GRUPPO TELECOM ITALIA

Workshop on Business Models & Business Cases for Cooperative Systems

Brussels, 29 June 2007 – ERTICO

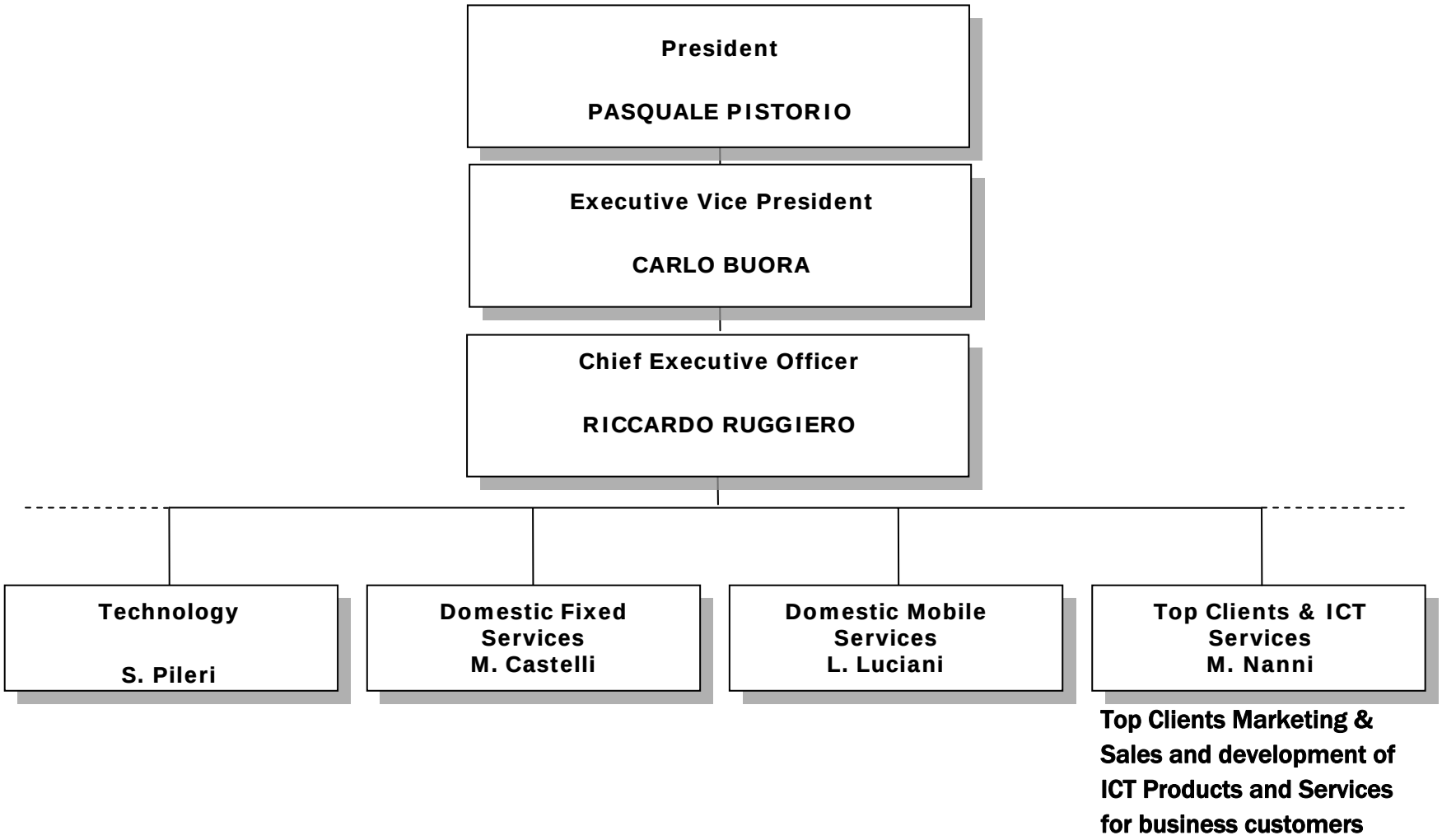
Telecom Italia approach to ITS Market

| Marco Annoni | IT Project Innovation |

Presentation Outline

- Market Overview and Telecom Italia Approach to ITS
- Focus on Services – Infomobility
- Focus on Services – Vehicle Tracking Systems & PAYD
- A Success Story – FIAT Group joint “Blue&Me” Project

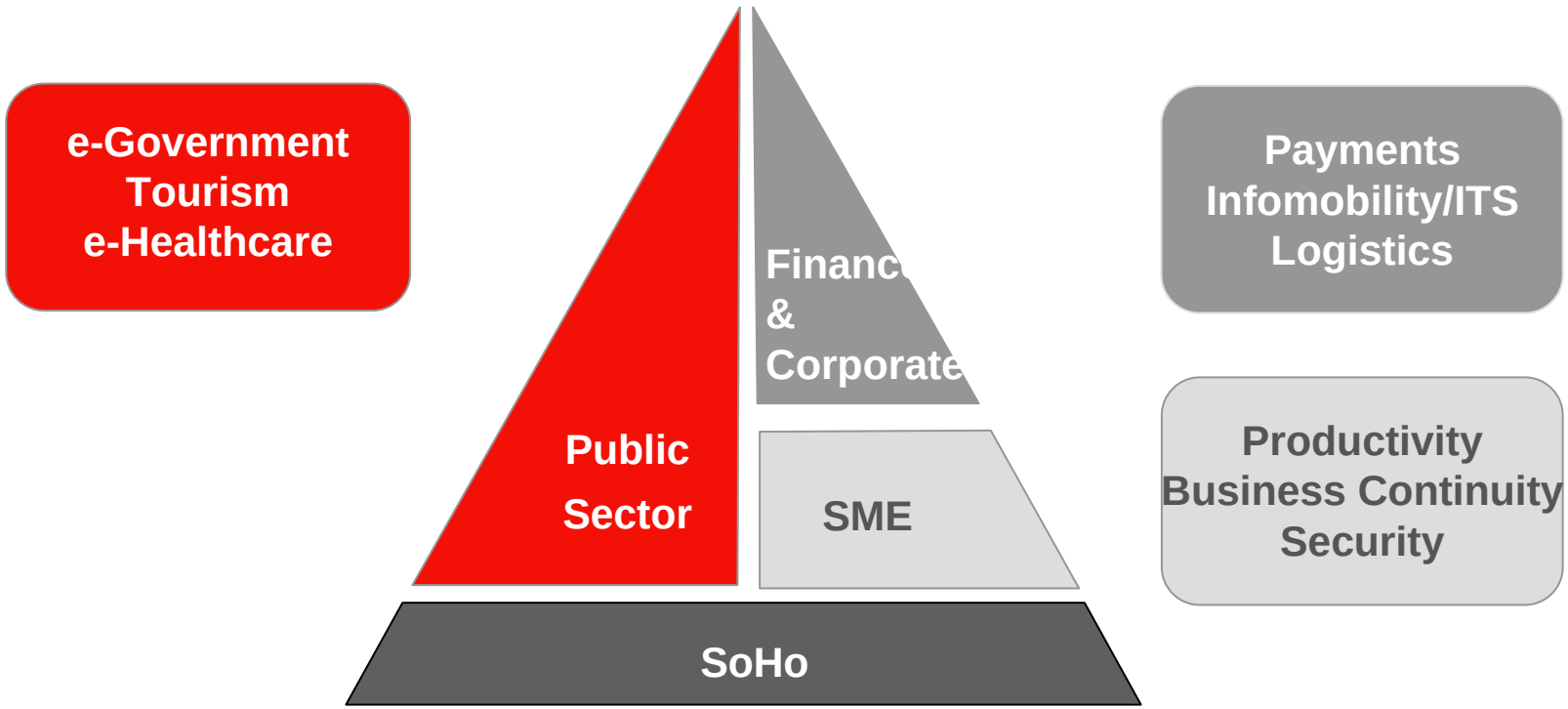
Organization Chart of the Telecom Italia Group



