



INCREASING BUS ATTRACTIVENESS THROUGH EFFICIENCY

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Brest

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New Societal Challenges



**World cities are changing,
European cities are changing**

Growing population in urban areas

**New habits, new lifestyles
New mobility needs for citizens**

New challenges for urban mobility

**More Efficient Urban Mobility for
more Attractive Cities**

Buses are a key solution to the new Urban Mobility Challenges



- **Urban Bus is an efficient mode of Public Transport**
 - **cheap, flexible** in terms of capacity and speed.
 - not require heavy infrastructure, is **easy** to put in service
- **Urban Bus is the main carriers in Public Transport**
 - **80%** of all public transport passengers worldwide are carried by buses
 - In Europe, every year, **30 billion of passengers take urban buses - 60%** of whole PT movement
- **The Bus is in front line to answer the new challenges for urban mobility**
 - Amongst the **most environmentally and energy efficient** passenger transport mode
 - A solution to congestion and an important feeding system to other modes

Nevertheless, bus is perceived as a less attractive mode of public transport

Attractiveness through Efficiency

**New Mobility Challenges set clear objective for bus systems:
More attractiveness through efficiency**

**Smart energy use
Support Multimodality /
integrated PT services
Traffic management measures
Infrastructure and operation
Clean profile of Bus fleet**

**Promote Modal Shift
Supports EU policy goals**



Holistic Approach



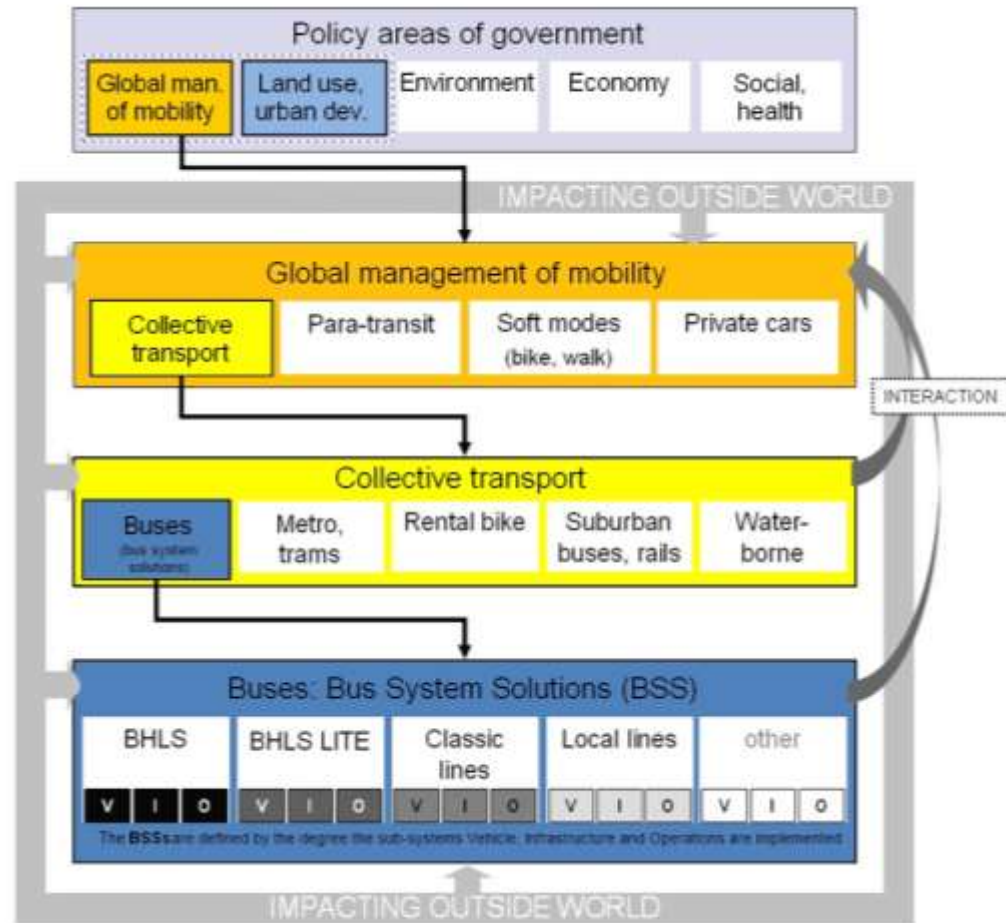
Holistic approach for conciliation of attractiveness and efficiency, in line with PTx2 Strategy

- Short/long term vision
- All urban bus stakeholders categories
- System approach
- Whole urban mobility

