

2020

STATE OF GEORGIA'S SUPPLY CHAIN/ LOGISTICS TECHNOLOGY ECOSYSTEM



Driven by Innovation
Proven by Performance



EXECUTIVE OVERVIEW

This is the first year TAG has reported on the Georgia Supply Chain and Logistics (SC/L) technology ecosystem, and it has been an intriguing process. Defining the technology portion of this ecosystem was challenging since the overall SC/L ecosystem is vast. Beyond all the manufacturing and distribution enterprises, Georgia has world-class logistics facilitators: strategic eastern seaport, busiest international airport, regional railway hub, interstate system, etc.

“Georgia has the whole package,” says Andrew Slusher, president and CEO of SMC³, an information systems provider in Peachtree City for technology and manufacturing companies. “Georgia is truly a hub of transportation and logistics, not only in the Southeast region but nationally and globally,” Slusher says in Georgia: The Logistics Advantage an Inbound Logistics article. And their control center for all this progress will be Georgia. “SMC³ will remain front and center as Georgia’s role in logistics evolves,” he says.

To develop the content for this report, TAG collaborated with Georgia Tech along with members of the Georgia Department of Economic Development, Metro Atlanta Chamber of Commerce and other local SC/L technology leaders. Some key report takeaways:

- Half of the Top 20 SC/L technology Georgia employers are also headquartered in Georgia: CHEP, Dematic, KNAPP, Manhattan Associates, RouteMatch, Stratix, UPS, Varec and Verizon Connect.
- Atlanta is the number two city for digital supply chains in 2017 by a Deloitte ranking.
- Georgia was named Site Selection magazine’s top state for business in 2018.
- Many of the Data Science and Fintech ecosystem members are also leaders in the SC/L technology ecosystem including Agilitics, NCR, RoadSync and Verusen.

There are many trends and innovations to keep the SC/L technology ecosystem growing. Insights are included from local SC/L technology new innovators: Activ Technologies, STORD and Verusen as well as recognized technology enterprises:

Chainalytics, Deposco and UPS. Beyond those companies, Georgia enterprises in the SC/L technology ecosystem are also developing, extending and implementing solutions in Artificial Intelligence, Big Data Analytics, Blockchain, Delivery Drones, IoT, Machine Learning, Omnichannel, etc. Innovation in Georgia’s SC/L technology ecosystem is also highlighted in articles from Georgia Southern and Point A, a supply chain technology collaboration center facilitated by Georgia-Pacific in Atlanta.



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GEORGIA'S SUPPLY CHAIN/LOGISTICS ECOSYSTEM CONTINUED GROWTH, INCREASED MOMENTUM

Georgia's technology ecosystems are unique and to some extent can be differentiated from other state ecosystems in the U.S.

The ecosystem is difficult to define because even the terminology between Supply Chain and Logistics is not easy to define. According to a 2015 commentary in *Inbound Logistics*, many scholars and industry professionals had similar yet different definitions of these two terms. Generally, most of these experts say that logistics management is a component of supply chain management.

The supply chain (or the demand chain depending on your perspective) is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. Supply chain activities involve the transformation of natural resources, raw materials, and components into a finished product that is delivered to the end customer.

Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations.

The full supply chain and logistics management ecosystem includes many companies from service providers (ex: business consulting firms and third party providers), asset providers (ex: planes, trains, trucks) and facilities (ex: warehouses, airports, seaports), but this ecosystem report will focus on the technology providers. The companies listed in this report includes companies that offer or have developed software applications or hardware devices that are used in facilitating, managing or analyzing SC/L operations.

It is also recognized that almost every large world-headquartered corporation (ex: Coke, Delta, Georgia-Pacific, The Home Depot) based within Georgia's ecosystem has large supply chain and logistics teams, but usually consume technology and do not produce or share the technology to

others. The technology providers within Georgia's supply chain and logistics SC/L management ecosystem includes multi-discipline corporations like UPS where they use their own assets (ex: brown trucks and planes) and services (ex: tracking packages), but still offer technology solutions (ex: rate costing programs) for use in other SC/L technologies.

Georgia's infrastructure is a key driver to the SC/L technology ecosystem with one of the busiest international airports (Hartsfield-Jackson International) and the westernmost container port on the U.S. East Coast, (Port of Savannah) as well as a network of US interstates: I-95, I-85, I-75, I-20 and I-16.

Georgia's educational and research institutions is another key driver to the SC/L technology providers by supplying world class graduates, SC/L industry internships and collaboration with innovation laboratories including Point A, hosted by Georgia-Pacific and other Georgia companies. Georgia Institute of Technology's Supply Chain and Logistics Institute claims to be the largest supply chain and logistics leadership institute in the world. And Georgia Tech's Advanced Technology Development Center (ATDC) has incubated several SC/L technology companies listed in this report including but not limited to RoadSync, Smart Gladiator and Verusen. Clayton State University's Center for Supply Chain Management is another example of collaboration with Georgia businesses. Georgia Southern University's proximity to the Port of Savannah provides it unique opportunities for collaboration with the SC/L ecosystem.

Some of the main components of the SC/L technology ecosystem include Transportation Management Systems (TMS) and Warehouse Management Systems (WMS) and Georgia is the home (world headquarters) of some of the best-of-breed offerings including Logility and Manhattan Associates as well as growing providers like Aptean and Deposco. And many of the largest SC/L technology providers have an office or training center in Georgia.

