APPS&CO

CONCEPTS & SOLUTIONS FOR OPTIMISED URBAN DELIVERY FOR SMALL SCALE FLEETS

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CONTENT

• PTV concept of eMobility
• Fleets in electric mode
• Planning last mile in the eMobility space
• Apps for optimised eFleets
PTV CONCEPT OF EMOBILITY

• eMobility takes time….batteries are costly, larger electric vehicles are not competitive to conventional ones
• IT as enabling technology establishing the co-operation among
  • SmartCar (Vehicle manufacturers)
  • SmartGrid (Energy supply)
  • SmartTraffic (Transport Industry)
• eLast Mile logistics is leading to a new way of operations
  • eMobility Service Platform
  • eMobility Fleets
  • eMobility Consolidation Centers
FLEETS IN ELECTRIC MODE

eFleet IT is an interplay of back end systems and mobile devices

- Weather: Impact on range
- Charging Station
  - Actual Data - special
  - POI
- Traffic Information
  - Online calculated and monitoring routes
- Data on height/slope
  - Optimum Route incl. adaptation on max. range
- Max Range
  - Calculated on Backend level
WHAT’S APP?

• Small Application with limited functionality
• Running on mobile devices
• Immediate added value for users
• Interacting with a web service (using structured information exchange)
CITYLOG APP FOR LAST MILE PARCEL DELIVERY

Urban Transport Operator
Planning Web Service

Traffic Information

Optimized destination sequence
ETA

NavigationApp

Historic
Real time

DeliveryApp
PLANNING LAST MILE IN EMOBILITY SPACE

- Transhipment area without need for equipment or other fixed assets
- Transhipment of Load Units from freight bus to delivery van

Cost of CDC => close to 0
Cost of handling => 0
Time of unloading/reloading of goods => minimized
OPTIMISING WITH INNER CITY DEPOTS

Km driven -11.5%
Time -4% (including transhipment)
Addressing the range limitation of eTrucks by means of energy prognosis

- Range prediction and energy efficient routing
  - Range polygons
  - Guided routing
  - Charging services
  - Connecting Vehicle – Driver – Backend services
  - Interfaces of back end service - mobile Client
NAVIGATION FOR EFLEETS

- Different application fields need different features
- Range calculation and display
- Range polygons
- Different driving mode

- Smartphone applications
- Charging station assistant
- Display charging station and context info
- Additional POIs
RANGE PREDICTION: LEARNING SYSTEMS

Battery measuring

Batterie-Modelling

Battery simulation

HVAC measuring

HVAC modelling

HVAC simulation

Add. energy consumer

Coasting Assistance

Optimised range prediction
THE REAL RANGE FOR ANY CONDITION
• Up dating vehicle profile for optimisation
• Tour sequence and status
• Delivery notification and release
CONCLUSIONS

• Integrating electric vehicles into distribution processes need changes in the supply chain design and operations

• Mobile telematics applications have been costly and complicated in the past (Telecommunication/roaming, Integration, Device). Apps open access to the mobile units in the transport chain on an easy, low cost and device independent way.

• Navigation for eFleets needs extension with range limitations and dynamic integration dynamic interchange with backend systems to employ vehicles optimally.

• For small scale solutions Apps and cloud based software solutions are very promising technologies for integration, software sharing and also new functionalities and solution in last mile distribution
WE PLAN AND OPTIMISE EVERYTHING THAT MOVES PEOPLE AND GOODS WORLDWIDE.