ICT Services - Focus on Vertical Markets

Telecom Italia is developing a specific approach to each target segment with different

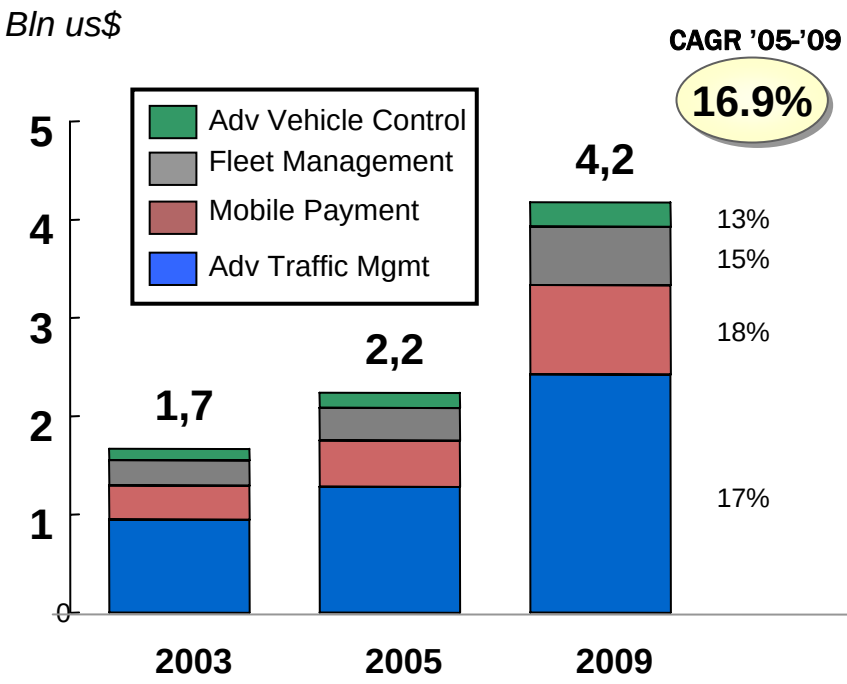
- **business models and go-to-market strategies**
- **IT platforms dedicated** *to specific segment needs*
- **portfolio offers stemming from each IT platform**



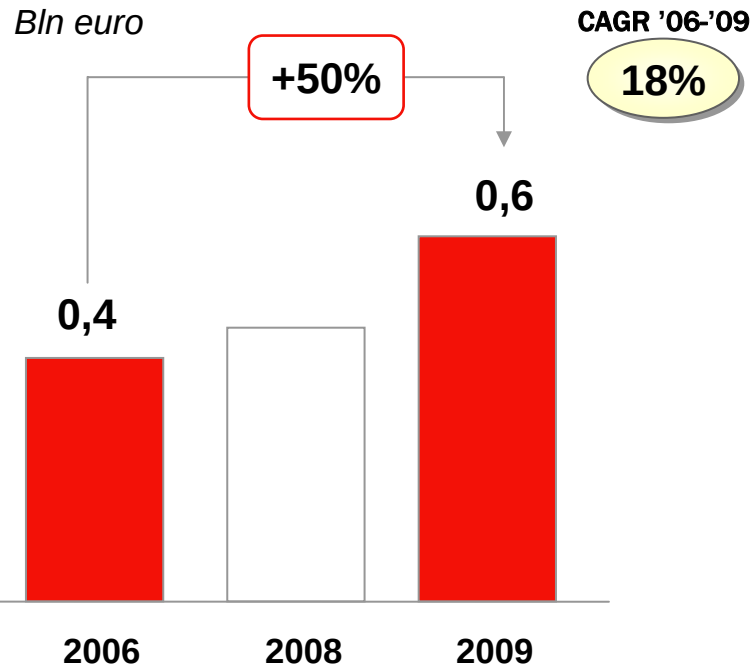
Focus on the Intelligent Transportation Systems (ITS) opportunity

The market for ITS solutions in Italy was worth €366Mln in 2006 and we expect it to grow at 18% rate over the next years, over 4 development lines

ITS Market in Europe (2003-2009)
Breakdown by Service Family



ITS Market in Italy (2006-2009)



Source: Global Industry Analysts

The Need for Intelligent Transportation Systems (ITS)

The ITS market can be viewed and approached by addressing the needs of three different client segments, which span from consumers to businesses of every size and to local government companies...

Private & Company Vehicles

- **B2B and B2B2C products and services for consumers and company car fleets**:
  - Vehicle tracking and recovery solutions for the Motor Insurance Industry (e.g. car telematics and location-based services to support cost effective insurance schemes and Pay As You Drive – PAYD – business models)
  - Car navigation systems and infomobility solutions, i.e. availability of in-car real-time georeferenced information
  - Infotainment services, combining information with mobile entertainment

Intelligent Transportation Systems (ITS)

Transport & Logistics

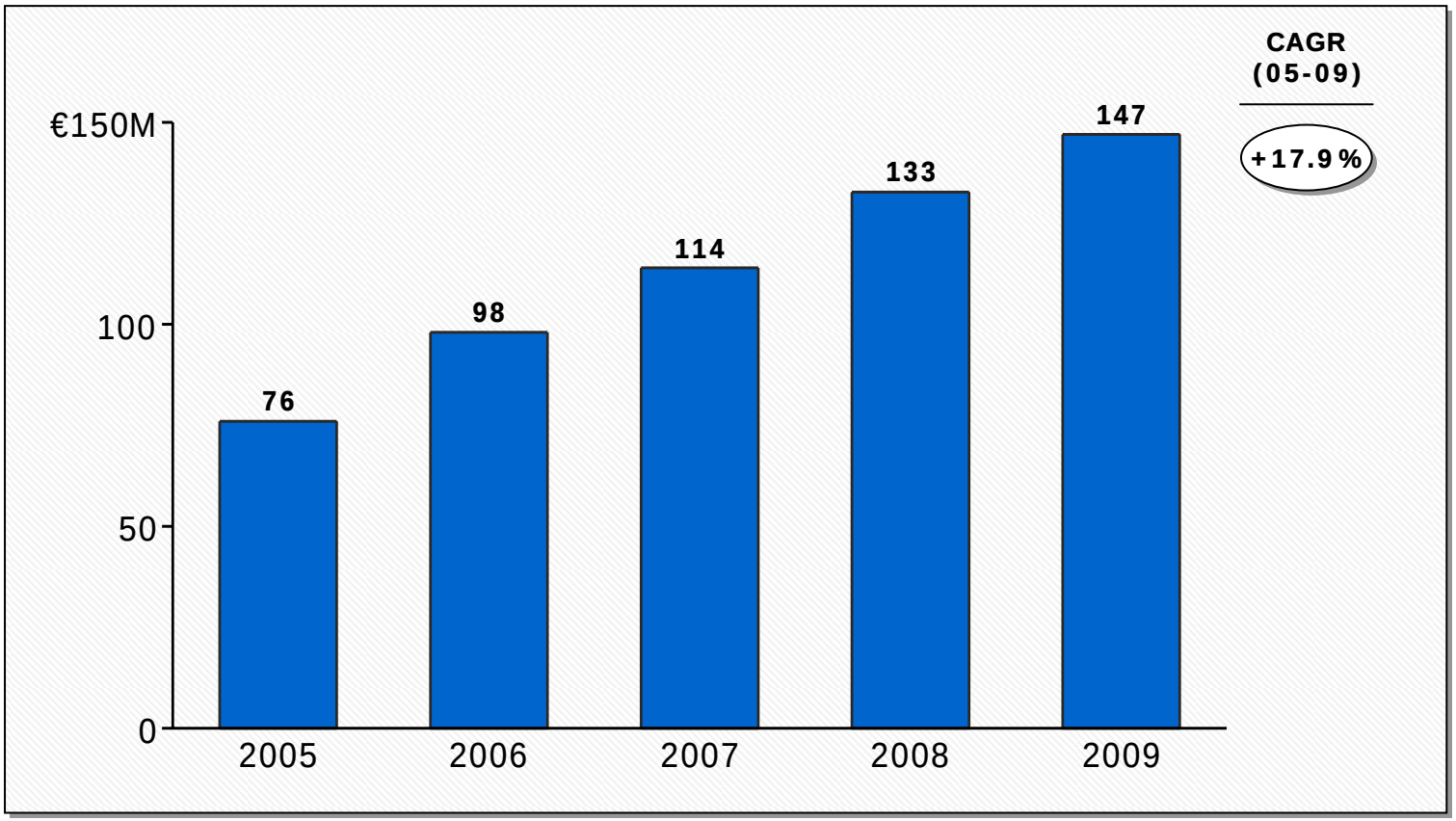
- **Standard and bespoke services for business fleet management in the Transport & Logistics space**:
  - Commercial fleet management (vehicle tracking, real-time routing, operations support systems, etc)
  - Field management services (fleet and workforce management)
  - Public transportation telematics and end-to-end ITS solutions