COMPANIES

3C Software
4PL Insights
Accelerated Design
ACE Microtechnology
Activ Technologies
Adametrix
Advanced Barcode & Label Technologies
Advanced Core Concepts
Advanced Technology & Research (ATR)
afterBOT
Agentek
AGI Worldwide
Agilitics
Agilysys
Ally Commerce
American Global Logistics
Applied Decision Technologies (ADecTec)
Applied Software Technology
Aptean
Aptos
AT&T (Business)
Attrasoft
Avery Dennison
Barcode & Labeling Consultants
Barcode ID Systems
Bastian Solutions
Bennett Technology Group
BizSpeed
Blocnets
Blue Ridge
Bringoz
CAM Commerce Solutions (Celerant)
CAMotion
Cargo Group
CarrierWeb
CHAINalytics
Charter Global
CHEP, a Brambles company
Cisco Systems
Cloud Logistics
CMAC
Cognira
Cognosos
Colinear Systems
Competitive Insights, LLC
Container Automation System
Convoy
Cooltrax
Cribmaster
Curo
Database Mining Lab
Datalogistics
Datatex Tis
Datatrac
DecisionIQ
Demand Bridge
Demand Driven Technologies
Dematic
Deposco
Descartes Systems
Efreightsolutions
Elemica
Epicor Software
Esri
Farm'd
FedEx
FleetMatics
Flexport
GrayTech Systems
GreyOrange
Guided Systems Technologies
HAL Systems
HiQo Solutions
IBM
Infor
inLogic
Innotrac
Inovity
IntelliTrans
Invistics
JDA Software Group
KNAPP
Lexicon Technologies
Llamosoft
Logility
Logiware
LOG-NET
Manhattan Associates
MSC Software
NCR Corporation
Nextraq
Norcron
nuVizz
nVision Global
Oculogx
OM Partners USA
OpenText (acquired Liaison Technologies)
Opex Analytics
Oracle
ORTEC Precision Software
Presidio Networked Solutions
Profitable Inventory Control
PS Energy Group
Rehrig Pacific Company
Roadie
RoadSync (formerly myLumper)
RouteMatch Software
SaaS Transportation
SAP America/Ariba
Savi Technologies
Scientific Logistics
Seagil Software Company
ServiceCentral
Shiplify
Siemens Logistics
SITA
Smart Gladiator
Smartsoft International
SMC3/Southern Motor Carriers
Survive Technologies
STORD
Stratix
Sudu
Symmedian Technologies
syncreon
Teknowlogi
The Danby Group
ThingTech
Top Flight Concepts
TransCore
Twin Engines
United Parcel Service
Varec
Vector Networks
Verizon Connect
Versona
Verusen
WarehouseAnywhere
Wellington Royce Corporation
Zebra Technologies

SUPPLY CHAIN & LOGISTICS TECHNOLOGY- INNOVATION DRIVES PROGRESS

Artificial Intelligence

Artificial Intelligence (AI) is a trend in almost every industry and ecosystem including the SC/L technology ecosystem. McKinsey & Company expects businesses to gain between \$1.3tr and \$2tr a year in economic value by using AI in their supply chains. According to Dan Khasis of Supply-Chain-Brain, there are four ways AI is impacting Logistics and Supply Chain Management.

1. Predictive capabilities are helping demand forecasting. When inventory lags demand, companies suffer losses. AI is ramping up efficiencies in network planning and predictive demand, allowing merchandisers to become more proactive. By knowing what to expect, they can adjust the number of vehicles and direct them to locations where maximum demand is expected. This leads to lower operational costs.
2. Chatbots are redefining customer support. According to Accenture, 80 percent of all customer engagements can be handled

by bots. AI can personalize the relationship between customers and logistics providers.

A recent example of personalized customer experience is DHL's partnership with Amazon. By activating DHL Parcel "skill" via the Alexa app, DHL customers can ask Alexa to connect with Amazon Echo or Echo Dot smart speakers and confirm their parcels' status. In the event of any issues arising during the interaction, Echo users can directly contact DHL for assistance by its customer-support team.

3. Smart warehouses are more efficient. A smart warehouse is a fully automated facility wherein most work is done through automation or software. In the process, tedious tasks are simplified, and operations become more cost-effective.

Alibaba and Amazon have already transformed their warehouses through the use of automation. Amazon recently rolled out machines that automate the job of boxing customer orders. In Amazon warehouses, robots work alongside humans to increase productivity and efficiency.

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DIGITAL SUPPLY CHAIN - REAL-TIME VISIBILITY AND SYNCHRONIZATION THROUGH ACTIV TECHNOLOGIES

The innovation of one Georgia-based technology company, Activ Technologies, Inc., showcases digital transformation in action. JM Industrial Supply (JMIS) struggled supporting Caterpillar as a client, often suppliers are challenged with reconciling purchase orders, quantity or part changes, or normalization of SKUs with the multiple forecasts (16 times a day) from the same client from multiple locations (12 plants) with no real way to reconcile all the changes.

JMIS synchronizes forecasts from Caterpillar in real time and shares those updated forecasts with their tier 2 suppliers—matching supply with demand across their supply chain. With this real-time order visibility, suppliers receive and confirm orders allowing JMIS to send accurate available-to-

promise confirmations to Caterpillar. ASNs provide assurances to Caterpillar planners that the daily/weekly production schedules can be met with the inventory requirements in-transit from suppliers. The cloud-based solution automatically synchronizes demand forecasts and enables dynamic demand planning for suppliers and provides predictive analytics for the manufacturer.

The replacement of Caterpillars EDI with ActiVate's digital messaging lowered operating expenses for Caterpillar and enabled the supplier to collaborate and meet the expected requirements of servicing its customer. Processes are now transformed with real-time visibility and synchronization throughout the entire supply chain.

Transformation starts simply with integration allowing real-time data access that enables visibility. And with visibility comes a path to synchronization that ultimately allows for management and control of a digitized supply chain.

AN EVOLUTION OF MANAGED ANALYTICS: GEORGIA COMPANIES TURN DATA INTO ACTION



Steve Ellet, Senior Vice President, Chainalytics

Companies have dynamic, evolving supply chains that require constant evaluation. Ever-changing customer demands are adding complexity with new models like try-it-before-you-buy-it retail. Long-standing logistics channels are evolving from bulk-ship to parcel. These dynamic pressures strain logistics networks and increase pressure to:

