



Opening up the telematics and navigation markets for success in China

October 2007



The Authors

Stephen Longden
Flair Yu
Liangxue Chen

Report ref:
SBD/TEL/1560

www.sbd.co.uk
www.sbdjapan.co.jp

SBD

Overview

SBD is an independent company providing specialist consultancy in the design and development of automotive components and systems. The company was founded in the UK in 1995 and has extensive knowledge of the strategic development of vehicle systems. A subsidiary company, SBD ジャパン was set up in Japan in 2006.

Working closely with manufacturers and suppliers, SBD provides consultancy at various levels including:

- Technical Research**
- Strategic Planning**
- Program Management**
- Product Development.**

SBD also provides the industry with detailed market and technical reports on various technologies, market trends and competitor analysis.

The company has helped to develop many successful systems seen in the market today and is continuing to help manufacturers implement the next generation of systems with an emphasis on *Vehicle Security and cost of ownership* and *Vehicle Telematics and ITS*.

For more information, visit www.sbd.co.uk or www.sbdjapan.co.jp.

Table of contents

1. Executive summary	7
1.1 Introduction	7
1.2 Conclusions	7
1.3 Summary of key points	8
1.3.1. Introduction and current status.....	8
1.3.2. Key products and services for the future.....	9
1.3.3. Key stakeholders.....	10
1.3.4. Main obstacles to overcome	11
1.3.5. Future outlook	12
2. Introduction to this report	14
3. Introduction to China.....	15
3.1 Socio-economic background.....	15
3.1.1. Economic development.....	16
3.1.2. Population centres	16
3.2 Road infrastructure	18
3.2.1. Highways network.....	18
3.2.2. Cities	19
3.2.3. Electronic toll collection.....	19
3.3 Vehicle market	19
3.3.1. Vehicle manufacturers	21
3.3.2. Market segments.....	22
3.4 Mobile phone market	23
3.4.1. Mobile phones.....	23
3.4.2. Internet usage	25
3.5 Key points	25
4. Market drivers for telematics and navigation.....	26
4.1 Vehicle crime	26
4.2 Traffic congestion.....	27
4.2.1. Beijing	28
4.2.2. Shanghai.....	28
4.2.3. Guangzhou.....	28
4.3 Changing road network.....	28
4.4 Road safety	29
4.5 New drivers	31
4.6 Major events	31
4.6.1. Olympics	31
4.6.2. World Expo.....	32
4.6.3. Asian Games.....	33
4.7 Government policy	33
4.7.1. 863 Programme	33
4.7.2. ITS Support Programme	33
4.8 Emergency services.....	34
4.9 Environment.....	34
4.10 Key points	35
5. Understanding the end user	36
5.1 Navigation survey	36
5.1.1. Demand.....	36
5.1.2. Embedded navigation vs PNDs	38
5.1.3. Satisfaction.....	40