Local Government/Agencies

- **ICT services for local government**, focussed on parking space optimization and dynamic road infrastructure management
- **Mobile Payment – e-ticketing and other mobile solutions for the Transport Industry** (e.g. road charging and mobile toll collection systems)

Advanced Vehicle Control Systems Market in Italy

... driven also by the AVCS service line which was worth €98Mln in 2006 and is expected to grow at the same pace of the overall national ITS market (17.9% CAGR, €147Mln in 2009).



Source: Ministero delle Infrastrutture e dei Trasporti, 2005

Mission and Market Offer

*TI operates in the ITS market by means of an end-to-end business model that effectively puts together **car telematics** and **wireless network assets** for real-time communications with **centralized service centres**, integrated with **partners and third parties** in order to deliver joint services.*

Mission in the Transport Industry

Develop a new breed of products and services, leveraging **wireless / wired network capabilities and assets** and offering **"Net Centric" ICT solutions** to the market

Actively contribute to ICT and telematics adoption on a national and local basis, **working with partners to deliver innovative services**:

- **Real-time and on-demand communications between vehicles, users and service centres** (e.g. integrated vehicle tracking/diagnostics, user self care, customer services)
- **Vertical operations support systems and business processes** to enable innovative services delivered together with partners, according to **B2B and B2B2C models**

ITS Market Offer – Key Elements

Intelligent Transportation Systems (ITS)

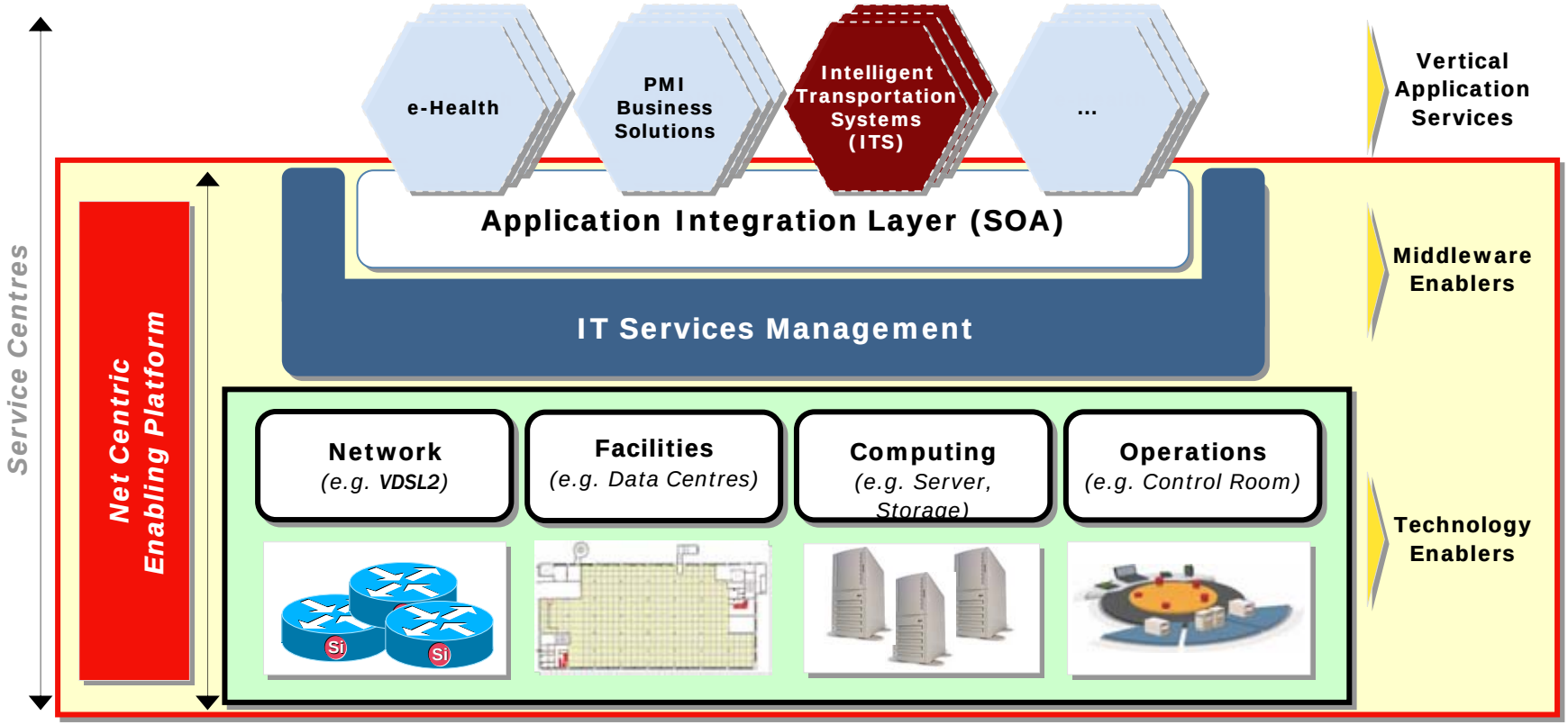
On-Board Units (OBU's)
In-car devices and telematics with mobile communications capabilities (2.5/3G), used for vehicle tracking, remote diagnostics, and the delivery of Security (e.g. Incident Mgmt) and Infomobility services to end users

Mobile Network Assets
Mobile network connectivity and data services on a national basis, integrated with unique assets for location-based service delivery, e.g. hybrid vehicle tracking through accurate cell positioning systems

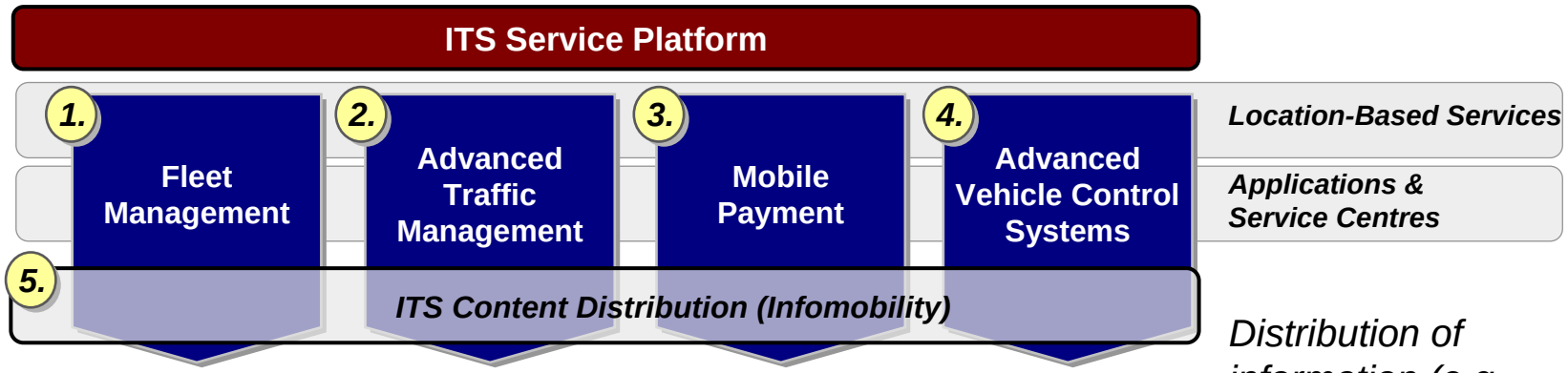
Regional Service Centres
State-of-the-art application outsourcing in the TI data centres, end-to-end ICT service management, partner and third party integration enabled by Service Desk capabilities (CRM, accounting, billing)

