SELLING MORE BIKES TO BUSINESSES

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Energy Institute Hrvoje Požar, Croatia

FRIEDRISCHSHAFEN, GERMANY
26 AUGUST 2015
PRO-E-BIKE project goal

Structure of delivery fleet in X city/ X company before PRO-E-BIKE
PRO-E-BIKE project goal

Structure of delivery fleet in X city/ X company after PRO-E-BIKE

NOT REPLACING REGULAR BIKES!!!
PRO-E-BIKE project

- Promoting electric bicycles and scooters (e-bikes) for delivery of goods, for services and for passenger transport in **urban areas**.

**WHY?**
- Cleaner and more energy efficient transport in European cities

**HOW?**
- Performance analyses of electric bicycles and electric scooters - TESTING
- Demonstration that e-bikes can replace traditional ICE vehicles (vans, cars, mopeds, scooters)
- Support to E-bike market uptake
- Support to development of policies that can stimulate wider usage of E-bikes in urban transport
PRO-E-BIKE project

IS THIS REALLY POSSIBLE !?

• Dealers/producers in many cases do not want to rent e-bikes (WHY?)
• Companies not interested to participate (WHY?)
BUT with efforts, dedication, vision, thinking out of the box….
PRO-E-BIKE project

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BUT with efforts, dedication, vision, thinking out of the box….

IT IS POSSIBLE !
74 e-bikes tested in 39 pilot companies!
## Overview of project pilot companies

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<thead>
<tr>
<th>Project country</th>
<th>No. of participating companies</th>
<th>No. of vehicles tested</th>
<th>Vehicle type</th>
<th>Testing period (M)</th>
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<td>10</td>
<td>Mix</td>
<td>12</td>
<td>100</td>
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<td>100 (at least for several months)</td>
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<td>4</td>
<td>7</td>
<td>Mix</td>
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<td>75</td>
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Companies profiles

GOODS

- Post/parcel/cargo delivery companies
- Retailers (home delivery)
- Food delivery (restaurants, fast food chains)
- Goods delivery from markets, tobacco shop, organic products from farms
- Delivery of company products
Companies profiles

SERVICES
• Communal inspectors
• Transport to the meetings
• Social and home care service (for elderly and disabled people)
• Waste collection
• City tourist board
• Water meter readings for municipality

PASSENGER TRANSPORT
• Childcare centre
E-bike models tested

- Pedal Assist/E-scooter (E-bikes)
- E-bikes with baskets or saddlebags
- Various types of cargo-e-bikes
- E-cargo tricycle with low or high capacity (load and volume)
- E-cargo bikes for children
What did companies expect?

- Increase efficiency / productivity of logistics processes
- Improve company image
- Reduce emissions
- Reduce energy consumption
- Reduce costs
- Improve corporate social responsibility
- Provide services in new areas
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- Improve Corporate Social Responsibility
- Provide services in new areas

- Bigger visibility of the company and their products/services among customers in the local environment
- Market enlargement
- Offering a new service to customers
- Increased service quality, flexibility and accessibility
Case study (pilot)
Hrvatska pošta/Croatian post Ltd.

- 1,018 post offices all over Croatia
- 3,202 vehicles for delivery (of that number 2,298 mopeds)

Characteristics of PILOT delivery
- Delivery of packages and letters
- Average ....
  - distance per order: **20 m**
  - number of deliveries per journey: **730**
  - distance per journey: **45 km**
  - journey time: **7 h**
  - driving speed (stops for deliveries not considered): **25 km/h**
  - weight transported per vehicle: **35 kg**
  - volume transported per vehicle: **0,05 m3**
  - distance of empty trips: **5 km**
Case study (pilot)
Hrvatska pošta/Croatian post Ltd.

- Testing period: August 2014 to August 2015
- Total number of working days along the pilot duration: 250
- Vehicles tested:
  - 2x e-bicycle
  - 1x e-tricycle
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RESULTS

• Public tender for 180 electric bikes  
• Value cca 500 000 euro  
• Expected start – October 2015  
• Goal: economical and ecological delivery  
• Co-financed by Environmental Protection and Energy Efficiency Fund (EPEEF)  
• Model: KRPAN FreeDUC2 (Slovenian – Italian- Croatian model)
Case study (pilot)
GLS, Milan, Italy

250 deliveries/day

Traditional model

Pro-e-bike model

0.5 V
+ 4-6 e-B

Platform GLS Duomo
- April 2015

**Traditional Fleet:** 15 ICE vans

<table>
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<th>Item</th>
<th>Cost</th>
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<tr>
<td>Fuel</td>
<td>52,500</td>
</tr>
<tr>
<td>Congestion charge</td>
<td>18,750</td>
</tr>
<tr>
<td>Platform</td>
<td>40,000</td>
</tr>
<tr>
<td>Salaries</td>
<td>468,750</td>
</tr>
<tr>
<td>Fines</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>581,000</td>
</tr>
</tbody>
</table>

