light Truck Market Shares

2.2.1 Adaptive Cruise Control Step One to Self-Driving

2.2.2 Advanced Driver-Assistance Systems (ADAS) Safety-Enhancing Systems

2.2.3 Alphabet, Waymo: Google

2.2.4 Google

2.2.5 Waymo/Google Self-Driving Car

2.2.6 Google Self-Driving Car

2.2.7 Google Self-Driving Car from Auto Components

2.2.8 BMW

2.2.9 BMW And Intel To Bring A Fleet Of Self-Driving Cars To The Road By The End Of 2017

2.2.10 BMW

2.2.11 Daimler AG/Mercedes-Benz Self Driving Car

2.2.12 Mercedes Self-Driving

2.2.13 Volvo

2.2.14 Volvo Self-Driving Cars on Swedish roads

2.2.15 Samsung

2.2.16 GM

2.2.17 GM Chevrolet Impala

2.2.18 Volkswagen

2.2.19 First Fully Autonomous Volkswagen Audi Expected by 2017

2.2.20 Ford/Lincoln

2.2.21 Lincoln Adaptive Cruise Control

2.2.22 Tesla

2.2.23 Tesla Autonomous Driving

2.2.24 Jaguar Driverless Cars

2.2.25 IBM

2.2.26 IBM/Ford Automotive Vehicle System M2M

2.2.27 Ford Self-Driving Controlled Vehicles On Test Track

2.2.28 Toyota Production LS 2013 Model Self-Driving Tools Technology

2.2.29 Hyundai Genesis Smart Cruise Control

2.2.30 Nissan

2.2.31 Kairos Autonomi Pronto4

2.2.32 Intel

2.2.33 Intel/Mobileye

- 2.2.34 Intel Targets Driverless Cars
- 2.2.35 Bosch Deepfield Robotics
- 2.2.36 Bosch BoniRob
- 2.2.37 Uber
- 2.2.38 Selected Company Investment or Planned Investment in Autonomous Vehicle Technology
- 2.3 Self-Driving Car and Light Truck Market Forecasts
 - 2.3.1 Self-Driving Car Forecasts
 - 2.3.2 Autonomous Car and Autonomous Light Truck/SUV Shipments and Installed Base
 - 2.3.3 Autonomous Luxury Car Market Forecasts
 - 2.3.4 Autonomous Mid-Size Car Market Forecasts
 - 2.3.5 Autonomous Light Car Shipments Market Forecasts
 - 2.3.6 Autonomous Light Truck/SUV Shipments Market Forecasts
 - 2.3.7 Autonomous Personal Vehicles: Car and Autonomous Light Truck/SUV Shipments Market Forecasts, Level 2 and Level 4
 - 2.3.8 “All-Purpose” Vehicles
 - 2.3.9 Multiple Cars Per Person
 - 2.3.10 Self-Driving Car Unit Analysis and Forecasts
 - 2.3.11 Self-Driving Car Level 2 through 5 Forecasts
 - 2.3.12 Self-Driving Technology With Vision-Based Systems
- 2.4 Advanced Driver Assistance Systems (ADAS) Market
 - 2.4.1 ADAS Market Shares
 - 2.4.2 Range Of Sensor Technologies Deployed For ADAS
 - 2.4.3 Automotive LiDAR Market Forecasts
 - 2.4.4 Connected Vehicles
 - 2.4.5 Technologies Supporting Increased Consumption Of Digital Content¹⁸⁹
 - 2.4.6 Commercial Car Adaptive Cruise Control
 - 2.4.7 Cars with ASDS Features
- 2.5 Self-Driving Shared Ride Services
 - 2.5.1 Self-Driving Shared Ride Services Forecasts
- 2.6 Self-Driving Commercial Trucks and Vehicles
 - 2.6.1 Advantages of Autonomous Commercial Vehicles
 - 2.6.2 Buses, Commercial Delivery Vehicles, Military Vehicles, and Tractors, Self-Driving Cars/Connected Cars
 - 2.6.3 Self-Driving Trucks
 - 2.6.4 European Truck Platooning
 - 2.6.5 Autonomous Trucking Platooning Functions
 - 2.6.6 Dutch Ministry of Infrastructure and the Environment Truck Platooning

- 2.6.7 Autonomous Trucking Self-Driving Trucks Platooning Challenge
- 2.6.8 US Self Driving Trucks
- 2.6.9 Truck Platooning Technology Needs Redundancy And Mitigation Of Failure
- 2.6.10 Self-Driving Truck Cost
- 2.7 IoT Networked Autonomous Car Endpoints
 - 2.7.1 Autonomous Vehicle IoT chipsets
 - 2.7.2 Intel Targets Driverless Cars
 - 2.7.3 Softbank Arm
 - 2.7.4 IoT Data Use Forecasts
 - 2.7.5 IoT ecosystem
 - 2.7.6 Smart Cities Internet of Things (IoT)
 - 2.7.7 M to M
- 2.8 Automotive Industry
 - 2.8.1 Total Car and Light Truck Shipments and On the Road, Market Forecasts
 - 2.8.2 Car Shipments and On the Road, Small, Light Cars Market Forecasts
 - 2.8.3 Mid-Size Car Shipments and On the Road, Market Forecasts, Dollars and Units
 - 2.8.4 Light Truck Shipments and On the Road, Market Forecasts
 - 2.8.5 Car and Light Truck Shipments and Installed Base, Small, Mid-Size, Luxury, and Light Truck Market Forecasts
 - 2.8.6 Auto Industry Economies
 - 2.8.7 Automotive Market Discussion
 - 2.8.8 Automotive Market For Personal Vehicles Forecast
 - 2.8.9 Automotive Market For Personal Vehicles Pricing
 - 2.8.10 Automotive Business Model
 - 2.8.11 Visionary Constructs Continue To Set The Pace For Cars and Personal Vehicles
 - 2.8.12 Total Number Of Cars Owned And/Or In Existence
- 2.9 Autonomous Vehicle Software
 - 2.9.1 Autonomous Vehicle Software Integration Market
 - 2.9.2 Advanced Autonomous Car Software
 - 2.9.3 Autonomous Vehicle Software Areas That Need Improvement
 - 2.9.4 Collision Detection Machine Vision
- 2.10 Agricultural Self Driving Tractor Robot Market Forecasts
- 2.11 Self-driving Car and Truck Challenges
 - 2.11.1 Electric Car Ownership Stimulates Customized Speeds and Performance in Autonomous Cars
- 2.12 Self-Driving Car and Truck Prices
 - 2.12.1 2017 Tesla Model S Luxury vehicle
- 2.13 Self-Driving Car and Truck Regional Market Segments

- 2.13.1 US
- 2.13.2 China
- 2.13.3 Valeo in China
- 2.13.4 India
- 2.13.5 Wabco Self-Driving Regional Participation
- 2.13.6 Ford North America
- 2.13.7 Self-Driving Car Regional Analysis
- 2.13.8 Japan's Leaders Want To Make Tokyo A Self-Driving City For 2020 Olympics
- 2.13.9 Autonomous Vehicle Market Forecasts By Region
- 2.13.10 Self-Driving Military Vehicle Regional Market Segments, Dollars

