Alcatel Infomatics Vision

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CTO

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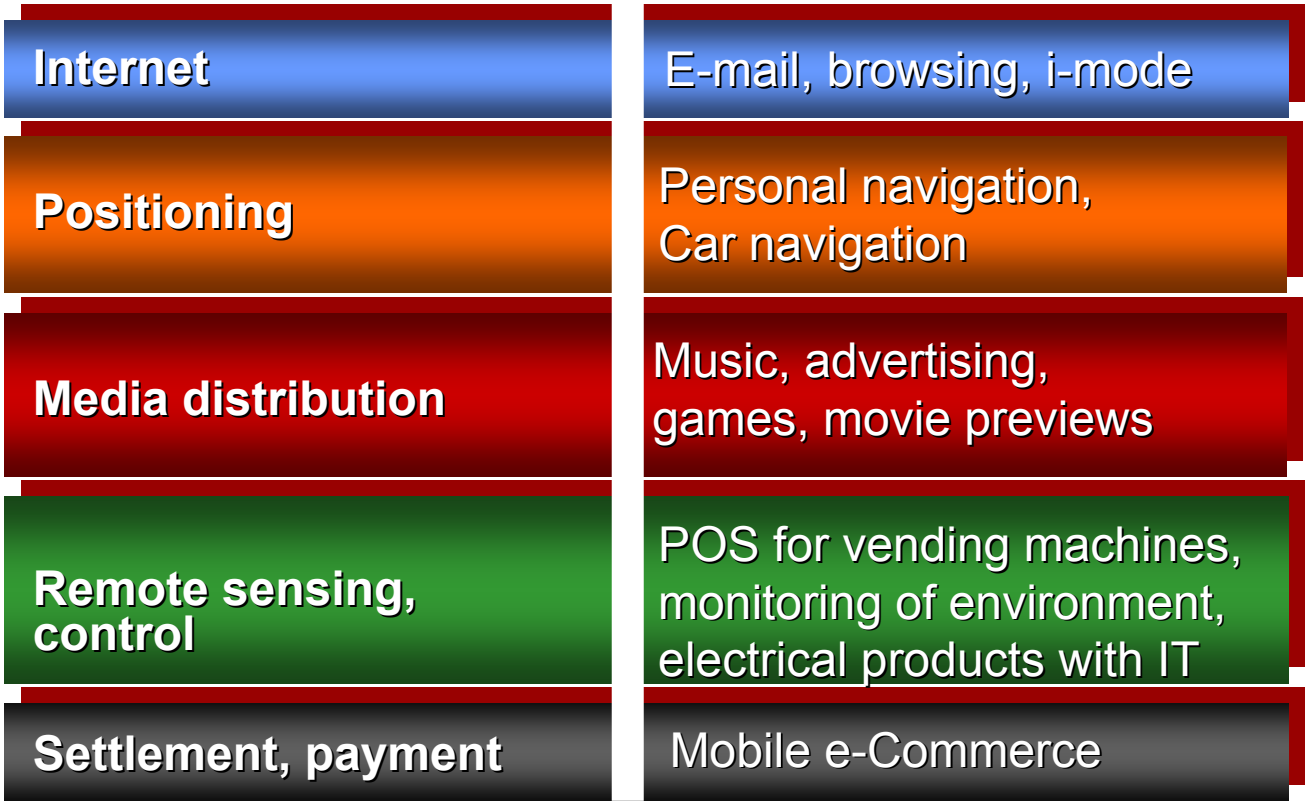
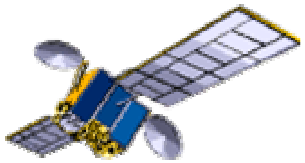
Alcatel Infomatics Vision:
From 3G mobile multimedia services and beyond



Innovative Vehicle: Universal telecom platform

Universal telecom platform inside the car for communication between the car (voice,data) and the outside



