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The 27th INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION
BARCELONA
17th-20th November 2013

TUT

Experimental Setup to Explore the Drives of Battery Electric Vehicles

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Organized by Fira Barcelona avele
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In collaboration with EVAAP EDTA
Supported by European Commission

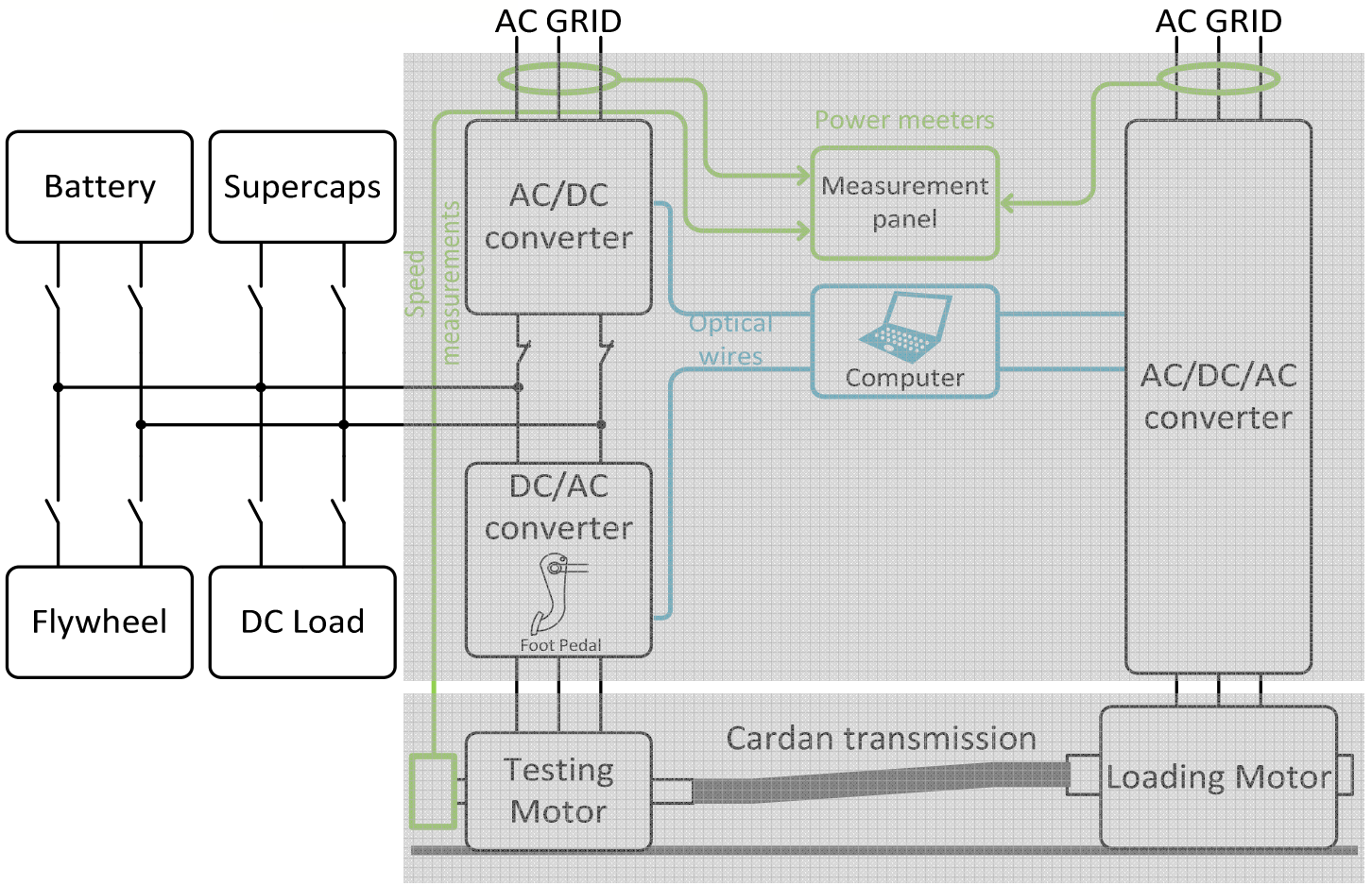
Outline

- Experimental Setup Configuration
- Performance of Experimental Setup
- Conclusions