3. SELF-DRIVING CARS AND TRUCKS PRODUCT DESCRIPTION

3.1 Tesla

- 3.1.1 Tesla Dual Motor Model S
- 3.1.2 Tesla Motors Computer-Assisted Mode Car Involved in Fatal Crash while Driving Autonomously
- 3.1.3 Tesla Attention to Security
- 3.1.4 Tesla Hardware Safety Features
- 3.1.5 Tesla Software Safety Features
- 3.1.6 Tesla Driverless Car Features
- 3.1.7 Tesla Autopilot
- 3.1.8 Tesla Autopilot Parking
- 3.1.9 Tesla Safety

3.2 Google Spins off Self Driving Car to Alphabet Waymo

- 3.2.1 Waymo AI Recognizes Readiness Of A Human Being to Take Over Driving
- 3.2.2 Google in Talks with Ford, Toyota and Volkswagen before the SelfDriving Car Startup, Spun-Off from Google to Waymo
- 3.2.3 Waymo/Google Self-Driving Car
- 3.2.4 Waymo Ride Sharing

3.3 Uber

- 3.3.1 Uber Autonomous Trucks Developed by Otto
- 3.3.2 Uber/Carnegie Mellon Partnership
- 3.3.3 Uber Endorses Self-Driving Cars for Its Business
- 3.3.4 Uber Ride Sharing App
- 3.3.5 Uber Purchases AI Startup, Creates Machine Learning Lab

3.4 Apple

- 3.4.1 Apple Testing Auto-Pilot
- 3.4.2 Apple

- 3.4.3 Apple Internet of Things HomeKit Platform
- 3.4.4 Apple IoT
- 3.4.5 Apple Self Driving Car Testing
- 3.5 Amazon
 - 3.5.1 Amazon Research Into Autonomous Technology
- 3.6 Toyota
 - 3.6.1 Toyota Concept-i
 - 3.6.2 Toyota Lexus Division Modified Lexus LS Sedan.
 - 3.6.3 Japanese Lexus Car Aims At Zero Casualties
 - 3.6.4 Toyota Lexus Adaptive Cruise Control
 - 3.6.5 Toyota: Automated Cars
- 3.7 Volkswagon/Audi/Porsche
 - 3.7.1 First Fully Autonomous Audi Expected by 2017
 - 3.7.2 Audi Self-driving Car Travels 550 Miles from San Francisco to Las Vegas
 - 3.7.3 Volkswagen
 - 3.7.4 Porsche/Volkswagen
- 3.8 SAP Self-Driving IoT Focus
 - 3.8.1 Samsung, Seat, And SAP
 - 3.8.2 SAP Vehicles Network
 - 3.8.3 SAP IoT and Machine-To-Machine (M2M) Technology
- 3.9 Siemens Train Automation
 - 3.9.1 Siemens Intelligent Gateway For Industrial IoT Solutions
- 3.10 Harman IoT Platform Supports Intelligent Navigation
- 3.11 Softbank
 - 3.11.1 Softbank Arm Processor Has Protections Against Random Errors
 - 3.11.2 Softbank Arm Yahoo Maps Service, And Related Data —Weather, Vehicle Congestion, Foot Traffic, And Events
 - 3.11.3 Softbank IoT Addresses Self-Driving
 - 3.11.4 SoftBank ARM Acquisition Brings Internet of Things
 - 3.11.5 SoftBank to Roll Out 'LoRaWAN' Low Power Wide Area Network
 - 3.11.6 SoftBank IoT Environment Industry Sectors
 - 3.11.7 SoftBank Builds a LoRaWAN Ecosystem.
 - 3.11.8 SoftBank CEO Masayoshi Son Sees 1 Trillion Devices for Internet of Things
 - 3.11.9 SoftBank Sees Massive MIMO as Key Part of Its 5G Project
- 3.12 Intel Depth Sensor
 - 3.12.1 Intel GO Automotive Solutions
- 3.13 Intel/Mobileye
- 3.14 IBM/Ford
 - 3.14.1 IBM and Ford Have A Partnership To Jointly Develop Software That Provides