GSM
GPRS
UMTS

Security services: emergency, police

Web

Public network

Automotive diagnostic center

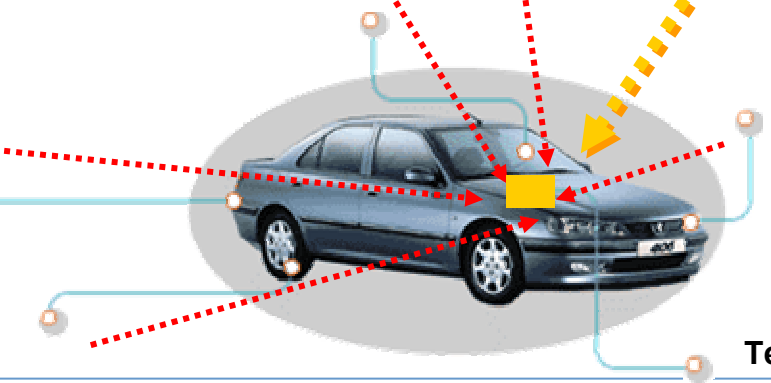
Peugeot/Citroën customer center

Navigation with traffic and Point of interest

Other applications

Positionning

Voice and data from conductor or passenger

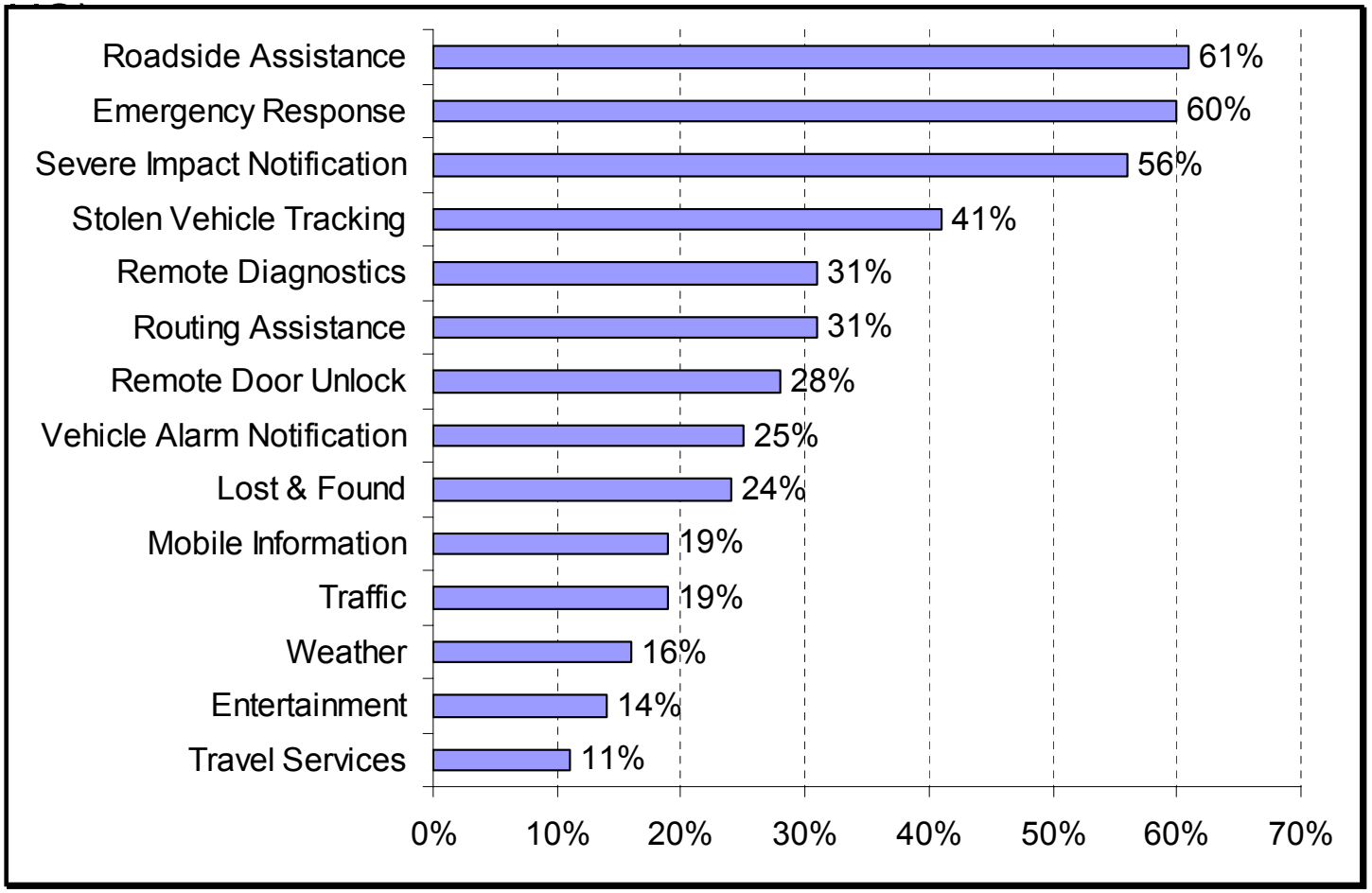


Technical Information from the car

