THE GRID - THE FUTURE OF ELECTRIC FLIGHT WITH THE MOST ADVANCED ELECTRIC POWER SYSTEMS LAB IN THE INDUSTRY

News / Manufacturer

Do you know The Grid? The industry's most advanced electric power systems lab? Collins Aerospace will use the high-power, high-voltage lab to design and test systems like high-power generators for the next generation of more electric aircraft, including commercial, military, business aviation, UAV and urban air mobility platforms. Collins Aerospace is a unit of United Technologies Corp.

The $50 million investment in the lab is part of a larger $150 million total investment Collins Aerospace expects to make in electric systems over the next 3 years and builds on the $3 billion it has spent on advancing its more electric architectures over the past decade. Work on the 25,000-square-foot lab is already underway in Rockford, Illinois. Collins Aerospace expects the lab to be complete and fully operational by 2021.

"Collins is the innovation leader in electric systems, and The Grid positions us to remain the world leader in the electrification of aircraft for decades to come," said Collins Aerospace CEO Kelly Ortberg, who spoke at the unveiling. "In the not-too-distant future, hybrid-electric and fully electric aircraft will revolutionize air travel as we know it—opening up new markets like urban air mobility, while re-invigorating others like regional service to underutilized airports. They will help support a greener planet by reducing carbon emissions, and will help our airline customers by reducing operating costs and fuel consumption."

Among the first platforms to be supported by The Grid will be the recently unveiled United Technologies hybrid-electric flight demonstrator, Project 804. The goal of Project 804, developed by the company's advanced products group, is to re-engine and fly a regional turboprop aircraft powered by a 2 megawatt-class hybrid-electric propulsion system on a highly aggressive timeline. The advanced projects group combines the engineering expertise and experience of Collins Aerospace, Pratt & Whitney and UTC's research center.

Collins Aerospace will use The Grid to help design and test a 1 megawatt motor, motor controller and battery system in support of this goal. The 1 megawatt motor will be the aerospace industry's most power dense and efficient to date, and the new motor and motor controller will be used to assist the demonstrator's fuel-burning engine as part of its hybrid-electric propulsion system. The Grid will be one of a select few facilities in the world with the capability to test complete electric propulsion systems of this capacity.

The Grid not only represents the commitment of Collins Aerospace to the future of electric flight, but also its commitment to the city of Rockford—a key site for almost a century. The Grid received critical support from the city of Rockford, Winnebago County and the state of Illinois.

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