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UTC Unit To Unveil Hybrid-Electric Demo

By Graham Warwick Washington

United Technologies (UTC) has provided more insights into its Skunk Works-style UT Advanced Projects (UTAP) organization, and plans to unveil one of the projects, a hybrid-electric propulsion flight demonstrator, at an industry conference in late March.

The “Project 804” hybrid-electric demonstrator will be unveiled at SAE International’s Aerotech Americas in Charleston, South Carolina, on March 26-28, according to the conference website.

UTAP has been launched by Chief Technology Officer Paul Eremenko to help UTC “think and act like a startup” by rapidly building demonstrators for products and services that “will disrupt our own businesses from the inside,” says Jason Chua, executive director for advanced projects.

This sounds similar to the charter of A3 [A-Cubed], Airbus’ Silicon Valley outpost. Eremenko was the first CEO of A3, and Chua directed one of its projects, the Transpose modular aircraft cabin. Eremenko was later promoted to CTO of Airbus, before leaving the European airframer to take up the role at UTC.

“We’re identifying areas where we might be vulnerable to disruption, or opportunities where we can leverage our strengths to create new offerings, then building dedicated teams to rapidly execute a product or service demonstrator,” says Chua in a March 8 blog post on LinkedIn.

“UTAP departs from traditional [aerospace] technology development timescales in favor of an all-out, cross-disciplinary sprint to create a minimum viable product; ultimately enabling UTC to compete on a more rapid pace against new industry entrants hailing from the startup world,” he says.

From approval to demonstration, a UTAP project will last roughly two years, and in many cases much less, Chua says. But, unlike startups, projects are not subject to the “speed at all costs” philosophy imposed by the venture-funded model, he says.

“UTAP upholds UTC’s commitment to do big things the right way,” writes Chua. “For if our intent is for transitioned UTAP projects to form the foundation of UTC’s businesses in the coming decades (and it is), we cannot trade ephemeral victories for sustained success.”

UTAP projects are located adjacent to existing engineering

and business bases. About half the project staff is envisioned to be UTC employees who transfer to UTAP to work full time on a project and then return to their home unit once the project is complete, taking their experience with them and acting as agents for culture change.

UTAP also plans to compete with Silicon Valley to bring in external talent with new skills and perspectives. “We fully intend to give startups a run for their money, by embodying a risk-tolerant, fast-paced culture, and offering exciting opportunities,” Chua says.

UTAP is casting a wide net for project ideas, looking internally and into academia as well as canvassing external experts and innovators. After a two-to-three-month incubation period, a project plan goes to a small group of senior engineering leaders for approval.

“When a project is approved, it is approved all the way through the demonstration phase, provided that it faithfully executes on the interim milestones articulated in its plan,” Chua says. Teams can organize themselves as they choose, with the goal of removing barriers to design, development, and commercialization.

Not all projects will make it through to the demonstrator phase, Chua says. Those that do make it through to a market pilot or demonstration stage will be readily transitioned out of UTAP “into [an] environment that can best support scaling up into an operational business,” he says.

“UTC cannot stand still and see how the chips will fall, no matter our many successes. Rather, to build the future we want to see, we need to act like a startup: fast, focused, and innovative,” concludes Chua.

Airbus formed A3 in Silicon Valley with a similar goal of exploring potentially disruptive ideas outside the risk-averse culture of the parent organization. So far, two projects have graduated to Airbus business units: the Voom on-demand helicopter service and Altiscope unmanned traffic management group.

Other projects still underway at A3 include the Vahana autonomous urban air taxi, Wayfinder certifiable machine learning systems for autonomous aircraft, and ADAM digital design and manufacturing platform. A second outpost, Airbus China Innovation Center, recently opened in Shenzhen.