ALCATEL

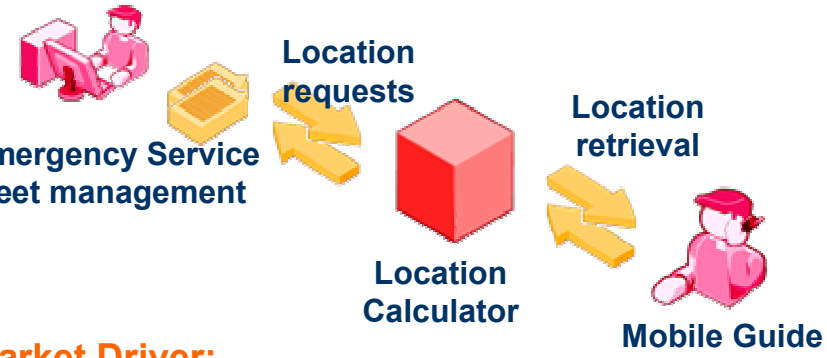
Driving Forces:
Towards Telematics Services

> Purchase Interest of Consumers for TM services (according to ATX,



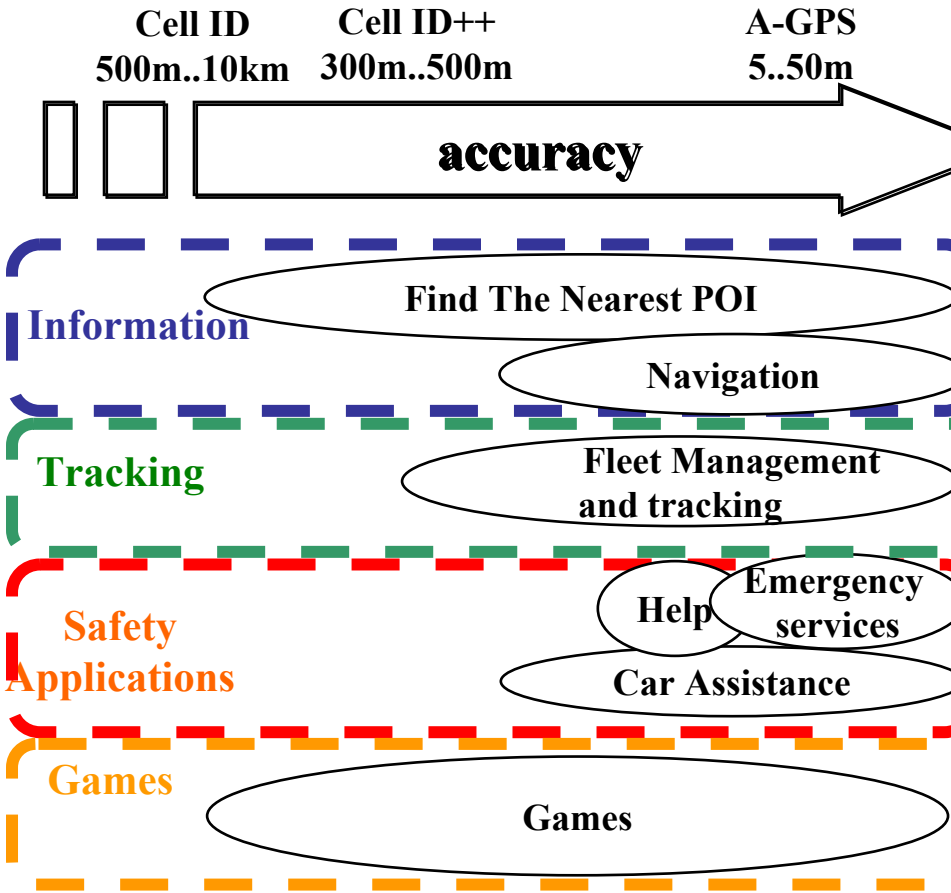
Comment: Ranking reflects road/traffic structure; might be different in Europe and AsiaPac compared t US

Location Based Solutions: Overview



arket Driver:

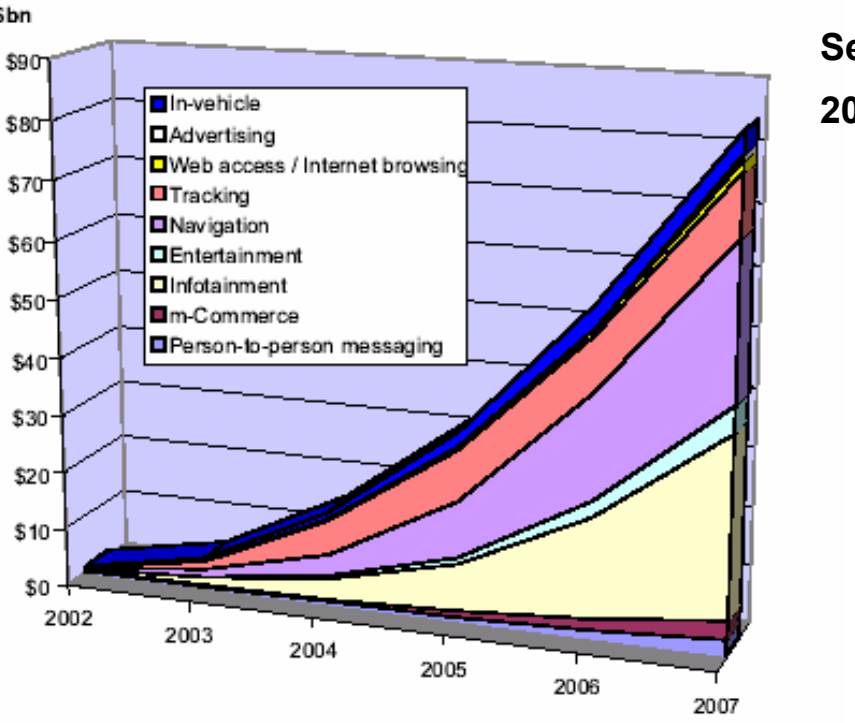
egal requirements for launching
calized 911/112 emergency services
JS and Western Europe)



Markets:
LBS revenues for consumer and business users

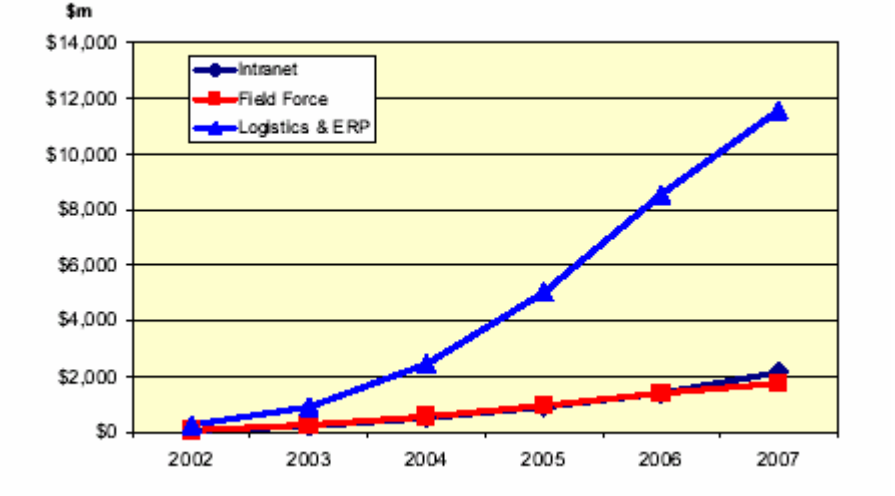
Consumer LBS Revenues ($bn), by Application

2002-2007



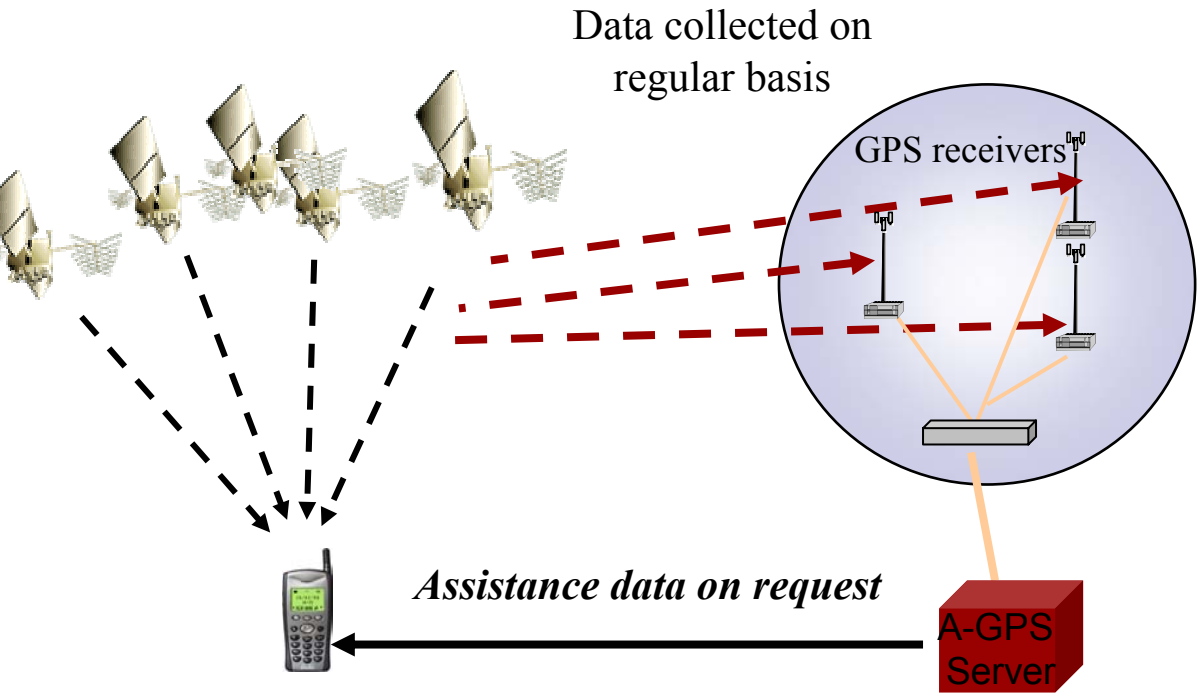
Selected Business LBS Revenues ($m), by Application

