With commercial air traffic down, Collins Aerospace focuses on 'contactless journey'

Cedar Rapids' largest employer sees more demand for technology as coronavirus pandemic continues

When Tony Chapman started working on one of his current projects for Collins Aerospace more than a decade ago, he didn't envision a global pandemic.

"It started from international passengers destroying documents like passports en route and then claiming asylum in another country," said Chapman, senior director of product management and strategy at Collins Aerospace and based in Maryland. "A much different use case."

Yet the project he started working on for Collins Aerospace — technology for a touchless airport check-in process — has seen a newfound demand during the coronavirus pandemic.

"We're seeing a lot more demand," Chapman said. "COVID has just accelerated the use of it."

Collins Aerospace — with about 9,000 employees in the Corridor, the avionics company is the largest employer in the Cedar Rapids area — has been selling this technology for a couple years, before the outbreak of the coronavirus.

"At that time, it was more about passenger convenience, passenger process flow and simplifying the journey through the airport," Chapman said.

Since the coronavirus hit and commercial air travel halted, aerospace companies, airports and airlines alike have been seeking to boost confidence in flight safety.

"COVID has presented new challenges to everybody," Chapman said.

One of the more prominent aspects of this nascent technology comes at the touch-screen check-in kiosks.

Instead of touching the same screen to check in as other departing passengers have done, travelers will be able to scan a code using their phone and answer questions through an app.

“You interact with your mobile phone, which is controlling the kiosk as if you were touching the screen,” Chapman said. “They can do all the interactions they would otherwise do, but they control it by their mobile phone.”

Collins Aerospace develops the technology for the airlines, so Chapman said the company can add the software to an airline’s existing phone application.

Biometrics also will allow for a variety of processes involving interactions where people now touch the same document or item — boarding, baggage drop-off and customs, for example — instead to involve looking at a screen for facial recognition.

Departing passengers enroll in the service when they arrive at the airport, and link their boarding pass and other necessary documents.

“When you present your face, you’re also automatically presenting your boarding pass,” Chapman said. “This system then processes your boarding pass as if you presented it in a physical form.”

Then, the Collins Aerospace technology uses several points of reference on the passenger’s face to verify the identity.

A beard trim or new scar won't throw off the scanner, Chapman said. Plus, the scanning software can recognize someone wearing a mask.

The passenger's data is used only for that purpose, Chapman said, and later can be deleted upon a passenger's decision to opt out.

Digital travel credentials

The U.S. Customs and Border Patrol already is using this technology for international flights.

For example, when Chapman, a British national, enters the United States, U.S. Customs already has information from his visa and green card in the system as it scans his face.

For American citizens, U.S. Customs uses passport photos instead.

"There are enough reference points on my driver's license to say yes or no," Chapman said.

Long-term, Chapman hopes one enrollment allows passengers to use "the digital travel credential" in international flights beyond the United States.

Airlines also have used it for authorizing access into frequent-flyer waiting areas.

Chapman said Collins Aerospace is working on an update that would allow passengers to attach a credit card to their profile, and then make payments at airline stores, by scanning their face.

The company also is working to develop technology that checks passengers' temperature, heart rate, breathing rate and other health signs.

"We're not going to say, 'You can't fly,'" Chapman cautioned. "We're going to say, 'There is a very high chance that you have an illness.'"

If coronavirus morphs into a new disease, the algorithm will adjust with it.

Another of the more "immediate" developments include the ability to determine if the passenger is wearing a face mask properly.

Chapman is well aware of data privacy concerns.

“But we have everything in place to protect that,” Chapman said. “We only take your picture and use it for that particular service.”

If the 2020 Summer Olympics in Tokyo hadn’t been put off, the Collins Aerospace technology would have been in place for the influx of international passengers.

The technology is “fairly common” for international flights in North America, Chapman said, but “the domestic travel is really just taking off.”

“If you would’ve asked me two years ago who would be the key market, I would’ve said exactly major airlines and major airports,” Chapman said. “But even low-cost airlines are seeing the advantage.”

JetBlue, for example, uses the Collins Aerospace technology for its flights at John F. Kennedy International Airport in New York.

Chapman expects it to take another 12 to 24 months — “sooner than you’d think” — before the touchless technology reaches Eastern Iowa Airport or other airports of that size.

Marty Lenss, airport director for the Cedar Rapids airport, said he’s been in “active conversations” with Collins Aerospace about implementing a pilot program “to get new and emerging technologies deployed and tested as part of the research-and-development aspect.”

“Collins is really going to a whole other level of the touchless experience,” Lenss said.

It also fits in with the airport’s efforts to build more confidence for passengers about traveling safely at the airport, Lenss said. Other measures the airport have taken include **a face-mask requirement** and the use of **electrostatic sprayers**.

Eastern Iowa Airport developed a plan **with Mercy Medical Center to implement mandatory health screenings**, but the Federal Aviation Administration blocked it in late August.

Lenss said that ideally there could be touchless technology being piloted at the airport in time for the Christmas rush in passengers.

Biometrics

Collins Aerospace does not have a monopoly on touchless technology.

The Transportation Security Administration has been seeking to implement biometric technology, Chapman said, but not with Collins Aerospace.

“There certainly are a number of companies with emerging technology in this space,” Lenss agreed.

Collins Aerospace’s touchless technology push is not enough to make up for the precipitous drop in commercial flight traffic, though.

Collins Aerospace reported a 94 percent drop in operating revenue in 2020’s third quarter, which ended Sept. 30.

“We really need to get people to start traveling again,” said Phil Jasper, president of mission systems at Collins Aerospace, while participating in an Iowa Business Council virtual event in October.

“To get air travel back, that drives so much of our business.”

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