



Solar Ship and UTIAS to publish results of solar powered hybrid airship study

TORONTO, ONTARIO, CANADA, June 22, 2018 /EINPresswire.com/ -- Today, Solar Ship and the University of Toronto Institute of Aerospace Studies (UTIAS) announced they will be publishing the results of their study on the optimal design for a solar powered hybrid airship.

The research collaboration between Solar Ship and UTIAS used the Jetstream aerodynamic shape optimization framework to find an optimal design for the geometry of the airship envelope. The objective of the study was to optimize the design of a solar powered hybrid airship for operation in Africa where there is reliable solar potential and vast areas without reliable transport services. The optimizer has the freedom to vary the hybrid airship's shapes, span, twist, angle of attack, and flap angle. The objective was to minimize the size of the aircraft while meeting all of the necessary constraints related to power production and consumption, stability, and several others. The results are a highly efficient aircraft using solely solar power able to generate lift from both buoyancy and aerodynamics capable of landing on a soccer field.

UTIAS Professor, David Zingg: "Solar Ship has been working with us for several years developing a solar powered hybrid airship. Faculty and students were immediately attracted to their mission to deliver critical cargo to points of need in Africa and we were fascinated by the design challenges of their mission. Solar Ship has hired many of our students over the years and this enables us to collaborate on several challenging projects. The results of this study show a compelling design optimized through our unique aerodynamic shape optimization capabilities. We are eager to see these results converted into a flying aircraft being used to deliver critical supplies on its mission in Africa."

ABOUT SOLAR SHIP

<https://www.solarship.com>

Solar Ship Inc. is a Canadian company with its head office in Toronto and operations in Brantford, Ontario, South Africa, Uganda and Zambia. Solar Ship develops hybrid aircraft and aerostats to service remote areas. The aircraft uses two forms of lift: static lift, generated by buoyant gas like an airship, combined with the aerodynamic lift of a bush plane. This creates the capacity to fly large loads into areas without infrastructure and it enables the aircraft to fly without the use of fossil fuels. Aerostats use similar materials as the aircraft and do not use fossil fuels. They provide low cost, solar powered internet connectivity in remote areas.

ABOUT UTIAS

<http://www.utias.utoronto.ca>

UTIAS is one of the leading aerospace research and teaching institutions in the world. From autonomous drones and sustainable aviation to robotics and microsatellites, UTIAS researchers are on the cutting edge of the latest technologies that are revolutionizing our world. UTIAS faculty and graduate students collaborate with researchers and industry leaders across Canada and around the world. The Centres for Research in Sustainable Aviation (CRSA) and in Aerial Robotics (CARRE) make UTIAS a world leader in these important areas, providing opportunities for students and industry to invent, test and evaluate breakthrough technologies in aerospace.

Jay Godsall

Solar Ship Inc.
416-368-3336
email us here

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