2002-2007



Source: ARC Group

Assisted GPS:
How does A-GPS work ?



- The A-GPS server receives first a rough estimation of the MS location
- The A-GPS server then sends to the MS assistance data indicating which GPS satellites are in view
- The A-GPS terminal uses the GPS information and forwards the pseudorange information to the A-GPS server
- The A-GPS server then calculates the final position of the mobile handset in terms of latitude, longitude and altitude

Location based services: "Guardian Angel"

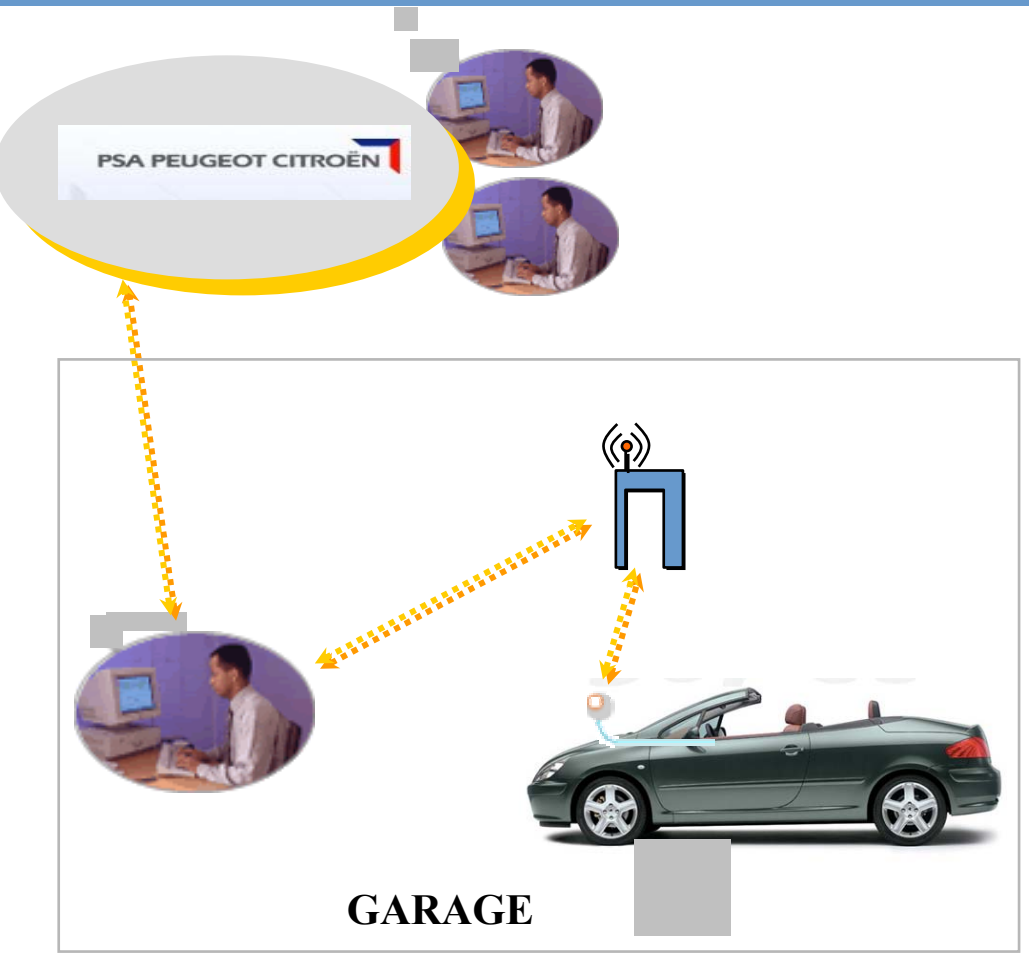
- Parent defines the route or zone, as well as the period of time corresponding to her child's activity (example: walking home from school, or walking to and from the park)
- The service tracks the route and time and notifies parents by SMS if child deviates too much in space or time

Works with today's telephones on today's networks, with a rapid-launch SIM-based application.

