

**Partner vs. Competitor?**  
**Cost vs. Functionality?**  
**SBD's solution to the challenge of integrated navigation**



## How should Vehicle Manufacturers and PND suppliers improve integration?

A recent end user survey by SBD, focussing on satisfaction of PNDs found growing concern over the poor level of integration in the car. There is an opportunity to improve on current products to meet consumer demand, sell connectivity solutions and increase customer satisfaction.

**“Success factors for integrating PNDs into the car”** offers valued insight with current market and technical analysis, forecasted trends to 2012 and trusted recommendations on how to improve customer satisfaction in the future.



### ‘Success factors for integrating PNDs into the car’

#### This report will help you to:

- **Understand** the pros and cons of partnering vehicle and portable navigation device manufacturers
- **Gain** insight on customer satisfaction levels of PNDs with exclusive excerpts from the recent SBD customer survey
- **Address** the quality gap between embedded and portable devices
- **Learn** about the ways in which integrated PNDs can compliment other telematics and infotainment services

For additional information, please contact Juanita Appleby by e-mailing [jappleby@sbd.co.uk](mailto:jappleby@sbd.co.uk) or telephone Juanita on +44 (0)1908 305101.

## »» The importance of portability...

This report analyses the current approaches that vehicle manufacturers and PND suppliers are adopting to improve the integration of PNDs in the car, and provides key success factors that will improve customer satisfaction in the future.

### New Navigation Segments:

#### Embedded PNDs

- Offers new opportunities to capitalise on portability of PND
- Challenges relating to quality gap will be difficult to overcome
- Uptake by vehicle manufacturers will therefore be limited

#### Installed cradles (without PND)

- Vehicle manufacturers able to sell low cost integration solution
- Need to shift towards offering universal cradles that support all PNDs
- If vehicle manufacturers can develop universal solutions, market will grow rapidly

#### Installed cradles (with PND)

- Provides short-term quick integration solution
- High cost of bundled solution will keep sales volume low
- Vehicle manufacturers will need to shift to installed cradles w/out PNDs to remain competitive



# »» Table of Contents

## Success factors for integrating PNDs into the car

### 1. Executive summary

- 1.1 Introduction to Bridging the connectivity gap reports
- 1.2 Summary of conclusions
- 1.3 Market forecast

### 2. Market overview

*Vehicle manufacturers have been developing connectivity and integration strategies for portable devices since the introduction of mobile phones into the car during the late 1990s. Whilst many cars now support devices such as mobile phones and portable music players, the integration of PNDs is still at a relatively early stage.*

- 2.1 Introduction
- 2.2 Installed PND cradles
- 2.3 Embedded PND cradles

### 3. Installed cradles on dashboards

*The aim of installing cradles on a dashboard is to improve the integration of PNDs in the car, providing consumers with a number of benefits over stand-alone PNDs .*

- 3.1 Introduction
- 3.2 Understanding customer needs
- 3.3 The cost of integration
- 3.4 Shifting towards universal cradles
- 3.5 Future outlook

### 4. Embedding PNDs in headunits

*The first embedded PND in a headunit was launched by **Toyota** and **TomTom** in 2007, creating a new segment in the navigation market. This approach to navigation has the potential to offer the best of both worlds: the benefits of portability alongside the benefits of integration.*

- 4.1 Introduction
- 4.2 Benefits - The importance of portability
- 4.3 Challenges - Meeting OE quality standards
- 4.4 Future outlook

## LIST OF FIGURES

- Fig. 1 Market forecasts for PND integration solutions
- Fig. 2 PND integration strategies
- Fig. 3 Vehicle manufacturers offering installed solutions
- Fig. 4 Toyota integrated PND
- Fig. 5 Consumer satisfaction with PND integration features
- Fig. 6 Added cost of installed cradle bundles over stand- alone PNDs

# Get an integrated strategy with SBD...

## ...about the report author



### Andrew Hart – Senior ITS and Telematics Specialist

Andrew graduated from the University of Sheffield with a degree in Mechanical Engineering. He is a leading authority in navigation and traffic information, helping vehicle manufacturers and suppliers understand the technical, business and consumer trends in Europe. Andrew sits on a number of international forums, including TISA, and is a notable speaker at leading ITS events in both Europe and Japan.

## Feedback Form

I would like more information on

**“Success factors for integrating PNDs into the car”**

This report is available in unrestricted electronic PDF format.

€1400 (£1100 or \$1750 USD)

Full Name:

E-mail Address:

Phone:

Company Name:

Address:

**Fax:** +44(0)1908 305 106

**Email:** [jappleby@sbd.co.uk](mailto:jappleby@sbd.co.uk)

**Phone SBD:** +44 (0)1908 305 101

## Related reports



### **Portable device integration - strategies for the automotive industry**

Practical recommendations for vehicle manufacturers to bridge the lifecycle gap between the automotive and consumer electronics industries. If adopted, the report's proposals will improve vehicle manufacturers' ability to support the latest portable devices and update this support throughout the vehicle's production life.



### **Digital music trends and their impact on the automotive industry**

An assessment of the growth in new media types, the adapting business models of selling digital music, and the challenges of Digital Rights Management against illegal piracy.



### **Bluetooth in the Car**

- Market trends for integration
- Emerging profiles and features
- Next generation short range technologies
- OE system features database

For more information, please email [jappleby@sbd.co.uk](mailto:jappleby@sbd.co.uk)