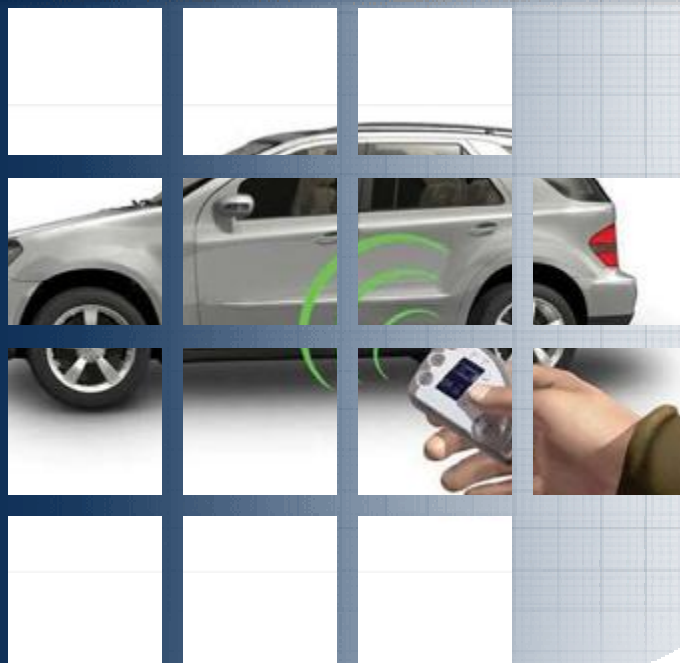


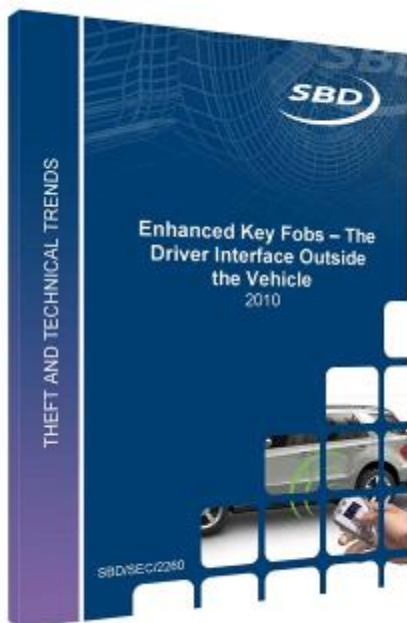
Progressing the development of enhanced key fobs



Suppliers use smartphone applications and developments in display and battery technology to secure a promising future for enhanced key fobs...

Over the past few years, vehicle manufacturers have introduced key fobs that do more than just lock and unlock the vehicle. With the advent of smart key and complex authentication technologies, communication between the key fob and the car has evolved into two-way transmissions.

However, adoption of more complex functions on production vehicle has been very limited due to reluctance from vehicle manufacturers concerned about poor battery life and display functionality. SBD's latest research report entitled, *Enhanced Key Fobs – The Driver Interface Outside the Vehicle* investigates present and future technological developments as well as including specific sections dedicated to supplier concepts and vehicle manufacturers' products.



This report will help you:

- Improve customer experience of key fob usage by understanding the technology available
- Understand the importance of offering enhanced key fobs and what consumers want from the technology
- Recognise the barriers to product adoption and how to overcome them
- Learn competitive features and functionality to develop future product strategy

The purpose of this report is to explain the technologies involved in enhanced key fobs and to reveal the latest developments. The report also addresses the barriers preventing the technology from progressing and how some suppliers are showing methods to overcome them.

For additional information please email jappleby@sbd.co.uk or telephone Juanita on +44 (0) 1908 305101 and she will be happy to deal with your enquiry.



»» Innovations in key fob technology to be realised in 5 years...

The convenience of remote keyless entry is now almost ubiquitous and most drivers expect to be able to operate the locking functions, alarm system and often the power windows or exterior lighting of their vehicle via their RF key fob.

The availability of vehicle data on internal networks and better communications technology that allows data to be transmitted from the car has enabled the potential for the humble key fob to become an enhanced user interface. Drivers could be checking the status of their fuel, tyre pressure, cabin temperature and sending simple operating commands to run the air conditioning, pre-program the navigation system and start the engine. All of these commands and other information has been demonstrated by the leading suppliers and the first steps towards enhanced key fob production have already been made by a number of vehicle manufacturers.

The main barrier towards significant change is the trade-off between battery life and the power requirements of improved displays and communications. The fundamental keyless entry functions must not be affected by drivers using enhanced features and drivers would not accept constant recharging for a device that they are accustomed to using continuously. Existing devices prove that getting data to the key fob is not an issue, but allowing the driver to view it or use it causes concerns.



Suppliers are therefore looking at innovations such as low power displays, dual power supplies or acting only as a gateway module and utilising smartphone applications for display and control. SBD predict that based on the latest advances, drivers will be enjoying significantly enhanced key fob functionality on their vehicle within the next 5 years.

This report looks at the latest vehicle developments from Audi, BMW, GM, VW and Volvo as well as the latest prototype products from Continental, Delphi, Hella, Marquardt and Valeo. It explains the technologies under consideration and the types of functionality that can be expected.

»» ...know what tomorrow brings

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Vehicle to key fob data transfer matrix

Data sent from car to key	Production						Concept (as shown)							
	Audi	BMW	GM remote start	GM data storage	Volkswagen	Volvo	BMW/NXP	Continental 2-way	Continental long range	Delphi 1 st generation	Delphi gateway	Hella	Marquardt	Valeo
Door lock status														
Alarm activated														
Mileage														
Fuel level														
Tyre pressure														
Service data														
VIN (portion or full)														
Key identities														
Lights														
Temperatures														
GPS Location														
Oil level														
Windows open														

The SBD Mission...

... to provide our customers with the knowledge, insight and understanding they need to develop class leading Telematics and Vehicle Security products and improved Cost Of Ownership performance

About the report author...



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Chris graduated from the University of Leicester with a degree in Mechanical Engineering. He is an expert in vehicle security legislation and European insurance requirements. As a senior member of SBD's Security and Cost of Ownership department, Chris is responsible for advising a number of major vehicle manufacturers on their insurance approval processes and vehicle security strategies.

Pricing:

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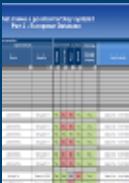
Related Reports



What makes a good smart key system? Part 1 - Customer Needs

This report focuses on system functionality and understanding what customers really want and expect from their smart key systems. Examples of good systems currently available show how these expectations can be met, whilst potential design and functionality weaknesses are also highlighted.

Reference **SBD/SEC/2205**



What makes a good smart key system? Part 2 - European Database

This database provides an up to date picture of the smart key market in Europe. The database lists each system by manufacturer and model, grade availability and option cost where applicable as well as including details of the features of the system illustrated with numerous photographs to ensure a good understanding of the range of solutions currently in use.

Reference **SBD/SEC/2206**



What makes a good smart key system? Part 3 - Technology

This report looks at the current European market for smart key systems, focussing on both the vehicle manufacturer implementation and the suppliers' current and future strategies. It analyses each of the technologies currently available for the four main features of a smart key system; smart unlock, smart lock, smart start and emergency start. For each technology, the report details the benefits and drawbacks using our unique insight.

Reference **SBD/SEC/2207**



A strategic analysis of the market for OE alarm systems in the UK

In this report, SBD has studied the alarm fitment across all UK models and analysed the fitment trends and policies of all the major manufacturers. Accompanied with a free comprehensive database covering alarm features, this report provides you with the knowledge needed to keep up to date with the latest developments.

Reference **SBD/SEC/2180**