HYBPRO
Project ID: 774918
Funded under:
H2020-EU.2.1.1. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)
H2020-EU.2.3.1. - Mainstreaming SME support, especially through a dedicated instrument
H2020-EU.3.4. - SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

HYBRID PROPULSION FOR AVIATION
From 2017-06-01 to 2017-11-30 | HYBPRO Website

Project details

<table>
<thead>
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<th>Total cost:</th>
<th>Topic(s):</th>
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<tr>
<td>EUR 71 429</td>
<td>SMEInst-10-2016-2017 - Small business innovation research for Transport and Smart Cities Mobility</td>
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<td>EU contribution:</td>
<td>Call for proposal:</td>
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<tr>
<td>EUR 50 000</td>
<td>H2020-SMEINST-1-2016-2017</td>
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<td>Coordinated in:</td>
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<td>Spain</td>
<td>SME-1 - SME instrument phase 1</td>
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Objective

Currently, the light aircraft industry lacks the means to retrofit aircrafts with hybrid technology. This shortcoming leads to a host of problems, of the most significant include: higher maintenance costs, environmental contamination and safety risks. HYPROP is a proposal by the aeronautic company AXTER that will introduce novel technology and an accompanying business model that are aimed at taking current light aircrafts powered only by gasoline engines and converting them into hybrid propulsion aircrafts.

The proposed HYBPROP will develop a business model around the company owned prototype AX-50 (based on current commercial AX-40S) which will hybridize the airplane engine (electric-fuel combination) adapting the current piston engine of an airplane. The business model shall include a full installation service, providing services based on the customers needs, as opposed to a product driven approach. This hybrid engine will allow the use of the electric engine during the majority of the flight, reducing the consumption of fuel and the maintenance cost of the engine due to lower usage of the engine.

Several solutions have been proposed in the market to achieve a fully electric engine airplane; however, HYBPROP will propose retrofitting already existing airplanes into hybrid propulsion ones as a full service to the airplane owner, in contrast to having this technology available only on new airplanes.

The current technology available in the prototype AX-50 (based on operational AX-40S) allows a manned safe landing in the event of failure driving the full propulsion power to the electrical engine and decoupling the failed piston engine. Applying this technology to mixed operation of both engine during the complete operational environment will reduce the fuel consumption by using electrical means during taxi operation and supporting part of the flight. Batteries are charged optimizing the operation or by normal electric line with an adapter in ground.

Related information

Result In Brief
Small hybrid-electric aircraft on the horizon
Coordinator
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Spain
EU contribution: EUR 50 000

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
Contact the organisation

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