The Main Objectives:

- provide the research environment for analysis, investigation, and simulation of the marketable BEV drive systems
- establish the assessment and verification procedures for different motor, gear, and power converter types met for propulsion
- support commercial consulting, research and testing for enterprises
- enlarge students participation in corresponding research topics

Experimental Setup Configuration



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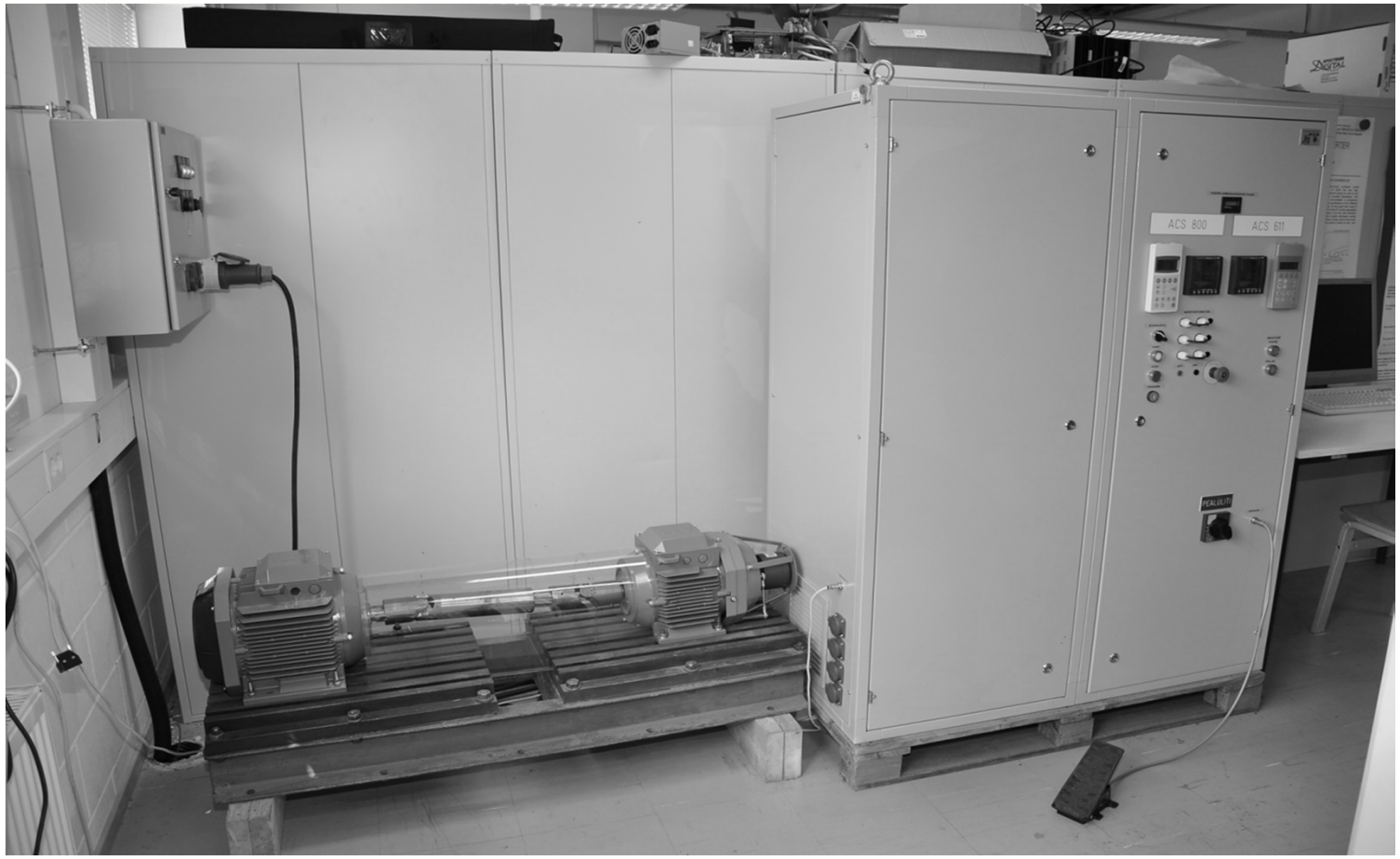
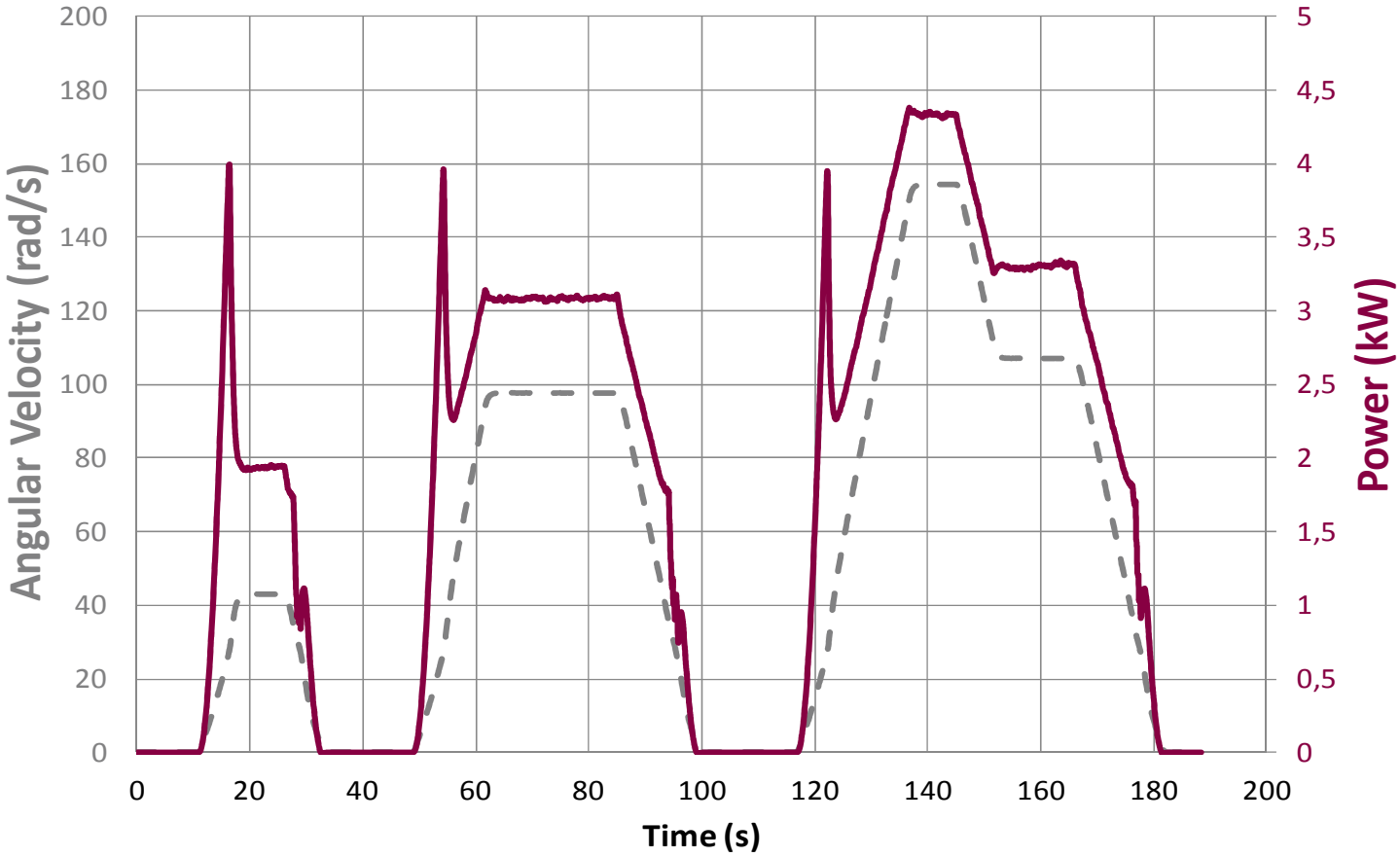
Experimental Setup Configuration