Net Centric Enabling Platform – Overview

The "Net Centric" delivery model provides dynamic resource allocation through TI's data centres (e.g. scalability enabled by capacity on demand), together with innovative convergent wireless/wired network services (NGN2) and end-to-end IT services operations



ITS Service Platform



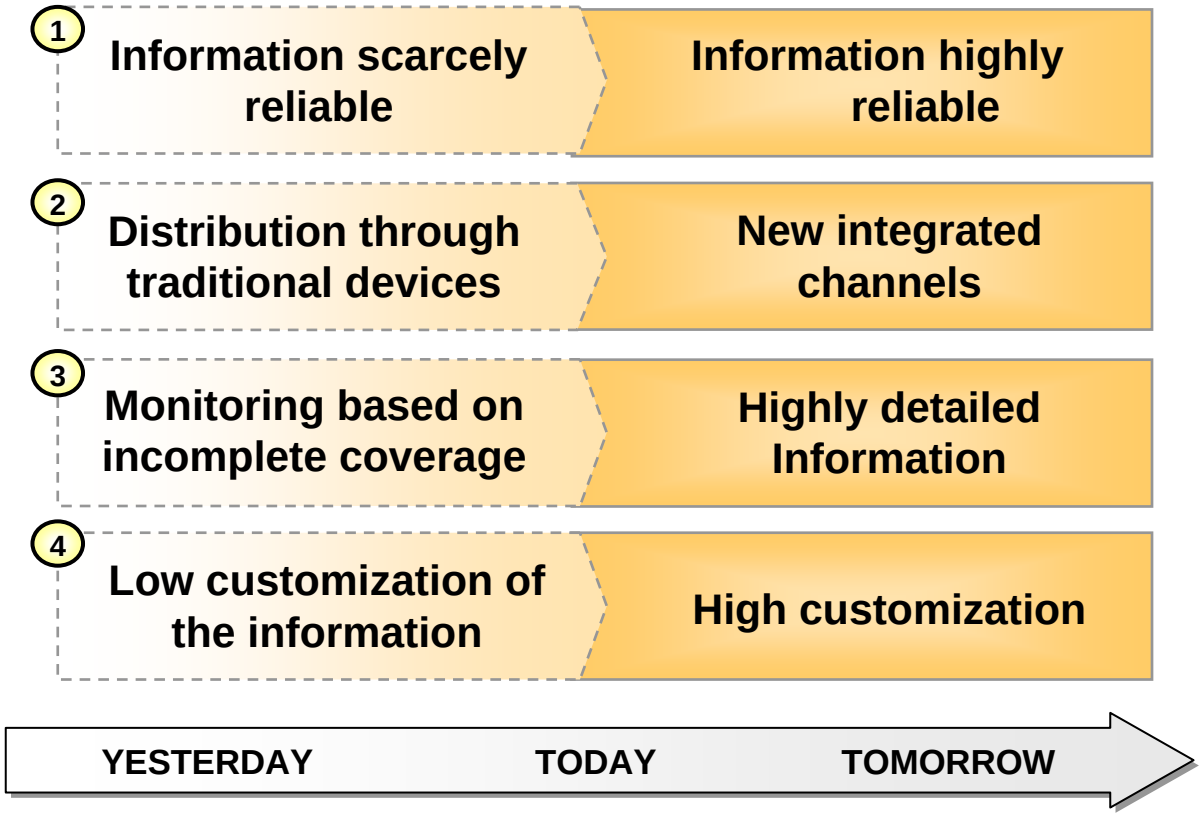
ITS Service Lines	1. Fleet Management	2. Advanced Traffic Management	3. Mobile Payment	4. Advanced Vehicle Control Systems	5. ITS Content Distribution (Infomobility)
Synopsis	*Commercial fleet management for both private business and public governmental agencies*	*Centralized traffic management integrated with road infrastructure devices and car telematics, mainly in metropolitan areas*	*e-Ticketing and other mobile payment solutions for the Transport Industry*	*ICT solutions using on-board units with GPS, long-range mobile connectivity and other in-car telematics for vehicle tracking and value-added services*	*Distribution of information (e.g. traffic condition, weather, suggested routing, POI, tourism info, …etc.)*

Presentation Outline

- Market Overview and Telecom Italia Approach to ITS
- Focus on Services – Infomobility
- Focus on Services – Vehicle Tracking Systems & PAYD
- A Success Story – FIAT Group joint “Blue&Me” Project

The Infomobility Market - Critical Success Factors' Evolution

The Infomobility Market is evolving quickly, showing a potential and meaningful growth of Infomobility services.



The Infomobility Market

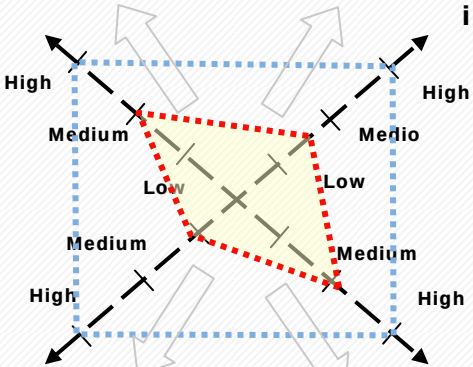
The Infomobility market is evolving towards personal customization of information, made available to different devices, both fixed and mobile.

Traffic data on customer-selected routes

Level of personalization of the information

Detail of the information

The information on mobility are generally available only for motorways and main roads



The Market still considers the information made available insufficiently reliable, in particular when increasing customization and details are required