Solutions to increase efficiency and attractiveness of the whole bus system

2006 Bus du Future study

2008 / 2013 EBSF project



European Bus System of the Future Project Areas



European Use Cases

Bremerhaven

Madrid

Rome

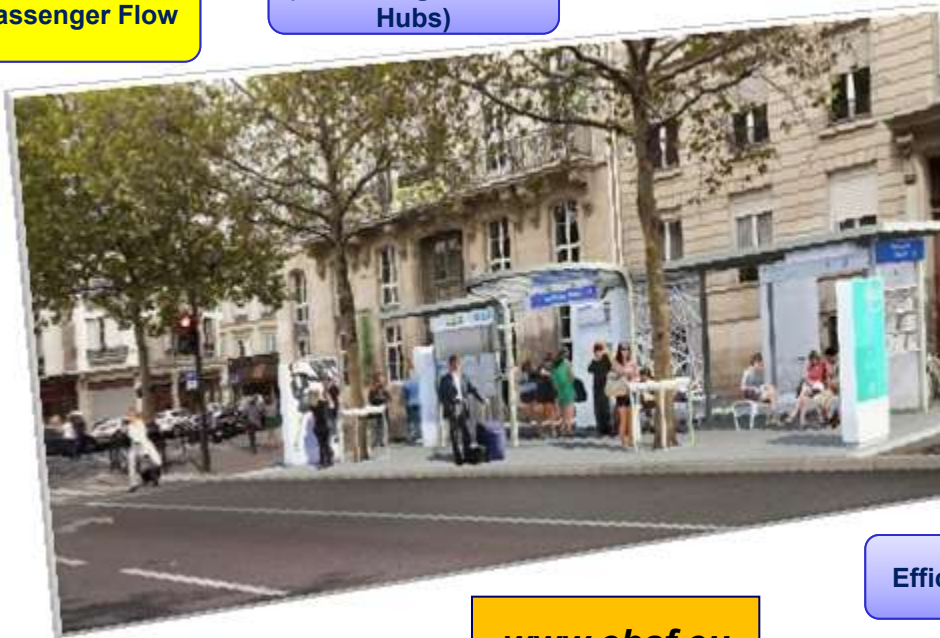
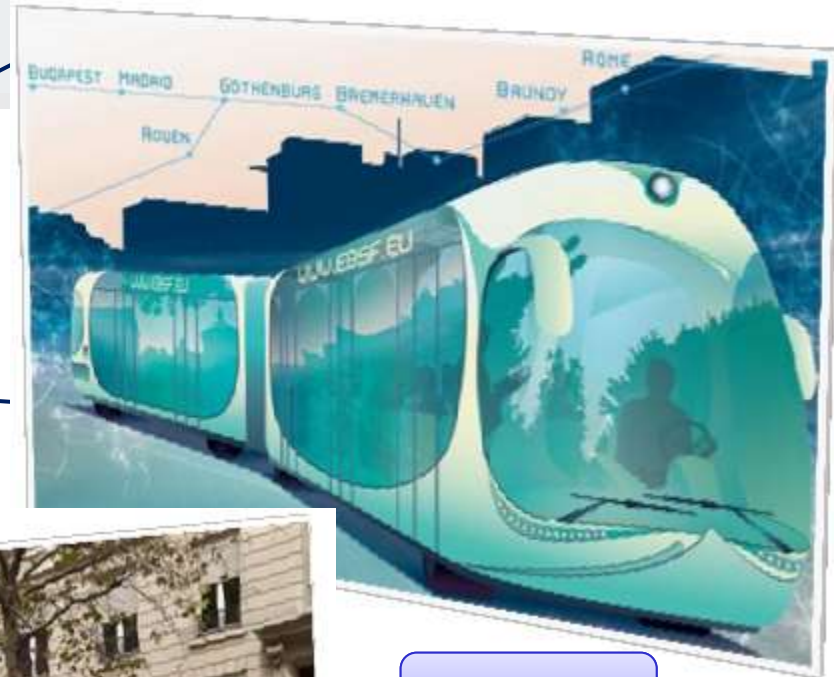
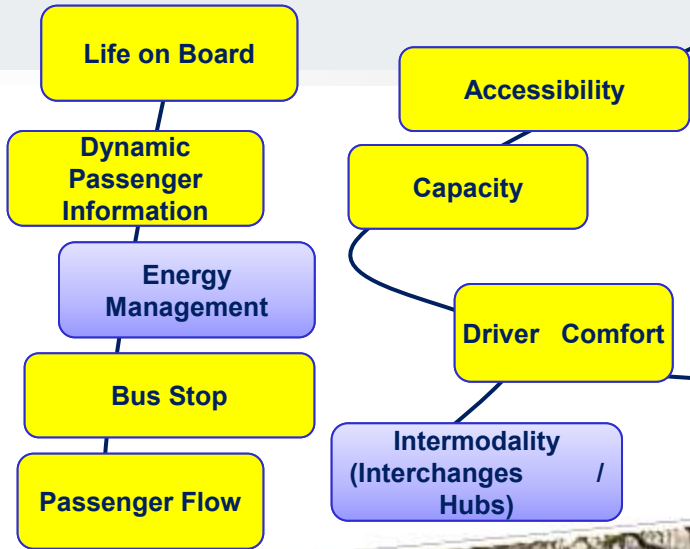
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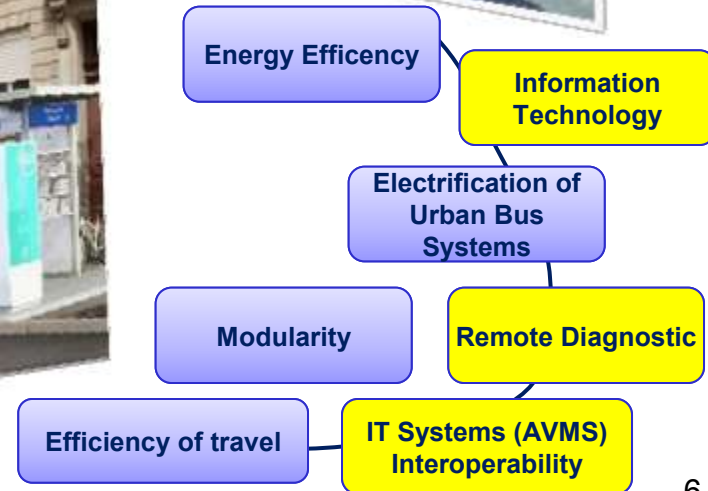
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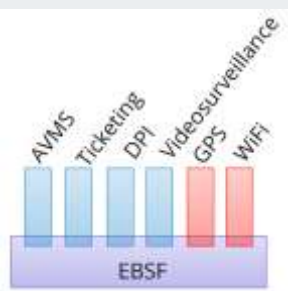
Paris