A-GPS Handsets

- A-GPS requires modifications to handsets
  - A $5-$10 material cost per handset
  - Multiple handset vendors have implemented A-GPS into CDMA handsets
  - Multiple handset vendors are working with SnapTrack to implement A-GPS into GSM handsets
- Public announcements on commercial handsets: Motorola, NEC and Siemens
- Further handset manufacturers will be announcing products in 2004

RFID:
Tightening the customer relationship



- Central applications:
  - Monitor ownership changes
    - 2nd-hand car market
  - Campaign to recall cars
- Improve garage efficiency
  - Spare parts follow-up

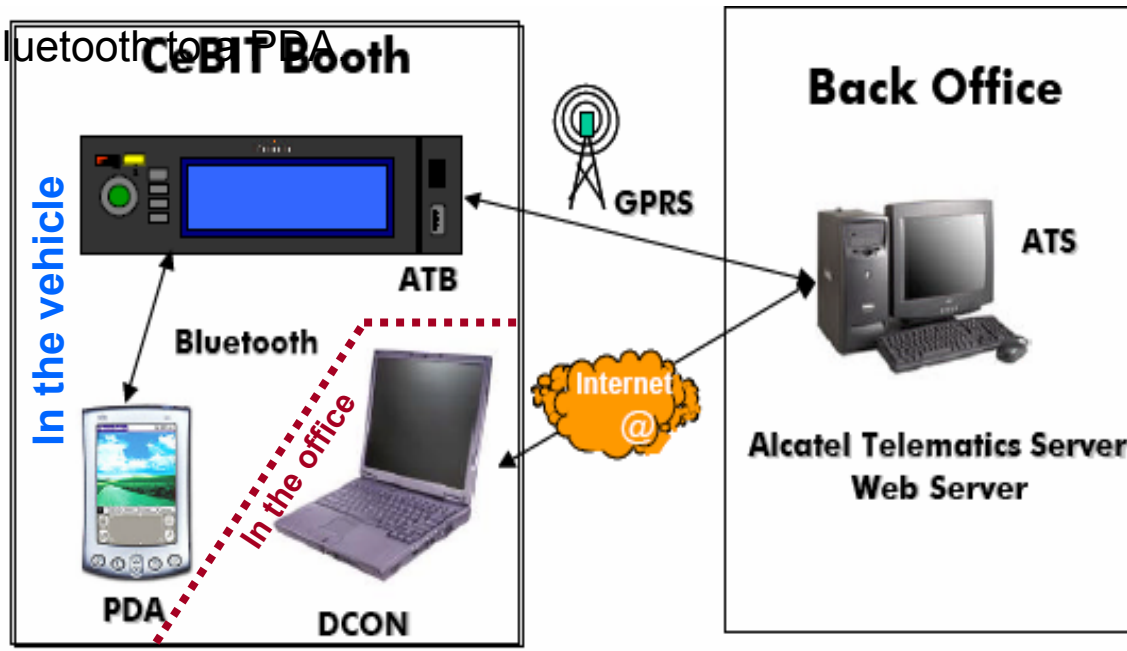
Alcatel Telematics: Solution Demo at CeBit 2004

- **Service Installation**:
  download of new service module via the telecom network to the Alcatel Telematics Box (ATB)

- **Bill of Lading** (BoL, Freight Bill):
  Transmission from the dispatcher's console (DCON) to the Alcatel Telematics Server (ATS) and on to the Alcatel Telematics Box (ATB). The ATB notifies the driver of the new message.
  The BoL can be transmitted via Bluetooth to a PDA.

