Ansys

Autonomous Planes:
Cleared for Takeoff?

Aerospace Autonomy Survery

The world is watching self-driving cars go from science fiction to reality, but self-flying planes could be just around the terminal. In fact, a passenger jet already completed a successful self-flying taxi, take-off and landing test. There is no question autonomous planes are coming, but will consumers embrace them when they arrive?

To answer this question, Ansys enlisted Atomik Research and its team of MRS-certified researchers to conduct an online survey. Countries surveyed include the United Kingdom, United States, DACH (Austria, Germany and Switzerland), France, Sweden, Japan, China and India.

READY FOR TAKEOFF

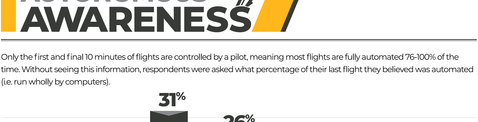
When asked when they anticipate being ready and comfortable to fly in an autonomous plane, more than three-quarters of global respondents say they will be ready in their lifetime, with 50% expecting readiness within five years.

24% WOULD NEVER BE COMFORTABLE WITH THIS

U.K. respondents are growing more comfortable with the idea of flying in an autonomous airplane within their lifetime – 62% now believe they will be ready within their lifetimes, compared to only 46% in 2019. Conversely, U.S. respondents' sentiment toward autonomous airplanes remains largely unchanged. They are the most wary about autonomous planes, with 38% saying they would never be comfortable with it compared to 39% in 2019.

BARRIERS TO BOARDING

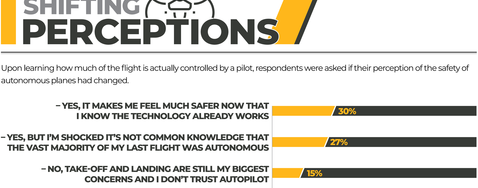
86% of respondents have some reservations about autonomous aircraft. When asked what their greatest concerns about flying in an autonomous plane are, respondents could select all that applied.



Technology failure and in-air issues are most worrisome for consumers, with more than half of respondents citing these factors.

AUTONOMOUS AWARENESS

Only the first and final 10 minutes of flights are controlled by a pilot, meaning most flights are fully automated 76-100% of the time. Without seeing this information, respondents were asked what percentage of their last flight they believed was automated (i.e. run wholly by computers).



Indian respondents selected the 76-100% option the most out of any region surveyed at 16%. And while this suggests the level of awareness for autonomy in airplanes is low, it appears to be growing. In 2019, only 7% of Indian respondents selected this option.

SHIFTING PERCEPTIONS

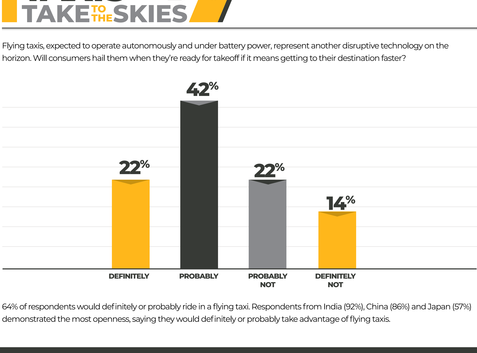
Upon learning how much of the flight is actually controlled by a pilot, respondents were asked if their perception of the safety of autonomous planes had changed.

57% of respondents said their perception of the safety of autonomous planes improved, but consumers are still wary. In the U.S. and European countries, more than half of respondents said this fact did not improve their perception of autonomous flight safety, citing concerns of landing and takeoff operations, as well as technology failure.

Respondents in Eastern countries were more optimistic about autonomous flight safety. 58% of respondents in Japan, 81% in China, and 87% in India responded "yes" to now perceiving autonomous flights as safer.

HACKING HAZARDS

To gauge the level of concern over hacking autonomous aircraft, we asked respondents to rank which technologies they believed are most susceptible to hacking. Respondents believe a self-flying plane is safer than a self-driving car.



While consumers have concerns about autonomous airplanes, the security of the technology does not appear to be top of mind. Across most regions, respondents believe self-flying airplanes are more secure than their computer, smart phone and even bank account.

TAXIS TAKE TO THE SKIES

Flying taxis, expected to operate autonomously and under battery power, represent another disruptive technology on the horizon. Will consumers hail them when they're ready for takeoff if it means getting to their destination faster?

64% of respondents would definitely or probably ride in a flying taxi. Respondents from India (92%), China (86%) and Japan (57%) demonstrated the most openness, saying they would definitely or probably take advantage of flying taxis.

Ansys enlisted Atomik Research and its team of MRS-certified researchers to conduct the online survey in March 2020. The sample included 16,037 adults 18-and-over, from the U.K., U.S., DACH (Austria, Germany and Switzerland), France, Sweden, Japan, China and India.