Experimental Setup Configuration

- multiple tests can be performed
- main focus is on the measurements of power and energy efficiency and investigations in driving simulation mode
- a pool of different torque measuring procedures is included in the platform
- to enable an examination of the drive trains beyond standard modes of operation, different parameters may be simulated

Performance of Experimental Setup



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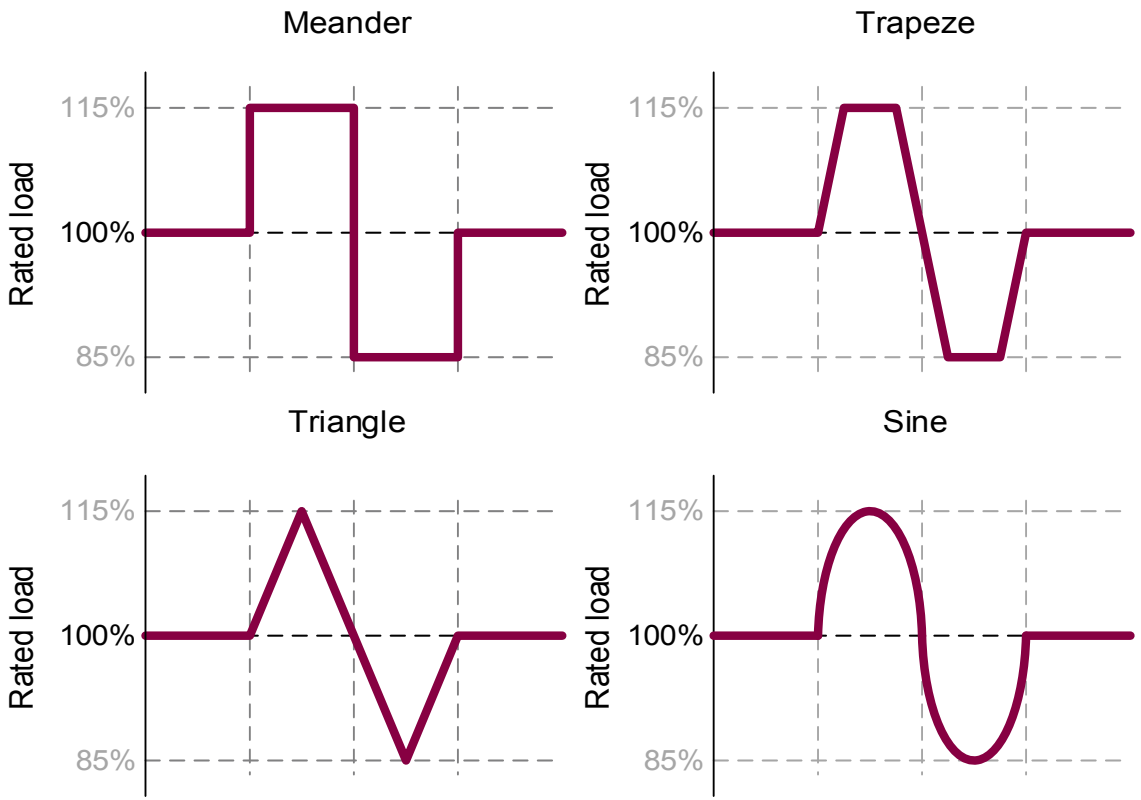

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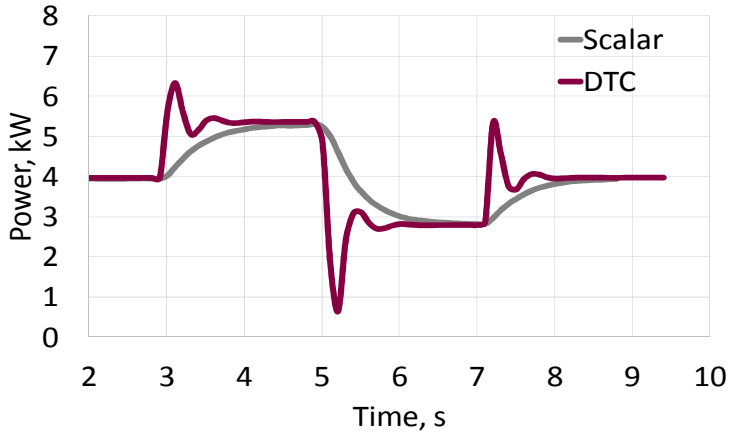