**New Fleet:** 12 e-vans + 6 e-bikes

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<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>4,575</td>
</tr>
<tr>
<td>Congestion charge</td>
<td>0</td>
</tr>
<tr>
<td>Platform</td>
<td>60,000</td>
</tr>
<tr>
<td>Salaries</td>
<td>495,000</td>
</tr>
<tr>
<td>Fines</td>
<td>750</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>560,325</td>
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Co-funded by the Intelligent Energy Europe Programme of the European Union

promoting-electric-bike-delivery
Lessons learned from the pilots

• Due to diversity of business there is no ideal solution (e-bike) that fits all needs!
• Each case should be separately analyzed.

HOWEVER……

• Quality is important (parts and structure)
• Battery range and lifetime are crucial (but influenced often by driving style—therefore training might be beneficial)
• Easy to use vehicles have advantage (lighter, more manageable)
• Some business have certain requirements (insulation—warm and cold food)
• E-bikes are not always suitable for every part of the country (the advantages are visible the most in dense cities since battery range doesn’t allow deliveries over longer distances)
• And many more…
SELLING more E-bikes!?  
What should be considered?

- Good and firm agreements between:
  a) the producer and dealer,
  b) dealer and final customer are crucial!
    - secured repairs (flat tires, broken pedals, battery, motor) and maintenance
    - any malfunctions should be removed quickly because a vehicle out of service means money lost
    - spare parts must be available

- Battery quality (range and lifetime) is of high importance!

- Allow your model to be adapted to various business and needs
  - Balance e-bike for big loads; front wheels
  - Bags and saddles; refrigeration boxes; trailers
  - Security
SELLING more E-bikes!?
Where are the opportunities/market for e-bikes?

1. A city
   75,062 inh.-
   3,000/km²

2. A city
   29,798 inh.-
   1,546/km²

3. A municipality
   6,151 inh.-
   42/km²

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PRO-E-BIKE
promoting electric bike delivery
SELLING more E-bikes!? Where are the opportunities/market for e-bikes?

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   75.062 inh.
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3. A municipality
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   42/km²
SELLING more E-bikes!? Where are the opportunities/market for e-bikes?
SELLING more E-bikes!?

And remember....

- Delivery market demands **high quality vehicles**
- If customer is satisfied - they will buy more!

- More e- bikes means visibility for producer/dealer !!!
Join us at PRO-E-BIKE platform

• For e-bike distributors (dealers) and producers
• Focus is on project countries but entries from other countries are welcome!!!
Use PRO-E-BIKE simulation tool

Available in 8 languages!
Country customised data!
PRO-E-BIKE project

- April 2013 - March 2016
- 10 partners from 7 countries
- Coordinated by Energy Institute Hrvoje Požar (EIHP), Croatia
- 8 pilot cities

- Zadar
- Genova
- Valencia
- Lisbon
- Torres Vedras
- Moravske Toplice
- Heerhugowaard
- Motala
Other pilots in Croatia

3 pilots initially, but later ……

<table>
<thead>
<tr>
<th>PILOT</th>
<th>E-Bike type</th>
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<tbody>
<tr>
<td>CITY EX, Zagreb</td>
<td>2x e-bicycle</td>
</tr>
<tr>
<td></td>
<td>1x e-scooter</td>
</tr>
<tr>
<td>DHL, Zagreb</td>
<td>2x e-bicycle</td>
</tr>
<tr>
<td></td>
<td>1x e-tricycle</td>
</tr>
<tr>
<td>COMMUNAL INSPECTORS, Zadar</td>
<td>1x e-bicycle</td>
</tr>
<tr>
<td></td>
<td>1x e-scooter</td>
</tr>
<tr>
<td>TABACCO SHOP, Zadar (NEW SERVICE!!!)</td>
<td>1x e-bicycle</td>
</tr>
<tr>
<td>SOCIAL CARE HOME ST. FRANE, Zadar</td>
<td>1x e-tricycle</td>
</tr>
<tr>
<td>SOCIAL CARE SERVICE, Lipik</td>
<td>1x e-bicycle</td>
</tr>
<tr>
<td>COMPANY FOR WASTE COLLECTION, Zadar</td>
<td>1x e-bicycle</td>
</tr>
<tr>
<td>EIHP, Zagreb</td>
<td>1x e-bicycle</td>
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Thanks for your attention!

Questions?
Comments?

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CROATIA

Source: http://www.whitelinehotels.com/blog/bullitt-cars-are-just-so-last-year/

www.pro-e-bike.org