Busitalia – Sita Nord

Tuscany: the case of clean bus operation and testing in cities and regions

Andrea Ferrari

“Clean and Efficient Bus Transport”
Brussel, 27/06/2018
Busitalia Sita-Nord
Mission

Our mission is to increase the public modal share by placing itself, alone or together with other excellences present in the market, as the protagonist of the growth of a collective, integrated and sustainable mobility system.

The main objective is the Italian LPT market where the evolution process of the sector will reward the more efficient and effective operators.

Interest in opportunities in foreign market in order to acquire profitability, know-how and transversal skills.
### Busitalia key figures

<table>
<thead>
<tr>
<th>Offer</th>
<th>Passengers</th>
<th>Vehicles</th>
<th>Employees</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>160 mln bus*km</td>
<td>300 mln</td>
<td>3,000</td>
<td>6,100</td>
<td>605 mln €</td>
</tr>
</tbody>
</table>

**Referred to 2017**

Brussel, 27/06/2018
Busitalia in LPT: Italy and Holland

ITALIAN MARKET

- Padova
- Rovigo
- Salerno
- Arezzo
- Firenze
- Siena
- Perugia
- Terni

Ataf Gestioni
Autolinee Mugello
Valdisieve
Autolinee Chianti Valdarno
Piu Bus
Etruria Mobilità

Busitalia Campania SpA

Busitalia Umbria

Busitalia Veneto SpA

DUTCH MARKET

Brussel, 27/06/2018
Long-term strategic objectives of FSI for Sustainable Development

SUSTAINABLE MOBILITY

Goods: By the year 2050, 50% road transport, 50% rail transport.

PASSENGERS: compared to 2015, 5% modal shift from private car to public transport and shared mobility by the year 2030 (15% by the year 2050).

Dati 2015 – perimetro Italia
Fonte: Conto Nazionale delle Infrastrutture e dei Trasporti

Brussel, 27/06/2018
Renewal of the fleet: a key factor in the modal integration

Busitalia technical choices for the renewal of the fleet: from diesel to electric ... through the hybrid
From diesel to electric

✓ Electric buses are the only type of LPT “no diesel” vehicles that have a real and lasting possibility of long-term development

✓ Other fossil fuels have already shown not to be a real alternative to diesel engines

✓ Technology is moving very quickly in this direction

✓ However, as long as the costs will be double compared to current buses costs, without adequate funding, it will not be possible to start the change
**ATAF Gestioni case**

Urban LPT in Florence

- 9 Municipalities
- High/medium frequency
- 41 Lines - 1.355 stops -2 depots
- network dedicated to historical centre with electric buses

- 73,8 Millions euro turnover
- 1.029 Workers (858 drivers)
- 85,7 Millions passengers
- 15 Millions bus km/year
- 358 Urban busses - all with AVM system

Brussel, 27/06/2018
ATAF fleet – Evolution by environmental regulations

Brussel, 27/06/2018

- EURO 2: 25.42%
- EURO 3: 34.18%
- EURO 4: 22.60%
- EURO 5, EEV: 14.41%
- ELETTRICO: 3.39%
- EURO 6: 35.03%

2017

- EURO 2: 22.6%
- ELETTRICO: 4.52%
- EURO 3: 20.34%
- EURO 4: 22.60%
- EURO 5 EEV: 14.69%
- EURO 6: 4.5%

2018

- EURO 2: 22.6%
- ELETTRICO: 4.5%
- EURO 3: 21.2%
- EURO 4: 22.6%
- EURO 5 EEV: 14.4%
- EURO 6: 34.5%

2019

- EURO 2: 25.42%
- ELETTRICO: 4.7%
- EURO 3: 10.5%
- EURO 4: 22.6%
- EURO 5 EEV: 14.8%
- EURO 6 + IBRIDO: 70.1%
ATAF fleet – Power Supply Evolution by traction type

- **2016**
  - Diesel: 67,23%
  - Methane: 28,25%
  - Electric: 4,52%

- **2018**
  - Diesel: 67,23%
  - Methane: 19,77%
  - Electric: 4,52%
  - Hybrid: 8,47%

- **2019**
  - Diesel: 63,60%
  - Methane: 30,15%
  - Electric: 6,25%

Brussel, 27/06/2018
**ATAF fleet – Average age trend**

- **2013**: 10.5
- **2017**: 8.9
- **2018**: 6.5
- **2019**: 5.1
From diesel/CNG to hybrid ...
From hybrid to electric...

The electric bus: why not immediately?

The electric revolution, the real one, will be possible only when at least 85% of the urban lines currently served by buses powered by fossil fuels can be carried out with electric buses (in terms of same service, offer, battery capacity ...): the so-called overlap of the service.

The evolution of the battery technology will allow the increase of the distances and the gradual overlap of the lines with the current diesel technology.
The system approach is essential!

- **Vehicles**
  - Vehicle configuration, Capacity, Passenger Handling, Project, Type of propulsion

- **Depots: maintenance and layout**
  - General organization of maintenance
  - Reorganization of depots

- **Network**
  - Paths
  - Travel times
  - Intermodality

- **Service**
  - Commercial speed optimization

- **Charging infrastructure**
  - Integration in the urban environment

- **Stations**
  - Reachability
  - Optimal access
  - Information to the public
  - Boarding and disembarkation
  - Guide to destination
The ideal solution for the electric bus: BRT or BHLS

BHLS make public transport more efficient:

• High quality in the transport system;
• High passenger transport capacity;
• Fast implementation time;
• Low investment and operating costs;
• Zero CO2 emissions;

• Reduction of traction costs;
• Accident reduction;
• Improvement of the residual value of the vehicle;
• Reduction of the driver's stress level.
Thank you
More Information

For info or further questions on this seminar and the activities of the JASPERS Networking Platform, please contact the JASPERS Networking and Competence Centre at the following email:

jaspersnetwork@eib.org

JASPERS Networking Platform:  www.jaspersnetwork.org

JASPERS Website:  jaspers.eib.org