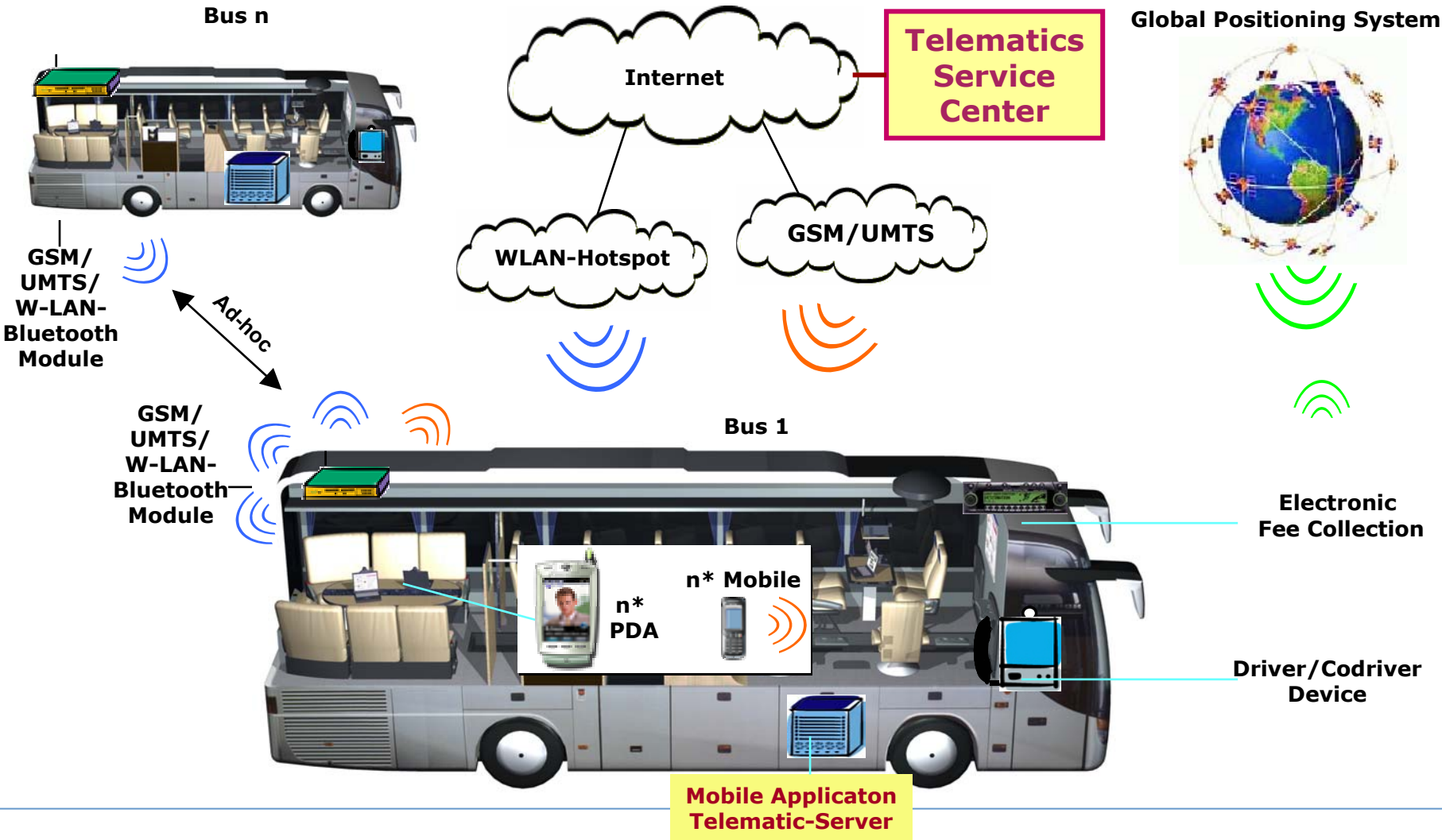
- **Freight identification**:
  the bar code on a parcel is scanned by a reader, transmitted to the ATB via Bluetooth, shown on the display, and forwarded to the dispatcher.

- **Fuel Meter Control**:
  Example for vehicle information retrieval from the CAN bus to the ATB.



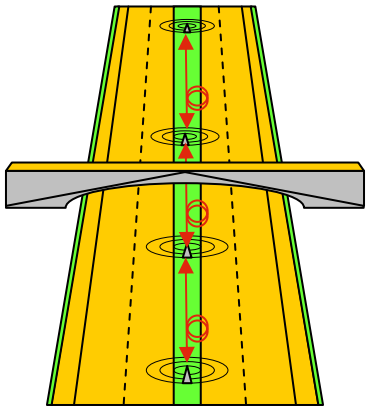
Source: Business Development, Intranet

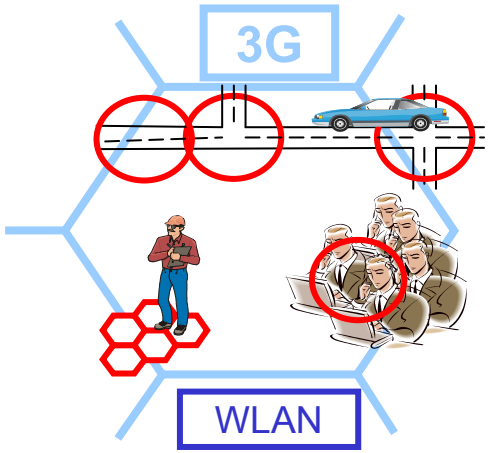
Passenger Information System: Principle and applications



