



Life with the Jetsons

Personal VTOL aircraft take off

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With some very serious players announcing the development of personal vertical take-off and landing (VTOL) aircraft over the past few months, many are wondering if we are about to enter the future predicted by the creators of *The Jetsons*. Does this portend the end of the aerospace market as we know it? Or is it an opportunity for the sector to drive convergence and build new markets?

In 1962, ABC aired *The Jetsons*—a whimsical animated primetime show set in a future where people are served by robots, talk face-to-face through television sets, and fly around in their own personal aircraft. The first two predictions have already come to pass. Will the third? Are we on the cusp of a *Jetsons*-type air transportation system?

There has certainly been a flurry of announcements that would suggest so. Some are even from well-respected players. In October, Uber laid out its plans for developing an “on-demand aviation” system using a network of small, electric VTOL vehicles.¹ Larry Page (cofounder of Google) is believed to be building a version of a VTOL craft in Silicon Valley.² And Airbus is developing a personal VTOL aircraft as part of its Project Vahana, under its Silicon Valley division.³

With competition heating up, time lines have become aggressive. Uber Elevate believes it will have operational vehicles in the sky within the next five years. And most experts seem to agree. Uber does not plan to build its own drones. Rather, it expects that—given the current market trajectory and activity—the commercial VTOL market will rise to the challenge and deliver a variety of vehicle options by 2023. The company is more worried about the various regulatory, technical, and infrastructure problems than the development of the aircraft themselves.

There certainly seems to be demand for new forms of transport, particularly within congested cities. According to a recent report by KPMG LLP, mobility services are expected to become a \$1 trillion market by 2030.⁴ And as noted in the KPMG LLP report titled *The clockspeed dilemma*, consumers are now looking for a “sexy, dynamic experience”⁵ from their personal transport choice. There’s no doubt that a VTOL aircraft will be sexy and dynamic. ■



¹ Uber Elevate, Fast-Forwarding to a Future of On-Demand Urban Air Transportation, October 27, 2016

² Bloomberg News, Welcome to Larry Page’s Secret Flying-Car Factories, June 9, 2016

³ Business Insider, Airbus is building flying taxis so that it can become the Uber of the skies, November 3, 2016

⁴ KPMG LLP, I see. I think. I drive. I learn. November 22, 2016

⁵ KPMG LLP, The clockspeed dilemma, November 2015

While most of the players now leading the personal VTOL charge were born from either the auto sector or the technology sector, Airbus's participation in the race towards a *Jetsons*-style future suggests that some of the traditional aerospace players may see the emerging VTOL market as a potential disruptor.

Could the investment represent a pre-emptive strike against a technology that threatens to erode the commercial airline market? Likely not. The reality is that VTOL aircraft will be limited to inner-city and very short-haul routes, not only for technical reasons (electric batteries can only lift so much weight for so long) but also for pure financial reasons. Notwithstanding massive and sudden change in the

price of oil, commercial aircraft will remain the most cost-efficient form of air travel for many years to come.

Maybe the investment is intended to demonstrate technological prowess. That is certainly possible. All of the aerospace original equipment manufacturers (OEMs) and suppliers are being challenged to remain on the cutting edge of innovation. Demonstrating the capabilities to bring together multiple new and untested technologies would certainly prove to customers that the company is serious about remaining at the forefront of technology.

However, the more likely answer is that Airbus—like so many aerospace and defense (A&D) players—has

recognized the potential opportunity of leveraging their existing capabilities to create and then dominate a new and emerging market adjacency. The personal VTOL business may be in its infancy, but it is clear that it will be a big market. And if it is going to meet the growth expectations outlined by the likes of Uber, it is going to require hundreds and hundreds of new craft. Why should that business be ceded to a technology start-up when the OEMs have the experience, technology, and capital to win the market?

Based on this view of the future, we believe there are five things that aerospace players should be doing to prepare for a *Jetsons*-like future.

1



Find your place in the world. Aerospace manufacturers—both OEMs and suppliers—must carefully consider where they want to play in the new environment and then invest in the right areas and capabilities to achieve that objective. Take a long-term view of market disruption.

2



Look around for opportunity. Massive new markets are being created and commercialized all the time. Think about how your existing capabilities and technologies may answer a new need in adjacent markets.

3



Make smart friends. Developing a VTOL aircraft—or any other new transportation technology—will require aerospace players to develop and cultivate an ecosystem of partners and suppliers that can innovate with them.

4



Talk to the boss. Likely the biggest barrier to the commercialization of new forms of aircraft is regulation. It will take time for the Federal Aviation Administration to get comfortable with the idea of personal VTOLs, particularly in an Uber-like model. Aerospace players will want to start working with regulators to define the market early on.

5



Keep innovating. While the aerospace sector has never been an innovation laggard, it is clear that some companies are already investing into driving entirely new ideas and technologies through innovation and technology. Aerospace players will need to keep innovating if they hope to remain ahead of competitors from other sectors.



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Contacts

Doug Gates

Global Sector Chair, Industrial Manufacturing
KPMG LLP (U.S)

T: 404-222-3609

E: dkgates@kpmg.com

Jono Anderson

Principal, Strategy & Innovation
KPMG LLP (U.S)

T: 858-349-6221

E: jonoanderson@kpmg.com

Tom Mayor

National Service Group Leader,
Industrial Manufacturing Strategy
KPMG LLP (U.S)

T: 216-875-8061

E: tmayor@kpmg.com

kpmg.com/socialmedia



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