Intelligent and efficient travel
management for European cities

In-Time – Intelligent and efficient travel management for European cities

Kick-Off, Vienna
16/17 April 2009

CO-FUNDED BY THE EUROPEAN COMMISSION DG INFSO,
ICT PSP PROGRAMME 2008-2

austria TECH

Content

- Introduction
- The Project
- Concept of In-Time
- Key Elements
- Expected Impacts
- Work packages

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

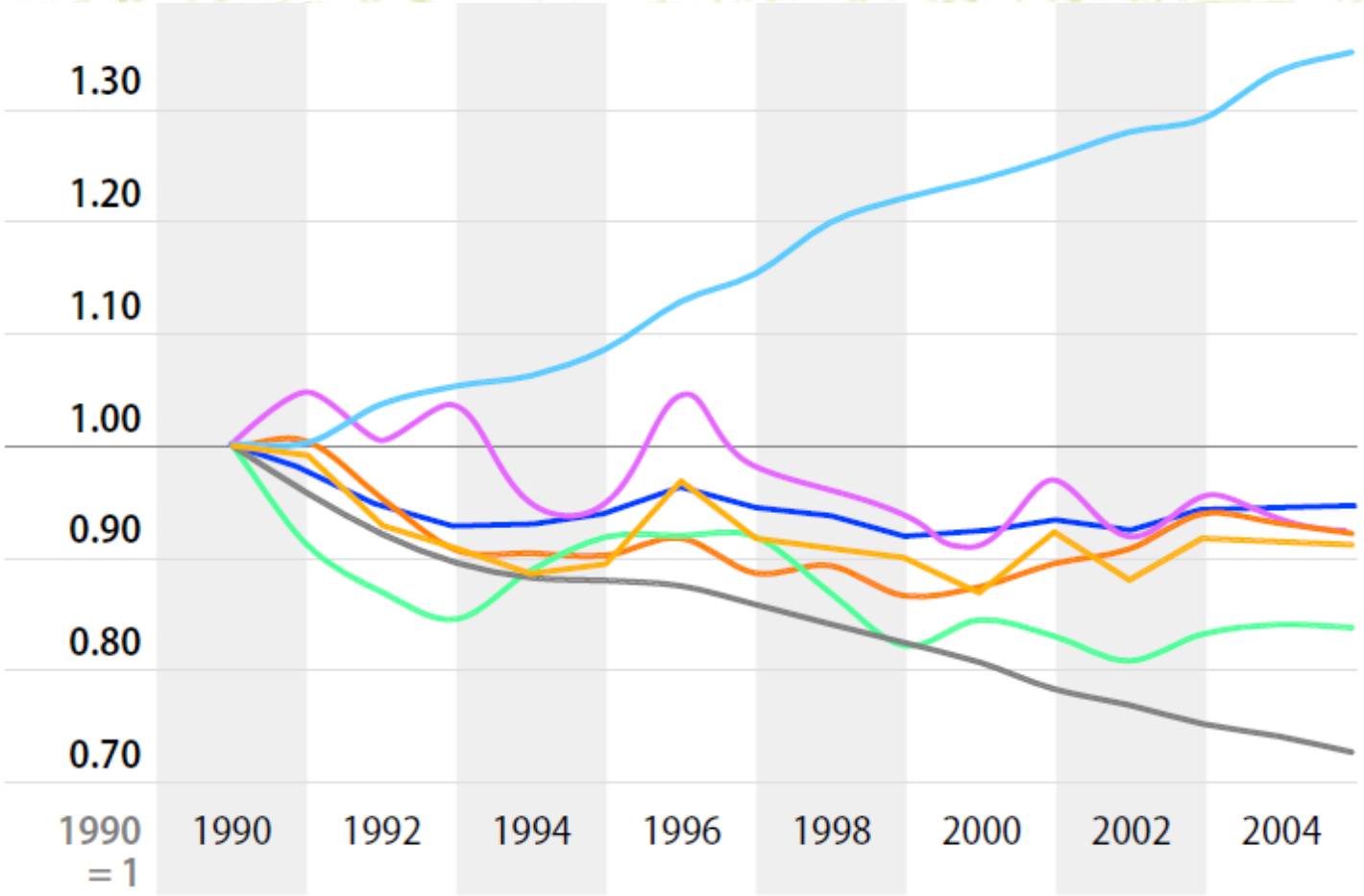