Further Automation Of Autos

3.14.2 IBM/Schaeffler Connected Vehicles:

3.14.3 IBM/Schaeffler Industry 4.0 for Tooling Machines:

3.14.4 IBM/Schaeffler Connected Equipment Operations Center:

3.14.5 IBM Watson IoT Used by Aerialtronics:

3.14.6 Partnership Between Visa and IBM Watson for IoT Automated Payments

3.14.7 IBM Addresses the Internet of Things

3.14.8 IBM Works with Ford On Self-Driving Cars

3.14.9 IBM/Ford Automotive Vehicle System M2M

3.14.10 Ford Leveraging IBM Partnership, Using Sensors

3.14.11 IBM Smarter Planet Strategy

3.15 Ford Self Driving Car

3.15.1 Ford Goes Beyond Self-Driving Cars

3.15.2 Ford Positioning To Serve Consumers By Seeking Safer Roads And More Fuel-Efficiency

3.15.3 Ford Self-Driving Auto Control System

3.15.4 Ford Adaptive Cruise Control

3.15.5 Ford Fully Autonomous Vehicles

3.15.6 Ford/Lincoln

3.15.7 Lincoln Adaptive Cruise Control

3.15.8 Lincoln Active Park Assist

3.15.9 Lincoln Lane-Keeping System

3.15.10 Lincoln Intelligent Access with Push-Button Start

3.15.11 Lincoln BLIS with Cross-Traffic Alert

3.16 Daimler/Mercedes

3.16.1 Mercedes Vehicle to Vehicle Communication

3.16.2 Mercedes Lets The Human Do The Thinking And Leaves The Driving To The Computer

3.16.3 Mercedes Self Driving Car Interior

3.16.4 Mercedes-Benz F 015

3.16.5 Mercedes-Benz Leads In Concept Cars: Safety Leads the Research

3.16.6 Daimler Self-Driving Truck

3.17 Bosch and Daimler/Mercedes-Benz

3.17.1 Bosch Deepfield Robotics

3.17.2 Bosch BoniRob

3.17.3 Bosch Deepfield Connect

3.17.4 Bosch: Field Testing Automation For Better Seeds

3.17.5 Bosch Seed Field Testing Challenges:

3.17.6 Bosch Weeding

3.18 Nissan

3.18.1 Nissan and NASA To Build Zero-Emission Driverless Car

3.18.2 Nissan EPORO Self-Driving Car

3.19 GM/Cadillac

3.19.1 GM Self Driving Cadillac

3.19.2 GM Safety Technology

3.19.3 Buick LaCrosse

3.19.4 GM Short-Range Communications Allows GM Cars To Use Alps Electric Radar Effectively

3.20 Volvo

3.20.1 Volvo's Self-Driving Technology Struggling to Identify Kangaroos In The Road

3.20.2 Volvo's Self-Parking, Driverless Car

3.20.3 Volvo Mobile App of the iPhone 'Park Now' Button

3.21 BMW

3.21.1 BMW Partially Automated Driving Functions

3.21.2 BMW Autonomous Car Safety Features

3.21.3 BMW Performance Limits Of Its Driverless Car

3.21.4 BMW's Driverless Cars in China

3.22 Subaru Adaptive Cruise Control

3.23 Honda

3.23.1 Honda Self-Driving Car in Detroit

3.24 Hyundai Genesis Smart Cruise Control

3.25 Tata Motors Limited/Jaguar Adaptive Cruise Control

3.25.1 Jaguar Driverless Cars

3.25.2 Tata Motors Limited/Jaguar/Land Rover

3.25.3 Land Rover Smart Driver Assistance Technologies

3.25.4 Land Rover Reverse Traffic Detection

3.25.5 Land Rover Electric Power-Assisted Steering with Park Assist

3.25.6 Land Rover Powerful Braking With Lightweight Brembo Calipers

3.25.7 Land Rover Enhanced Active Safety Technologies

3.25.8 Land Rover Engineered for Maximum Occupant Protection

3.25.9 Driverless Cars Shaped by Land Rover Technology

3.26 Chrysler 300 SRT8

3.26.1 Fiat Chrysler Auto Electric Vehicle

3.26.2 Chrysler Technology Recognizes When Things Slow Down

3.26.3 Chrysler Backup, Safety & Security

3.26.4 Dodge Durango

3.27 Kongsberg CORTEX

3.28 Kairos Autonami Pronto4 Retrofitting System for Existing Vehicles or Vessels

- 3.28.1 Kairos Fleet Management Leveraging Auto Mobility
- 3.28.2 Kairos Pronto4 Agnostic Autonomy System Features
- 3.28.3 Kairos ProntoMimic Software Suite
- 3.29 Lockheed Martin SMSS
 - 3.29.1 Lockheed Martin SMSS User-Proven Autonomy
 - 3.29.2 Lockheed Martin SMSS Unmanned Capabilities
- 3.30 General Dynamics Self-Driving Systems
 - 3.30.1 General Dynamics Mobile Detection Assessment and Response System (MDARS)
 - 3.30.2 General Dynamics Tactical Autonomous Combat – Chassis (TAC - C)
- 3.31 Vision Robotics Automated Tractors
- 3.32 Nogchui Autonomous Tractor
 - 3.32.1 Professor Nogchui Agricultural Tractor Robot Uses Navigation Sensor Called AGI-3 GPS Compass Made by TOPCON
 - 3.32.2 Professor Nogchui Agricultural Tractor Robot Mapping System
 - 3.32.3 Nogchui Autonomous Tractor Robot Management Systems
- 3.33 Microsoft Agricultural Robot Software
 - 3.33.1 Synchronized Spraying
- 3.34 Hewlett Packard Enterprise (HPE) IoT Data Monetization
 - 3.34.1 Hewlett Packard IoT Ford Motor Company
 - 3.34.2 Hewlett Packard and Dubai Police IoT
 - 3.34.3 Hewlett Packard Smart Cities IoT
 - 3.34.4 HPE IAV IoT
- 3.35 Autonomous Tractor Corp. (ATC)
- 3.36 Robotic Tractors
- 3.37 John Deere
 - 3.37.1 John Deere Autonomous Mower
 - 3.37.2 Deere Smaller Tractors Autonomous Driving in Groups
 - 3.37.3 John Deere Autonomous Tractor
 - 3.37.4 John Deere Crop Spraying
 - 3.37.5 John Deere Autonomous Tractors
 - 3.37.6 John Deere
- 3.38 Harvest Automation
- 3.39 Texas Instruments Advanced Driver Assistance Systems (ADAS)
 - 3.39.1 Texas Instrument Camera Capability for ADAS
 - 3.39.2 TI ADAS Radar Support
 - 3.39.3 TI ADAS Ultrasound Support
 - 3.39.4 TI ADAS Full System Portfolio

4. SELF-DRIVING CARS AND LIGHT TRUCKS TECHNOLOGY

4.1 Safety

- 4.1.1 Euro NCAP's Rating Scheme
- 4.1.2 In the US, Rear-Visibility Requirements

4.2 IoT Standards Ecosystem Growth

- 4.2.1 Unified Communication Standards

4.3 Self-driving Car Test Facility in UK

4.4 MIT Demonstrates Swarm Of Modular Self-Driving Cars That Self-Assemble Into Larger Shapes

4.5 Self-Driving Car Fish-Inspired Technology

4.6 Adaptive Cruise Control (ACC)

- 4.6.1 Distance Measured By A Small Radar Unit
- 4.6.2 ACC Technology
- 4.6.3 Adaptive Cruise Control
- 4.6.4 Lexus_IS250_ACC Adaptive Cruise Control

4.7 Advanced Self-Driving Technology: Navigation, Mobility, And Manipulation

- 4.7.1 Self-Driving Intelligence Systems
- 4.7.2 Real-World, Dynamic Sensing

4.8 User-Friendly Interfaces

- 4.8.1 Tightly-Integrated, Electromechanical Self-Driving Design

4.9 Field Based Self-Driving Iterative Development

- 4.9.1 Next-Generation Products Leverage Model
- 4.9.2 Modular Self-driving Structure And Control
- 4.9.3 Lattice Architectures
- 4.9.4 Chain/Tree Architectures
- 4.9.5 Deterministic Reconfiguration
- 4.9.6 Stochastic Reconfiguration
- 4.9.7 Modular Self-Driving Systems

4.10 Intel Military Self-Driving Cultivating Collaborations

4.11 Hitachi Configuration Of Self-Driving Using The SuperH Family

- 4.11.1 Hitachi Concept of MMU And Logic Space
- 4.11.2 Self-Driving Use of Solid State Thin Film Lithium-Ion Batteries

4.12 Network Of Self-Driving And Sensors

- 4.12.1 Sensor Networks Part Of Research Agenda
- 4.12.2 Light Sensing
- 4.12.3 Acceleration Sensing
- 4.12.4 Chemical Sensing

4.13 Self-Driving Technology Functions

- 4.14 Carbon Nanotube Radio
- 4.15 Military Self-Driving Funded Programs
 - 4.15.1 XM1216 Small Unmanned Ground Vehicle (SSELF-DRIVING CARS)
 - 4.15.2 Self-Driving Technology
- 4.16 Self-Driving Technology Solutions
 - 4.16.1 Self-Driving Technology Enablers
 - 4.16.2 Military Self-driving Logistics
- 4.17 Intel Integrated Circuit Evidence-Based Innovation
 - 4.17.1 Open Self-Driving Control Software
 - 4.17.2 Self-Driving Key Technology
- 4.18 Schneider Electric Smart City Carson City Initiative

5. SELF-DRIVING CARS AND TRUCKS COMPANY DESCRIPTIONS

- 5.1 Alphabet, Waymo: Google
 - 5.1.1 Alphabet Google Positioning
 - 5.1.2 Alphabet/Google
 - 5.1.3 Alphabet Revenue
 - 5.1.4 Google Revenue
 - 5.1.5 Alphabet/Waymo
 - 5.1.6 Alphabet Waymo Self-Driving Car Fleet
 - 5.1.7 Waymo Deal with Fiat Chrysler Automobiles
 - 5.1.8 Google
 - 5.1.9 Google Search Technology
 - 5.1.10 Google Recognizes World Is Increasingly Mobile
 - 5.1.11 Google Nest
 - 5.1.12 Google/Nest Safety History
 - 5.1.13 Google/Nest Learning Thermostat
 - 5.1.14 Google Chromecast
 - 5.1.15 Google Self-Driving Car
 - 5.1.16 Google Cars Address Vast Majority Of Vehicle Accidents Due To Human Error
 - 5.1.17 Google Business
 - 5.1.18 Google Corporate
 - 5.1.19 Google Search
 - 5.1.20 Google
 - 5.1.21 Google/Boston Dynamics
 - 5.1.22 Boston Dynamics LS3 - Legged Squad Support Systems
- 5.2 Alps Electric
- 5.3 Amazon

