



Accelerate your business

Introducing IoT solutions for
Automotive and Insurance.

The future is exciting.

Ready?



Vodafone
Automotive

Transforming the way we think about transport

The automotive industry is facing new challenges. Manufacturers, dealers, insurers and service providers are looking for new ways to control operating costs, comply with new regulations, improve the driving experience and generate additional revenue streams.

What's driving the connected car?

By 2018, more than half of all cars being sold will come with connectivity built in, and the after-market opportunity is also accelerating. Whether the solution is beneficial for businesses, like navigation and diagnostics, or targeted to the end users, such as 4G hotspots and entertainment services, the result is an improved and personalised driving experience.

The current and future growth in the number of connected cars is being driven by a combination of market forces:

- Consumer demand:** Research by Accenture found that buyers ranked in-car technology as more important than vehicle performance in their purchase decision¹. They want their cars to be safe, efficient, better equipped and fun. Just like smartphones, cars will need to be connected to provide a dynamic user experience.
- Competitive advantage:** Connected car services can help manufacturers attract customers by generating new revenue streams. In-car entertainment as well, anticipated and forecasted customer service needs all provide additional service options that can be combined with gathering information on usage. Connected car services help reduce recalls for your users and guide valuable product development for your business.
- Regulation and industry pressure:** An increasing number of countries are requiring car manufacturers to build connected safety features in. Insurers are pushing policy holders to install 'black boxes' for usage monitoring and theft management. Fleet managers also need to be able to track their drivers and vehicles, to comply with working time directives.

“The European Parliament voted for eCall regulation which requires all new cars be equipped with eCall technology from April 2018. In the event of a serious accident, eCall automatically dials 112 - Europe's single emergency number” – which means that all new cars in the EU need to and will be connected.²



Complete dashboard of products and services

As a result of 40 years' expertise and experience, Vodafone Automotive offers robust electronics and telematics solutions for vehicle manufacturers and for after-market service providers. Vodafone Automotive focuses on one of the key IoT verticals – Automotive – and operates through two business units that offer state of the art electronic systems and components together with a vehicle-centric telematics platform and related services.

A fully managed solution

We have years of experience integrating electronic and telematics systems into complex vehicles, both at the point of manufacture and after. We deliver a complete end-to-end service or any part thereof:

- Electronics and Telematics devices
- Telematics server-based infrastructure
- Centres (SOCs) across 44 European countries, Russia, South Africa, Malaysia, Singapore, the USA and Canada.
- Vodafone's Managed IoT Connectivity platform
- A network of National Service Providers (NSPs) and Secure Operating

From the beginning Vodafone Automotive has positioned itself as a centre of technical excellence.

Our core competence lies in the excellent integration of electronics and telematics solutions in the vehicle, thanks to the long-term partnership with vehicle manufacturers and the ability of its highly skilled engineers to follow the global telematics technology evolution.

We have full control from the engineering phase, the hardware-software-mechanical integrated development to vehicle application studies and simulations.

We focus on development programs in order to respond to the most exacting standards.



Industry	Functionality	Service Category
Automotive	Stolen vehicle recovery Crash alert / emergency call Breakdown call Mobile app	Security Safety Safety Management
Insurance	Accurate insurance premium Crash reconstruction Crash alert / emergency call Breakdown call Mobile app / web portal	Driving behaviour Driving behaviour Safety Safety Management
Fleet	Asset management Support and Diagnostics Stolen vehicle recovery Driving style Emergency services	Management Management Security Driving behaviour Safety

Vodafone Automotive's key products and services

Our diverse portfolio covers the needs of the automotive, insurance and fleet industries:

- InCar Telematics
- Theft Management
- Usage Based Insurance
- Safety and Security
- Vehicle Management and Monitoring

Telematics for Automotive

Vehicle security services fully integrated

The European Commission has adopted an ambitious Road Safety Programme which aims to cut road deaths in Europe by half between 2011 and 2020 by improving vehicle safety and road users' behaviour³.