- **Shorten planning cycles.** Large-scale, infrequent plans are no longer enough. Supply chains increasingly face demand spikes, trade uncertainty, and capacity shortages. New business models alter customer expectations. Networks are rapidly evolving and require tactical plans to adapt to change.
- **Establish dynamic planning resources.** Many companies have mounds of data but lack the capacity to gain insights from it. Having an analytical team to adapt to market needs is critical. However, many companies struggle to create or sustain an in-house team.
- **Devise plans to optimize the overall supply chain.** Siloed projects don't factor service or cost implications of the overall supply chain. If a project aims to reduce distribution costs but doesn't consider sourcing, manufacturing, and transportation, it can inadvertently increase overall costs. Companies over \$20 billion in revenue can sometimes build a successful team in house, but medium-sized enterprises often need external resources to supplement their planning shortfall. Some companies are adopting a managed analytics service (MAS) approach to enhance decision-making. MAS combines a company's business expertise with a composite team that provides domain expertise, proven processes, and investment-grade modeling tools. The benefits:
 - o **Transform data into actionable insight.** The dredging of the Savannah port will introduce new transport options. Do your distribution and manufacturing plans consider its implications? Rising transportation costs and driver shortages only add complexity. MAS creates baseline analytical models and continuously updates them as market or customer inputs change, thus creating both strategic and tactical solutions that reduce costs and improve service.
 - o **Continuously respond to market demand.** Manufacturers now face being "Amazoned" — that is, pallet shippers are now pressed to drop-ship individual orders from their warehouses. One manufacturer has seen a drastic demand shift from bulk to single-serve products. When business models are flipped, companies must ask: Are facilities in the right place? Are distribution layouts equipped to handle new packaging requirements? Do we need new carrier partners? The responses to these ongoing new questions require models that continuously evaluate modes, economic impacts, and sourcing options.
 - o **Align short, mid, and long-term decisions.** CPG companies are facing increased product personalization, increasing the SKUs that move through the supply chain. By holistically evaluating facility layouts, partner contracts, and material options, companies can create optimal networks that are prepared to adapt to the ever-changing market needs. One company recently launched gluten-free options that required repositioning its manufacturing network. Subsequently, MAS helped answer tactical questions concerning line production, sourcing, and order fulfillment.

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4. Genetic algorithms are improving delivery times and reducing costs. In the logistics business, every mile and minute matters. Companies can use a route planner based on genetic algorithms to map out optimal routes for deliveries.

UPS, for example, uses Orion, a GPS tool that helps drivers make timely and cost-effective deliveries. Routes can be planned and optimized depending on traffic conditions and other factors. Orion has helped UPS save nearly \$50m annually.

In the near future, AI will set a new standard of efficiency across supply-chain and logistics processes. The game is changing quickly, creating a "new normal" in how global logistics companies manage data, run operations and serve customers, in a manner that's automated, intelligent, and more efficient.

Regardless of how one views these changes, AI and associated technologies are about to take over global supply-chain management.

Big Data Analytics

Like AI, Advanced Analytics spanning predictive and prescription analytics with big data is another trend for many ecosystems including the SC/L ecosystem. Many SC/L technology companies are adding Advanced Analytics to existing technology solutions like Inventory, Warehouse and Transportation Management Systems.

For three years, Competitive Insights, a SC/L company in Georgia has helped orchestrate the Annual Analytics & Big Data Benchmark Study published in *Supply Chain Quarterly* and *DC Velocity* each year. As in past years, the responses from the participating companies indicate that most feel that they are early in their journey in achieving that full potential that is possible from Big Data Analytics. Results show less than 5 percent of respondents report advanced analytics use for operational, tactical and strategic decision-making.

Omnichannel

Omnichannel continues to be a trend for the SC/L ecosystem. Customers demand their goods in a

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BY THE NUMBERS

Supply Chain & Logistics Technology Industry
Georgia, 2018



Employment³
33,136
State Wide Est.
Economic Impact²
\$10.4B

Companies⁵
141
State Wide Est.
Revenue²
\$5.5B

Top 20 Companies
Est. Revenue (GA)²
\$5.1B

Top 20 Companies
Est. Revenue
per Person(GA)²
\$163K

Venture Capital
Deals³
13

Disclosed Venture
Capital Raised³
\$852M

INDUSTRY DEFINITION

There are 141 Supply Chain & Logistics technology companies in Georgia according to the Technology Association of Georgia (TAG). TAG compiled a list of companies in the logistics industry sector with operations in Georgia, and each figure reported here is a total for these identified companies' operations within the state.

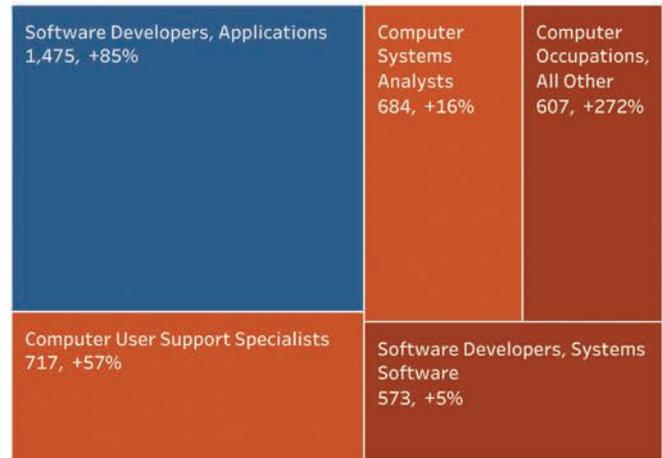
INDUSTRY HIGHLIGHTS

There are over 33K jobs in the Supply Chain & Logistics technology industry, which has grown from 25K in 2010. However, there has been a small decline of 100 jobs since 2017. The total technology industry has a \$10.4B economic impact to the State of Georgia and \$5.5B in estimated statewide revenue. The 20 largest employers claim most of this revenue, at \$5.1B.