- 5.3.1 Amazon Business
- 5.3.2 Amazon Competition
- 5.3.3 Amazon Description
- 5.3.4 Amazon Revenue
- 5.4 Argo AI
- 5.5 Apple
 - 5.5.4 Apple/AuthenTec
 - 5.5.5 Apple
 - 5.5.6 Apple Business Strategy
 - 5.5.7 Apple Products
 - 5.5.8 Apple iPhone
 - 5.5.9 Apple Mac Hardware Products
 - 5.5.10 Apple iPod
 - 5.5.11 Apple iTunes
 - 5.5.12 Apple Mac App Store
 - 5.5.13 Apple iCloud
 - 5.5.14 Apple Software Products and Computer Technologies
 - 5.5.15 Apple Operating System Software iOS
 - 5.5.16 Apple Mac OS X
 - 5.5.17 Apple Third-Largest Mobile Phone Maker
 - 5.5.18 Apple Revenue
 - 5.5.19 Apple Regional Segment Operating Performance
- 5.6 Autoliv
- 5.7 BAE Systems
- 5.8 BMW
 - 5.7.1 BMW Strategy
 - 5.7.2 BMW Revenue
- 5.8 Bosch Group
 - 5.8.1 Evatran Group Plugless Sales Go Live with Bosch
 - 5.8.2 Bosch Deepfield Robotics
 - 5.8.3 Bosch Business Overview
 - 5.8.4 Bosch Group Reorganized Its Business Sectors
 - 5.8.5 Bosch Group
 - 5.8.6 Bosch Security Systems Division
- 5.9 CNH Industrial
- 5.10 Daimler AG/Mercedes-Benz
 - 5.10.1 Daimler Mobility
 - 5.10.2 Daimler Autonomous Vehicles
 - 5.10.3 Daimler Shared Services

- 5.10.4 Daimler Electric Mobility
- 5.10.5 Daimler AG Revenue
- 5.11 Delphi Automotive
 - 5.11.1 Delphi Adaptive Cruise Control
- 5.12 Eaton
- 5.13 ECA Self-Driving
- 5.14 Elbit Systems
 - 5.14.1 Elbit Systems Principal Market Environment
 - 5.14.2 Elbit Systems
 - 5.14.3 Elbit Systems Principal Market Environment
- 5.15 Evatran Group
- 5.16 Fiat Chrysler
 - 5.16.1 Chrysler/Dodge
 - 5.16.2 Chrysler Revenue
- 5.17 Ford
 - 5.17.1 Ford Pickup
 - 5.17.2 Ford Argo AI Artificial Intelligence Company
 - 5.17.3 Ford Argo AI
 - 5.17.4 Ford Investments And Partnerships To Help With Autonomous Vehicle Development
 - 5.17.5 Ford Continuing To Chase Automotive Market Volume
 - 5.17.6 Ford Business
 - 5.17.7 Ford Motor Vehicle Fuel Economy
 - 5.17.8 Ford Revenue
- 5.18 G-NIUS
- 5.19 General Dynamics
 - 5.19.1 General Dynamics Revenue
 - 5.19.2 General Dynamics Self-Driving Systems
 - 5.19.3 General Dynamics Self-Driving Systems (GDRS) Vision
 - 5.19.4 General Dynamics Self-Driving Systems (GDRS) Manufacturing
 - 5.19.5 General Dynamics Autonomous Land And Air Vehicle Development
- 5.20 General Motors
 - 5.20.1 General Motors Positioning
 - 5.20.2 GM European Business Exit
 - 5.20.3 General Motors (GM) Acquired Cruise Automation
 - 5.20.4 GM Investment in Lyft
 - 5.20.5 GM
 - 5.20.6 GM Chevrolet Impala
 - 5.20.7 General Motors (GM) Redefinig Itself

- 5.20.8 GM Business
- 5.20.9 GM Strategy
- 5.20.10 GM/Buick
- 5.21 Honda
- 5.22 Health Slam - IoT Slam
- 5.23 Huawei
 - 5.23.1 Huawei 2016 Business
 - 5.23.2 Huawei Smart Devices
 - 5.23.3 Huawei Regional Strengths
 - 5.23.4 Huawei Building Cloud Ecosystem
 - 5.23.5 Huawei Adopting a Product + Service Strategy
 - 5.23.6 Huawei Vision & Mission
 - 5.23.7 Huawei Strategy
 - 5.23.8 Huawei Corporate Governance
 - 5.23.9 Huawei Research & Development
 - 5.23.10 Huawei Cyber Security
 - 5.23.11 Huawei Partners with China Telecom, Shenzhen Gas On Smart Utility
- 5.24 Hyundai
 - 5.24.1 Hyundai Autonomous Vehicle Uses Olympus Digital Camera and Maps
- 5.25 IBM Corporation
 - 5.25.1 IBM IoT Strategy
 - 5.25.2 IBM Cloud Computing
 - 5.25.3 IBM Business Model
 - 5.25.4 IBM
 - 5.25.5 IBM Messaging Extension for Web Application Pattern
 - 5.25.6 IBM MobileFirst
 - 5.25.7 IBM Business Analytics and Optimization Strategy
 - 5.25.8 IBM Growth Market Initiatives
 - 5.25.9 IBM Business Analytics and Optimization
 - 5.25.10 IBM Strategy Addresses Volatility of Information Technology (IT) Systems
- 5.26 Infineon Technologies AG
 - 5.26.1 Infineon Automotive
 - 5.26.2 Infineon Industrial Power Control
 - 5.26.3 Infineon Power Management & Multimarket
 - 5.26.4 Infineon Chip Card & Security
- 5.27 Intel Corporation
 - 5.27.1 Intel Buys Mobileye
 - 5.27.2 Intel/Mobileye
 - 5.27.3 Intel Company Strategy

