

# Engineering

## GEORGIA

**DORIS  
WILLMER  
ENGINEERING  
ICON**

**DOLLARS  
ADDING UP  
FOR GEORGIA'S FLOURISHING  
FINTECH  
INDUSTRY**

**HOW  
BRANDING  
CAN HELP ATTRACT  
NEW  
CLIENTS &  
RECRUIT  
TALENT**



**RESILIENT  
DESIGN  
ONE PROJECT  
AT A TIME**

**WOLVERTON  
HAS A NEW LOOK!  
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# FINTECH

## ***FLOURISHING***

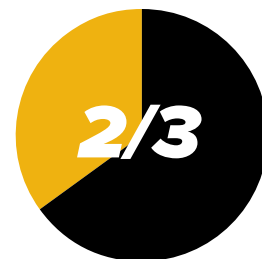
### ***in Georgia***

*Dollars are Adding  
Up as the State's  
Financial Technology  
Industry Grows  
and Creates More  
Opportunities  
for Engineers*

*By Lori Johnston*

The state's Financial Technology (FinTech) sector is moving from behind the scenes into the spotlight, as a number of major economic development and industry leaders work to push the sector into global prominence. From legislative action under the Gold Dome, to the creation of a FinTech Atlanta task force and mentorship opportunities for startups, the focus is on growing investment, employment and education.

Today, nearly two-thirds of payment card transactions pass through the global networks of Georgia FinTech organizations, according to the "State of Georgia's FinTech Ecosystem 2016" white paper compiled by the Technology Association of Georgia's (TAG) FinTech Society. Research for the white paper also found that the state's estimated 100 FinTech companies generate annual revenues of more than \$72 billion, placing Georgia third in the nation — only behind New York and California.



*Nearly **2/3 OF PAYMENT CARD TRANSACTIONS** pass through the global networks of Georgia FinTech organizations*







"It's absolutely fascinating that Georgia has really taken its place as the epicenter for FinTech and financial transactions in the United States, with 70 percent of all credit and debit card transactions coming through the state," says Larry Williams, President and CEO of TAG. "We really dominate in this space and it's a great thing for Georgia to own. The growth is just going to continue."

As society becomes cashless and both institutions and companies rely more on technology to provide solutions for conducting transactions, Georgia has a continually growing opportunity — if it can maintain its competitive edge. States like Florida and Texas are seeking to attract and steal away FinTech companies from Georgia, already known as the payments capital of the world.

**70%**  
**of all**  
**CREDIT & DEBIT**  
**card transactions**  
come through the state

"Here in Georgia, we have quietly built a hub for these FinTech companies," says Barry McCarthy, Executive Vice President, Network and Security Solutions for First Data, an Atlanta-based Fortune 500 electronic commerce and payment technology company.

McCarthy also chairs the FinTech Atlanta task force, which aims to promote Atlanta as the global FinTech capital, as well as foster and fund innovation, work with the legislature on a pro-business environment and recruit and groom talent. Founded in 2015 by the Metro Atlanta Chamber, TAG and Atlanta-based American Transaction Processors Coalition (ATPC), the task force has corporate members including Coca-Cola, First Data, Delta Air Lines and NCR.

"There's still a lot of people that don't even know this industry is even here; they don't

realize that we are such an enormous FinTech Center," says H. West Richards, Executive Director of ATPC, which was established in 2015 to give the industry a voice, protect it and help it grow.

### 'TRANSACTION ALLEY'

Georgia's rich, deep history in the industry dates to nearly 50 years ago. In 1973, the Federal Reserve Bank of Atlanta debuted an automated clearinghouse (ACH) system in partnership with the Georgia Institute of Technology (Georgia Tech), a project that began with professor Paul Han, described as "a Georgia Tech electrical engineer who wanted to build a prototype electronic payments system and needed a bank, ideally a central bank, where it could be tested and deployed," according to the Federal Reserve Bank of Atlanta's website.

