



XLOCATE

Location-Based Services

LBS is dead, long live LBS...

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- 34 Now playing
- 5 Coming attractions
- 15 In The Pipeline



LBS is dead

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LBS

as defined and envisioned over the last ten years

will disappear as a separate category

- ✘ LBS is re-emerging from the Device Side
 - Stand-alone “LBS” on devices with full-featured OS ...
 - ...receiving **Connected Services** that are greatly different than yesterday’s LBS WVAS concepts
- ✘ Server Side vendors: Earnings warning!
 - Devices sell in a different universe of brand acceptance
 - Devices need a different expertise & codebase
- ✘ “LBS” will be delivered as bundled sub-functions
 - Devices
 - Web Portals

devices are king

X Devices will continue to grow in power, drop in cost

▪ **Proliferation & Cross-Pollination**

- Handset, Smartphone, MP4, camera, PND, iPod... next?

▪ **One Consumer, Many Devices**

- Power adapter cross-compatibility & powered cable interfaces
- Overlapping functionalities are ok

X Other factors

- **GPS in every Device (or optional cable/bluetooth available)**
- **General web interfaces are superior to WAP and Kjava**
- **Consumers prefer a one-time purchase**
- **Vendors prefer the one-time business model**

China at the forefront

- ✘ Top device maker & auto growth market
 - **300 PND manufacturers in China (essentially all)**
 - **77M vehicles in use, growing at 16% CAGR through 2011**
- ✘ China Mobile monopoly restricting WVAS
 - **Slow to install the latest wireless data technology**
 - **Restrictions on competitive WVAS services**
- ✘ Global conclusions highly relevant here: A recent deep China market study
 - **A large global LBS vendor**
 - **A top LBS service provider in an advanced telecom WVAS market**
 - **A top China telecom market research company**
- ✘ This is hot news: An emerging “insider” thought trend of the last 2-3 years
 - **Only top brands with a device focus are profitable**
 - **(The other vendors didn’t do the math)**

LBS by category:

POI search

- **Google and other portals will dominate**

Community apps (e.g. Buddy Finder)

- **Obstacles to consumer uptake**
 - Government privacy regulations
 - Mobile operators might block outside services
- **Not a separate category**
 - Existing community portals (e.g. QQ and FaceBook)

Traffic Information

- **An add-on to “News, Weather, Sports”**
 - Free services, advertising model

Route Planning & Navigation

▪ **Stand-alone Map + Software**

- Device-based Nav dominates the “LBS” market (by revenue)
- >20M PNDs to be sold in 2007; double for 2008
- Auto unit volume is higher, and higher margin (but lower growth)
- Smartphone unit volume is highest, and highest growth for Nav

▪ **Connected Services are Key**

- **PND & Smartphone market: Product Differentiation**
 - Traffic feed, map updates, rich POI search
 - IVR integration, with human call center support
- **Automotive market: CRM**
 - “Automotive Entertainment System”
 - Navigation + ERS (Emergency Roadside Services)

other trends

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X PND evolution

- **Multi-functional**
- **Mobile entertainment**
- **Business “travel-mate” computer**
- **Smartphone “big brother” companion device**

X Advertising model

- **The revenue wild-card for Connected Services**

X Operator-billed WVAS: Less Than Expected


- **Free services (wireless advertising)**
- **“Lifetime” licensing, bundled with the handset**
- **Credit card one-time web store “lifetime” subscription**

LBS positioning systems

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- ❌ Device-side conventional GPS will dominate
 - **Operator-billed network-side positioning: Dead**
 - **Device-side evolution**
 - Improved GPS accuracy & TTFF (time-to-first-fix)
 - Subscribers will not pay, because they don't need to
 - **(OK, not totally dead)**
 - **Police, Emergency, and Surveillance**
 - **A different segment from Consumer LBS**

the bottom line

- ✘ LBS becomes a bundled sub-function of
 - **Mobile Devices (Navigation)**
 - **Web Portals (POI Search & Community)**
- ✘ Operator role devolve to transport level
 - **Why buy VAS from your mobile operator?**
 - Digital radio broadcast (DAB & DMB); Wi-Fi & WiMAX; Bluetooth or Cable (sync); Use a competitive operator for your data service
 - **Free advertising-supported services will rise**
- ✘ Market Picks
 - **Device OEMs: Strong Buy** 
 - **Telecom operators: Strong Sell** 