“eMobility eMotion”

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With modular integration to a new EV architecture

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Introduction DuraCar Organization
Vision / Mission
Modular design
Existing power train architecture
Body key factors
Pollux contribution
HMI display’s
EV architecture (QUICC) New Generation
Summary
Introduction

- Organization: DuraCar Holding BV

- DuraCar has developed and build a new distribution vehicle concept based on a electric drivetrain.

- Specialized in developing new vehicle concepts and system integrator of new embedded systems

- 5 employees

- Workshop facilities of AWEFLEX systems

- 2 Quicc DiVa’s used as test platform
Vision


- Ready for innovative solutions for sustainable mobility.

- These solutions should make a contribution towards four essential aspects:
  - Environment
  - Cost price per km
  - Inner-city accessibility
  - Human Car Interaction
Mission

- Creating a production platform for new technologies makes DuraCar the innovator of sustainable mobility.

- DuraCar will introduce a number of fully electrically powered vehicles **QUICC!** (*QUICC! DiVa is the first of the family*)

- The **QUICC! DiVa** model for city distribution combines a number of innovative technologies:

- It is DuraCar’s ambition to lead the European market segment of electrically powered, lightweight recyclable vehicles (*Cradle to Cradle*)
Modular design

- Body
- Power train/ Sub frame
- Interior
- Battery system
- Electric system
- auxiliaries
Existing power train architecture

- Central motor (Siemens 18kW)
- Exchangeable light weight sub frame
- Front wheel drive
- On board charger (3.3 kW/h)
- Battery 90 Ah / 288 V / 25 kW
- Tim 600 inverter
- Range ca. 130 km / top speed 130km/h
Body key factors

- Currently: glass fiber composite & PU foam
- (near future composite polymer)
- Recyclable C2C
- Completely glued /sealed
- Car coloured material

- Floor section covers total body stiffness
- Partition wall for roll-over protection
- Limited number of body parts:
  - 12 main body parts
  - 80 parts in total (ex. fixing materials, glues & sealers)
Pollux contribution

Development HMI system

- HMI displays with visual comfort
- Active Force Feedback Pedal
- New look & feel for EV driving
- Stimulation to drive safely and efficiently
- Energy saving

- Feasibility study (X by wire)
HMI Display’s

- **Primary Display**
  - Limited symbols to minimize distraction
  - Comfortable lay-out
  - State of charge
  - Energy consumption
  - Remaining range

- **Secondary Display**
  - Energy & Costs
  - Real time
  - History / driver
EV architecture NG

Chassis domain of QUICC NG

- Brake by wire
- Steer by wire
- Active body control
- Upgrade HMI
- Engineering partner

Safe adaptive software for FEV
Summary

QUICC NG

- DuraCar will introduce a number of fully electrically powered vehicles
  *(QUICC! DiVa is the first of the family)*

- Emission free,
- Low cost in energy consumption and maintenance
- Easy to use in urban distribution
- Low cost assembly (dealer level)
- Reduce the numbers of components within the vehicle

Next phase:

- New Projects: **Safe Adaptive Software for Fully Electric Vehicles**
- Development QUICC NG
- Engineering partner (OEM's) for configuration of EV power trains of Heavy Duty vehicles
  such as:
  - Trucks, Busses, Airport busses
Thank you for your attention