- 5.27.4 Intel In The Internet Of Things Market Segment
- 5.27.5 Intel Competitive Advantages
- 5.27.6 Intel Acquires Mobileye
- 5.28 International Truck
- 5.29 John Deere
 - 5.29.1 John Deere Revenue
 - 5.29.2 John Deere Patents Hybrid Harvesters And Mobile Robots
- 5.30 Kairos Autonomi
 - 5.30.1 Kairos Autonomi Autonomy ROI
 - 5.30.2 Kairos Autonomi Upgrades Self-driving Conversion Kit
- 5.31 Knorr-Bremse Group
 - 5.31.1 Knorr-Bremse Leading Player In Electronic Controls And Driver Assistance Systems
- 5.32 Kongsberg
 - 5.32.1 Kongsberg CORTEX
- 5.33 Lockheed Martin
 - 5.33.1 Lockheed Martin Electronic Systems
 - 5.33.2 Lockheed Martin
- 5.34 Logitech
 - 5.34.1 Logitech Makes A Wheel And Pedals For Vehicle Self-Driving Mode
- 5.35 Mesa Self-Driving
 - 5.35.1 Systems Development Division of Mesa Associates
 - 5.35.2 Mesa Self-Driving Affordable Solutions
 - 5.35.3 Mesa Self-drivings Revenue
- 5.36 Microsoft
 - 5.36.1 Microsoft/Mojang AB Minecraft
 - 5.36.2 Microsoft Reportable Segments
 - 5.36.3 Microsoft Intelligent Cloud
 - 5.36.4 Microsoft Revenue by Segment
 - 5.36.5 Skype and Microsoft
 - 5.36.6 Microsoft/Skype/GroupMe Free Group Messaging
 - 5.36.7 Microsoft SOA
 - 5.36.8 Microsoft.Net Open Source
- 5.37 Mitsubishi
- 5.38 Mobileye
- 5.39 Nissan
 - 5.39.1 Nissan Revenue
- 5.40 Northrop Grumman
- 5.41 NVIDIA

- 5.42 oneM2M
- 5.43 PACCAR
- 5.44 Peloton Technology
- 5.45 Qualcomm
 - 5.45.1 Qualcomm Business
 - 5.45.2 QMC Offers Comprehensive Chipset Solutions
 - 5.45.3 Qualcomm Government Technologies
 - 5.45.4 Qualcomm Internet Services
 - 5.45.5 Qualcomm Ventures
 - 5.45.6 Qualcomm/WiPower
 - 5.45.7 Qualcomm Standardization Capabilities
 - 5.45.8 Qualcomm Regulatory and Compliance Capabilities
 - 5.45.9 Qualcomm (QCOM, Tech30) Acquires NXP Semiconductors (NXPI)
- 5.46 Robosoft
- 5.47 Samsung
 - 5.47.1 Samsung Finds Talent And Adapts Technology To Create Products
 - 5.47.2 Samsung Adapts to Change, Samsung Embraces Integrity
 - 5.47.3 Samsung Telecom Equipment Group
 - 5.47.4 Samsung Memory Over Logic
 - 5.47.5 Samsung Agreed to Buy Harman
 - 5.47.6 Harman International Industries (ADITI TECHNOLOGIES)
- 5.48 SAP
 - 5.48.1 SAP Easier IoT Adoption:
- 5.49 SEAT
- 5.50 Softbank
 - 5.50.1 SoftBank Segments
 - 5.50.2 Softbank Personal Brain “IBM Watson”
 - 5.50.3 Softbank Sprint Segment
 - 5.50.4 Softbank Yahoo Japan Segment
 - 5.50.5 Softbank E-Commerce Business
 - 5.50.6 Softbank Distribution Segment
 - 5.50.7 Fukuoka SoftBank HAWKS Related Business and Other Businesses
 - 5.50.8 SoftBank ARM Acquisition Brings Internet of Things
- 5.51 Subaru
 - 5.51.1 Subaru Automotive Business
 - 5.51.2 Subaru of America
 - 5.51.3 Fuji Heavy Industries/Subaru
 - 5.51.4 Subaru Automotive Business
 - 5.51.5 Subaru of America