Yellow: Services

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

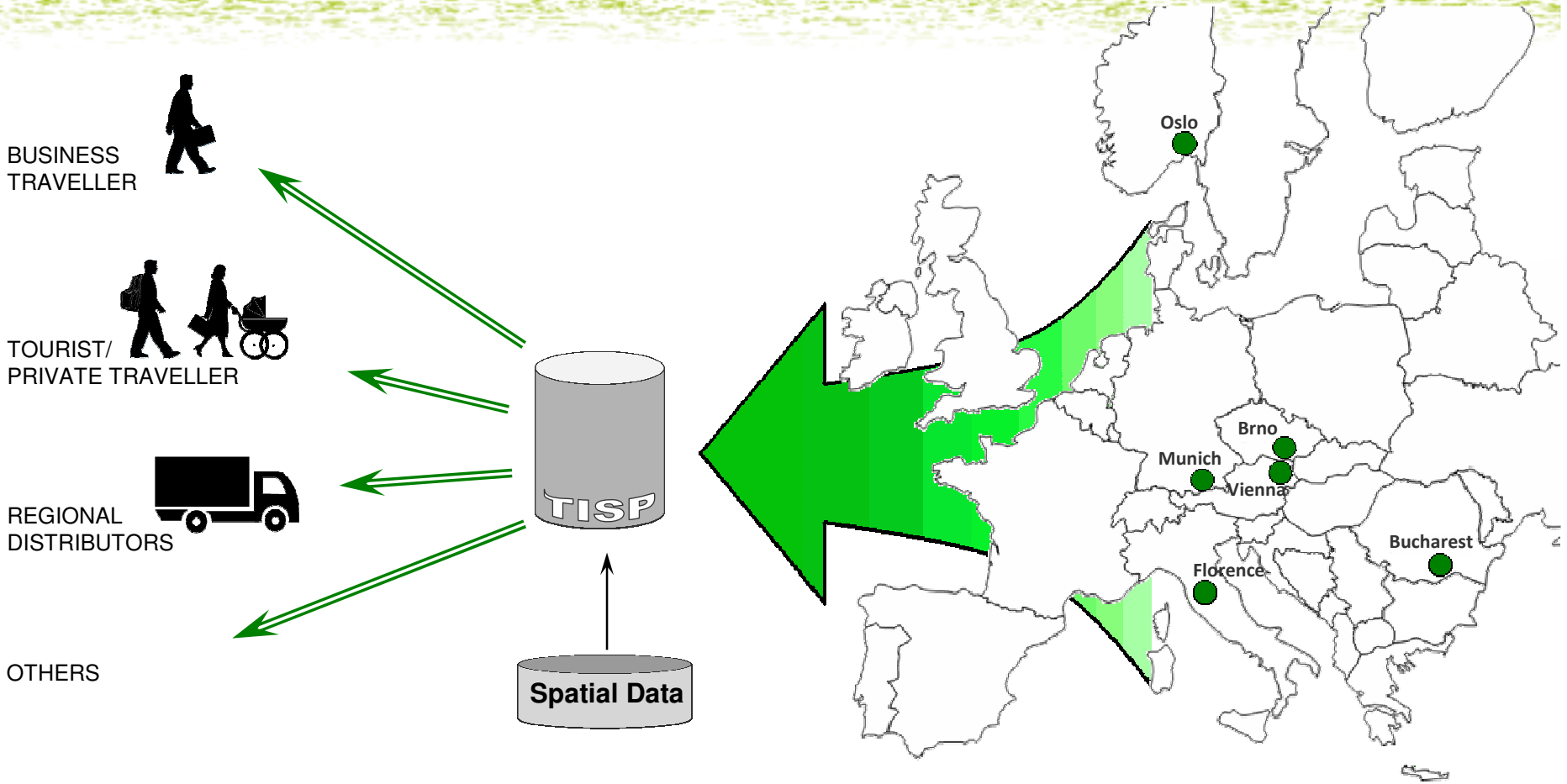
- **In-Time** – Intelligent and Efficient Travel Management for European Cities
- Pilot Typ B for CIP-ICT PSP-2008-2
- Project with 22 Partners, co-ordinated by AustriaTech
- Budget of project: 4,58 Mio EURO, of which 2,29 Mio EURO are funded by the EU
- Kick-off: 1st April 2009
- Duration of project: 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

