



EuroRoadS Workshop

Market Analysis (WP 4)

15 September 2004

Objectives

- Analyse business environment
 - market models: suppliers, users/clients
 - road database application analysis
 - future outlook
- Cost-benefit analysis
- Business case



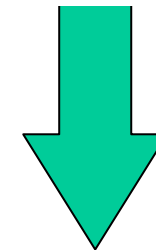
Market players

- Survey agencies
- Public authorities/agencies
- Content providers
- Map database supplier
- Application developer & supplier
- Vehicle system supplier
- Vehicle manufacturer
- PDA manufacture & supply
- Service providers, operators

Supplier



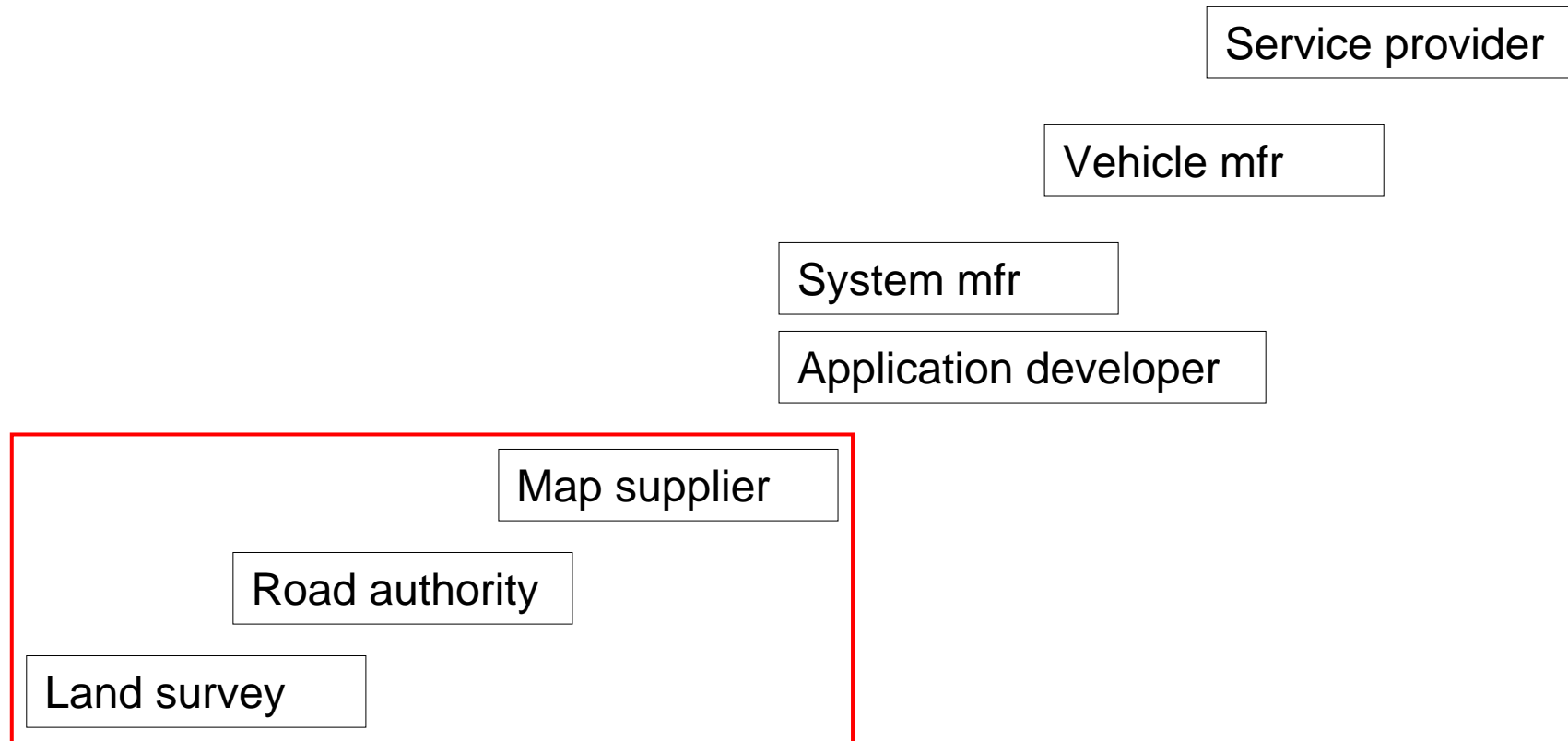
Client



End user



Maps for roads: the market model





- Case studies for expected and future applications
 - Applications
 - Navigation (on-board, off-board, hybrid)
 - ADAS (speed alert, curve speed warning, lane keeping...)
 - Charging & tolling
 - Logistics, fleet management
 - Road maintenance, traffic management
 - Future needs for maps
 - Future needs for exchange & access