The European automotive industry has already contributed significantly to the safer use of roads and safer vehicles through continuous improvements in active and passive safety measures.

Further improvements require an integrated approach involving all relevant participants, such as regulation bodies and public authorities, road users, vehicle manufacturers and insurance companies.

Enhanced security and safety features are at the core of our telematics services, including stolen vehicle recovery, emergency and breakdown call function and vehicle management functions available via the Vodafone Automotive mobile app. All services are integrated to provide a fully connected experience so that your business complies with regulations and your users enjoy a safe drive.

Stolen Vehicle Recovery services without borders

Vehicle theft is a stressful problem for consumers and businesses at a global level.

A real-time remote connection with the vehicle offers the capability to develop and operate security services such as **Stolen Vehicle Recovery** operating across Europe, with direct interaction with the police authorities, providing you and your users peace of mind across all of Europe, through our network of Secure Operating Centres (SOC).

Vodafone Automotive provides unique benefits:

- Secure and discrete installation
- Complete customer privacy
- 24/7 service support
- Direct contact with police authorities (with no police hardware required)
- Pinpoint GPS tracking
- High security services through automatic alerts to SOC
- International mobile coverage

Our services are modular and can be tailored to meet specific market requirements. They comply with regulations issued by the main European certifying bodies that work with insurance companies such as Thatcham, Kiwa-SCM, Incert and Pimot. Our services are tested and approved by vehicle manufacturers and recognised by major insurers.

Several Pan-European Original Equipment Manufacturers (OEM) have chosen our services including: Aston Martin, Audi, Bentley, Ducati, Ferrari, Gruppo Piaggio, Infiniti, Lamborghini, Maserati, Mercedes Benz Trucks, Nissan, Porsche, Renault, Rolls-Royce, Tesla and Volkswagen.

Help when you need it most

In most cases drivers in need do not know their exact location and are not able to describe the problem when seeking for assistance after an accident or emergency.

Vehicles equipped with a **Breakdown Call System** enable a data connection to transmit car diagnosis and vehicle position to our Secure Operating Centre (SOC). In the event of an accident, the telematics unit triggers an automatic alert that will transmit information about the vehicle location and vehicle status. The SOC immediately reacts by activating the emergency procedure and if required, contacts the authorised rescue services. Through this service, the SOC can access the precise location of the vehicle and can provide a quicker remedy or an alternative mobility service.

Vodafone Automotive gives drivers safety and peace of mind with a simple and affordable solution.

Easy vehicle management via a mobile app

We aim to help you and your customers getting truly connected with the car.

We have created My Connected Car, a smartphone app that provides easy access to vehicle information such as real-time location, directions to the vehicle, or contract and user data.

Using **My Connected Car** app, customers can access their vehicle and manage a number of security and safety functions remotely.



Telematics for Insurance

Consumers want lower insurance premiums while feeling safe on the road; insurers need to cover risks profitably and offer attractive policies with affordable value-added services.

Solution for insurers

Vodafone Automotive offers insurers a unique **Usage Based Insurance (UBI)** proposition, combining world-class insurance and automotive services with independently acknowledged leadership in IoT. Our solution will help you to mitigate risks, reduce claims, improve fraud prevention, and therefore reduce your costs. In addition, you benefit from improved theft prevention, innovative additional services and a tailored product set offering security and safety for your customers.

Dynamically priced insurance policies

UBI represents an opportunity for insurers to create a more appealing solution in a very competitive market, using telematics technology to capture detailed and dynamic data from in-car devices and therefore offer premiums based on individuals' driving behaviour, rather than just on demographics and claim history.

Emergency and breakdown assistance

Because drivers know their behaviour is being monitored and priced accordingly, UBI can positively influence driving behaviour, reducing the severity and frequency of accidents.

Consumers can feel more confidently connected, safe and secure with optional value-added UBI services such as personalised assistance and roadside recovery, or dispatch of emergency services for more severe accidents.

