Intelligent and efficient travel
management for European cities


# In-Time

## Intelligent and Efficient Travel Management for European Cities

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austria TECH

# Content

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# GHG-emissions EU-27 by sector – increase/decrease since 1990

Light blue: transport

In million tons CO2 equivalent (absolute figures):

1990 – 960.1

2005 – 1 277.4

Others:

Purple: Households

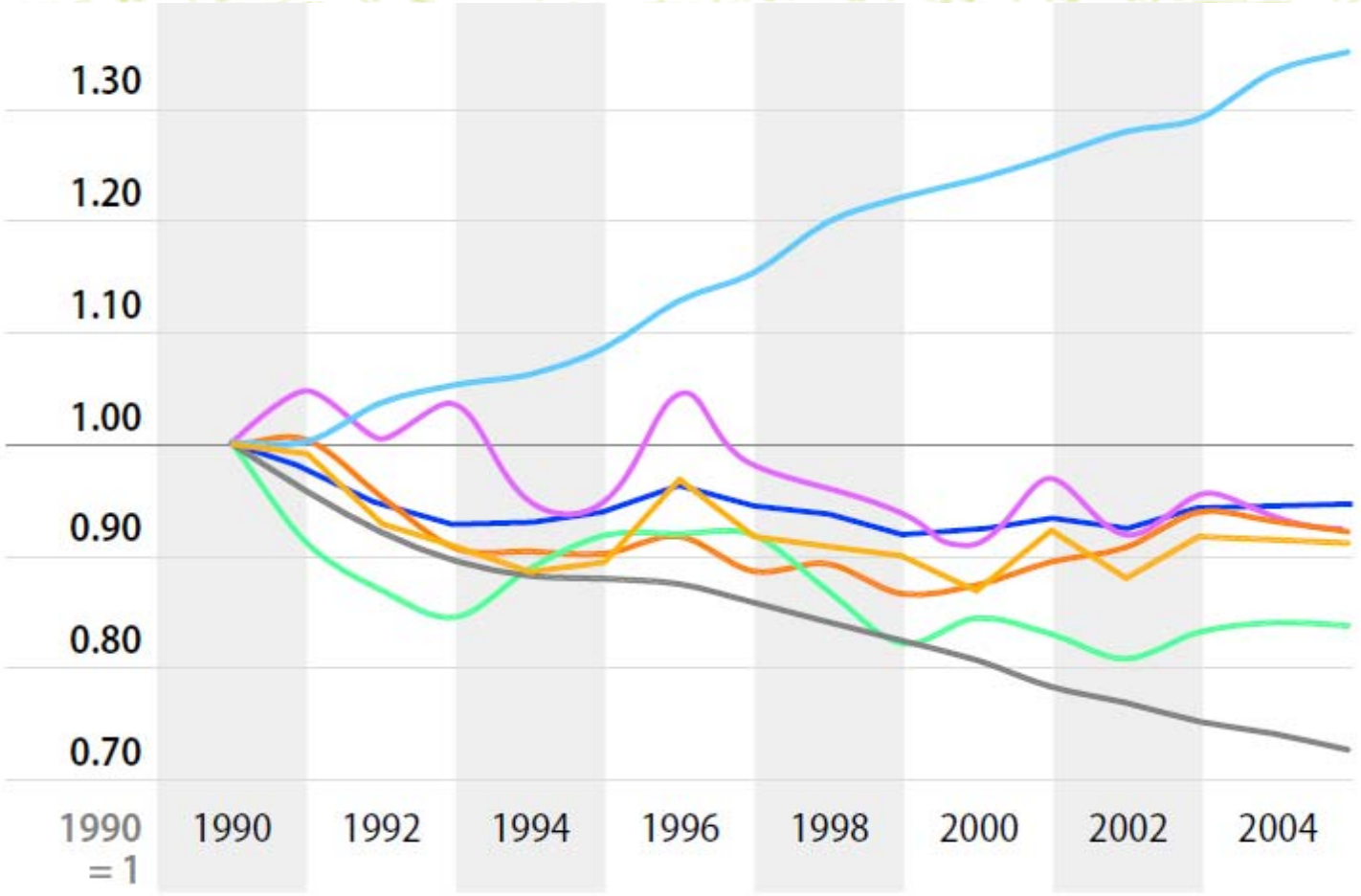
Yellow: Services

Orange: Energy Industries

Green: Industry

Dark blue: Total

Grey: Other




Source: EEA, December 2007; in: Green Paper Emissions, EU Energy and Transport in Figures, Statistical Poketbook 2007/2008, p.186