Employment, 2010-2018
& Year-over-Year Growth (%)⁴



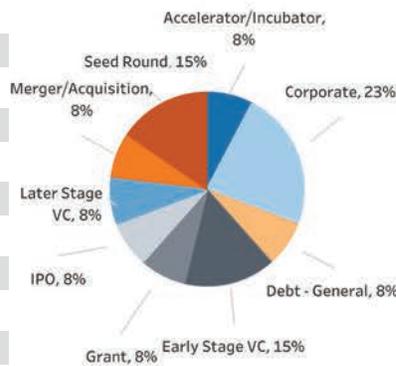
Top 5 Technical Occupations
Number of Jobs; Growth since 2010 (%)⁴



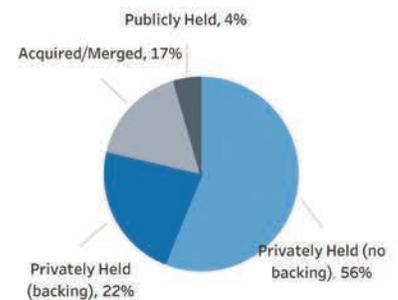
Top 20 Employers
Alphabetical Order¹

Avery Dennison	Presidio Networked Solutions
CHEP	Rehrig Pacific Company
Cisco Systems	RouteMatch Software
Dematic	SAP America/Ariba
FedEx	Siemens Logistics
IBM	SITA
JDA Software Group	Stratix
KNAPP	United Parcel Service
OpenText	Varec
Manhattan Associates	Verizon Connect

Venture Capital Deals by Type³



Companies by Ownership Status³



Sources

- ¹Quarterly Unemployment Insurance Match Data
- ²Center for Economic Development Research, Georgia Institute of Technology, IMPLAN Model of Georgia
- ³Advanced Technology Development Center, Georgia Institute of Technology, Pitchbook
- ⁴EMSI
- ⁵Technology Association of Georgia





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variety of ways, especially in the retail markets: phone, online, in a physical store or facility, etc. And SC/L technology solutions must support a seamless shopping experience and be flexible enough to manage the inventory, various point-of-sale and delivery options and shifts between these options for each transaction. Although this trend may be close to maturity with many large enterprises executing an omnichannel strategy, most mid-sized enterprises and many other industries are still developing an omnichannel strategy.

Industry Growth and Challenges

Like all industries, the Supply Chain & Logistics technology market faces challenges of growth and expansion. Many SC/L technology products require organizations to dramatically change their style of operations (for the better). While simple on the surface, the complexity of change impacts all implementation.

Here are some additional business and technology challenges that can impact the successful implementation of SC/L technology solutions.

Visibility versus Data Security

Visibility of the supply chain makes time-sensitive data readily available to all enterprise stakeholders including the customer; however, security of this data can restrict availability. For transportation visibility as an example, enterprises rely on trading partners (third party logistics providers or technologies) to provide the location of their shipment, who is currently responsible for moving the shipment and when is its expected delivery time.

Proactive alerting of delayed shipments is a prized piece of data for the customer: when will my stuff now arrive or should alternative service level change on the next stage of the shipment's

journey to expedite? Data quality especially due to disparate systems and compliance continue to hamper the ability to provide these answers. Now that security concerns continue to rise: who can see my data and how do I securely share the data with my partners and customer?

Blockchain Adoption

According to a report by TAG and Georgia Institute of Technology, there are over 20 companies devoted to blockchain in metro-Atlanta, driven primarily by the FinTech ecosystem. Adoption by supply chain technology is slow and solutions are still in the early stages of development. However, a supply chain crusade for pilot projects are well-positioned to play a role in the increasing need for secure, cooperative working models across extended groups of trading partners.

Change Management

Change management is another growing portion of every project, especially large enterprise systems like an inventory, transportation or warehouse management system. These SC/L technology systems require users to change how they do their daily activities, what they need to do on the new technology's user interface versus phone use, etc. Most of these SC/L systems can be the first computer systems for logistics users: trucker drivers with smartphone apps or forklift drivers with special eyeglasses.

Change Management should be part of every phase of the new technology process: prior to software selection to evaluate user adoption, partner participation expectations and identify barriers to adoption, continued discussion of user expectations before implementation installation, various training and testing cycles and go-live with communication throughout the enterprise (senior management to the end user) as well as expected change management and training sessions throughout the technology rollout with everyone. Also, any cutover of the previous system also needs to be planned and coordinated with a change management team.

DEPSOCO HELPS COMPANIES UNIFY COMMERCE STRATEGIES

Deposco is a software company located in Alpharetta, Georgia. Deposco offers a suite of true cloud supply chain solutions including WMS (Warehouse Management System), OMS (Order Management System), DOM (Distributed Order Management) and more. With over 80+ pre-built integrations, Deposco acts as the central nervous system for the business when it comes to inventory and operations.

Companies are now realizing CRM (Customer Relationship Management) or ERP (Enterprise Resource Planning) add on inventory widgets is not the same as a true WMS. To be best in class businesses must use each tool where it has perfected its capabilities as a best in breed system.

For one mid-market company, this realization occurred almost five years ago.

"We couldn't trust any of our stock levels in the ERP. Because we now have a functioning WMS, Inbound, Outbound and Customer Service teams do not need to spend time searching the warehouse to check inventory; they just look in Deposco." Operations Director at mid-market company using Deposco.

This company knew how to adapt. From its roots as a brick and mortar store to a global multi-channel parts provider online, the family-owned business has added technology with the changing customer needs. Deposco was able to serve as a catalyst for improved processes in all the major efficiency areas. Furthermore, with its flexibility, the company has been able to scale within the Deposco platform and tailor the application to their specific needs.

The mid-market company has since been able to offer six times the number of SKUs to the customer than before Deposco. They have also seen a 97 percent increase in lines packed per hour.

Although at a much larger scale, the struggles are strikingly similar at the enterprise level (\$500 million-plus in revenue). The ability to have flexibility and adaptability can only be found within a true WMS system because it is the core focus.

One of Deposco's many enterprise clients explains: "Deposco allowed us to tear out everything that was old. We were on multiple systems not talking to each other to now one system to show the whole truth" recalls the Director of Logistics. This move signifies a shift to the cloud and a clear marker into the future, while at the same time it removed bad habits from the last 20 years.

Shipping out over one million units per week, Deposco was able to bring structure and full visibility into the order fulfillment process. As an omnichannel business, it was important for the stores to have ownership and visibility of their inventory, therefore, reducing the number of products sitting on the dock and moving into the stores faster.

Deposco is helping mid-market and enterprise businesses unify their commerce strategy and prepare for the future of retail.

U.S. SUPPLY CHAIN AND LOGISTICS TECHNOLOGY IS POWERED BY METRO ATLANTA



Ben Harris, Director of Supply Chain, Bioscience and Advanced Technology Ecosystem Expansion, Metro Atlanta Chamber

Metro Atlanta is home to gamechangers disrupting “business as usual.” We have always been a town for logistics; it’s in our DNA as a city founded on the railroad. Today, the innovation spearheaded by our technology ecosystem is keeping Atlanta at the forefront of supply chain and logistics.