Supporting Project WIGWAM: (Wireless Gigabit W. Adv. Multimedia Support)

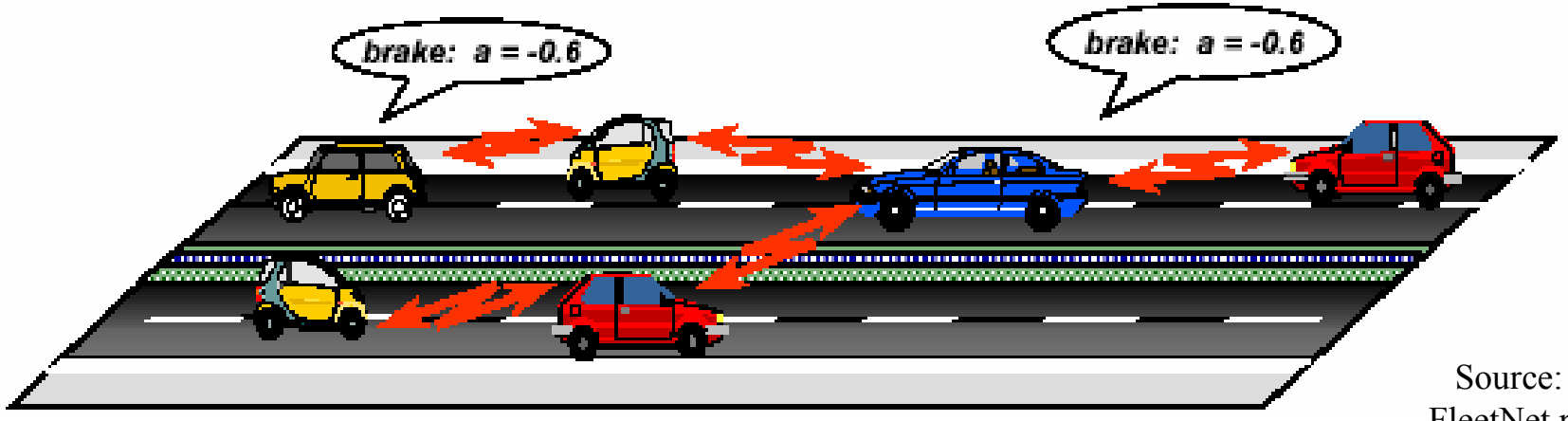
- Targets:
  - 1Gb/s on the air for e.g. multimedia contents and realtime applications
  - seamless integration of new high data rate short range air interface into beyond 3G
  - heterogeneous network for high speed public access to e.g. multimedia contents infrastructure
  - top-class self-organizing WLAN with Multihop-functionality
  - in focus: high speed up to 500 km/h
- Partners: Alcatel R&I RBN, Philips, Nokia, Siemens, Infineon, Daimler Chrysler, EADS-RACOMS, IHP, TU Dresden, Uni Erlangen, Uni Karlsruhe, ..
- Sponsor: BMBF





Car-to-Car Communication: Wireless ad-hoc networks

- Example: Safety improvement by Car-to-Car Communication
  - principle: ad-hoc networking
  - relaying sensor data
  - position dependent adressing
  - Potential applications:
    - transmission of emergency braking to neighbouring cars
    - distribution of traffic jam info to approaching cars



Source: DC/ FleetNet project

Way To The Future:
Additional Telematics service ideas

>Insurance service support

- black box for vehicle and personal data recording (tarif adaptation)

- example: „Pay As You Drive" pilot system (5000 users) with UK car insurance company **Norwich Union**, where **IBM** partnered with Celestica Ltd, QNX Software Systems Ltd and Motorola Inc.
A lower mileage, and driving outside rush hour times or city centre locations might incur lower charges. Norwich Union's research discovered that **nine out of ten motorists supported the pay as you go concept**

>Electronic Fee Collection (EFC)

- Streets, Tunnels, city centers, parking garage, etc
- Example: City of London: Congestion charging –
  £5/day Rev 2003/2004: ~£100 million

Way To The Future:
Additional Telematics service ideas (ctd)

- **Parking support**
  - where is a free parking lot?
  - pay per parking (automatic money transfer)
- **Driver and car authentication**
- **Identifying stolen cars**
- **Notification on approaching Emergency/Police cars**
- **Software download to vehicles**
- **Display of the present speed limit**
- **Alert on wrong driving direction**
- **Ticket sale and event support**

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