Excavator Design

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ricerca
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veicoli elettrici

PROJECT AIM

Conversion of a diesel excavator in a zero-emission vehicle, fully electric with no compromises in term of performance and usage.

The conventional Engine has been replaced by a new designed electric powertrain positioned on the rear part of the excavator contributing to the ballasting. The new e-motor has been directly connected to the original hydraulic control avoiding changes on the hydraulic system of the vehicle.

STRENGHTS OF CONVERSION

- ZERO EMISSION
- LOW NOISE
- LOW COSTS
- INDOOR USE
- NIGHT USE
- CITY CENTER USE

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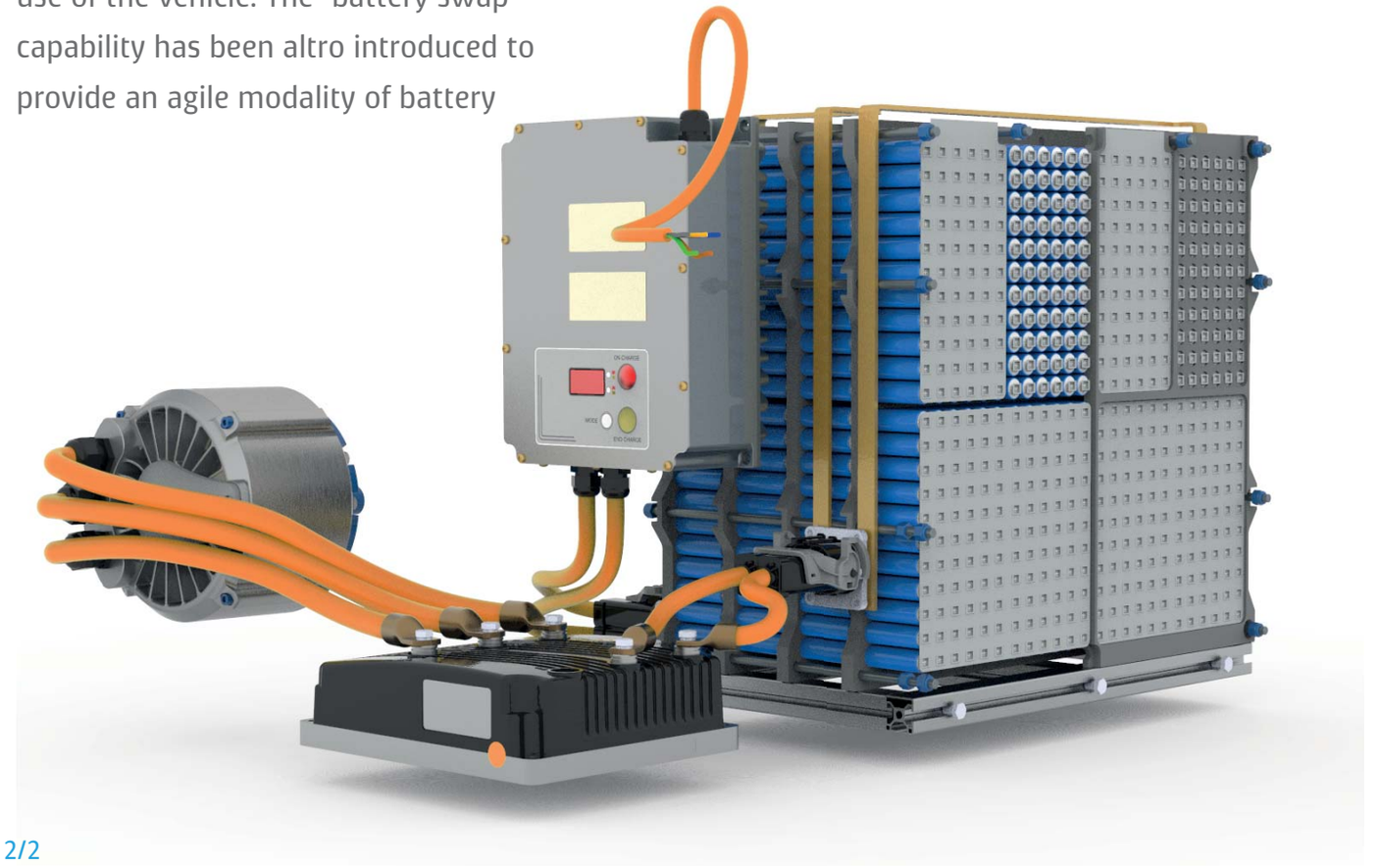
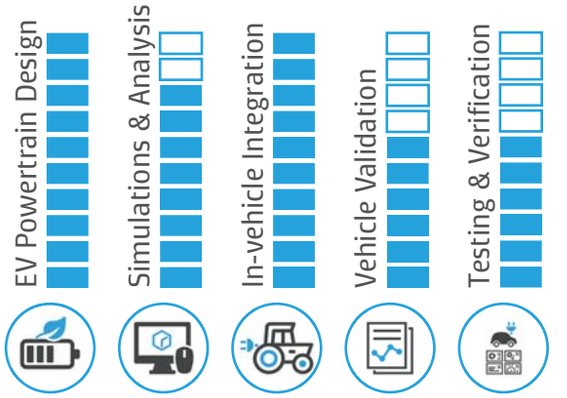
DESCRIPTION

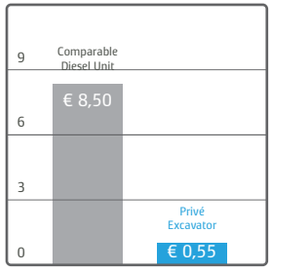
The converted vehicle has been equipped with a battery pack of 20kWh with 18650 lithium cells, able to cover a typical working day and a packaging system of the modules, considering the production and ruggedness needs due to the type and use of the vehicle. The "battery swap" capability has been altro introduced to provide an agile modality of battery pack removing, and power electronic components disconnection, with the aim to provide a possible extension of work time capacity and not foreseen maintenance operations. An optimal placement of all the components has been fundamental for this achievement.



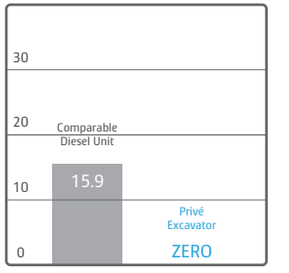
APPLIED SKILLS



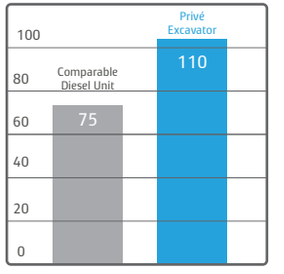
ADVANTAGES OF CONVERSION



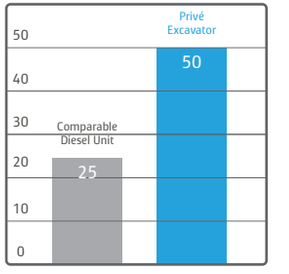
OPERATING COST (€/hour)



CO2 EMISSIONS (tons/yr.)



TORQUE (ft-lb)



HORSEPOWER