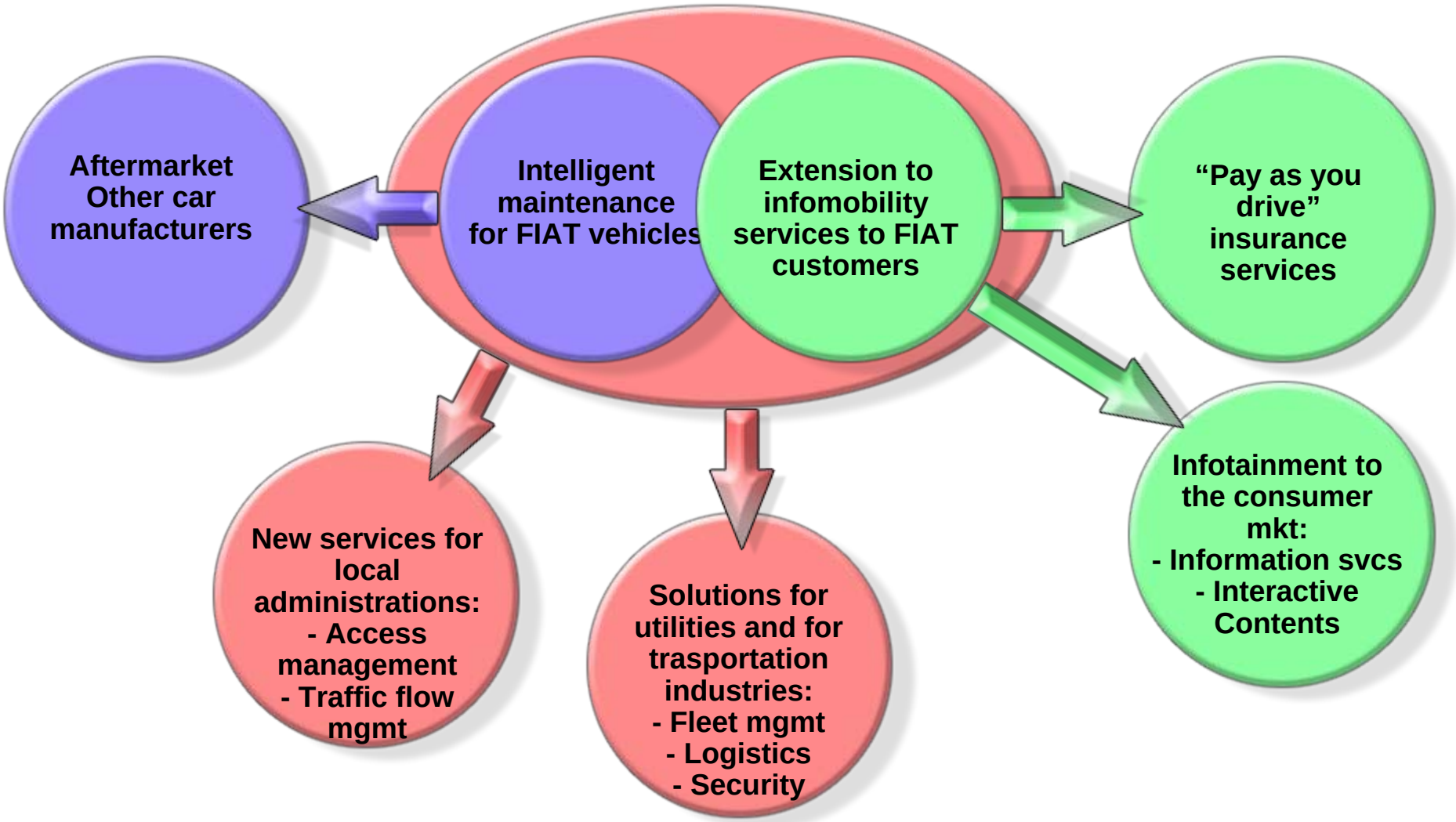
Reliability of the information

Device / Channel integration

Infotrafic Services are offered through non-integrated channels (mobiles, web sites, radio broadcasts, ...)

In order to speed up the market's development it is necessary to address effectively all critical factors, starting from data reliability and level of detail

Infomobility ITS – Telecom Italia's entry strategy



Telecom Italia approach to ITS Market

Infomobility Service

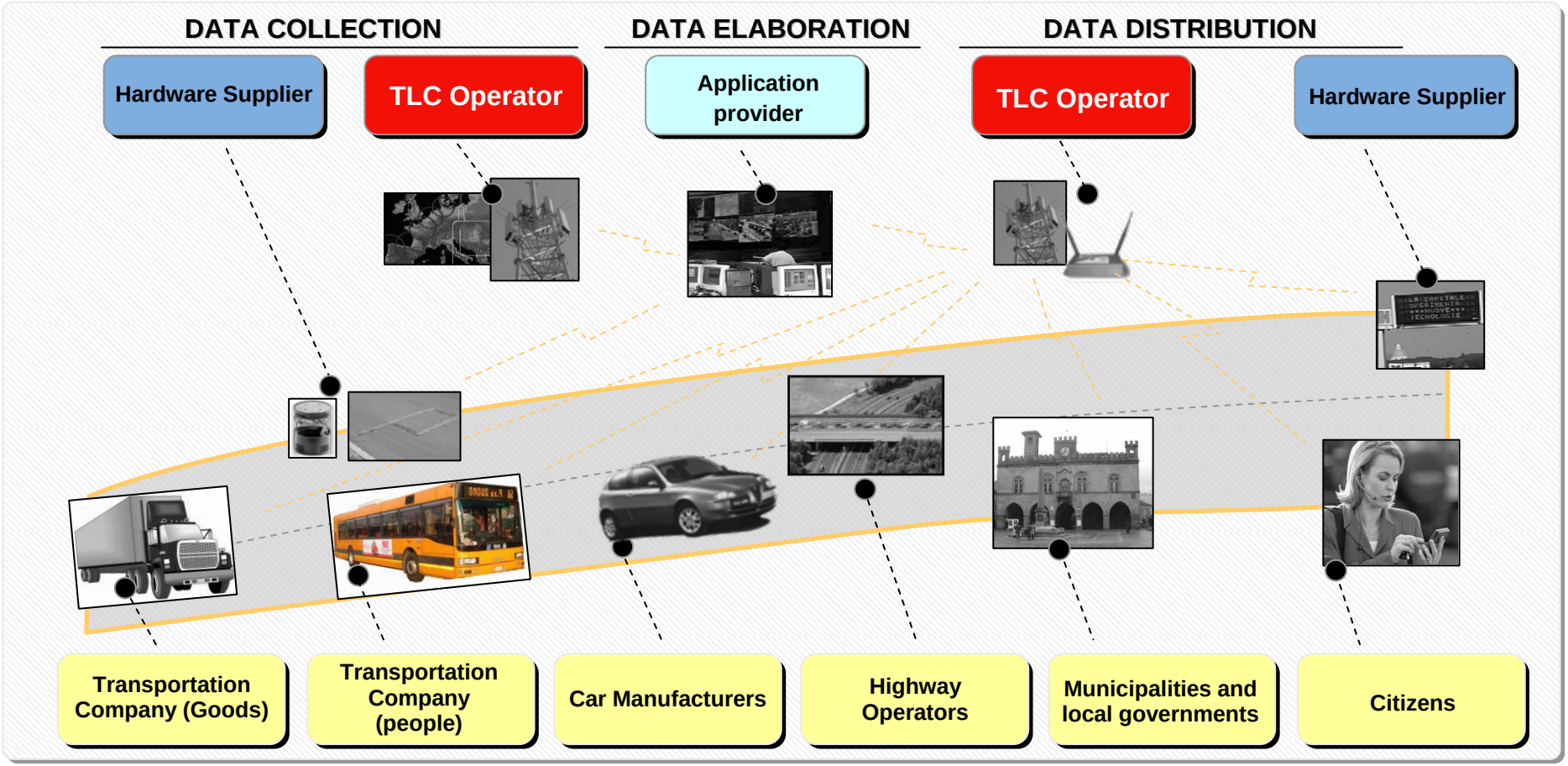
Proper combination of different types of Information

Infomobility services are based on the aggregation of different contents and informative data. Data access and integration from different sources enables the development of higher-value services. Major issues to be faced are the content reliability and licencing.

1 Traffic Conditions	*Real time information on traffic situation (critical, heavy, normal, ...) through audio/video broadcasts (webcam)*
2 Weather Conditions	*Information on road conditions due to the weather (ice, frost, wind, fog, ...)*
3 Alternate routes	*Real time choice of alternate routes to avoid congested paths*
4 Points of interest	*Information on points of interest in specific areas (gas stations, emergency road services, lodging, ATM, food, ...)*
5 Travel Time	*Computation of alternate travel times considering current traffic conditions*
6 Emergency Road Services	*Call for road services in case of car accidents and/or problems*
7 Travel Support	*Operator support for real time guidance along the alternate route*
8 Toll payment	*Information on toll payments*

Mobility Services – The traditional roles of mobility players

Traditionally, each player (TLC Operators, HW/Telematic Suppliers, Application Providers, ...) has developed expertise and solutions on specific activity area.



