New mobility challenges

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TRANSPORT, RADICAL CHANGE VECTOR

• City to urban area
  – Horizontal expansion (tramway)
  – Vertical expansion (lift)

• Navigation
  – Nolli map (Rome, 1748)
  – Underground map (London, 19è)
  – Time geography (TGV/ HSL)

• Everyday life activities
  – Intensification
  – Fragmentation
  – Exclusion
From transport to mobility

- **Paradigmatic change**
  - Need for **breakthrough** innovation

- **Main topics**
  - Uses & users: Homo-mobilis 2.0
  - More with less money (20-30%!)
  - Resiliency (> sustainability)
  - New governance= Mobility 2.1
MOBILITY = BREAKTHROUGH INNOVATION
HOW TO GRASP IT & COPE WITH IT?

• Intense & Repeated Innovation
  – Technologies
  – Values/Uses
  – Regulations rules
  – Funding
  – Competitors
  
    Energy efficiency - BRT vs Tramway
    Saving time vs living inside mobility
    Local vs big government
    Mixed (public, private)
    Newcomers

• Objects Identity Transformation
  – Open functional spaces
  – New competences
  – New partnerships
  – Economics models
  
    From station to hub
    Beyond transport
    Exploration, coopetition
    Functionality economics

• Collaborative Platforms for Innovation
INNOVATION FOR HIGHER GLOBAL SYSTEM FOR URBAN MOBILITY

- Responsive transport system
- Mobility cocktail (modal redundancy)
- Territori@l covering (connectivity)
- Design-to-cost
USES: Meaningful & useful mobility

Taking into account changes in uses

• Time shifts
  – Being mobile vs social exclusion

• From spaces to places
  – Territorial cohesiveness vs urban sprawl

• Hyper-urban cities
  – Connected persons vs digital illiteracy

• Public health & body concern
  – Trip quality to mobile health vs crowd pressure

• Environmental concern
  – Cleantech vs global warming
MEANS: efficient & resilient systems

Answering old & new questions:

• Over 50% of occasional users
  – Helping temporary & permanent citizens?

• More irregular patterns of mobility
  – Facing random & diffuse trips?

• Local development & intercity competition
  – Coping with heterogeneity?

• Mobility as social integration
  – Reducing effects of exclusions & ageing?
Transport & Mobility

• Transport, a network of industrial era
  – A vision of “heavy” production

• Mobility : chrono-sapiens
  – New relations to manage time & space trips

• “Urban Mobilities” : homo-mobilis 2.0
  • Hyper-urban person, mobile & connected
ACTORS: rough competition & coopetition

- **Smart mobility (ITS)**
  - Siemens, Alstom, …

- **Smart city newcomers**
  - Cisco, IBM, Oracle, Google,…

- **Smart grid (extended)**
  - Energy: GDF Suez, GE
  - Civil engineering: ARUP, Vinci
"NEW DEAL" FOR URBAN MOBILITY

<table>
<thead>
<tr>
<th>Interactions with</th>
<th>Territories</th>
<th>Individuals</th>
<th>Technical system (innovation vector?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport (industrial)</td>
<td>Land planning (network)</td>
<td>Flows/ crowd</td>
<td>Infrastructures (optimization)</td>
</tr>
<tr>
<td>Mobility (services)</td>
<td>Urban management (diversity)</td>
<td>Clients (uses)</td>
<td>All modes (information)</td>
</tr>
<tr>
<td>Urban mobility (links)</td>
<td>Potential of development (local talents/skills)</td>
<td>Actors (co-designer)</td>
<td>Incubator (collaborative innovation)</td>
</tr>
</tbody>
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Economics model
- Public funding
- PPP
- Bien Public collectif

A. Largier, SNCF 2012
AUGMENTED MOBILITY?

• Augmented mobility
  – Which is more than transport from A to B
  – Which gives added value to
    • Connected and mobile individuals/Excluded
    • Territories/ cities
  – Which is low cost
DESIGNING AUGMENTED MOBILITY?

Augmented Mobility

Extended PT
- Private T
- Collective & Individual PT
- Car-sharing
- Car-pooling
- Bike
- Real-time information

Collective & Individual PT
- Inter- & multimodality

Places
- Open Hubs
- 3D hubs

Services
- ?
- To
- At
- Inside
- web

Person
- Pedagogy
- Open data

Mass Transit
- Urban train (rural/city)
- Urban Development
- Adaptor (time, space)
- Territorial catalyst

Activities during trip
- Open innovation platform
- Personal Travel Assistant

Open innovation platform
- Activities during trip
- Personal Travel Assistant

Open data
- Pedagogy
- Personal Travel Assistant
- Activities during trip

Real-time information
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State-of-the-art

Places
- 3D hubs
- Open Hubs
- ?
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State-of-the-non-art
- Personal Travel Assistant
- Open innovation platform
- Activities during trip
- Open data
- Pedagogy

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Exploration strategy

Open innovation platform

Pedagogy
Mobility 2.1

- Co-design of services: mobility 2.0
  - Traveller- actor of his/her own mobilities
  - Collaborative innovation

- Institutionalization of new governance: mobility 2.1
  - Innovative ecosystem
  - Co-creation of added and shared value
Thank you!