# Green Paper

Green Paper – Towards a new culture for Urban Mobility [SEC(2007) 1209]:

- Increased traffic in Europe's cities has resulted
  - In chronic congestion (delays, pollution)
  - In a loss of nearly 100 billion Euros per year (1% of the EU's GDP) to the European economy as a result of this phenomenon.

- Urban traffic is responsible for
  - 40% of $CO_2$ emissions and
  - 70% of emissions of other pollutants arising from road transport

The main policy objectives for transport and travel are to become:

- cleaner,
- more efficient, including energy efficiency
- safer and more secure.

# How to address Urban Mobility

Chronic congestions on urban road artery network

Strategies to improve mobility

- Enhancement of the arteries to the third dimension
- Intelligent Transport System (ITS)

→ Improved Urban Traffic Management

→ Co-modality (change of travel behaviour)

# Change of Travel Behaviour

Can be achieved by

- Comfort (short transit, improved waiting time…)
- Reliability (up to date information about delays…)

➔ pan-European multimodal Real-Time Travel Information

# In-Time – Frame Data

**In-Time** – Intelligent and Efficient Travel Management for European Cities

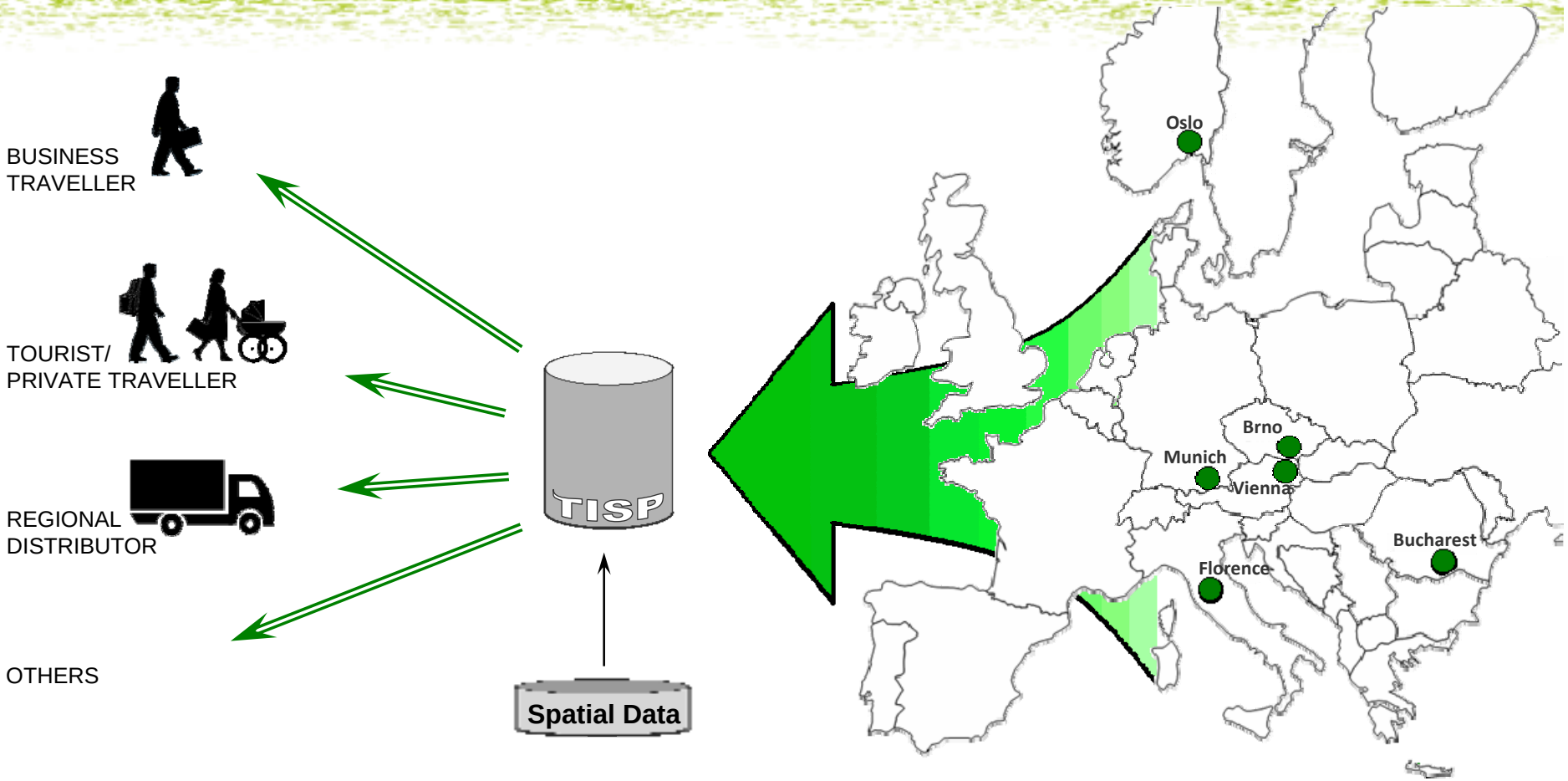
- Pilot Typ B for CIP-ICT PSP-2008-2
- Project with 22 Partners, co-ordinated by AustriaTech
- Budget of project: 4,58 Mio EURO, of which 2,29 Mio EURO are funded by the EU
- Kick-off: 1st April 2009
- Duration of project: 3 years