5.1.4.	Usage.....	41
5.1.5.	Dealer comments.....	43
5.2	Telematics services	45
5.2.1.	Preferences.....	45
5.2.2.	Concerns over quality of local systems.....	47
5.3	Key points	48
6.	Industry stakeholders.....	49
6.1	Local telematics service providers	49
6.1.1.	Shenzhen SEG GPS Scientific Navigations.....	50
6.1.2.	Shenzhen E-eye Che'an Satellite Watch.....	52
6.1.3.	Shenzhen Huaqiang Information Industry.....	52
6.1.4.	Shenzhen Hangsheng Ling Hang Tong.....	53
6.1.5.	Direct Links Group	53
6.1.6.	Beijing Carbase Technology.....	54
6.1.7.	Beijing MeToYou.....	54
6.2	Foreign telematics service providers	55
6.2.1.	ATX/SK Telecom.....	55
6.2.2.	WirelessCar.....	56
6.3	Vehicle manufacturers	56
6.3.1.	Toyota	56
6.3.2.	Honda.....	57
6.3.3.	Shanghai GM	57
6.3.4.	Nissan	57
6.4	Digital map suppliers.....	58
6.4.1.	AutoNavi.....	59
6.4.2.	NavInfo.....	59
6.4.3.	Ritu Changdi	59
6.4.4.	Mapping contracts.....	59
6.5	Mobile network operators.....	61
6.5.1.	China Mobile	61
6.5.2.	China Unicom.....	62
6.5.3.	China Netcom	63
6.6	Roadside assistance providers (motoring clubs)	63
6.6.1.	Continental Automobile Association.....	63
6.6.2.	Auto Association of China	63
6.6.3.	Shanghai Yongda Auto Club.....	63
6.6.4.	United Automobile Association	63
6.7	Insurance companies.....	63
6.8	Electronics manufacturers	64
6.8.1.	Navigation systems.....	64
6.8.2.	PNDs.....	65
6.9	Government research projects.....	66
6.10	Key points	67
7.	Telematics infrastructure	68
7.1	Data communications	68
7.1.1.	Cellular networks.....	68
7.1.2.	Broadcast channels.....	69
7.2	Traffic information	73
7.2.1.	Traffic collection	73
7.2.2.	Distribution of traffic information.....	75
7.3	Positioning	77
7.3.1.	Bei-Dou	78

7.3.2.	Galileo	78
7.4	Regulations and standards	79
7.4.1.	Licensing	79
7.4.2.	Licensing of traffic services	80
7.4.3.	Standards	80
7.5	Key points	81
8.	Navigation market trends	82
8.1	Overall market analysis	82
8.2	Embedded OE systems	83
8.3	Portable navigation devices	84
8.4	Mobile phone navigation	84
8.5	Digital map updates	85
8.6	Key points	86
9.	Telematics market trends	87
9.1	Market analysis	87
9.2	Shift to OE telematics	88
9.3	Key points	89

List of figures

Figure 1. Key players for traffic and safety & security in China	11
Figure 2. Forecast navigation systems sales (2010)	13
Figure 3. The structure of this report	14
Figure 4. Map of Chinese provinces	15
Figure 5. Top five exporting Chinese regions	17
Figure 6. Map of Guangdong region	17
Figure 7. Planned national highway network	18
Figure 8. National car ownership levels	20
Figure 9. Growth in vehicle ownership	20
Figure 10. Car ownership level by regions	21
Figure 11. Top 10 vehicle brands in China	22
Figure 12. Car market share by segment (Jan. 2007)	23
Figure 13. Mobile phone ownership	24
Figure 14. Broadband Internet subscribers	25
Figure 15. Global car theft rates	26
Figure 16. Car theft in major cities (2006)	27
Figure 17. Road deaths in China	29
Figure 18. Road fatalities against population	29
Figure 19. Navigation ownership by respondents	36
Figure 20. Interest in navigation for next new car	37
Figure 21. Reasons for not buying navigation for current car	38
Figure 22. Navigation purchase timescale for non-owners that now want a navigation system	38
Figure 23. Preference for navigation system type	39
Figure 24. Navigation system type preferences by city	39
Figure 25. Navigation user satisfaction rates	40
Figure 26. Navigation user satisfaction and dissatisfaction factors	41
Figure 27. Consumer use of navigation systems	42
Figure 28. Reasons for using navigation system	42
Figure 29. Verbatim navigation HMI comments by brand	44
Figure 30. Consumer awareness of telematics services	45
Figure 31. Consumer telematics service preferences	46
Figure 32. Customer needs for telematics services in China, Europe and U.S.	47
Figure 33. Telematics service provider market share	49
Figure 34. Overview of leading local telematics service providers (2006)	51
Figure 35. Embedded navigation map suppliers	60
Figure 36. PND map suppliers	60
Figure 37. Internet map suppliers	61
Figure 38. Links between insurance companies and telematics partners	64
Figure 39. China Mobile GSM network coverage	68
Figure 40. Consumer attitudes to mobile TV	72
Figure 41. Sootu.com map of traffic information for Beijing	77
Figure 42. Comparison of satellite-based positioning systems	78
Figure 43. Chinese navigation market	82
Figure 44. Navigation device market share (2010)	83
Figure 45. Embedded navigation system sales growth	84
Figure 46. Forecast sales and usage of GPS-enabled mobile phones	85
Figure 47. Source of updated digital map	86
Figure 48. Telematics unit sales	87
Figure 49. Telematics devices and services sales	88