Let’s review some bona fides: Georgia has been the No.1 state for business climate for the past seven straight years according to Site Selection and the No.1 state for doing business according to Area Development for the past six years. Three of Gartner’s top 25 global supply chains are run out of metro Atlanta. We’re at the intersection of the world’s most-traveled airport, the national network of highways and Savannah - a key port for the East Coast. A 2017 report from Deloitte ranked metro Atlanta as the No.2 city for digital supply chain in the U.S. This reputation for connecting the world’s innovators is something we do best.

Metro Atlanta is proud to be home to 18 corporate innovation centers run by supply chain companies that are actively exploring innovative solutions. There are 26 Fortune 1000 companies in the area - proven thought leaders in supply chain, such as The Home Depot, UPS, Delta Air Lines and more. Our region is well-positioned for continued excellence as well. Our higher education institutions are producing talent in record numbers. Georgia Tech, for example, awards more engineering degrees than Stanford and UC Berkeley combined. These assets and more attract companies and supply chains from all around the world.

One unique innovation center - Georgia Pacific’s Point A Center for Supply Chain Innovation continues to be a rallying success story for the ecosystem. The Center is a collaborative space for businesses that touch global corporations, innovative startups and education institutions, alike. Spaces like the Point A Center highlight metro Atlanta’s collaboration. We unite industries as diverse as supply chain, Internet of Things, bioscience, global commerce, technology and innovation and entrepreneurship to envision the next big disruption.

Digitization represents a tremendous opportunity - an opportunity that Atlanta is uniquely positioned to capitalize on. Sandy Lake, writing for *The LoadStar*, notes that, “only 40% of the industry is data-driven. A lot are still working with spreadsheets.” Sandy notes that large companies headquartered in Georgia played a leading role in digitizing the supply chain industry up to this point, again The Home Depot, UPS and Delta Air Lines. These corporations are backed up by Georgia Tech, Clayton State University, Georgia Southern University and a host of others, resulting in metro Atlanta’s recent ranking as the No.5 metro area in the nation for most employment in the Transportation/Logistics cluster and the Distribution/Ecommerce cluster. When Deloitte ranked the region No.2 for digital supply chain, it capped years of work and transformation. Metro Atlanta is a leader in the traditional logistics space, and we took the initiative to embrace digital. We’re now known as #SupplyChainCity, and we’re owning that reputation.

Another thing Atlanta does best - concentration. We like to assemble dream teams in close physical proximity. Engage Ventures is a platform uniting startups and venture capital and is one such unique concentration. STORD, ThingTech, Fast Radius and others are all making an impact and gaining traction with support from Engage. The Advanced Technology Development Center is another example, assembling tech entrepreneurs and exposing them to mentorship and other resources. Predikto, Verusen, Goodr, MOtivo, Smart Gladiator, Trackstr and a host of others are all building success stories through ATDC. The leading Fortune companies in the region are vested in the success of our startups, and that ethos is reflected in platforms like Engage and ATDC.

All of this emerging technology and innovation deserves recognition. The Metro Atlanta Chamber is a founding sponsor of the Atlanta Supply Chain Awards, along with the CSCMP Roundtable, Supply Chain Now Radio and APICS. Technology will certainly be a theme at this year’s awards as we highlight the incredible work of an entire ecosystem. Atlanta is also the proud home of MODEX - one of the largest supply chain technology showcases in the western hemisphere.

In short, the future of supply chain is in Georgia and metro Atlanta.

CASE STUDY: VERUSEN'S AI PLATFORM HARMONIZES DISPARATE DATA

Verusen is a Supply Chain Intelligence company built on innovation that uses artificial intelligence (AI) to provide complex global supply chains visibility, digitization and predictive inventory for materials. The company's AI platform harmonizes disparate material data across many ERP instances/systems while providing accurate MDM across the enterprise to reduce inventory costs. Intelligent controls enforce inventory procedures to help prevent future inventory spikes, while predictive capabilities optimize allocation and procurement needs. The result is a data foundation you can trust to move quickly to innovate and support related Industry 4.0 initiatives.

Fast-shifting customer demands are placing incredible strain on companies and their supply chains. Those with the means are turning to an acquisition strategy to expand their capabilities and product / service offerings to better compete in the market. And these strategies are not just about staying competitive, but strategies to stay in business.

As companies compete for market share, people and processes may shift relatively quickly to accommodate the needs of the enterprise. However, the systems they utilize to run every operations and their supply chains are deeply entrenched making adjustments not so easy. In fact, companies with multiple acquisitions frequently continue to operate their backend systems such as enterprise resource planning (ERP) systems separately. Technology stacks continue to grow and stack on top of one another creating more and greater data silos.

The technical inefficiencies of the typical Fortune 1000 asset-intensive company (i.e. manufacturer, airline, other) hamper agile supply chain operations--building incredible bloat across the facilities in the form of inventory and manual processes. A symptom of this can be seen as inventories for materials grow with duplicate materials, excess overstock, heavy annual write-offs, and growing unused parts in the storeroom. Many manufacturing companies can hold 20-30% excess and overstock inventory--which can be \$20-30M written off annually, or \$575K per week! Information is siloed preventing strong visibility for the folks who need it. This can be the very maintenance engineers who request parts but have limited visibility to find what they're looking.

Growing capital inefficiencies and spend continue when coupled with misaligned incentives with operations and procurement organizations. Operations is holding inventory with as much as possible to provide the comfort level that a machine will not go down, lest a critical asset was to go down. In aviation, an aircraft on ground (AOG) can cost an airline up to \$150,000 per hour¹. Procurement provides the counterbalance working to rein in expenses. When the ability to find inventory is hampered, this can impact inventory by increasing to fulfill a potential gap because real inventory availability is not found, known. Or, worse, those assets critical to operations godown for extended time.

Verusen was born from the pains of managing inventory across multiple facilities where systems limited the visibility and access to inventory data.