Business Model – The "Cooperation" Model

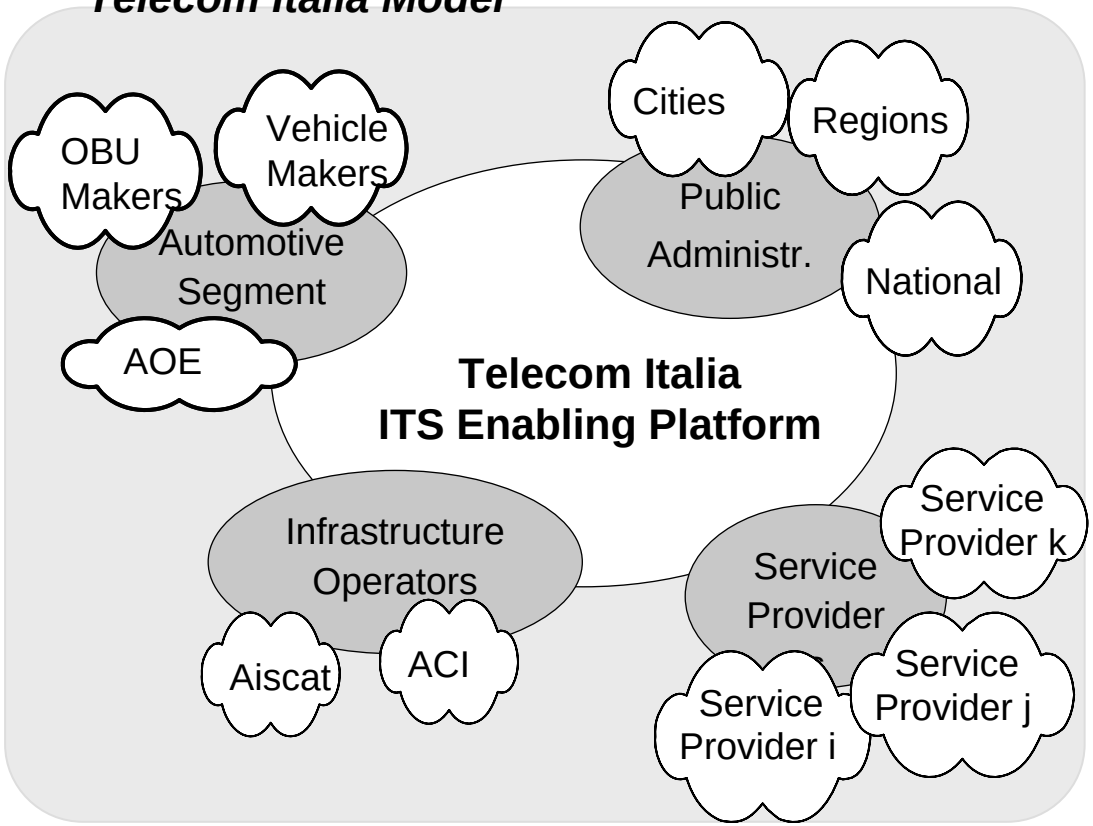
To contribute to the acceleration of the market, Telecom Italia has adopted a "cooperation" model involving and harmonizing the contribution of the main actors of the ITS value chain

- Many public and private players consider the Infomobility segment as a promising area of market growth, but, at the moment, there is not any established market yet for content data so many overlapping and duplication exist.
- Any infrastructural deployment (antennas, sensors, radio coverage, service centre, etc) requires investments only with the objective to create information is not justify by itself just considering actual potential revenues

Need for Cooperation

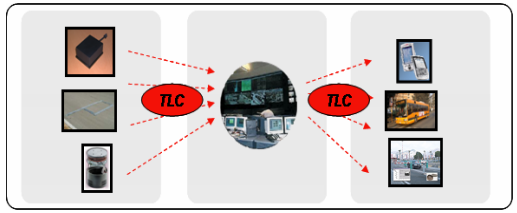
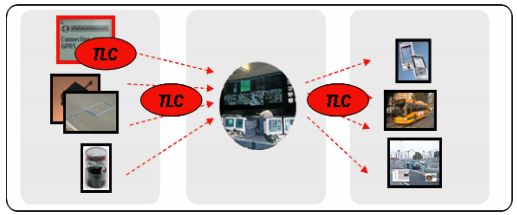
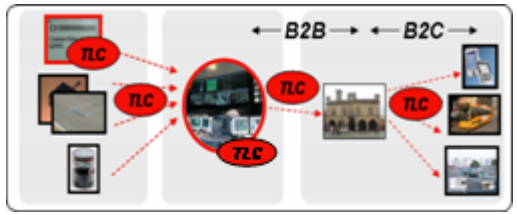
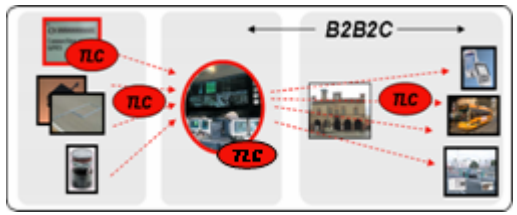
A sustainable ITS environment must be developed by means of a proactive co-operation among a number of key actors

Telecom Italia Model



Business Models
TLC Operator Model evolution

Active role of the TLC operator

		Pro's for TLC	Con's for TLC
1. Distribution channel provider		◆ Focus on core activities with no need of specific investments	◆ No participation in service definition and offer to the end user ◆ Reduced revenues and margins
2. Data provider and distribution channel provider		◆ Full valorization of TLC core activities	◆ Supply of raw data to private and public agencies without involvement in the proposition of services ◆ Low return investments \
3. Data processing center		◆ Information Management with the possibility to add value to raw data	◆ Investments in infrastructures are mandatory ◆ B2B on demand
4. Owner of the information on mobility		◆ Creation of end-to-end services with high market potentials ◆ Revenue Maximization	◆ High investments in infrastructures ◆ Need to convince companies/P.A of the feasibility of the business model

The TI Cooperation Model
A win-win approach

The cooperation model, guarantees benefits for Telecom Italia and for the other player and generates a higher value for the final customers.

Advantages Telecom Italia

- **Enrichment of the ITS & Infomobility offer** to the consumer market
- **Valorization of the services** and the location technologies
- Development of important **revenue streams**
- Development of an **important role** in the market, **guiding and influencing the strategic choices** of the system