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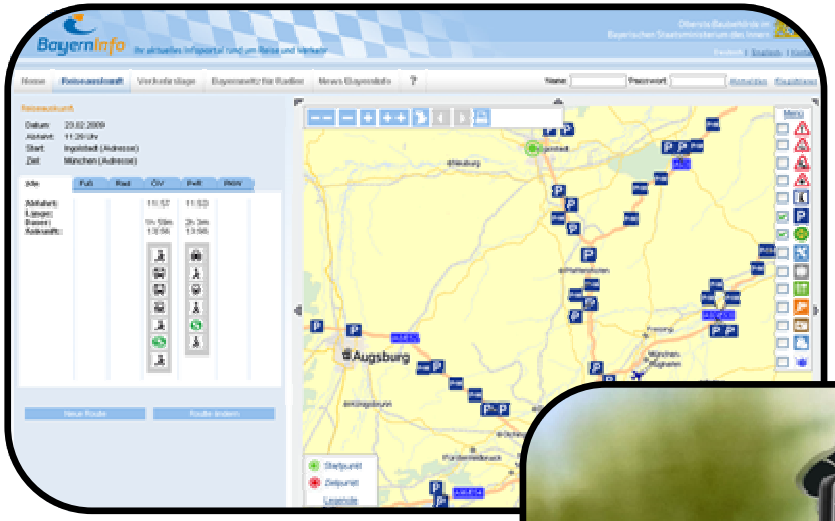
In-Time Information Delivery



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

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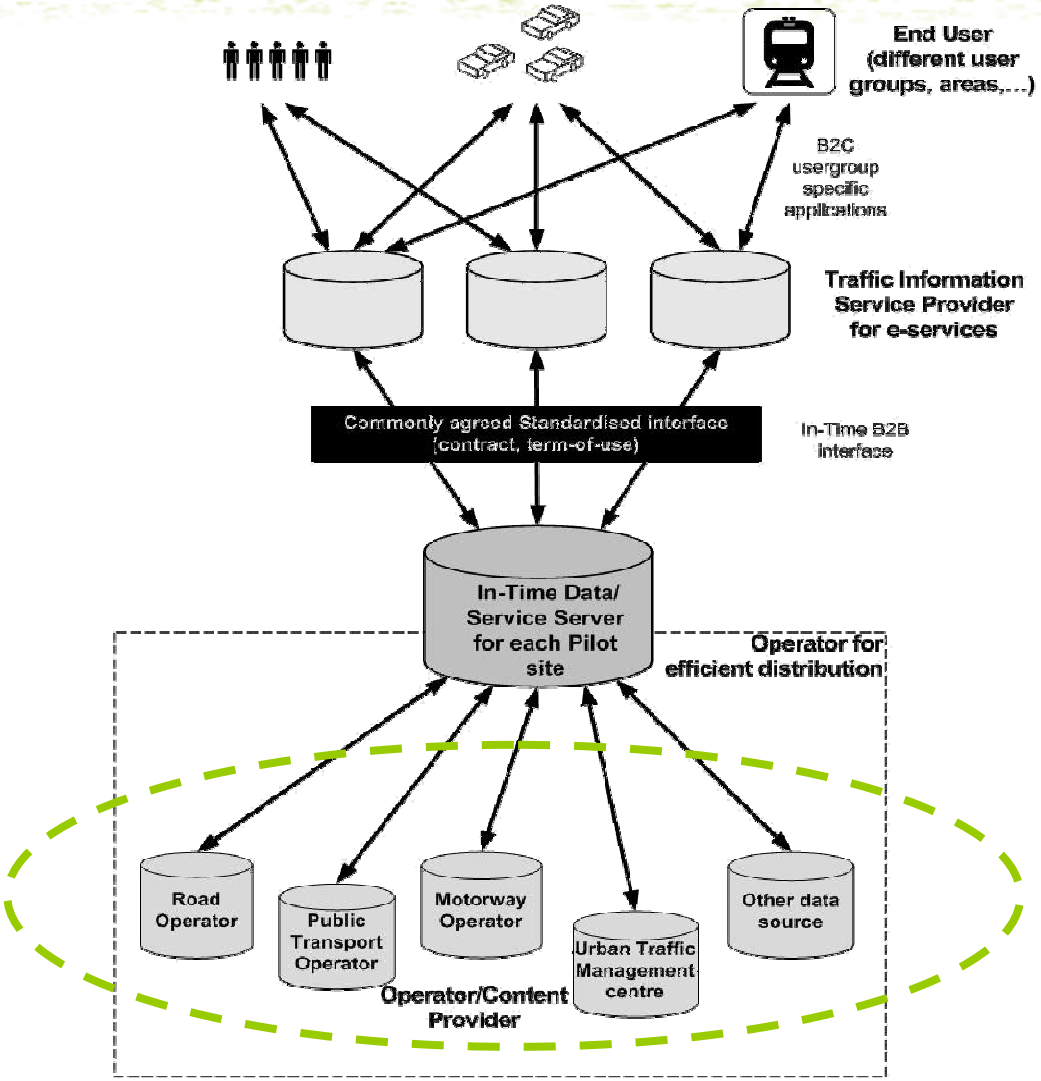
Concept of RDSS (Regional Data-/ Service-Server)



