

Ready, Set, GoFly!

Backed by Boeing, GoFly has kicked off its \$2M competition to build a personal flying device that is safe, useful and thrilling.

By **Mike Hirschberg**
AHS International Executive Director



On Sept. 26, Gwen Lighter, CEO of the GoFly Prize Group, LLC, announced a global competition to encourage innovators to create safe and easy-to-use personal flying devices.

With Boeing as the Grand Sponsor, the \$2M GoFly Prize intends to leverage recent technological advances and make the dream of personal flight a reality.

“Pure human flight has been a dream of mine, as it has been for millions of people across the globe,” Lighter said, “and now we can do it.”

The Time Has Come

Far more than personal motivation inspired the competition. As Lighter explained, “We’re truly at a golden moment of aviation. There’s a convergence of technological innovations and improvements in aviation that have made it possible for the first time in history to make people fly in the purest sense. These advances have dovetailed so nicely that we actually have the ability to make those childhood visions of flying a reality.”

Lighter explained that new control and stability systems developed for unmanned aircraft now allow previously un-flyable configurations to be extremely controllable. Increased performance of batteries and capacitors may also be enabling technologies, while improvements in autonomous systems will certainly be. In addition, major innovations like 3D printing and rapid prototyping have taken the design, construction and development of aerospace materials beyond the sole purview of large corporations, allowing a greater breadth of inventors and engineers to experiment with new tools, materials and devices.

The Competition

As summarized on the prize website (www.goflyprize.com), “The goal of the GoFly Prize is to foster the development of safe, quiet, ultra-compact, near-VTOL personal flying devices capable of flying 20 miles while carrying a single person.”

GoFly Prize Overview

The GoFly Prize consists of three progressive payout opportunities spanning two years beginning in 2017. The \$2M in prize money is distributed as follows:

Phase I:

- Up to ten \$20,000 prizes awarded based on a written report due April 18, 2018

Phase II:

- Up to four \$50,000 prizes awarded based on revised Phase I material (or for new teams new Phase I material) and demonstrated performance of progress to date submitted by Feb. 6, 2019

Fly-off (Oct. 1, 2019):

- \$1,000,000 grand prize awarded for the best compliant overall fly-off score calculated by measuring speed, noise, and size
- \$250,000 prize for the quietest compliant entry
- \$250,000 prize for the smallest compliant entry
- \$100,000 prize for disruptive advancement of the state of the art

The top-level outline of the competition is shown in the sidebar, “GoFly Prize Overview.” As shown, the GoFly Prize is structured in three phases to reward participants along the way and provide feedback. Competitors don’t need to win a Phase I prize to get to Phase II, nor do teams need to win a Phase II prize to proceed to the fly-off. “It was designed in this way to allow for that feedback cycle, but also to provide small amounts of startup funds and allow the beginning of the creative process to occur before jumping into the actual prototyping of devices,” explained Lighter.

Of course, in order to participate in the final fly-off, teams’ submissions will need to pass a review beforehand to ensure they comply with the safety guidelines. In addition to extensive reporting requirements, the rules state that “A minimum of 5 flight hours without incident or configuration changes must be logged prior to the fly-off. This must include at least 10 takeoffs, 1 hour total of flight analogous to speed course flight, 10 go-around maneuvers, and 10 landings to a full stop and power-down.”

Fly-off scores for the grand prize will be based on highly challenging criteria in the following areas: performance, including speed and endurance; the ability to achieve near vertical takeoff and landing; quietness; compactness; and the experience of open-air flight. Numerically, the final score is a function of the scored parameters as described in the fly-off tasks: (1) Small size, defined by an 8.5 ft [2.6 m] maximum dimension; (2) Maximum noise of 87 dBA at 50 ft [15 m]; and (3) A maximum speed at least 30 kt [55 km/h].

The grand prize for the fly-off is \$1M, though one design could theoretically win all four prizes and net \$1.6M, in addition to \$20,000 in Phase I and \$50,000 in Phase II. Lighter noted that they are expecting different teams to excel in different areas, but “we’re encouraging all the teams to strive for excellence across the board.”

Powerful Partners

The GoFly Prize would not have been possible without backing from industry — especially the Boeing Company. “We are sponsoring the GoFly Prize to energize and inspire the current and next generation of aerospace professionals,” said Candice Smith, Boeing’s Director of Global Engineering & External Technical Affiliations. “We believe that this type of ambitious challenge will attract the inventive thinkers our industry needs to envision and deliver the future.”

The GoFly Prize is a unique opportunity to change the future of vertical flight, and AHS International is very pleased to be working with the GoFly team to help make this possible. We’ve been helping to support the GoFly team in developing the competition for the past two years, and we look forward to helping the teams to be as successful as they can be for this exciting competition.

“AHS International has been one of our earliest and strongest supporters. We are very happy to have had the opportunity to work with its leadership, and believe that the GoFly Prize will provide the members of AHS with the opportunity to change the future of flight and technology,” explained Lighter. 14 other professional societies and associations are now also supporting the GoFly Prize, in addition to AHS.

“The GoFly Challenge is an extraordinary opportunity for the vertical flight capability and for the community,” remarked Dan Newman, a Boeing Senior Technical Fellow and former AHS Technical Director. “It will accelerate advancements in the art and the science of (small) vertical flight aircraft, in part as a focus for those of us already in the industry, and additionally by inspiring others to participate and innovate. [AHS] and its members have the opportunity to partner with non-traditional players, to combine our knowledge and experience with their fresh perspective and objectivity to discover and explore novel approaches. GoFly will be the catalyst for a renewed excitement” in personal vertical flight.

Kicking Off

Within four days of the GoFly Prize announcement, more than 500 innovators had registered from over 41 countries across 6 continents. At press time, the number was more than 1,000 from 70 countries. As news about the competition spreads, even more innovators will become interested and get excited about the future of vertical flight.

“The GoFly Prize competition aligns with our company’s goals of inspiring people across the globe and changing the world through aerospace innovation,” said Boeing Chief Technology Officer Greg Hyslop. “We’re excited to see how the visionaries of the future will take on this ambitious and exciting challenge.”

To learn about the competition, to register as a competitor, or to volunteer as a mentor, go to www.goflyprize.com.



The Vertical Flight Technical Society

AHS Wants You to Get Involved!

AHS International has been supporting this exciting new aviation competition since early discussions began in 2015. It’s a chance for you and your fellow AHS members to be involved and to help get innovators and young people excited about vertical flight.

AHS members naturally have the knowledge and expertise to not only be serious contenders, but also to serve as advisors and mentors to potential competitors. In fact, AHS helped suggest many of the nearly 30+ “masters” — experts in aerospace and business who can offer advice on design, engineering, finance, law and marketing.

We are encouraging our members to become “mentors.” Your expertise is needed to help teams understand the challenges and unique aspects of vertical flight.

Gwen Lighter remarked that “Building anything is hard. Building revolutionary technology is extremely hard. For all AHS members, if they’d like to share their expertise with teams, we’d love to have them participate as mentors. On our website [www.goflyprize.com] there’s a place to ‘become a mentor’ and click through to select one’s area of expertise. Becoming a mentor means that one can be an ambassador to the next and current generation of aerospace leaders, and have an impact on the future of flight.”

Dan Newman observed that “For over 75 years, the AHS International has facilitated engagement between vertical flight theorists and practitioners, sharing and discussing and debating how to provide better and more affordable devices, finally arbitrating in hardware. The membership constitutes the most broad and deep repository of how (and how not) to develop and deliver vertical flight capability. This activity is an opportunity to share, to teach and to learn from a whole new cadre of innovators.”