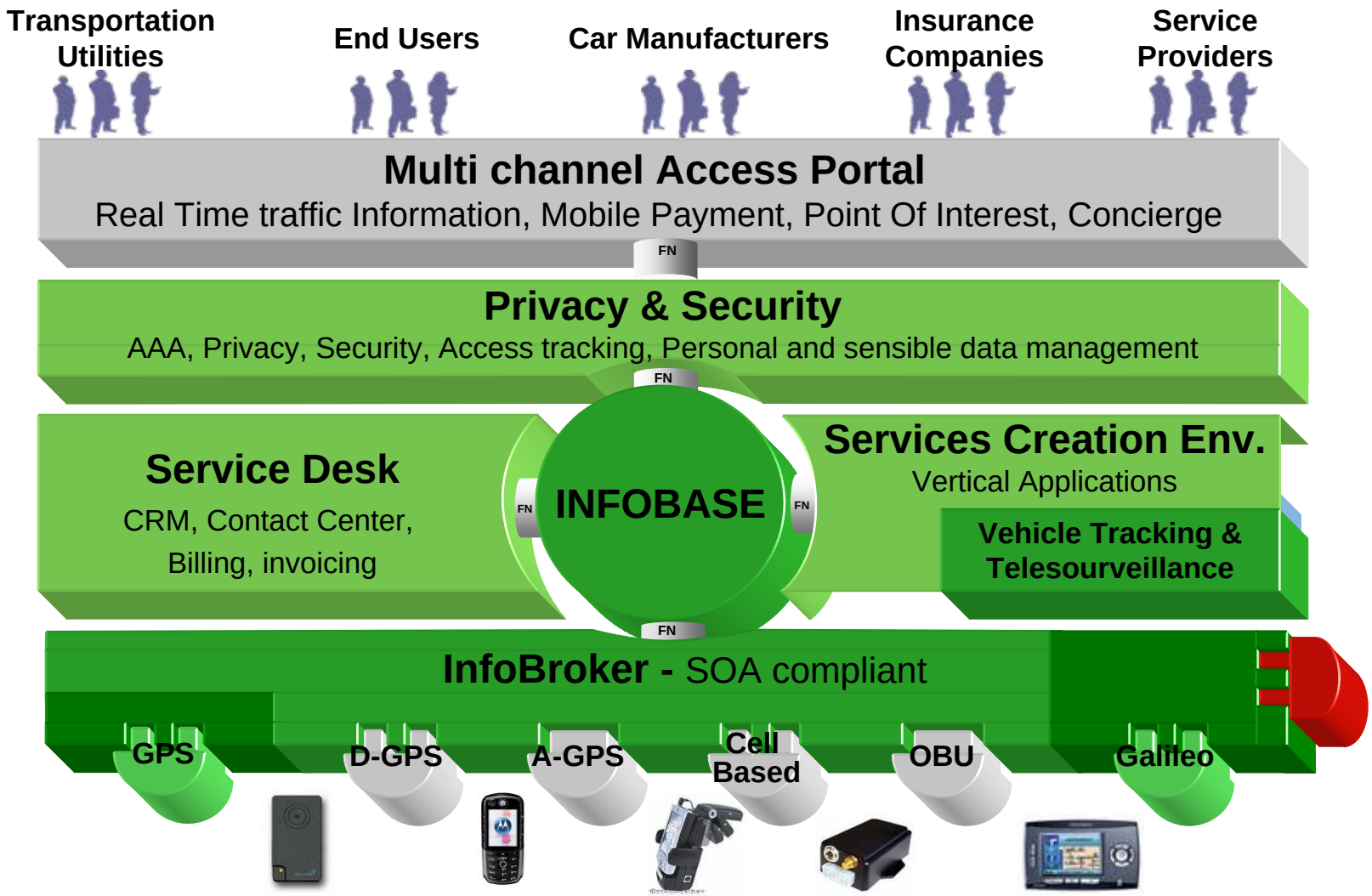
Advantages for other Player

- Possibility to maximize the **value of the information** collected
- Generation of new **revenue stream** (by means of either revenue sharing model or direct supply of the information)
- Possibility to develop **services with high value added** for the final customers

Advantages for the final customers

- Availability of a wider range of services over the whole national territory
- Possibility to seamlessly receive information via different **integrated channels** (mobile devices , internet, broadcast channels, etc) from several suppliers
- Possible **low prices**, thanks to the synergies of cost and the reduced investments supported for the development of the infomobility solutions

Infomobility Platform: Telecom Italia's Technological Model



Presentation Outline

- Market Overview and Telecom Italia Approach to ITS
- Focus on Services – Infomobility
- Focus on Services – Vehicle Tracking Systems & PAYD
- A Success Story – FIAT Group joint “Blue&Me” Project

Vehicle Tracking & PAYD Services in Italy

- At present 49% of newly registered vehicles are protected by electronics alarms alone, 39% are protected by electronic alarms and immobilisers, and 8% by Vehicle Tracking systems*. The latter segment is rapidly growing, mainly driven by motor insurance companies, ICT service providers and OBU manufacturers.
- The top OBU manufactures are Elem ViaSat (Elem, Movitrack, ViaSat), MetaSystem (Octo Telematics) and Cobra Automotive Technologies:
  - ViaSat made 60 €mln revenues in 2005, of which 25 €mln from in-car telematics and vehicle tracking solutions (170,000 devices in use in the country, currently growing at a rate of 40-50k YoY) and operates in partnership with motor insurance companies
  - Octo Telematics operates in partnership with all the main motor insurance companies (mainly Unipol) and have got 260,000 devices installed on vehicles in the country
  - Cobra Automotive Technologies made 77,3 €mln revenues in 2005 (B2C) and have recently successfully gone through their IPO
- Long-term vehicle rental companies (approx 500k private, company and commercial vehicles on a national basis) have started to provide bundled vehicle tracking solutions to have access to cost effective insurance rates and in order to protect the selling value of their vehicles at the end of rental life
- Car owners can earn up to 40-80 percent lower insurance rates by installing “certified” vehicle tracking systems – for example such schemes are offered in Italy by Unipol/Aurora, Toro, Generali/Assitalia, Lloyd Adriatico, Reale Mutua
- Some vehicle insurance companies – mainly AXA and Sara – have launched Pay As You Drive (PAYD) schemes based on vehicle tracking and remote diagnostics (35% of traditional schemes plus flexible rates based on behavioural rules and associated risk levels)

(*) Source: AGI 2006

Vehicle Tracking & PAYD Services from TI – Functional View

The Telecom Italia ITS Service Platform enables Vehicle Tracking & PAYD services through Advanced Vehicle Control Systems (AVCS) and centralised service centres, which can be operated together with Insurance Companies.

User/driver service elements *(e.g. SOS/eCall for incident management, real-time alarms based on drive behaviours and diagnostics)*

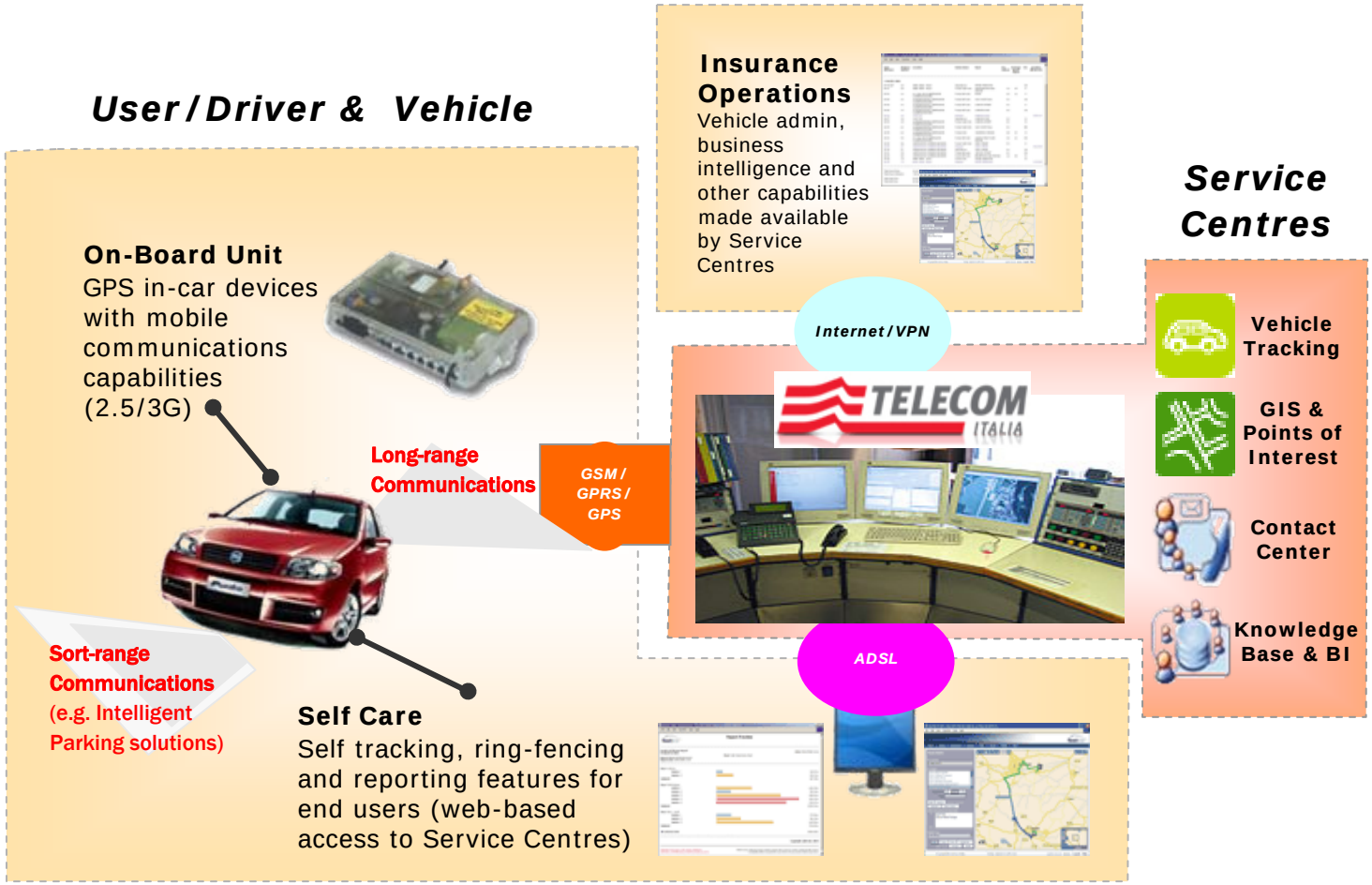
In-car devices and telematics with mobile communications capabilities *(2.5/3G), used for vehicle tracking, remote diagnostics, and the delivery of* ***security*** *(e.g. Incident Mgmt) and* ***Infomobility*** *services to end users.*

Operations and business support systems for Allianz *(i.e. Service Desk), end user self care interfaces*

Motor insurance operations and overall PAYD scheme management

Vehicle Tracking & PAYD Services from TI – High-level Architecture

The overall architecture enables full and flexible integration of the involved parties, including users.