# Basic Idea of In-Time

Implementation of a pan-European multimodal Real-Time Travel Information System through the

- implementation of a standardised harmonised interface between operators and service providers,
- aiming at the reduction of the energy consumption of the single traveller by changing his travel behaviour.

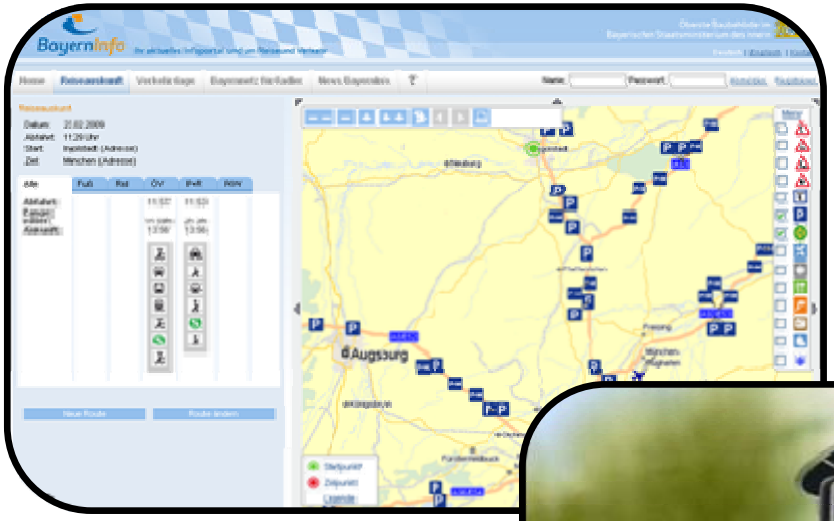
# In-Time concept



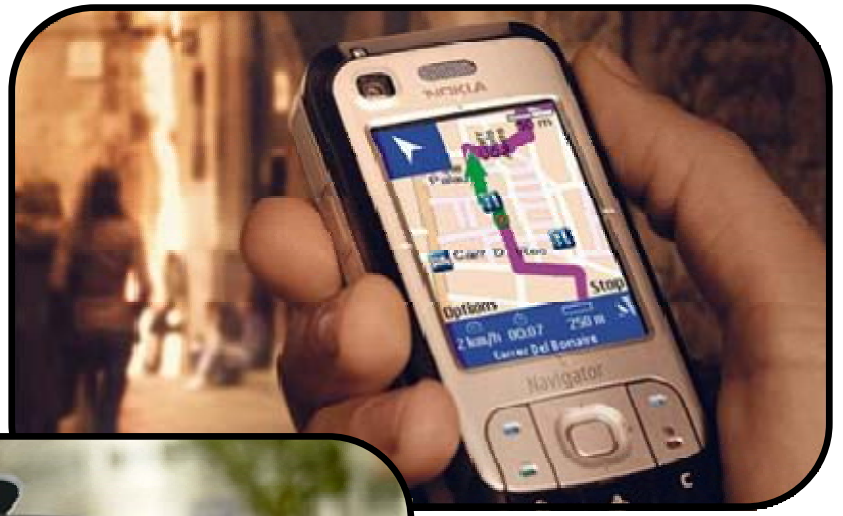

**Intermodal Real -Time Travel Information Service**

**Intermodal Real -Time Travel Data**

# In-Time information delivery



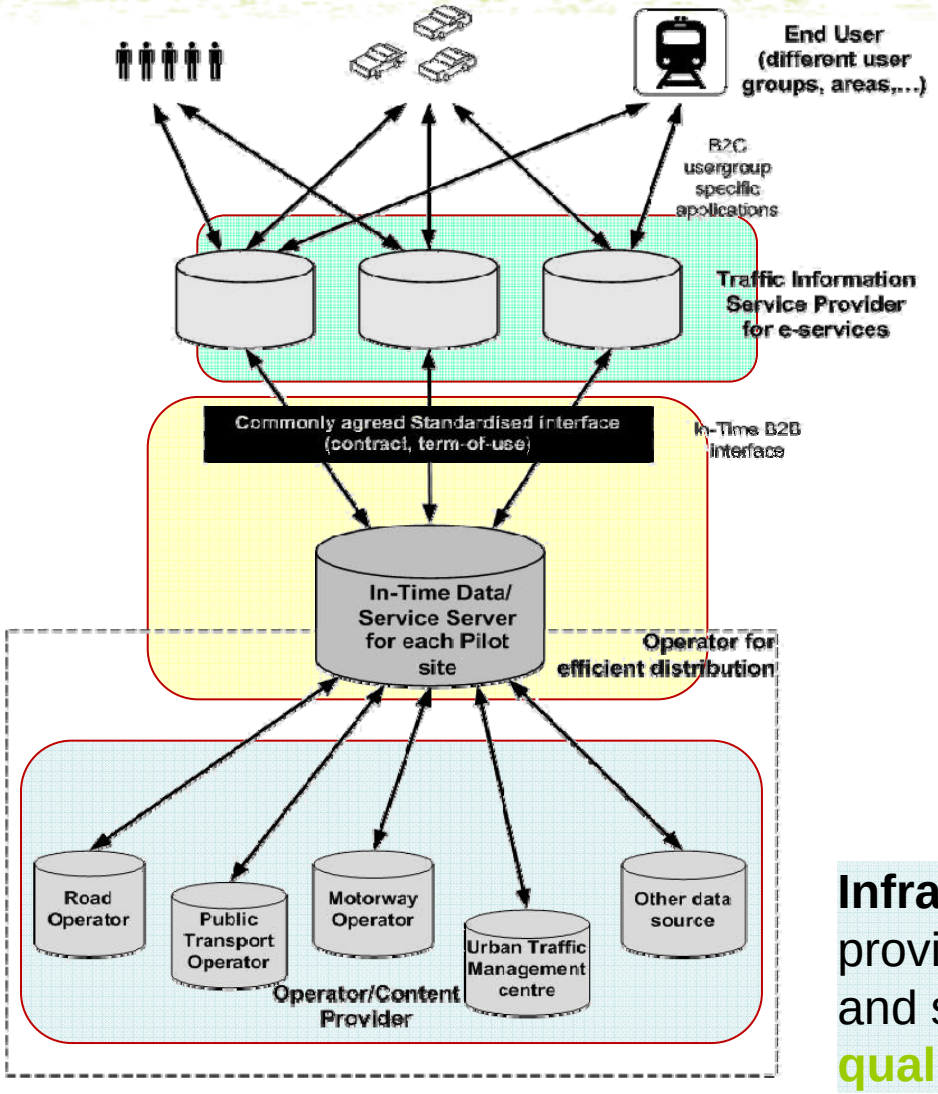

http://www.bayerninfo.de



http://www.netzwelt.de/images/articles/handy-navigation_1176551258.jpg

http://www.aufdemmarkt.de/wp-content/uploads/2007/10/tomtom_anderscheibe.jpg

# Concept of the RDSS (Regional Data/Service Server)



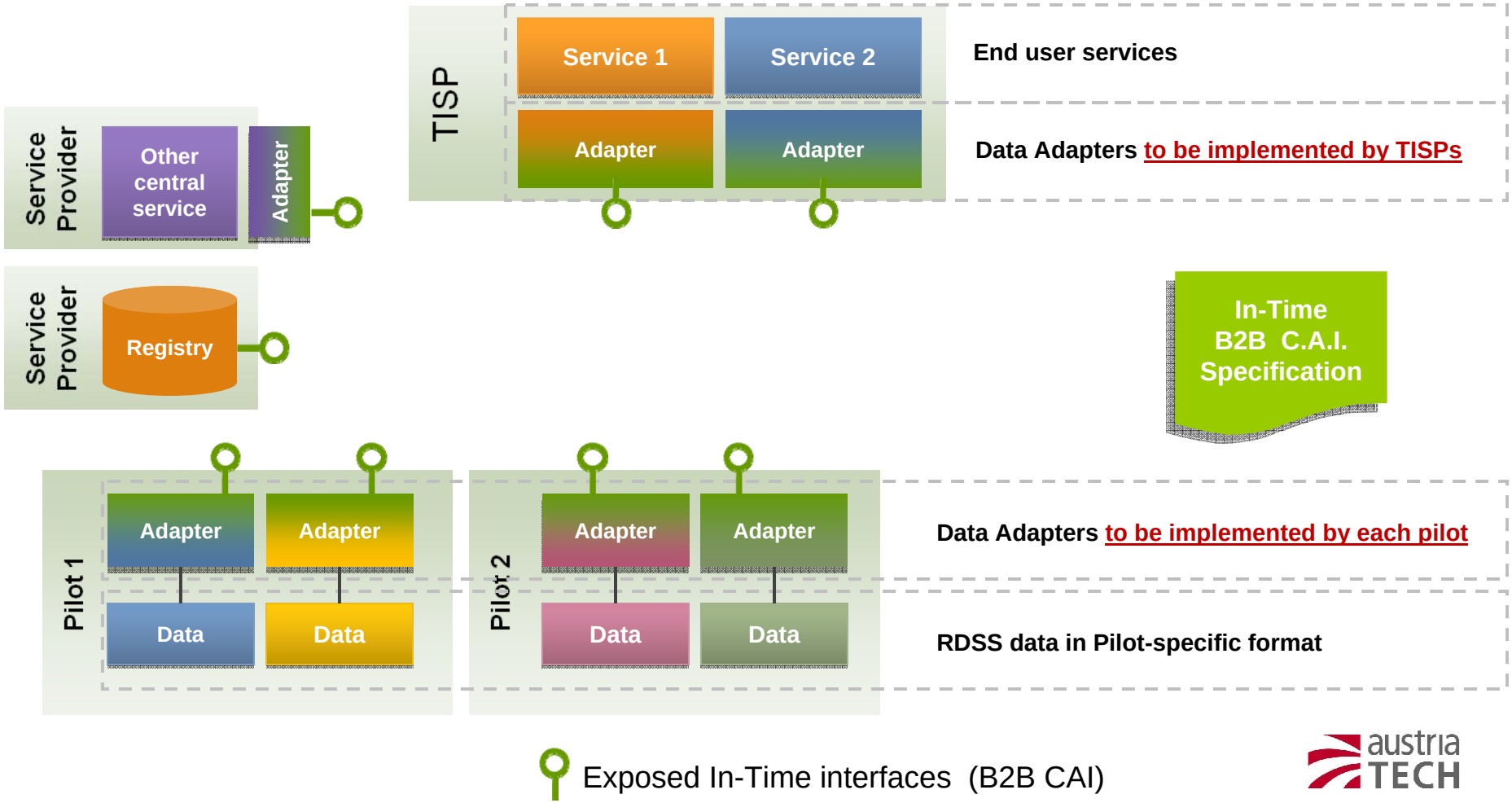

**TISPs** get requests from their User Groups, fetch and **merge** relevant **data** from RDSS and **provide** them to their User Groups

**RDSS** "translates" different data into a **standard format** and provides them on a harmonized, standardised level to Transport Information Service Providers (TISPs)

**Infrastructure Operators** (Road, PT,…) provide **continuously up-dated** data and services on an **agreed data/service