Atlanta was the ground-breaking test bed, Richards says, for the original financial technology: ACH transfers. ▶



# DOING THINGS THAT NO OTHER STATE IS DOING.

As the website history states, “Volumes were small at first, but the experimental batch processing system worked and became a pioneer of the U.S. electronic payments system and a prototype for ACHs in other districts.”

“The Atlanta Fed, at one point, cleared most of the checks in America. If you wrote a check from Chicago to a merchant in San Diego, the check would be cleared in Atlanta. So, when you think about FinTech, we are the strongest in the transactional processing piece of the industry,” says David Hartnett, Chief Economic Development Office for the Metro Atlanta Chamber.



**Six of the 10 largest U.S. payment processing firms are based in the state**

Industry clusters organically grow around anchors, such as the Federal Reserve in Atlanta and Synovus in Columbus, Ga., and companies spring up as technologies are introduced. Georgia’s cluster of FinTech companies – dubbed “Transaction Alley” – process more than 118 billion transactions per year, according to the TAG report. Six of the 10 largest U.S. payment processing firms are based in the state. Major players include Equifax, ADP, NCR, McKesson, which acquired National Data Corp. in 2006, and InterContinental Exchange (ICE), which owns the New York Stock Exchange.

Georgia has also snagged existing businesses from around the country, including from major geographic technology hubs. In 2016, Merchant e-Solutions, a payment-processing

firm, announced plans to move its corporate headquarters from Silicon Valley to Buckhead in a \$5 million investment that will create more than 140 new jobs. “We don’t make silicon chips, but we do create FinTech technologies, which, in turn, creates high-paying jobs,” Hartnett says.

**118  
billion  
TRANSACTIONS  
per year**

## EVOLVING AND BROADENING

Meanwhile, resources and initiatives are in place across the state to support a growing ecosystem and talent pipeline. The seventh annual TAG FinTech Georgia 2017 conference, held in February, attracted more than 500 attendees representing global companies and startups. Companies use the event as a platform to discuss their needs and opportunities for growth with each other, and “why Atlanta is such a great place for them to operate,” Williams says.

In 2016, Georgia lawmakers also passed Senate Resolution 883 – a Joint Study Committee on Incentives for Financial Technologies and the Payment Process Industry, co-chaired by Representative Ron Stephens (R-Savannah) and Senator Brandon Beach. The Committee aimed to study the conditions, needs, issues and problems relating to the FinTech and payment processes sectors, and help maintain Georgia’s leadership in the industry.

Some of the credit for the evolution of the state’s FinTech sector is due to the collaboration between existing companies and well-funded efforts to support startups. Sudheer Chava, a finance professor in Georgia Tech’s Scheller College of Business, describes it as a nice marriage between industry experience and mentorship that results from Georgia’s critical mass of FinTech firms. For example, the FinTech Program at Georgia Tech’s Advanced Technology Development Center (ATDC) is funded by a \$1 million, three-year gift from Worldpay U.S. “This is FinTech heaven,” says Joe Kleinwaechter, Vice President, Innovation and Design at Worldpay. “If you want to be in Atlanta, there’s just more opportunity than you can imagine.”

The ATDC’s FinTech program aims to cultivate startups and provide entrepreneurs with education and coaching to foster high-tech innovation and to attract to and retain talent in Georgia. “The FinTech space 10, even 15 years ago, was dominated by large companies. In the last five to 10 years, we’ve shown that the power has come out of the bank’s hands and has been put into the developers’ hands – and the people who have the ingenuity to get the product out the door,” Kleinwaechter says. ▶



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Since 2015, the program has met with, interviewed and coached more than 350 FinTech companies in Georgia. Of those, approximately 20 companies currently in its portfolio have raised more than \$34 million in funding. The first company will graduate from the program in May.