Agreed Data-Quality

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**.

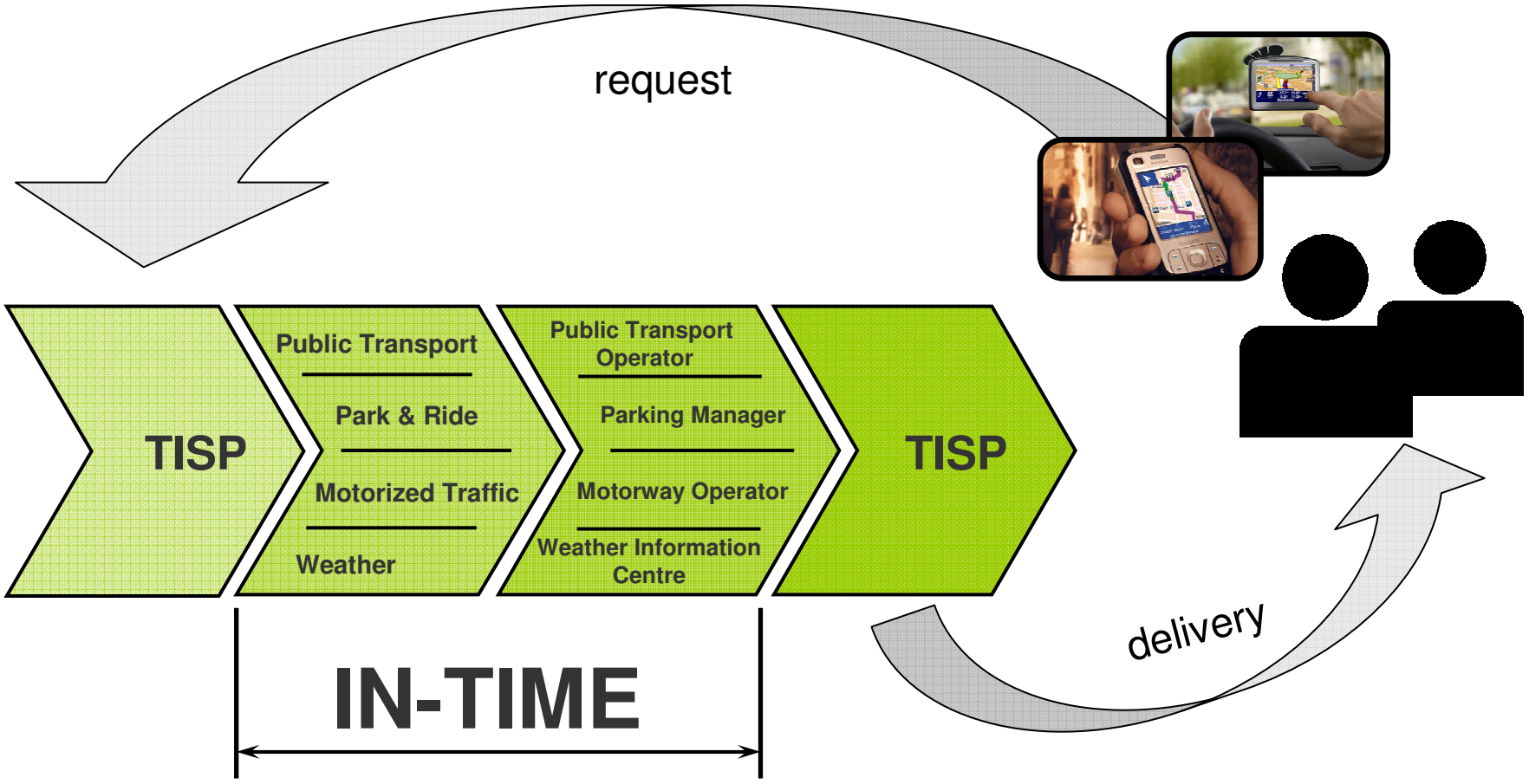
- **Internet based pre-trip information** can influence travel behaviour.