Benefits for the insurer and the insured

Implementing a Usage Based Insurance solution benefits both the insurer and its customers equally.

For Insurers

Insurers can save money, remove inefficiency from business processes and open up opportunities to drive revenue growth and strengthen customer relations by:

- Reducing customer churn
- Boosting profitability
- Streamlining claim processes
- Exploiting new data driven revenue opportunities
- Offering value-added services

Saves money

Enables added value services

Improves business efficiency

For the Insured

The customer benefits from products and services that actively encourage improvements in their driving behaviour and overall driving safety and security standards, therefore enjoying the benefits of:

- Accurate premiums
- Efficient claims service and settling
- Roadside recovery and repairs
- Improved servicing
- Stolen vehicle recovery
- Accurate cover and services

Saves money

Help when it is needed most

Peace of mind



Telematics for Fleets

A huge opportunity

Intelligent fleet management solutions using technologies such as Global Positioning System (GPS)-based telematics are helping fleet operators to enhance operational efficiencies.

With a major boom in emerging economies the number of vehicles is increasing globally with a positive impact on the fleet industry.

This is particularly true for corporate fleets, lease and rental services, that are growing at a significant rate.

Telematics solutions improve vehicle performance and mileage, enhance operational reliability and safety, maintenance planning, driver control and optimize navigation and routes.

Fully managed fleet

Vodafone Fleet Telematics is an end-to-end solution combining a telematics unit installed in each vehicle with our global IoT connectivity and Vodafone Automotive's management platform.

Fleet Telematics is a cost-effective modular solution designed to gather diagnostic and operating information from commercial vehicles. It transmits information on vehicle location and driver behaviour, while monitoring maintenance issues. It also alerts fleet operators on accidents, breakdowns and thefts.

We enable our customers to identify ways to improve the safety of their drivers, reduce fuel consumption and cut their carbon footprint, which can help them to differentiate and stay ahead of the competition.

The Vodafone Automotive Fleet Platform

Our fleet platform provides users all the information about their fleet in an easily accessible way. Whether it's about driver behaviour, fuel consumption or route history, our platform provides all information to get the most out of fleets.



Vodafone Automotive electronics systems

Over the last 40 years, Vodafone Automotive has designed security products for the automotive industry and has worked hand in hand with vehicle manufacturers to offer anti-theft, parking aid components and systems to all vehicle types – cars, trucks and motorcycles. The first telematics box manufactured by Vodafone Automotive appeared on the market in 2001.

The high standards required by vehicle manufacturers are proof of quality for our aftermarket customers. On top of the telematics devices necessary for the supply of the before mentioned services, we provide as well Anti Theft and Parking Sensors solutions.

Anti Theft solutions

Vodafone Automotive is the supplier of many of the world's most advanced standard fit vehicle security systems.

The most common attack to the vehicle is related to the intrusion into the vehicle and theft of the contents. Vodafone Automotive offers a comprehensive portfolio of versatile vehicle security solutions with an extensive range of programmable features, perfectly integrated with the vehicle electronics. Our anti theft systems are designed and manufactured in Italy at our state of the art production facilities, exceeding the stringent requirements of the major vehicle manufacturers and quality standards.

Parking Sensors solutions

Park with confidence

All makes and vehicle types have reversing blind spots. Park Assistance Systems provide effective help during low-speed manoeuvres.

They alert the driver through an audible signal, increasing in frequency, to unseen obstacles behind or in front of the vehicle, helping to avoid:

- Risks from reduced front and rear visibility
- Risks with small parking slots
- Costs for repairing damaged bumpers
- Collision with people and objects

International presence

Vodafone Automotive operates internationally through distributors, licensees and national service providers. It is represented by 40 partners around the globe. In Europe, our Secure Operating Centres assist customers in 44 countries.

Vodafone Automotive provides telematics and non-connected products, such as alarms and parking sensors, with process engineering and manufacturing skills in Italy, Korea and China. Other company subsidiaries are focused on selling products and connected car services to local markets.