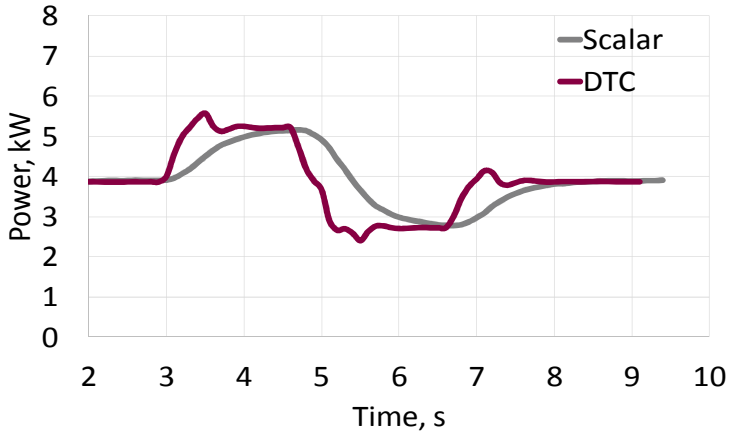

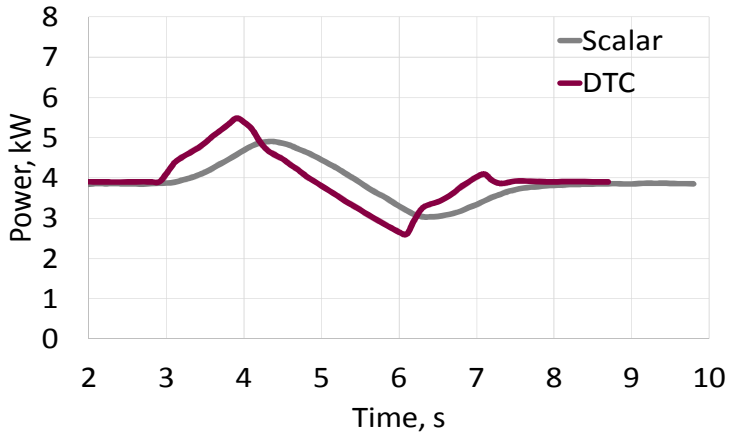

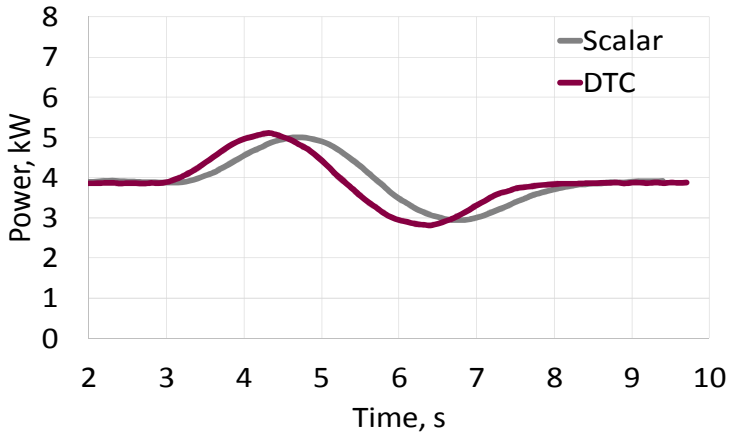

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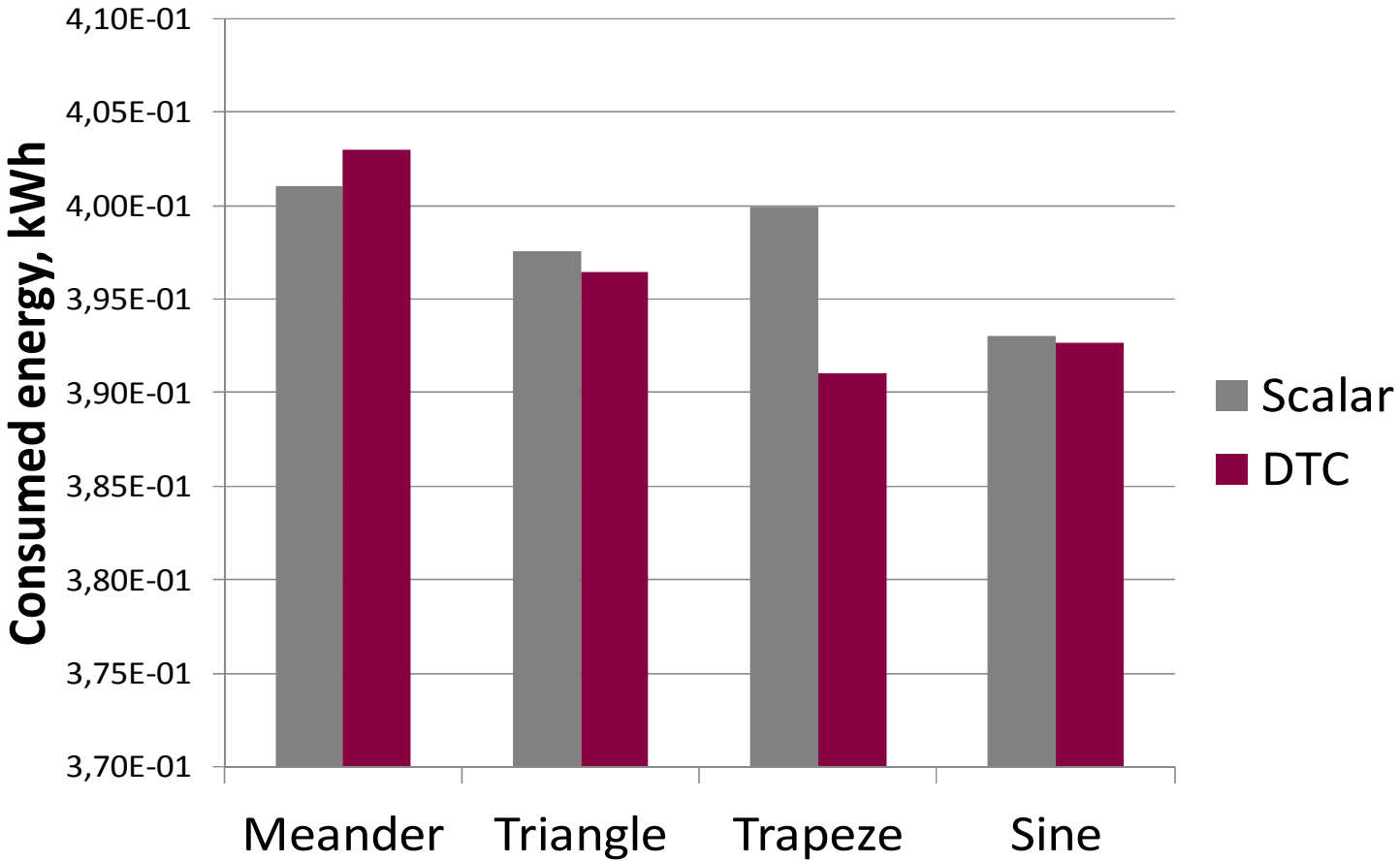

Conclusions

- testing and verification the functionality of the constituent equipment
- experimental determining of the mechanical characteristics of the propulsion motors and electrical properties of their power converters
- determining the charge/discharge characteristics of the supercapacitors
- determining the model of the traction motor and simulating the functionality of the system consisting of different combinations of energy sources and mechanical loads, in order to establish the optimal configurations for the system
- defining a procedure for an efficient management of the energy in the case of the functionality with unique sources and/or with hybrid sources (network, supercapacitors, etc.)
- studying the energy recovery processes

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FEEL FREE TO ASK QUESTIONS!

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