Verusen was founded in 2015 as Autit and as a mobile application to help storeroom clerks track inventory within inventory "cribs". However, it was clear early on that tracking inventory for distributors and manufacturers were a reactive approach. Inventory was constantly out-of-sync. The problem was occurring upstream at the manufacturers and "producers" phase of the supply chain.

Though customers in the supply chain may receive physical goods from manufacturers or distributors, customers do not receive the "digital good" ("digital twin"). This means customers undergo their own processes to receive inventory--creating their own representations of materials in their financial and inventory systems. This can come at the cost of 100s of representations for the same material across an enterprise's multiple systems. And even then, operations across facilities or even within a facility, may search for inventory with, both, limited visibility across disparate data systems and poor search capabilities (think fixed search capabilities vs. Google-like fuzzy search).

With advances in neural net artificial intelligence (AI), Verusen was born to help solve these complex issues costing Fortune 1000 companies millions annually in excess inventory spend by building the intelligent connected supply chain.

The company's AI learns from operations and enterprise master data management (MDM) teams to lay a data foundation on parts and materials inventory data. Verusen's AI then links materials despite differentiated material descriptions and disparate data systems together; thereby, Verusen can help suppliers and customers push and pull inventory data seamlessly. This can flow from purchase order information as part of a goods receipts to usage history and to complex inventory forecasts between manufacturers, suppliers, and customers--up and down and across the supply chain--to meet the upcoming demand and mitigating risks of costly stockouts.

Verusen is poised for significant growth in 2020 with the market craving the ability to be more agile. Acquisitions will not slow down as companies continue to build capabilities to meet the demands of customers. However, factors ever-more highlighted in 2019 from tariffs to Brexit to climate change is forcing companies to remain vigilant in controlling costs and inventories. Verusen may be one key to the supply chain puzzle that enables companies to strive for alignment and greater collaboration to evolve not just as a single organization, but as a network of connected supply chain partners.

¹ <https://iagcargomagazine.com/2018/07/03/aircraft-on-ground-how-a-technical-fault-can-cost-millions/>

GEORGIA CENTER OF INNOVATION - FOCUS ON LOGISTICS AND SUPPLY CHAIN TECHNOLOGY



Sandy Lake, Associate Director, Georgia Center of Innovation for Logistics

A focus area for the Georgia Center of Innovation for Logistics is logistics and supply chain technology. This is a key component of Georgia's unparalleled infrastructure assets that contribute to Georgia being the number one state for business for the past six years.

From start-ups like Roadie and StaffWRX to industry leaders like UPS, Georgia Pacific, and the Georgia Department of Transportation, Georgia has seen exciting advancements in last mile delivery, communication platforms for flexible workforce management, drone delivery for healthcare campuses and smart infrastructure for improving infrastructure to vehicle communication. These are just a few of many advancements in logistics being nurtured in Georgia.

These along with AI, IoT, augmented reality, blockchain and the like that are being applied in logistics and supply chain in innovative ways to improve the visibility and velocity of supply chains. As the digital and physical worlds of logistics continue to converge, these are a few of the trends that continue to be featured in Georgia:

- B2B data integration continues to be a hot topic in logistics and supply chain operations as companies seek to improve efficiency and respond to customer demands for greater visibility.

- Mobile technology is driving companies beyond retailers to manage omni-channel distribution.
- Increasing demand for data analytics to gain insights for determining service levels and total landed costs as a means to reduce transportation spend.
- Monetizing transactional data is the new frontier.

The following companies have Innovation Centers in Georgia:

1. Accenture Innovation Hub
2. Boeing Manufacturing Development Center
3. Chick-fil-a Tech Innovation Center
4. Daimler AG Lab 1886
5. Delta Air Lines "The Hangar" Innovation Center
6. General Motors IT Innovations Center
7. Georgia-Pacific Innovation Institute
8. Georgia-Pacific Point A Center for Supply Chain Innovation
9. Honeywell Connected Enterprise
10. NCR Innovation Lab
11. Novelis Global Research & Technology Center
12. Shaw Industries Create Center
13. Siemens Data Analytics and Applications Center
14. Stanley Black & Decker Digital Accelerator Emerson "The Helix" Innovation Center
15. The Home Depot Technology Center
16. Thyssenkrupp Elevator Americas Research Innovation Center



INDUSTRY TRENDS: SUPPLY CHAIN AND LOGISTICS



Tim Brown, Managing Director for Supply Chain & Logistics Institute

The supply chain is the lifeblood of industry. No matter how advanced the product or service, industry depends on supply chain and logistics to reach the consumer. An ever-expanding network of transportation, warehousing, and inventory makes it all possible - along with the logistics that are constantly evolving to meet new demands.

In this article, we'll look at some of the key supply chain trends -- as well as a glance ahead to what the future may hold and what it means for the workforce.

Trend #1: Omnichannel Distribution

E-commerce plays a commanding role in the way we acquire goods and services, but according to Tim Brown, managing director for Georgia Tech's Supply Chain & Logistics Institute, omnichannel distribution takes us one step beyond.

"Omnichannel distribution enables customers to interact with the seller in multiple ways to select, purchase, and deliver items," Brown says. "So, if you look at The Home Depot for example, you can buy from the website and have it delivered to your house. You can buy it from the website and pick it up at the store, or you can just go into the store and pick it up off the shelf."

These options increasingly extend to both small- and large-scale products -- as well as services. "When The Home Depot started, it was basically just a warehouse or store that you roamed around in and picked up things," Brown says. "Now, there are multiple different ways to interact between retailers and consumers. That's a big driver of change."

Trend #2: Robotics

With increasing complexity in the supply chain and the added demands of omnichannel distribution, robotics and artificial intelligence are becoming more important.

"Companies are looking to AI, robotics and related technologies to help them manage the complex channels, different flows, and different inventory pools," Brown says. "So, where companies used to want to avoid complexity and try to be very simple and have very defined roles in the supply chain, now companies like Amazon and The Home Depot are embracing complexity."