quality**

# Architectural concepts

## In-Time system: a distributed architecture (SOA)



# End-User Services

## Dynamic Multimodal Journey Planning

### Mandatory Core Service

- static road traffic information
- dynamic road traffic information (higher road network)
- static parking info
- static public transport information
- walking information

### Core Service

- dynamic road traffic information (secondary road network)
- dynamic PT info
- dynamic PT journey routing
- dynamic parking info
- enhanced walking planning
- dynamic cycling planning

### Add-on Service

- dynamic freight traffic information
- dynamic POI info
- dynamic traffic event information
- dynamic weather information
- static and dynamic flight information

# B2B Services

- The ownership of data is with the regional infrastructure operator.
- Transport Information Service Provider (TISPs) will be the users of B2B Services, offering their customers interoperable und multimodal RTTI Services (individual customised).
- Clear definition of data/services to be exchanged.
- Elaboration of “Terms of Use” (incl. cost model)

# B2C Services

B2C Services can be divided into two major groups:

- **e-services** will influence the on-trip travel behaviour by optimising journeys taking the energy consumption into account. The community will be the **users of mobile devices or a navigational device**.

- **Internet based pre-trip information** can influence travel behaviour.

# Key Elements: Traffic Management

**Operating Traffic Management** for reducing the amount of energy needed:

- **reducing traffic congestions** in all modes (efficient and intermodal operating traffic management solution for more fluent traffic)
- enabling intermodal real-time on- and pre-trip information, to result in **intelligent decisions of the traveller** and lower energy consumption
- lowering energy consumption drastically by the **introduction of modern technologies** like the adoption of LED technology for signal heads.

# Functionalities and benefits for users, operators and providers

- **Users:** receive in each In-Time city requested relevant real-time intermodal travel information on their favourite tool and HMI.

- **Operators (cities):** install a single distribution channel for dynamic traffic information transmission to all user groups.

  => support for strategy based routing

- **TISP:** generate and deliver high quality information services to targeted user groups.

# Expected impacts on travel behaviour

- **modal shift away from individual traffic**: around 3%, as private users will be enabled to compare transport modes and make a choice.
- improved customer **acceptance** of **PT operation**.
- a positive impact on **improved safety**, efficiency and competitiveness of transport systems across European cities, with the objective of reducing road fatalities by 50% in EU-27 by 2010.
- **higher mobility** of people and goods across different transport modes through the provision of accessible and reliable information services.

# Expected impacts on the environment

- providing **intermodal real-time traffic information** for a better selection of the travel mode towards greener transport modes.
- **reducing** the following **emissions** through an improved traffic management system:
  - pollutants and $CO_2$ Emissions,
  - particle emissions, noise
- **lowering energy consumption** by
  - optimising traffic control (Eco-flow),
  - enhancing the product life-cycle
  - reducing power consumption by using LED technologies

# Partners

22 partners from 9 EU countries, incl. AustriaTech

arsenal research
A Company of Austrian Research Centers

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BRIDGING MARKETS AND TECHNOLOGIES

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traffic mobility logistics.

Fluidtime
Your business. More value.

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