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

Information Delivery Chain



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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.
- **reduction of road traffic jams**
- **improved safety**
- **higher mobility** of people and goods across different transport modes through the provision of accessible and reliable information services.

Expected Impacts on the Environment

- **reducing emissions** through an improved traffic management system:
  - pollutants and CO_2 Emissions,
  - particle emissions,
  - noise, etc.

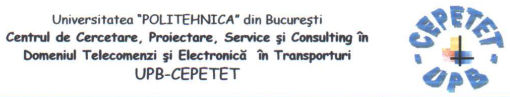
- **lowering energy consumption** by:
  - optimising traffic control (Eco-flow)
  - enhancing the product life-cycle
  - reducing power consumption by using LED technologies

Partners

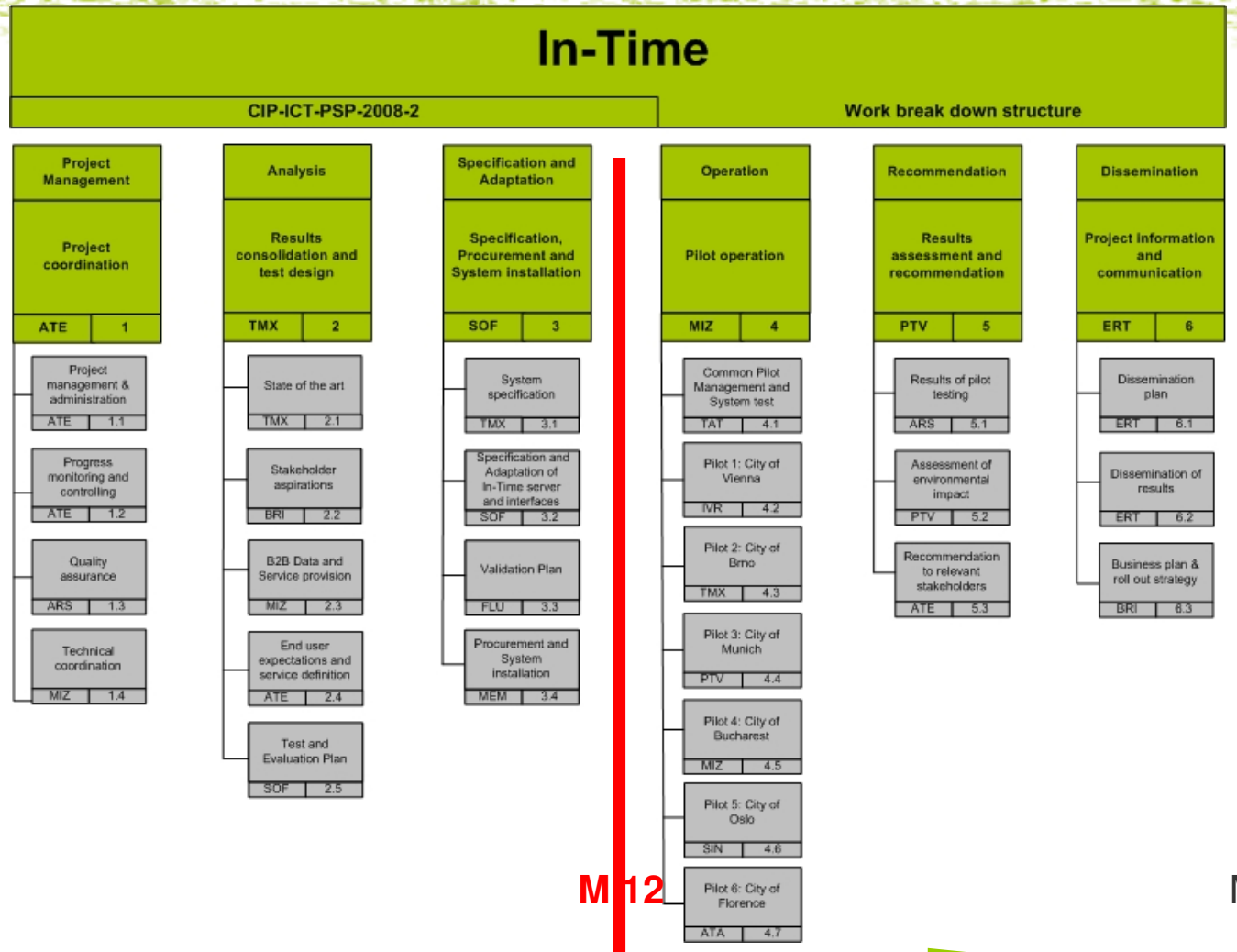
- Pilot Cities:
  - All traffic operators (PT und individual traffic) are commited to the In-Time concept.
  - The intention to run the platform beyond the project´s lifetime must be clearly demonstrated.
- Service Providers:
  - Have a clientele already
  - Provision of the same kind of services throughout Europe
- Dissemination:
  - Partners ensure access to European traffic operators
  - Experience in organizing workshops und seminars