Budapest



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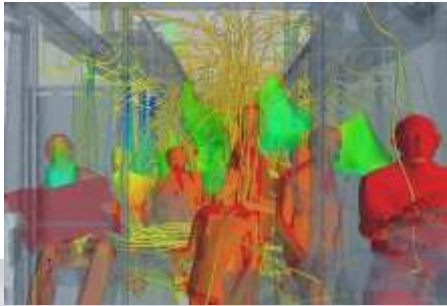




EBSF developed solutions for Efficient and Attractive Bus Systems



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Code of practices for Driver Cabin design

- Already implemented on new commercial products

Open Standard IT architecture (*CENTC278WG4*)

- Service Oriented / Ensure Interoperability
- Adoption of standard started (*ITxPT*)

Remote diagnostic

- **6%** longer maintenance interval + **15%** less red-failures bus/km

Interoperable Dynamic Passenger Information

- Specifications implemented on **2000** HOV Madrid buses

Strategies for management of on-board energy

- average fuel consumption reductions **ca.10%**

More attractive bus stop

- From a waiting area to an **urban living space**
- **Paris Gare-De-Lyon**

New bus interior layout / attractive design

- Better accessibility / lower dwell time



3iBS: Intelligent, Innovative, Integrated Bus Systems

Objectives of survey:

- **Provide a snapshot of the bus systems in operation in Europe and its trend**
 - *Fleet composition, propulsion, ITS*
- **Investigate the implementation status of strategies for the strengthening and the development of bus systems**
- **In line with the objectives of high-level PT strategies**
 - *UITP "PTx2", EU "Action Plan on Urban Mobility", etc...*



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Conclusions



- **Buses are a key solution to new Urban Mobility Challenges**
- **Efficiency make Bus Systems more attractive**
- **Holistic Approach is necessary**
 - Look to each type of urban bus system solutions
- **EBSF Project defined the main characteristics of future attractive bus systems and developed some key innovations for top-quality urban bus systems**
 - Economic situation highlight the importance of solutions for the other segments of bus market, capable to improve the attractiveness through innovative solutions for increased efficiency of the system.
- **Innovative Bus Systems Roadmap define the road for developing more efficient and attractive bus systems**
 - Priority areas and next steps

Thank you!

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