5.52 Symantec

5.52.1 Symantec/Norton

5.52.2 Norton Data-Driven Intelligence Network

5.52.3 Symantec/Norton Honey Pots and Decoys

5.52.4 Symantec Security in Information-Driven World

5.52.5 Symantec Core Business Positioned for Growth

5.52.6 Symantec Acquires VeriSign Security Business

5.52.7 VeriSign Check Mark Signifying Trust Online

5.52.8 Symantec Creating Trusted Interactions Online

5.53 Tata Motors Limited/Jaguar/Land Rover

5.53.1 Jaguar Land Rover

5.54 Tesla

5.54.1 Tesla's Mission Is To Accelerate The World's Transition To Sustainable Transport

5.54.2 Tesla Autopilot

5.55 Thales Group

5.55.1 Thales Core Businesses

5.55.2 Thales: A Global Player

5.55.3 Thales Key Technology Domains

5.55.4 Thales Open Research

5.55.5 Thales Stance on Environment

5.55.6 Thales Product Design

5.55.7 Thales Site Management

5.55.8 Thales Alenia Space Integration Of Service Module For The Fourth ATV

5.55.9 Thales Sonar 'Excels' In Anti-Submarine Warfare Exercise

5.55.10 Thales Group Ground Alerter 10

5.55.11 Thales Group Ground Master 400 (GM 400)

5.55.12 Thales Group Ground Smarter 1000

5.55.13 Thales Group

5.56 Toyota/Lexus

5.56.1 Lexus Division of Toyota Motor Sales

5.56.2 Toyota/Lexus

5.56.3 Toyota

5.56.4 Toyota Avalon Wireless Charging Pad

5.57 Uber

5.57.1 Uber

5.57.2 Uber Revenue

5.58 Valeo

5.59 Vecna Technologies

5.60 Versa Capital Management

5.60.1 Versa Capital Management/Allen Vanguard

5.60.2 Allen Vanguard Rapid Development

5.61 Volkswagen

5.61.1 Volkswagon Brands

5.61.2 Porsche SE

5.61.3 Porsche SE

5.61.4 Volkswagen/Audi

5.61.5 Audi Gets The Second Driverless Car Permit In Nevada

5.62 Volvo

5.62.1 Volvo Revenue

5.63 Visteon

5.63.1 Visteon Revenue

5.64 WiTricity

5.65 Zebra

5.65.1 NFL And Zebra Technologies Expand On Third Year Of Game-Changing Partnership

5.65.2 Zebra Instrumented Football

5.65.3 Zebra Regional Analysis

5.66 ZF

5.66.1 ZF Swarm Intelligence

5.66.2 ZF Friedrichshafen AG

5.67 ZTE

5.67.1 ZTE Demonstrates Smart NB-IoT solutions

5.68 Self-Driving Vehicle Companies

5.68.1 List of Companies Examined For Ranking by ADAS Revenues

WINTERGREEN RESEARCH 1001

WINTERGREEN RESEARCH METHODOLOGY 1002

List Of Figures

LIST OF FIGURES

- Figure 1. Sensor and Computing Configurations for Cars Driving Themselves
- Figure 2. Self-Driving Cars and Trucks Market Driving Forces
- Figure 3. Autonomous Vehicle Safety Features Used in Self-Driving Cars
- Figure 4. Self-Driving Cars and Light Trucks on the Road, Worldwide, 2016 Chart
- Figure 5. Autonomous Car and Light Truck/SUV Market Forecasts, Units, Worldwide, 2017-2023
- Figure 6. Daimler E-Class is World's First Production Car To Be Issued A Test License For Autonomous Driving
- Figure 7. Futuristic Roads Recharge Electric Cars
- Figure 8. Electric Strip in Road
- Figure 9. Ford Self-Driving Auto Control System
- Figure 10. Homogenized Car Market Characteristics
- Figure 11. Sensor and Computing Configurations for Cars Driving Themselves
- Figure 12. Self-Driving Cars and Trucks Market Driving Forces
- Figure 13. Autonomous Vehicle Safety Features Used in Self-Driving Cars
- Figure 14. Self-Driving Cars and Light Trucks on the Road, Worldwide, 2016 Chart
- Figure 15. Self-Driving Cars and Light Trucks on the Road, Worldwide, 2016
- Figure 16. Self-Driving Car Level 2 Autonomous Vehicle Market Shares, Number of Vehicles on Road, Worldwide, 2016 and 2017
- Figure 17. List of Cars with Collision Avoidance Features
- Figure 18. Collision Avoidance Systems Market Shares, Units, Installed Worldwide, 2016
- Figure 19. Selected Leaders in Development of Self-Driving Cars and Trucks
- Figure 20. Selected Large Company Self-Driving Car Partnerships
- Figure 21. Large Company Self-Driving Car Acquisitions
- Figure 22. Large Company Self-Driving Car Leveraging IoT
- Figure 23. Mobileye Intel Automotive Market Access Features
- Figure 24. Google Self-Driving Car
- Figure 25. Google Driverless Car
- Figure 26. BMW Self-Driving Car
- Figure 27. Mercedes Intelligent Drive Level 2 Autonomous Car
- Figure 28. IBM MessageSight Ford
- Figure 29. Toyota Production LS 2013 Model Self-Driving Tools Technology
- Figure 30. Kairos Autonami Pronto4 Retrofitting System for Existing Vehicles or Vessels137

Figure 31. Bosch BoniRob

Figure 32. Selected Company Investment or Planned Investment in Autonomous Vehicle Technology, Market Shares Dollars, Worldwide, 2017 to 2027

Figure 33. Autonomous Car and Light Truck/SUV Market Forecasts, Units, Worldwide, 2017-2023

Figure 34. Total Manual and Autonomous Car and Light Truck Shipments, Market Forecasts, Units and Percent Autonomous of Total Shipments, Worldwide, 2017- 2023

Figure 35. Autonomous Car and Autonomous Light Truck/SUV Shipments Base Market Forecasts Dollars, Worldwide, 2017-2023

Figure 36. Autonomous Car and Autonomous Light Truck/SUV Shipments Market Forecasts, Dollars, Worldwide, 2017-2023

Figure 37. Autonomous Car and Autonomous Light Truck/SUV Shipments Market Forecasts, Units, Worldwide, 2017-2023

Figure 38. Autonomous Car and Autonomous Light Truck/SUV Shipments and Installed Base, Market Forecasts Dollars and Units, Worldwide, 2017-2023

Figure 39. Autonomous Car and Autonomous Light Truck/SUV Shipments and on the Road, Small, Mid-Size, Luxury, and Light Truck/SUV Market Forecasts, Level 2 and Level 4 Autonomous Personal Vehicles, Units, Worldwide, 2017-2023

Figure 40. Autonomous Car and Autonomous Light Truck/SUV Shipments and on the Road, Small, Mid-Size, Luxury, and Light Truck/SUV Market Forecasts, Level 2 and Level 4 Autonomous Personal Vehicles, Dollars, Worldwide, 2017-2023

Figure 41. Autonomous Car and Autonomous Light Truck/SUV Shipments and Installed Base, Small, Mid-Size, Luxury, and Light Truck/SUV Market Forecasts, Percent, Worldwide, 2017-2023

Figure 42. Autonomous Luxury Car Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 43. Autonomous Mid-Size Car Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 44. Autonomous Light Car Shipments Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 45. Autonomous Light Truck/SUV Shipments Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 46. Autonomous Car and Autonomous Light Truck/SUV Shipments Market Forecasts, Level 2 and Level 4 Autonomous Personal Vehicles, Worldwide, 2017-2023

Figure 47. Levels of Autonomous Driving Defined by the US Department of Transportation National Highway Traffic Safety Administration (NHTSA) Definition

Figure 48. Methods for Logging Sensor Data in ADAS Applications

Figure 49. ADAS Engineering Environment

Figure 50. Selected ADAS Leading Companies

Figure 51. Advanced Driver Assistance Systems (ADAS) Market Shares, Dollars, Worldwide, 2016

Figure 52. Main Trends Driving ADAS Technology Uptake:

Figure 53. Advanced Driver Assistance System Market: By type

Figure 54. Advanced Driver Assistance System Market: By technology

Figure 55. Range of Sensor Technologies Deployed for Different ADAS Features

Figure 56. ADAS Manufacturers

Figure 57. LiDAR Car 3D Image

Figure 58. Segmentation of ADAS Components

Figure 59. Technologies Supporting Increased Consumption Of Digital Content¹⁸⁹

Figure 60. Wireless Network Connections Functional Areas

Figure 61. Cars with ASDS Features

Figure 62. Michigan Leadership Position In Testing Self-Driving Vehicles

Figure 63. Selected Self-Driving Commercial Trucks and Vehicle Vendors

Figure 64. Advantages of Autonomous Commercial Vehicles

Figure 65. Automated Driving Building Blocks Supporting Market Growth

Figure 66. Automated Driving Features

Figure 67. Transportation and Self Driving Cars Internet of Things (IoT) Market Forecast, Dollars, Worldwide, 2017-2024

Figure 68. Transportation and Self Driving Cars Internet of Things Market, Internet of Things Market Segments, Transportation and Self Driving Cars, Dollars, Forecast, Worldwide, 2017-2023

Figure 69. Self-Driving Trucks In a Line on the Highway

Figure 70. Autonomous Trucking Platooning Functions

Figure 71. ADAS Technology Being Implemented for Trucks

Figure 72. Redtone Smart City Solutions

Figure 73. Redtone Smart City Worldwide Addressable Market:

Figure 74. Self-Driving Cars Conflicting Scenarios That Change Car Culture

Figure 76. Car Shipments and On the Road, Small, Light Cars Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 77. Mid-Size Car Shipments and On the Road, Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 78. Luxury Car Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 79. Light Truck Shipments and On the Road, Market Forecasts, Dollars and Units, Worldwide, 2017-2023

Figure 80. Car and Light Truck Shipments and Installed Base, Small, Mid-Size, Luxury, and Light Truck Market Forecasts, Percent, Worldwide, 2017-2023