1. Executive summary

1.1 Introduction

本レポートでは、中国に於けるOEテレマティクスとカーナビの市場拡大促進要因について詳しく解説する。これは以下の多様な主要因をもとに、市場の全体像を描くことを行った。

- エンドユーザーのニーズ
- 業界のキープレイヤー
- 市場の傾向
- 自動車メーカーの計画および活動
- 国内基盤の整備状況
- 政府の政治的な意思

こういった要因をまとめあげ、2010年までに中国のテレマティクスとカーナビの市場がどのくらいの規模になるか、事実に基づいた現実的な概算を行った。

1.2 Conclusions

中国には、カーナビと交通情報システムに対する明らかなニーズがあることがわかった。

- **機会**：中国のカーナビ市場は、大幅成長期に突入した。これは車の所有率が急増し、新しい道路、店舗、その他の目的地の建設が急速に進められていることが原因である。2010年には、OE埋め込み型カーナビ装置がXX万台、PND（携帯型ナビ専用端末）がXX万台販売されると予想される。
- **脅威**：大都市の大渋滞を回避するためには、交通情報放送サービスを至急開始する必要がある。デジタル地図を提供する会社も、道路インフラの変化に合わせて、地図を常に最新版に更新しておかなくてはならない。

テレマティクスサービスが売れる可能性のある分野もあるが、当面小規模に留まるであろう。

- **機会**：中国の車犯罪件数が増加していること、また公共機関による交通事故への対応に信頼性が欠けることから、盗難車追跡と緊急援助サービスに対する関心が高まりを見せている。OEシステムの市場は、XXXXやXXXXなど外国メーカーが市場参入した後、2010年時点でXXXX台規模に達すると予測される。
- **脅威**：中国の消費者が、OEテレマティクス・システムの購入をためらう一番の要因は価格であろう。また、自動車メーカーも、中国の豊かな都市と、貧しい田舎の両方で、一貫性のあるサービス水準を保つのに苦労すると思われる。

This report provides an insight into the key factors that are driving the Original Equipment (OE) telematics and navigation markets in China. This is achieved by building a complete picture of the market based on a range of key factors:

- End user needs
- Key industry players
- Market trends
- Vehicle manufacturers' plans and activities
- The readiness of the country's infrastructure
- The political will of the Government

These factors are then combined to generate realistic fact-based estimates for the size of the telematics and navigation markets in China up to 2010.

SBD has identified a clear need for navigation and traffic information systems in China:

- **Opportunities** ~ The navigation market in China is set for a period of significant growth, driven by a rapid increase in car ownership and the construction of new roads, shops and other destinations. Sales of XX million OE embedded navigation systems and XX million PNDs are forecast for 2010.
- **Threats** ~ There is an urgent need for broadcast traffic services to start soon if severe congestion is to be avoided in the major cities. The digital mapping companies must also ensure that their maps are kept up to date with the changing road infrastructure.

SBD has also identified a potential market for telematics services but this is expected to remain small for the foreseeable future:

- **Opportunities** ~ The increasing levels of car crime in China and the unreliable response to traffic accidents by its public authorities have generated a growing interest in stolen vehicle tracking and emergency assistance services. The market for OE systems is forecast to reach XXXX in 2010 following the entry of foreign manufacturers such as XXXX and XXXX.
- **Threats** ~ Cost will be the main factor that deters Chinese consumers from purchasing OE telematics systems. Vehicle manufacturers will also struggle to achieve a consistent level of service across China's wealthy cities and its poorer rural areas.