Our production plant is based in Varese: a 10,000 sqm site serving customers worldwide, producing nearly 3 million systems last year. Each electronic device is automatically traceable via the Process Quality System (PQS).

Our certifications

We focus on development programs in order to respond to the most exacting standards. All our devices are approved by European, extra-European, North American and Asian certifying bodies (including insurance directives) and by country specific authorities.

The company is regularly audited by vehicle manufacturers and successfully passed the following certification processes:

- Quality management systems - ISO 9001
- Environmental management systems - ISO 14001
- Automotive sector quality management systems ISO TS 16949
- Social accountability management systems - SA 8000
- UNI ISO/IEC27001 partner certified
- Automotive SPICE CL 1 : 2007 audited by Volkswagen Group
- Automotive SPICE CL 2 : 2011 audited by Continental

Why Vodafone Automotive?

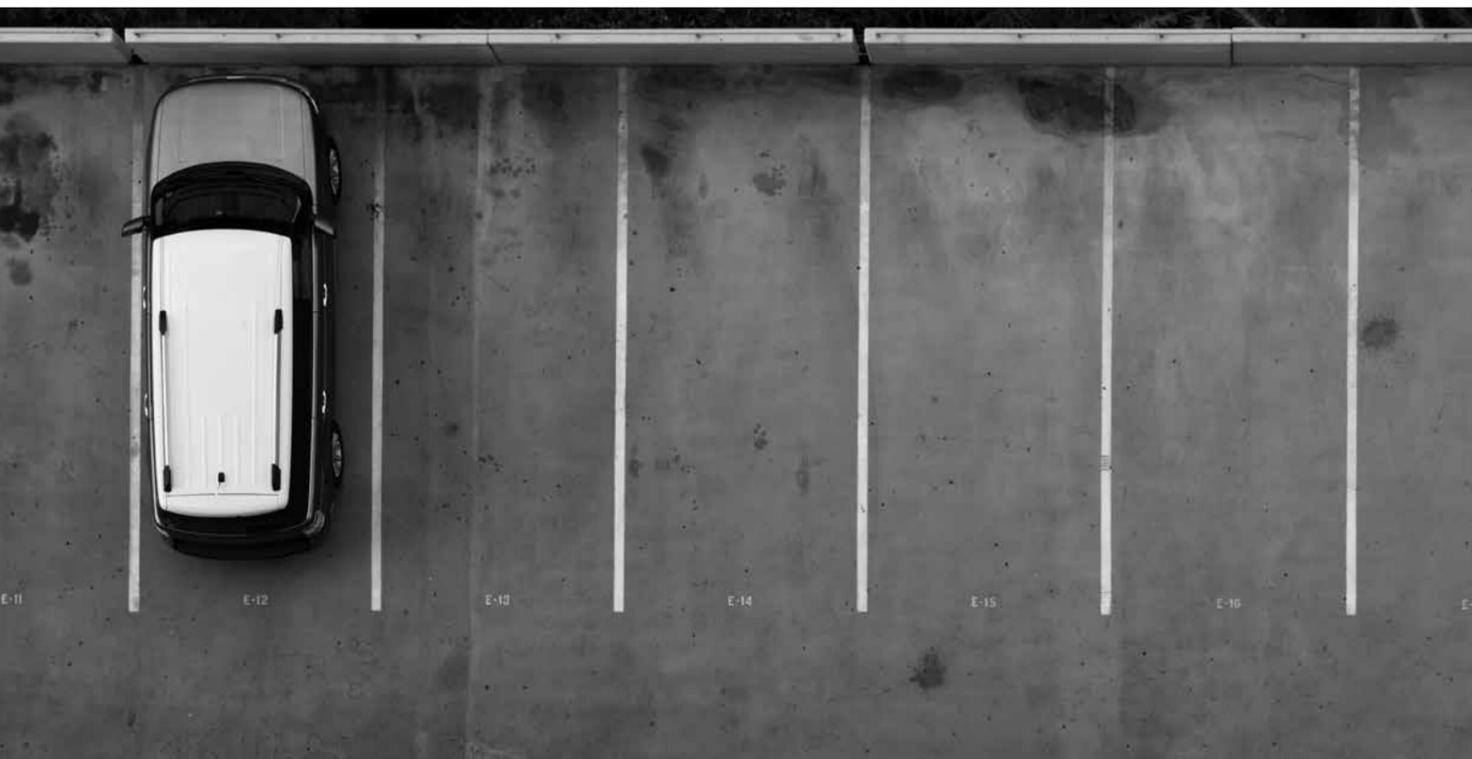
Transforming lives and businesses

Vodafone Automotive is the centre of competence for Automotive within the Vodafone IoT business unit. The Internet of Things connects machines, devices and objects, turning them into intelligent assets that communicate with the world around them. IoT solutions open up a new range of possibilities for businesses - how they operate, how they grow and how they keep customers happy.

Vodafone brings together unrivalled capabilities, combining the world's largest mobile network with an outstanding customer experience and a long track record of success. This means our customers are confidently connected, and receive unmatched services and benefits from our proven expertise.

Data security you can trust

The Vodafone Automotive service delivery platform meets the highest data protection standards and system reliability requirements. The data centre is UNI ISO/IEC 27001 certified, which means that it meets all compliance requirements for the design, implementation and management of Information Security Management Systems (ISMs). It guarantees a Tier III reliability level (99.982% uptime), it is connected to 12 Swiss network carriers and has a redundant power system with 3 power supply sources.



Increase safety, security and vehicle management capability

Vodafone Automotive controls the whole value chain to bring the connected car experience to customers. You will benefit from an end-to-end solution that is:

- **Easy to deploy:** The tracking device is installed discretely in the car or fitted to the windscreen, equipped with GPS and accelerometers for insurance services.
- **Provides valuable and secure data:** The data is transmitted securely over Vodafone's network to a fully hosted and managed vehicle data management platform.
- **Monitors driving behaviour:** Advanced analytics technologies are used to profile driver behaviour, helping insurance companies to offer innovative products, while end users benefit from a lower cost base. Fleet managers can help their drivers to adopt safer driving behaviours which can also contribute to reduced fuel consumption.
- **Accessible online:** Online web portals enable consumers to be in control and check their scoring information easily for insurance. Insurers benefit from a platform that generates highly accurate risk scores and provides precise crash reconstruction reports. Fleet administrators, managers, operators and drivers can access the relevant vehicle and fleet data easily.
- **Essential support:** The management of theft and crash alerts enables the swift intervention of Secure Operating Centres and a direct connection to police authorities throughout Europe.

A proven track record in the global automotive market

We work with the world's leading car manufacturers. The OEMs, we proudly serve and partner with, produce more than 50% of Europe's cars. Vodafone Automotive is a Tier One partner to the main European and Asian car, truck and motorcycle manufacturers, including Aston Martin, Daimler, Ferrari, General Motors, Honda, Hyundai, Jaguar, Kia, Land Rover Group, Maserati, Mazda, Mitsubishi, Peugeot Citroën Group, Renault-Nissan Group, Subaru, Suzuki, Tesla, Toyota, Volkswagen Group and Volvo Group.

Developing bespoke solutions for both the factory and after-market installation of anti-theft, parking assistance and telematics systems creates efficiencies in the OEM's business and makes Vodafone Automotive part of our customers' unique ability to build market leading products.

Start your journey:

Vodafone Automotive is uniquely positioned to help you to take advantage of innovative services to differentiate your business from the competition and to improve the customer experience.

To find out more about our solutions, please contact your Vodafone Account Manager, or visit vodafone.com/iot or automotive.vodafone.com.

automotive.vodafone.com

¹ Reach Out and Touch the Future: Accenture Connected Vehicle Services - Accenture, 2014

² <http://ec.europa.eu/digital-agenda/en/news/ecall-all-new-cars-april-2018>

³ http://ec.europa.eu/transport/road_safety.