Figure 81. Automotive Industry Market Factors

Figure 82. Automotive Industry Limits On The Ability To Reduce Costs

- Figure 83. Selected Autonomous Vehicle Software Market Leaders
- Figure 84. Self-Driving Car and Truck Functions
- Figure 85. Autonomous Vehicle Integration Software Components
- Figure 86. Children Look Inside A Self-Driving Car At Google Headquarters in Mountain View, Calif., on April 25, 2013
- Figure 87. Advanced Autonomous Car Software Features
- Figure 88. Collision Detection Machine Vision System For Law Enforcement
- Figure 89. Collision Detection Machine Vision System Components Features for Law Enforcement
- Figure 90. Intel Mobileye Law Enforcement Agency Clients:
- Figure 91. Agricultural Robot Self Driving Tractor Market Forecasts Dollars, Worldwide, 2017-2023
- Figure 92. Self-Driving Car and Truck Challenges
- Figure 93. Self-Driving Car and Truck Mapping and Navigation Challenges
- Figure 94. Challenges Met and Upon Encountering Need The Driver To Take Over
- Figure 95. Self-Driving Car and Truck Human Factors
- Figure 96. Self-Driving Car Regional Market Segments, Dollars, 2016
- Figure 97. Self-Driving Car and Light Truck Regional Market Segments, 2016
- Figure 98. Chinese ADAS Market Participants
- Figure 99. Chinese ADAS Market Segments by Provinces
- Figure 100. Self-Driving Military Vehicle Regional Market Segments, Dollars
- Figure 101. Self-Driving Military Regional Market Segments, 2016
- Figure 102. Tesla Electric Vehicle
- Figure 103. Tesla Dual Motor Model S and Autopilot
- Figure 104. 2016 Tesla Model S Advantages
- Figure 105. 2016 Tesla Model S Challenges
- Figure 106. Tesla Model S
- Figure 107. Tesla Model S All-Wheel Drive Dual Motor
- Figure 108. Tesla Hardware Safety Features
- Figure 109. Tesla Software Safety Features
- Figure 110. Tesla Autopilot
- Figure 111. Google Self-Driving Car
- Figure 112. Uber Self-Driving Car Crash Photo
- Figure 113. Apple IoT Control Accessories in the Home: Security Systems, Appliances, Cameras And Door Locks.
- Figure 114. Apple Aggregation of Devices to Be Controlled Using Scene System³²¹
- Figure 115. Amazon Alexa Software Automotive Partners
- Figure 116. Amazon Autonomous Delivery Vehicle
- Figure 117. Amazon Trucks and Forklifts That Drive Themselves Revolutionize

ECommerce

Figure 118. Toyota Self Driving Car

Figure 119. Toyota Road Detector

Figure 120. Toyota Self Driving Car Wheel

Figure 121. Toyota Autonomous Driving Tools

Figure 122. Toyota Production LS Model Self-Driving Tools Technology

Figure 123. Lexus Adaptive Cruise Control

Figure 124. Lexus_IS250_ACC Adaptive Cruise Control

Figure 125. Audi Connect

Figure 126. Volkswagen Sedric Concept Car

Figure 127. Volkswagen Self Driving Car

Figure 128. Volkswagen TAP Autopilot

Figure 129. Volkswagen TAP Automatic Driving Support Technology

Figure 130. Porsche Adaptive Cruise Control Illustrated

Figure 131. SAP Identification of Spot Self-Driving Technology Needing Systems Integration

Figure 132. Softbank Self Driving Bus

Figure 133. SoftBank IoT Environment Industry Sectors

Figure 134. Intel Compute

Figure 135. Intel Collaboration is Key for Vehicle Safety

Figure 136. Intel Software Companies and Partners

Figure 137. Intel Partners Among World Leading Automakers Use Technology To Power In-Vehicle Infotainment, Imaging, And Navigation Systems

Figure 138. Intel In-Vehicle Compute Across Automakers

Figure 139. IBM Self-Driving Car EcoSystem Positioning

Figure 140. Value of IBM Advanced Analytics And Optimization

Figure 141. IBM MessageSight Ford

Figure 142. Ford Self-Driving Car

Figure 143. Ford Self-Driving Auto with Automated Control System

Figure 144. Ford Self-Driving Auto Control System

Figure 145. Mercedes Self-Driving truck

Figure 146. Mercedes Self-Driving Truck Will Pull To One Side To Let A Firetruck Pass

Figure 147. Mercedes Self-Driving Vehicle

Figure 148. Mercedes Self Driving Car Open Interior

Figure 149. Mercedes Self Driving Car Interior

Figure 150. Mercedes-Benz F 015

Figure 151. Mercedes Self Driving Car Vision Is To Raise Comfort And Luxury To A New Level By Offering Maximum Of Space And A Lounge Character

Figure 152. Mercedes-Benz Self Driving Car Interior

Figure 153. Mercedes-Benz Self Driving Car Impact-Protected Installation Of F-Cell Plug-In Hybrid Drive System

Figure 154. Bosch BoniRob

Figure 155. Bosch BoniRob Robot Functions

Figure 156. Bosch BoniRob Features

Figure 157. Bosch Deepfield Connect App Features

Figure 158. Bosch Deepfield Connect Image

Figure 159. Bosch Deepfield Connect Functions

Figure 160. Bosch Deepfield Connect Issues Addressed

Figure 161. Bosch Deepfield Connect IoT Temperature Management

Figure 162. Bosch Seed Field Testing Automation Process

Figure 163. Bosch Seed Field Testing Automation Functions

Figure 164. Bosch Seed Field Testing Challenges:

Figure 165. Bosch Weeding

Figure 166. Bosch Weeding Solutions Advantages:

Figure 167. Bosch Recognition of Herbicide Challenges

Figure 168. Bosch Solutions Target Weeding Challenges

Figure 169. Nissan Self Driving Car

Figure 170. Nissan Zero-Emission Driverless Car

Figure 171. GM Self Driving Cadillac

Figure 172. GM Safety Technology

Figure 173. Buick LaCrosse Self-Driving Vehicle

Figure 174. GM Cadillac Self Driving Car

Figure 175. GM EN-V Hands Free Driverless Auto

Figure 176. GM EN-V Hands Free Driverless Auto

Figure 177. General Motors Self-Driving Auto

Figure 178. Self-Driven Volvo SUV Owned And Operated By Uber Technologies Flipped On Its Side After A Collision

Figure 179. Volvo Self Driving Car Functions

Figure 180. Volvo Self Driving Car Auto Parking

Figure 181. Technologies Needed To Equip A Car With A Self-Parking Capability

Figure 182. Volvo Self Driving Vehicle

Figure 183. High End Volvo With Safety Package

Figure 184. BMW Open Mobility Cloud Processors And A Platform Support ThirdParty Partner Applications

Figure 185. BMW Self Driving Car

Figure 186. Partnership Among BMW Group, Intel and Mobileye To Work On Fully Automated Driving

Figure 187. BMW Autonomous Driving Race Car

- Figure 188. BMW Autonomous Car GPS Systems
- Figure 189. Subaru Self-Driving Car
- Figure 190. Subaru Adaptive Cruise Control Features
- Figure 191. Honda Civic comes with ADAS
- Figure 192. Honda Car Safety Adapter Systems
- Figure 193. Hyundai All-Electric Ioniq
- Figure 194. Hyundai All-Electric Ioniq
- Figure 195. Hyundai Genesis Advanced Safety Features, Lane Departure Warning System (LDWS) and Smart Cruise Control (SCC)
- Figure 196. Hyundai Genesis Smart Cruise Control
- Figure 197. Tata Driverless Car
- Figure 198. Land Rover Range Rover
- Figure 199. Land Rover Range Rover
- Figure 200. Land Rover Terrain Response Functions
- Figure 201. Land Rover Range Rover
- Figure 202. Land Rover Enhanced Active Safety Technologies
- Figure 203. Land Rover Range Rover
- Figure 204. LandRover Velodyne LIDAR Sensor
- Figure 205. Fiat Chrysler Semi-Autonomous Electric Vehicle Designed For Millennials With Families Functions
- Figure 206. Chrysler Adaptive Cruise Control
- Figure 207. Kongsberg CORTEX
- Figure 208. BAE Systems Wildcat
- Figure 209. BAE Self-Driving Car
- Figure 210. BAE Systems Remote Military Land Vehicles
- Figure 211. Kairos Autonami Pronto4 Retrofitting System for Existing Vehicles or Vessels527
- Figure 212. Kairos Pronto4 Agnostic Autonomy System
- Figure 216. General Dynamics Self Driving Machine Gun
- Figure 217. General Dynamics Self-Driving Machine Gun Rotating
- Figure 219. General Dynamics Autonomous Systems Implementation Functions
- Figure 242. John Deere Autonomous Flexible Use Tractor
- Figure 243. John Deere Crop Spraying
- Figure 244. John Deere Autonomous Tractor
- Figure 246. TI ADAS Solutions Targeted Applications
- Figure 247. TI ADAS Camera Solutions Key Benefits
- Figure 248. Texas Instrument Camera Capability for ADAS
- Figure 249. TI ADAS Radar Support
- Figure 250. TI ADAS Ultrasound Support