Market outlook

- navigation: main application
 - 20%/year growth for in-vehicle: 8m total
 - cost falling rapidly: below € 1000
 - PDA+navigation growth: 20%+/year
 - off-board navigation: future unsure?
 - CD-ROM → DVD: all-Europe coverage
 - link to traffic information: historic & dynamic
 - need to resolve future requirements for multi-purpose on-board map



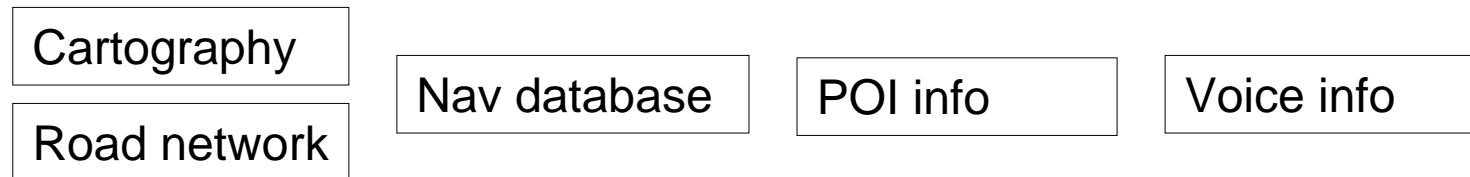
Market drivers

- Application outlook
 - **Speed alert:** car mfrs. developing, avoid cameras!
 - **Tolling:** much interest, awaiting experience of German deployment early 2005; deployment by regulation
 - **Commercial/logistics:** steady growth, depends on communication costs & tolling deployment, standards
 - **Road administration:** limited demand expected for European dataset, possible increase if datasets easier to access, products less expensive
 - **ADAS:** outlook uncertain; costly to enhance map - what business model? demand may increase with access to on-board map

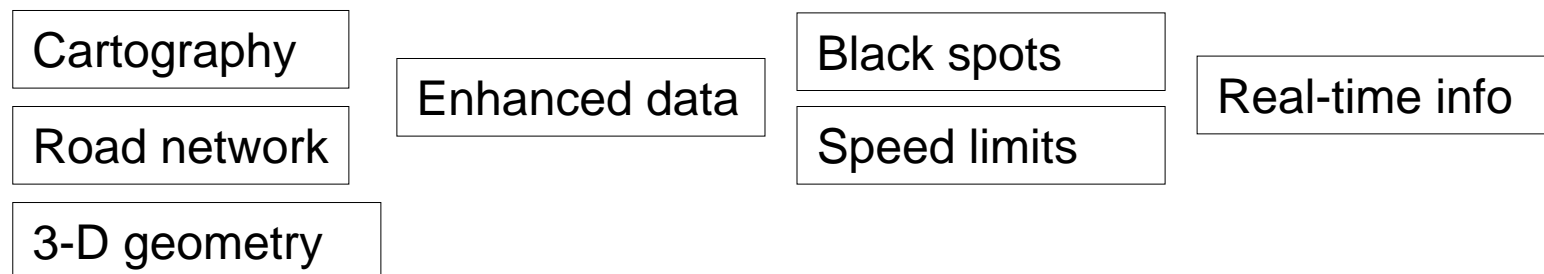


Application models

Product model - navigation



Product model - ADAS



Market drivers

- Application requirements
 - Need for “official”/public attribute data (e.g. speed limit, tolling zone, accident statistics)
 - Essential: guarantee of timeliness, accuracy; certification
 - Database services: update notification; online access to database for mobile users
 - New data types: e.g. for heavy vehicles, 3-D geometry & features, risk index

Open issues

- How to define a future market model?
 - Who is competing with whom? Who is selling to whom?
 - Where is public sector / private sector boundary?
- Demand for a future pan-European road data infrastructure for public-sector data? for data services?
- How/when will the vehicle & supplier industry converge on single-map in-vehicle solutions?
- Outlook for navigation applications for mobile phones?
- Business & pricing model for hand-held and Internet-based applications?