“Virtually every business in the world uses a FinTech solution every day,” McCarthy says. First Data alone processes more than \$1.3 trillion in transactions a year and supports approximately six million merchants representing more than a billion card holders. While transactions remain the core, other segments such as lending, wealth management and cyber security are helping broaden the industry in Georgia, says Chava, who also contributed to TAG’s FinTech white paper.

Other categories of the industry that are growing include: virtual currencies, such as bitcoin and future virtual currencies, fraud protection, loyalty programs, financial education, health care billing and payments, crowdfunding, e-commerce and blockchain platforms for peer-to-peer lending. “The first thing that comes to mind when people think of Atlanta and FinTech is transaction processing, but it’s moving beyond that, which is good,” says Chava.

### EXPANDING EDUCATION

The significant scale and mass of FinTech companies means potential employees are starting to recognize that Atlanta is a true hub. Already, FinTech companies occupy eight million square feet of office space in Georgia, TAG estimates.

Approximately 30,000 professionals, of about 130,000 nationwide, are working in the sector in the state, Williams says. For every FinTech-ready candidate, McCarthy notes there are three or more jobs available. “We’re a net importer of talent into our state, which is good,” he says. “But, we’d also like to harness the talent that’s here, and the folks who are graduating from our excellent universities, and have them be workforce-ready as well.” West agrees: “We’ve got a very strong talent base, but we need to grow it.”

A major effort by the University System of Georgia Board of Regents is to create a FinTech curriculum, which could include undergraduate, graduate or executive

management degrees, as well as certification programs, internships and general training programs. (Middle Georgia State University, for example, plans to transition its associate’s degree in information technology to an associate’s in financial technology). West says it could be the world’s first FinTech curriculum program. “If that comes to pass,” McCarthy says, “it will be another clear differentiator for Atlanta and the state of Georgia — once again leading the pack and doing things that no other state is doing.”



**FinTech companies occupy**  
**EIGHT**  
**million**  
**square feet**  
**OF OFFICE SPACE IN GEORGIA**

There’s a great need for engineers who can both understand the programming and analytics side, along with the business context of FinTech, Chava says. Because of efforts like the ATDC, engineers are starting to realize there can be careers in FinTech, not only dealing with dollar signs, but with the way data is treated, says Worldpay’s Kleinwachter. “I could see software engineering, or engineering, with possibly a minor in financial systems being the holy grail,” he adds.

For the FinTech Atlanta task force, one prong of its efforts is dedicated to developing talent. Hartnett says offering an academic path would both help people around the world understand that the FinTech industry exists in metro Atlanta and could support the pipeline of workers necessary for fast-growing companies, such as First Data. At an earlier level, TAG’s internship programs for high school juniors and seniors, as well as activities such as coding camps, seek to get students excited about the possibilities in the industry.

“We’re uniquely positioned to be able to take advantage of this talent, and hopefully cultivate a lot of new innovations in the space by partnering with the students coming out of Georgia Tech or other universities to think about what’s next for the industry,” says Jen Bonnett, General Manager of ATDC.

### OPPORTUNITIES FOR ENGINEERS

Earlier this year, ATDC’s FinTech Hackathon brought together entrepreneurs and innovators, including software, hardware and electrical engineers and engineering students. The business ideas and prototypes developed over the weekend and presented to investors, entrepreneurs and corporate partners included a wrist wallet (“your Apple Watch on steroids,” Bonnett describes), a financial car platform that could automatically beam payments for purchases and a facial recognition system used at the point of sale. The ideas, which require engineering expertise, showed how payments could be an invisible part of the process, Bonnett says. “At that point, FinTech becomes everything,” she adds.

As the FinTech sector expands in Atlanta, McCarthy says there is a great opportunity for engineering professionals and firms to participate in the growth from high to granular level. Businesses need facilities, often Class A space, sometimes with specialized engineering needs, such as raised, cool floors for a data center. And, software engineers are needed to develop and program systems, often cloud-based, to move data and keep it secure.

As the engineering community and FinTech sector both continue to grow, especially in Georgia, a partnership between the two industries seems not only necessary, but imminent.