Partners

- Pilot Cities:
  - Vienna
  - Florence
  - Bucharest
  - Brno
  - Munich
  - Oslo
- Service Provider
- Validation
- Dissemination



Work Packages



WP 1 – Project Management

- Project management & administration
- Progress monitoring & controlling
- Quality assurance
  - within the project
  - Review-management for deliverables
  - risk management
- Technical coordination
  - Very important until system installation

WP 2 – Analysis

- State of the art
  - Consolidation of results with special focus on In-Time (eMotion, Feedmap, Wisetrip…)
  - What is already existing within the pilot-cities?
- Stakeholder aspirations
  - Technically and Commercially
  - Legally with a special focus on EC-directives (e.g. Inspire-directive 2007/2/EC)
  - Policy issues
- B2B Data and Service provision
  - Definition of data/service quality and content for B2B
- Service definition
  - Definition of User-Groups
  - Basis for business plan
  - End-user services
- Test and Evaluation Plan
  - Basis for pilot evaluation and user survey

WP 3 – Specification and Adaptation

- System specification
  - Architecture
- Specification and adaptation of In-Time server and interfaces
  - Technical, commercial and legal description of In-Time server and interfaces
  - Basis for potential tender procedure
- Validation Plan
  - Definition of system tests (test criteria)
- Procurement and system installation, development and adaptation of end-user services
  - Consolidate additional technical details
  - Conclude procurement process with optimal solution
  - Including components testing
  - Development and adaptation of end-user services

WP 4 – Operation

- Common Pilot Management and System Test
  - Planning the pilots regarding non-technical aspects
  - Planning the pilots regarding technical aspects
  - Coordination of the common pilot aspects
  - Management of end-user survey
- Single pilots
  - Vienna
  - Brno
  - Munich
  - Bucharest
  - Oslo
  - Florence

WP 5 – Recommendation

- Results of the pilot testing, assessment of the user surveys
  - User acceptance (business and end-user)
  - Willingness to pay
  - Change of travel behaviour
- Assessment of environmental impact
  - Pollution, CO2, noise, particles
  - Safety impact: reduction of congestion
  - Impact on ressource management (fuel, road)
  - Traffic management
- Recommendation to relevant stakeholders and contribution to standardisation of interfaces
  - policy
  - Value chain
  - standardisation

WP 6 – Dissemination

- Dissemination Plan
  - Internal and external communication
- Dissemination of Results
  - Including final conference
  - In-Time Forum
- Business Plan & Roll out strategy
  - Value chain analysis
  - Business models
  - Roll Out Strategy

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