Automated vehicles continue to offer a great deal of promise, but Brown stresses that the trucking industry won't change overnight. Certain parts of the country, such as Georgia's I-16 corridor between Savannah and Macon, will serve as effective initial targets for automation. Savannah is home to the Port of Savannah, the fastest growing and fourth busiest port in the nation and the largest single-terminal container facility of its kind in North America. Semi-automated systems such as platooning or flocking, which allow a single driver to handle linked vehicles, will likely arrive ahead of fully automated fleets.

Trend #3: Additive Manufacturing

Additive Manufacturing or 3D printing is also a major game changer in supply chain and logistics. Previously, products left the factory only to be stored for weeks, months, or even years. Now, an increasing number of products are created on demand.

"In Atlanta, Adidas actually makes shoes in an on-demand center," Brown says. "So, instead of guessing what's going to sell and in what sizes and distributing them throughout the world; they just make them on demand."

Additive manufacturing can improve the availability of spare parts for a given product, and Brown believes it could also enable more sustainable products that can be easily renewed or recycled. "A lot of times, an item reaches the end of its life and has to be scrapped because it's made up of hundreds of thousands of parts that are too hard to take apart to reuse," Brown says. "But you can 3D print some of the items and design them so they can be easily disassembled and put into the supply chain again."

Trend #4: The Physical Internet

Manufacturing 4.0 is transforming the landscape of industry through the widespread adoption of new technologies. Advancing alongside it is a leading-edge global logistics system termed the Physical Internet: a revolution in transportation planning that transforms the way physical objects are moved and stored.

The aim is to create a leaner, more effective supply chain in which companies share infrastructure -- such as trucks and warehouses -- for maximum efficiency. Advancements in AI, the Internet of Things, and blockchain make this sort of sharing possible.

"If companies can feel comfortable with these technologies and they know where their items are, then they can open up and share," Brown says. "It's like how we share cars now with the Uber model. Why not do the same thing with freight?"

Continued on page 13

POINT A TACKLES SUPPLY CHAIN CHALLENGES ALONGSIDE 30 COMPANIES



Duriya Farooqui, President Point A

Atlanta's former moniker "Terminus" still suits the city: it lays claim to an impressive logistics and transportation industry, with 17 out of 26 supply chain-related Fortune 1000s calling it home, along with the world's busiest airport. Atlanta is also a growing hub of technology and innovation, so there's no better place to shape the future of supply chain. At Point A, our mission is to transform supply chains, by applying digital and industry 4.0 solutions, and unlocking value through co-creation and collaboration.

Georgia-Pacific founded Point A in 2018 under the common belief that corporations cannot innovate alone. Since our inception, we have amassed a membership of over 30 leading companies, start-ups, and academic institutions to co-create solutions that inspire more productive and efficient global supply chains. Our members come from a wide range of industries and capabilities and include Georgia-based names like Delta, Genuine Parts Company, UPS, Sagepath, and, of course, Georgia-Pacific. We also rely on our strong partnerships with the Metro Atlanta Chamber of Commerce and Georgia Tech to engage the tech community and amplify Atlanta's role as a leader in innovation and entrepreneurship.

Point A tackles supply chain problems through an innovation approach that combines the best elements from design thinking and agile methodologies. From quick sprints to full-fledged workshops, we customize our process to best fit the problem, accelerating a cross-fertilization of ideas to arrive at a truly creative solution. We're focusing on some of supply chain's biggest challenges and applying emerging technologies to solve them.

- Traceability
- Visibility
- Optimization
- Transformation
- Automation
- Intelligence
- Robotics
- Autonomous Vehicles
- Advanced Analytics
- Cyber Security
- Wearables
- Blockchain

We are proud to be based in Atlanta and look forward to the space for our innovation center opening at Georgia-Pacific Center in the spring of 2020. We look forward to collaborating with our members to build the supply chain of the future.

What's Next?

Looking ahead to the future, Brown is hopeful for the merging of people mobility and freight mobility. While some forms of transportation, such as air transportation, move both cargo and passengers, most forms of transportation keep them separate.

"MARTA could be moving freight through Atlanta, particularly at night" Brown says. "Even during the day, there could be a couple of freight cars so that freight's moving under the city instead of through it on trucks."

While major shared people and freight initiatives are further off, a number of start-up companies are already exploring what's possible via a transportation networking system -- including the Atlanta-based Roadie.

"Let's say you need to send a bed or something from your mother to your aunt and you don't want to bother with a regular van line," Brown says. "With Roadie, you find somebody who happens to be traveling between those two points and they agree to stop by and pick it up and move it."

Job Prospects

What does this mean for the workforce? Industry data provided by the O*NET Resource Center indicates that supply chain and logistics jobs are on the rise. The opportunities go far beyond truck and forklift drivers, encompassing everything from data analysis and cloud solutions.

"There are also exciting roles involved in supply chain planning, risk management, and strategic supply chain gaming involved in supply chain tradeoff analysis," Brown says. "They leverage technologies such as immersive reality, geographic information systems, artificial intelligence, and data analytics." As with jobs in manufacturing, supply chain and logistics workers have to roll with continuous change in the digital world - but the jobs themselves are not going away.

"Many young people aren't attracted to logistics because they think it's hard, physical work," Brown says. "Obviously there are a lot of jobs like that, but there are a lot of exciting jobs in supply chain and logistics that people should think about: perhaps starting in operations but then moving to managerial or tactical planning roles leveraging the latest technologies."

GTPE offers a robust list of professional development options to prepare supply chain and logistics professionals for success in this field. Check out our overview of the learners we served last fiscal year.

GSU SUPPLY CHAIN TECHNOLOGY ECOSYSTEM PERSPECTIVE



Marc Angus Scott, Assistant Professor of Logistics and Supply Chain Management Director, Southern Center for Logistics and Intermodal Transportation (SCLIT) Parker College of Business Georgia Southern University



Gerard Burke, Ph.D., Professor and Chair Department of Logistics & Supply Chain Management Georgia Southern University

As the Department of Logistics and Supply Chain Management at Georgia Southern University, our predominant focus on logistics and intermodal transportation places technology, its development, and the resulting ramifications for logistics and transportation operations at the forefront of our programmatic foci; given its paramount importance to three of our major constituents - students, industry and the academic community.