ITS Service/Operational Centres – Key Service Areas

Service Centres – Vehicle Tracking & PAYD Services from TI

Vehicle Tracking

- *Vehicle tracking and monitoring (real-time and on demand), positioning and remote diagnostics data transfer to service centres through the national mobile network*

GIS & Points of Interest

- *Location-based points of interest (fixed and bespoke POI management operated by TI and Allianz) and Geographical Information Systems (GIS)*

Knowledge Base
(Data Warehousing)

- *Asset management (vehicles, drivers, etc) and historical repositories for vehicle tracking information (speed, behavioural info based on date/time and location, etc)*

Vehicle Admin & Business Intelligence

- *Vehicle administration (e.g. operations profile, maintenance, etc) and advanced reporting configured by TI ITS specialists and Allianz*

ITS Service/Operative Centres – Value Proposition

Service Centres – Vehicle Tracking & PAYD Value Proposition

Optimized Service Management

- **IT Solutions** for Vehicle Administration and Pay As You Drive insurance operations support, provided by TI to Allianz and its partners
- **Decision Support Systems** and Management Information Systems powered by advanced Business Intelligence solutions by TI, and used by Allianz for efficient Marketing & Sales operations

Improved Quality of Service Delivery

- Certified processes and end-to-end service delivery in line with **quality standards required by national and European regulations** (e.g. ISVAP, Ministero delle Attività Produttive, other Insurance and Transport regulations issued by the European Union)

Reduced Costs and Improved Service Levels

- **Dynamic resource allocation** managed within TI's data centres (scalability enabled by capacity on demand), in line with real business needs
- **Centralized end-to-end technical operations** (OBU's, content/data brokering, network, secuurity, HW infrastructure, applications), managed by TI and its partners

Presentation Outline

- Market Overview and Telecom Italia Approach to ITS
- Focus on Services – Infomobility
- Focus on Services – Vehicle Tracking Systems & PAYD
- A Success Story – FIAT Group joint “Blue&Me” Project

Telecom Italia approach to ITS Market

Automobiles and Light Commercial Vehicles

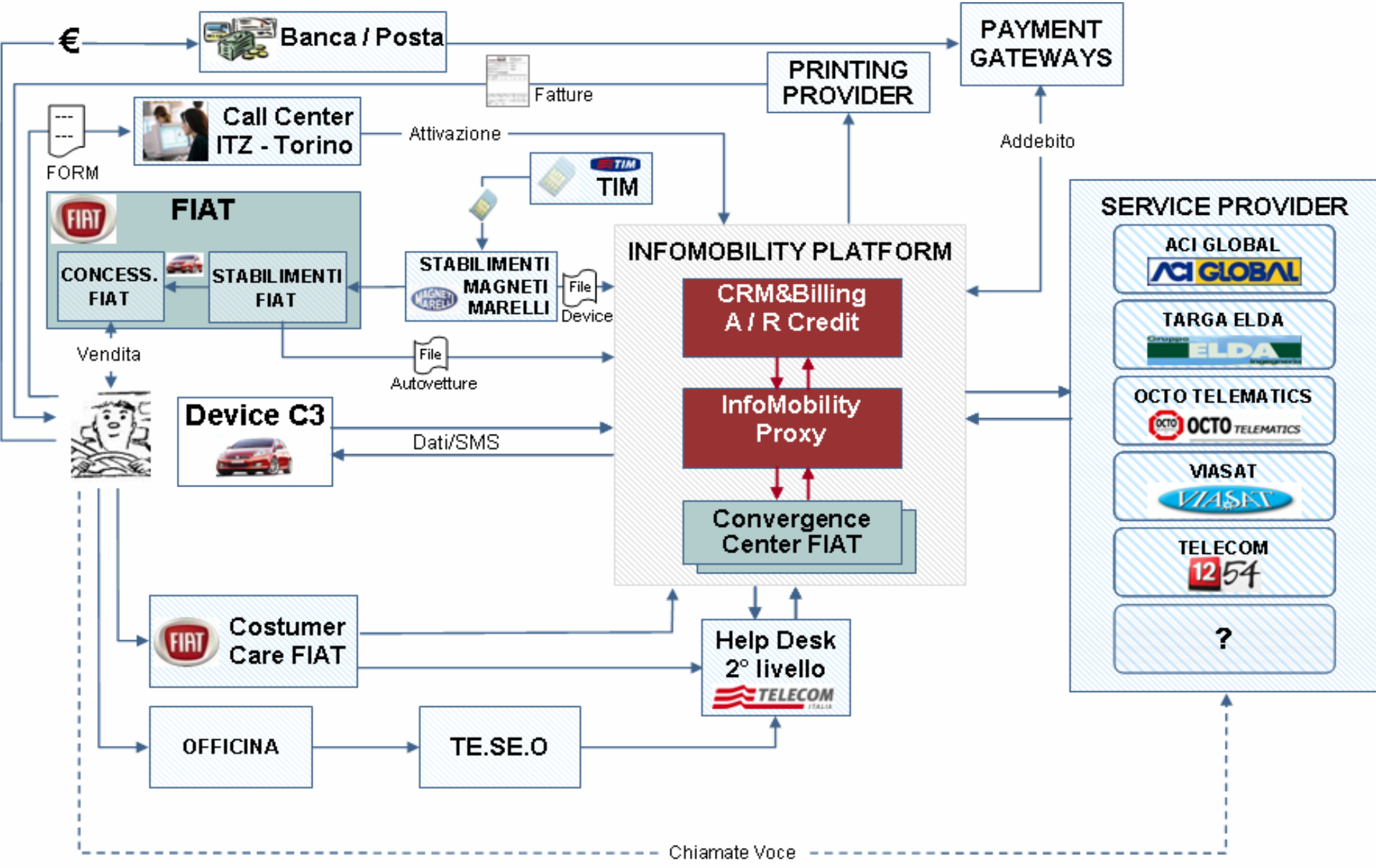
BLUE&ME Informobility services delivered to the FIAT customer base through a centralized ITS platform hosted in TI's data centres. FIAT "Blue&Me" cars are equipped with long-range On Board Units which transmit and receive data through the mobile network, and show in-car information useful to the driver

ITS Services :
- SOS/eCall
- Concierge (Call Centre)
- Fleet Management
- Insurance (Pay As You Drive)
- Off-Board Navigation
- Infotainment Voice Portal
- Intelligent Maintenance

The main milestones in 2007

- **3 February:** Launch of the new Fiat Bravo in Italy
- **8-18 March:** FIAT Blue&Me Nav cars presented at the 2007 Geneva Auto Show and launch Blue&Me services in Italy
- **Within June:** Blue&Me service available in 5 European countries

Blue and Me - Business Architecture



Conclusion

- Telecom Italia is evolving in its offer and role well beyond the classical model of selling telephony service, bandwith and transport of information
- A new role is being developed in selected vertical markets for ICT services
- The area of ITS & Infomobility is considered one of the promising market opportunity that TI is increasingly exploiting
- New business models need to be developed to the purpose and TI believe in the co-operative approach with other key actors of the value chain
- First success stories are actually starting to happen
- Telecom Italia → a credible actor with a growing role in the ITS arena