

## Ready for pilots to fly your airliner by voice commands?

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**Cedar Rapids, Iowa (CNN)** -- My hand grips the airplane control stick as I brace myself in the cockpit. Spread out in front of me is a breathtaking landscape stretching hundreds of miles.

I've never flown a plane in my life. But now, I'm about to steer -- using my voice.

"Turn left, heading 0-6-0," I command, feeling a little like an airline pilot.

A female mechanical voice repeats back: "Turn left, heading 0-6-0." To confirm, I press a tiny red button on the cockpit control stick. Suddenly the horizon in front of me banks sharply to the right.

Well, no, I'm not actually flying a real plane. I'm operating a machine that simulates how airline pilots will fly in the future.

The friendly engineers here at Rockwell Collins' Advanced Technology Center in Iowa are letting me play with their new pilot voice recognition technology.

Hey, do these folks know they've let a kid run loose in an avgeek candy store?

This is sophisticated stuff. In fact, the Pentagon uses speech recognition systems aboard its top-shelf fighter jet, the F-35. Maybe someday your airliner pilot will do the same.

Engineer Geoff Shapiro, who's showing me how the simulator works, hopes this technology can save airline pilots crucial seconds after they receive commands from controllers.

"A complicated command from air traffic control can take pilots up to 30 seconds to actually turn all the knobs, hit all the buttons and make that change actually occur," Shapiro says.

The speech recognition system cuts that time to eight seconds, he says, giving pilots 22 more seconds to "spend keeping their eyes out looking to see where the traffic is, looking to see where the weather is, keeping the airplane safe."

I'll admit it: It's tempting to compare this system to iPhone's Siri. That would be a mistake.

[READ: 'I'm the original voice of Siri'](#)

No offense, Siri, but this woman is much more sophisticated.

Before this voice recognition system executes a command, a pilot double-checks its work. That means no voice command is ever executed until the pilot confirms the command is correct. The pilot does that by pressing the control stick's little red button.

Would passengers be comfortable with airline pilots steering via voice commands? Would they feel safe?

"I'm gonna have to think about that idea," a fellow passenger tells me later at Atlanta's Hartsfield-Jackson airport. "I can't tell you how many times my phone misspells my voice dictation. I think I'd feel more

comfortable if the pilot just flew the regular way."

Boeing 777 airliner pilot Keith Wolzinger doesn't think voice recognition steering is all that necessary. "I'm a bit skeptical," he tells me. With two pilots in the cockpit, responding to controller commands doesn't take a lot of time, Wolzinger says. "I'd communicate with air traffic control and I'd just ask my first officer to make the turn."

In the simulator, Shapiro lets me test the technology while I "fly" over a simulated Mount Rainier in Washington state.

I wonder, does it respond to whispers? I whisper a command into the headset. The voice repeats back my command perfectly. I push the little red button. The plane turns.

What about screw-ups? What if a pilot accidentally speaks into the headset and says something random?

I say, "Let's go out to dinner in Los Angeles!" Does the voice system freak out? Nope.

"Say again," she says. It didn't understand, because the system only recognizes legitimate, preprogrammed commands.

What about accents? Does it understand Southern American twang? I give it my best -- followed by English with a French-ish twist. Yep, it understands.

Would voice recognition ever replace the traditional yoke and stick that pilots use to steer? "I think you're always going to need some type of manual control of the aircraft," says Shapiro.

Of course Rockwell Collins doesn't call this the Advanced Technology Center for nothing. The stuff in here won't see the commercial market for at least a decade -- if ever. So steering by voice has a long way to go before it even gets close to entering the flight deck of your airliner.

In these rooms, Rockwell Collins has been designing cockpit systems for business jet makers and airliner manufacturers like Boeing and Airbus for decades. It also creates technology for military aircraft all around the world.

Suddenly, as we walk down a hallway, I see a pair of glossy black fighter pilot helmets being rolled on a cart. "What are these?" I ask.

Turns out they're the next generation of pilot helmets with built-in visual displays: the StrikeEye.

Imagine a fighter pilot helmet that projects a data-rich visual display in front of the pilot's eyes. That kind of system could help pilots have a better visual sense of everything around them: buildings, landscape and other aircraft. [This helmet creates a virtual 360-degree 3-D view that allows pilots to "see" THROUGH the aircraft itself and scan the horizon and the ground below.](#)

StrikeEye is nearly identical to helmets Rockwell Collins provides to Lockheed Martin for U.S. military pilots of the F-35.

I've gotta ask: "Do you mind if I try one on?"

Shapiro laughs. No, that's not gonna happen.

[READ: F-35 fleet returns to flight](#)

In fact, a lot of new cockpit technology coming in the next 25 years includes jaw-dropping video-game-like graphics and 3-D displays.

Here's another example: We all know that blinding rain, snow or clouds result in countless flight delays or cancellations every year. But what if pilots could fly through blinding weather with the help of a real-time video display of the landscape that looks like the real thing?

The technology exists.

Shapiro shows me what the industry calls "synthetic vision" and "enhanced vision" technology. This sort of thing is already available aboard some business jets. Synthetic vision uses GPS and super-detailed maps to "see" through clouds by creating a virtual reality view of the landscape ahead, displayed on a small screen in front of the pilot. Enhanced vision uses infrared sensors that work like "X-ray vision" through bad weather.

If airlines embraced these kinds of systems, it could significantly reduce delays and cancellations, manufacturers say. That might lead to lower fares and happier travelers who get where they want to go, when they need to get there.

Another emerging cockpit technology: touch-screen steering.

We already control navigation systems in our cars with touch screens. Eventually, airline pilots may be able to steer with them. With the touch of a console display screen, pilots could execute precise turns and changes in speed.

Touch-screen steering, voice recognition, synthetic vision, Shapiro says, all point toward a future when airliners will be flown by one pilot instead of two.

Shapiro says the industry is looking at the possibility of reducing typical airline flight crews to one pilot in the cockpit and one support person on the ground. The support person would likely be ready at any time to help the pilot if anything goes wrong. But that's many years down the road, if ever.

Is the industry moving toward a day when airliners will fly themselves? In other words, will human airline pilots be obsolete someday?

"I certainly think that we're moving toward pilotless airliners," Shapiro says. The technology already exists, he points out -- look at the rapid development of large, unmanned drones, for example. But the public would be slow to accept the technology and to have faith in it, Shapiro says.

Overall, "it's going to take, I think, quite a long time before all those pieces come together."

CNN's Jackson Loo contributed to this report.