PROJECT

ELECTRIC_AXLE

Electric axle for hybrid / electric commercial vehicles

Funding: European (Horizon 2020)

Duration: May 2015 - Sep 2015

Status: Complete

Total project cost: €71,429

EU contribution: €50,000

Call for proposal: H2020-SMEINST-1-2014

CORDIS RCN : 196477

Objectives:

Silex's goal with the project is to increase its turnover, profit and size by innovation, in order to become a medium size enterprise. During the project an 8.5 - 9 ton axle will be developed with integrated in-wheel electric motors, for electric/hybrid commercial vehicles (city buses, small trucks distributing products and fork lifts). Currently there are no commercially available axles designed for these vehicles, which is the novelty of the project. Vehicles using available axles, designed for combustion engines are heavier; consume more energy then necessary and contain components (propeller shaft, differential), which can be omitted in another architecture. Using the in-wheel motors ABS, ASR, retarder functions will be solved electronically. The axle will be 30% lighter then available ones, reducing vehicle's energy consumption by 6-8%.

Patent search has shown that the key IPs of the project are currently not patented. The technical goal of the project is to develop, test and verify the axle and build it into a test vehicle to start field tests. Systems based on the new axle will be €2-2500 cheaper than existing solutions. Lower price plus energy saving, i.e. lower operating costs are the two key sales arguments which meet market demands. According to our preliminary market analyses, assuming 10% market share in the 3 market segments mentioned above, 1500-2000 axles can be sold p.a., which means 15-20 million € turnover and 2.5 – 3.5 million € profit.

In Phase 1 a detailed feasibility study will be elaborated, including technical details, project schedule, market analyses and strategy in order to co-fund Phase 2. We estimate €650-700 k as the total project cost. The feasibility study will conclude with a business plan for different market scenarios. Investment will be evaluated by payback time and ROI. The business plan will comply with accounting standards. The project results in a small contribution to increase energy efficiency and improve European competitiveness.

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Silex Ipari Automatizalasi Zartkoruen Mukodo Reszvenytarsasag

Address:
SOROKSARI UT 150
BUDAPEST

1095
Hungary

EU Contribution: €50,000

Technologies:

Axle with integrated in-wheel electric motors, for electric/hybrid buses/trucks"

Development phase: Research/Invention

STRIA Roadmaps: Transport electrification

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Decarbonisation

Geo-spatial type: Other