- Figure 251. TI ADAS Full System Portfolio
- Figure 252. LIDAR Sensors Underlying Technology
- Figure 253. Levels of Driving Situation Autonomy Simulated for Testing
- Figure 254. Autonomous Car Pilot Programs and Testing Locations
- Figure 255. Unified Communication Standards
- Figure 262. Complex and Dynamic Real-World Environments. Self-Driving Relies on The Interplay Among Sensors To Accomplish Their Missions Efficiently.
- Figure 267. Self-Driving Integrated Circuit-Based Innovation Functions
- Figure 269. Self-Driving Communications Key Technology
- Figure 270. Military Self-Driving Key Navigation Technologies
- Figure 271. Schneider Electric Smart City Carson City Initiative
- Figure 272. Waymo 3 Million Miles Self Driven
- Figure 273. Waymo Self-Driving Car on Public Roads
- Figure 274. Alphabet Waymo Early Riders Self Driving Van in Arizona
- Figure 275. Alphabet Strategic Positioning
- Figure 276. Google Self-Driving Car Locations
- Figure 277. Google/Nest Learning Thermostat
- Figure 278. Google Autonomous Vehicles Technology
- Figure 279. Boston Dynamic LS3
- Figure 280. Alps Electric Core Technology
- Figure 281. Amazon Principal Competitive Factors In The Online Retail Business
- Figure 282. Amazon Improving Customer Experience Functions
- Figure 283. Amazon Ways To Achieve Efficiency In Technology For Operations
- Figure 284. 2015 Lexus RX450h Apple Vehicle Of Choice
- Figure 285. Apple Maps Vehicles
- Figure 286. BAE Systems Standards
- Figure 287. Bosch Business Highlights
- Figure 288. Bosch Positioning for Growth
- Figure 289. CNH Industrial Brands
- Figure 290. Daimler AG Brands
- Figure 291. Daimler Self-Driving Positioning Autonomous, Connected, Shared Services
- Figure 292. Daimler Mercedes Electric Vehicle
- Figure 293. Daimler Mercedes Connected Vehicle
- Figure 294. Daimler Mercedes Electric Truck
- Figure 295. Daimler Rapidly Forging Ahead With The Development Of Autonomous Vehicles
- Figure 296. Daimler Mercedes Autonomous Vehicles
- Figure 297. My Taxi and Hailo Create Taxi E-Hailing Company for Europe
- Figure 298. Daimler Revenue by Region

- Figure 299. Denso Regional Presence
- Figure 300. Denso Automatic Lane Change
- Figure 301. Eaton Industrial Clutches and Brakes
- Figure 302. ECA Self-Driving Range Of Products
- Figure 303. Elbit Systems Activities:
- Figure 304. Elbit Systems Activities:
- Figure 305. Factors Impacting Ford Profitability Of Business
- Figure 306. G-NIUS Unmanned Ground Systems (UGS) Solutions
- Figure 307. GM Market Positioning
- Figure 308. Mobileye Provides Intel Access to the Automotive Market
- Figure 309. Mobileye Intel Automotive Market Access Features
- Figure 310. Deere Seed Spreading Machine
- Figure 311. Lockheed Martin Segment Positioning
- Figure 312. Lockheed Martin's Operating Units
- Figure 313. Lockheed Martin Aeronautics Segment Positioning
- Figure 314. Lockheed Martin Aeronautics Segment Portfolio
- Figure 315. Lockheed Martin Aeronautics C130 Worldwide Airlift
- Figure 316. Lockheed Martin Aeronautics Falcon Fighter
- Figure 317. Lockheed Martin Electronic Systems Portfolio
- Figure 318. Logitech Components in Apple Automated Driving Training Set-Up854
- Figure 319. Mesa Self-Driving Technical Experience
- Figure 320. Microsoft Productivity and Business Processes Segment
- Figure 321. Microsoft Intelligent Cloud Segment
- Figure 322. Microsoft/Skype/GroupMe Free Group Messaging
- Figure 323. Microsoft Service Orientated Architecture SOA Functions
- Figure 324. oneM2M Use Cases And Requirements For A Common Set of Service Layer Capabilities;
- Figure 325. Peloton Technology Investors
- Figure 326. QMC Technology Chipset Solutions For Smart Connected Devices
- Figure 327. Seat Cars Offered
- Figure 328. Softbank Brightstar Specialized Wireless Industry Wholesaler Functions
- Figure 329. Symantec/Norton Internet Security Image
- Figure 330. Symantec Creating Trusted Interactions Online
- Figure 331. Thales Key Technology Domains
- Figure 332. Thales Group Ground Master 400
- Figure 333. Thales Group GROUND Master 400 Key Features:
- Figure 334. Thales Group Ground Smarter 1000 Key Features:
- Figure 335. Thales Critical Decision Chain
- Figure 336. Toyota/Lexus Advanced Active Safety Research Vehicle Features

- Figure 337. Toyota Qi Wireless Charging
- Figure 338. Valeo Regional Market Presence
- Figure 339. Valeo 9-Point Outperformance in Asia Q1 2017
- Figure 340. Valeo OEM Sales by Production Region
- Figure 341. Valeo Comfort and Driving Assistance
- Figure 342. Valeo Revenue by Segment
- Figure 343. Allen Vanguard Threat Intelligence
- Figure 344. Allen-Vanguard R&D Team Mandate:
- Figure 345. Allen-Vanguard Scientific And Engineering Topics Researched and Developed
- Figure 346. Allen-Vanguard R&D Fundamental Research
- Figure 347. Allen-Vanguard R&D Engineers And Scientists Comprehensive Research
- Figure 348. Volkswagen Brands
- Figure 349. WiTricity Technology
- Figure 350. Zebra Application of IoT in Healthcare
- Figure 351. Zebra IoT Healthcare Areas of Expertise
- Figure 352. Zebra National Football League (NFL) IoT RFID Tag Functions
- Figure 353. Zebra Global Market Presence
- Figure 354. ZF NVIDIA DRIVE PX 2 AI Computing Platform

I would like to order

Product name: Self-Driving Cars and Light Trucks: Market Shares, Strategies, and Forecasts, Worldwide, 2017 to 2023

Product link: <https://marketpublishers.com/r/S39762F0092EN.html>

Price: US\$ 4,200.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/S39762F0092EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970