As such, for the department, the logistics technology ecosystem comprises those technologies that currently, and potentially can, impact both the training and employability of our students; those technologies that are at the forefront of disruption in the supply chain, logistics and intermodal transportation space for which rigorously conducted research can provide further insights into their relative impacts on operations practice and performance; and, related, those technologies that compel engagement with industry partners for whom such research insights can be valuable in business strategy and planning initiatives pertaining to logistics technology implementation and outcomes; with the intent of engaging in knowledge dissemination and discourse.

As faculty, we engage in the integration of knowledge of the evolving logistics technological landscape into our program, research, and outreach activities. From the broad supply chain perspective, we engage in the teaching and facilitation of discussions on logistics technology-enabled responses to societal trends that drive the need and market opportunities for such technologies.

These topics and themes include those technologies that are projected to have medium-to-longer term implications for supply chains and include 3D printing, autonomous vehicular technology, unmanned aerial vehicles (UAVs),

and artificial intelligence (AI). Further, logistics technologies bearing more relatively imminent impact to logistics operations within our regional logistics ecosystem are addressed more acutely across our programmatic content. These technologies include software associated with big data analytics, cloud logistics platforms that facilitate logistics as a service (LaaS), the Internet of Things (IOT), and robotics and automation.

More definitively, our proximity to the Port of Savannah, and the relationships and opportunities we are afforded to pursue as a result of this proximity, is articulated in our teaching, research and outreach being focused on contextually relevant logistics technological advancements and their implications to firms and the region. Teaching and research on the technologies that directly or indirectly impact ocean carrier, port, or logistics service provider operations and performance are a predominant programmatic focus.

Currently, faculty are engaged in research projects that include strategy, differentiation and competition in the TMS and WMS markets; determining the impact of ELD implementation on competition in the trucking industry; the impact of load matching technologies on competitive dynamics in the 3PL industry; the impact of advanced propulsion technologies on fleet procurement practices and resulting fleet cost implications; and the impact of technology on last mile logistic service design in omnichannel retail supply chains.

Of importance, the analytical skill, technical proficiency and employability of our students are of paramount importance, and central to our strategy. Given this, we utilize various logistics and supply chain technologies as part of our focus in the experiential and applied learning component of our pedagogical strategy. To that end, we have utilized Integration Point, Mercurygate, and Freightwaves' Sonar system, in addition to various other logistics technologies and software, in the classroom and in student-led projects. Additionally, we are in discussions to facilitate access to Navis for students in our program, in addition to various WMS packages. We continue to focus on conducting teaching, research and outreach activity that reflects and incorporates logistics and supply chain technologies that are highly relevant to the context of our regional logistics and supply chain ecosystem.

HOW DRONES WILL REVOLUTIONIZE HEALTHCARE SUPPLY CHAINS

Scott Price, Strategy and Transformation Expert, UPS



When UPS recently became the first company certified to fly an unlimited number of drones with an unlimited number of

operators, we vowed that it was just the beginning.

Today, with numerous game-changing announcements, we're living up to that promise as we mark the next chapter in UPS's flight into the world of drones — and reshape both the healthcare and retail landscapes.

We're taking our groundbreaking drone logistics program to the University of Utah Health campus in Salt Lake City. The service, which first launched at WakeMed's flagship hospital in Raleigh, North Carolina, will expand to the Utah hospital campus this quarter, utilizing Matternet's unmanned drone system to transport medical products.

The drone expansion in Salt Lake City aims to provide a quicker, more reliable method for transporting medical samples between healthcare locations, resulting in benefits like quicker lab results and faster treatments.

UPS Flight Forward will now begin drone flights at the University of Utah Health campus in Salt Lake City.

But that's not all

UPS Flight Forward is also making its retail debut. We're exploring the delivery of prescriptions and retail products to the homes of CVS Pharmacy customers. Under our joint agreement, CVS will work with UPS Flight Forward to provide drone service in business-to-consumer operating models, helping us jointly reach customers when and where they need us.

AmerisourceBergen, a leading global healthcare solutions provider, will deploy the UPS Flight Forward drone airline to transport certain pharmaceuticals, supplies and records to some of their medical campuses across the United States. For context, the company now distributes medicines to 95 percent of hospitals across the country through a network of 27 distribution centers.

And finally, Kaiser Permanente will use the UPS Flight Forward drone airline in a pilot program to transport certain healthcare supplies between buildings at medical campuses in its 39-hospital network.

With each of these major drone innovations, we're redesigning supply chains and revolutionizing the delivery of medical and retail products with new speed, precision and efficiency. With an assist from drones, we're paving the path to a day when healthcare professionals can serve more patients and do so with fewer and fewer obstacles.

This is *good for business* and *good for public health*. It's a win-win that demonstrates the power of business collaboration in tackling our greatest challenges as a society.

A view across all industries

At UPS, we have a view across practically all industries. And we see that many of the foundational Fourth Industrial Revolution technologies are disrupting every level of the supply chain.

This is especially true in healthcare, where every second truly matters and could mean the difference between life and death. It's why we've made numerous innovations to move packages through our network even faster while expanding capacity to meet the demands of 21st century healthcare.

It's also why we rolled out a new business unit formation and technology-enabled network services. These moves will enhance the customer experience and bring unprecedented new levels of visibility, control and quality assurance to the healthcare supply chain, as well as strengthen our service reliability.

Multiple next-generation sensor technologies will support prioritized flow paths, sortation and delivery services for critical healthcare shipments. These new solutions provide the most comprehensive priority-handling services for chain of custody and time-dependent and temperature-sensitive packages to help increase on-time reliability.

This is just the latest transformation of our healthcare services. We've already introduced specialized identifiers on packages to distinguish healthcare parcels from other items, giving those products the highest level of visibility in our network.

This visibility extends into our drivers' DIADs so they can identify healthcare packages during their routes and make instant decisions to deliver those items at the exact right moment.

In other words, our teams and our technologies are ready and able to meet new healthcare needs as they arise. We can monitor packages in real time in our operating centers through improved visibility solutions — all rooted in our Global Smart Logistics Network.

This network is helping us do two major things: Meet the need for speed in the healthcare space and expand capacity so we

can provide our customers the level of service they need to satisfy the healthcare demands of tomorrow.

Dual challenges

As supply chains get faster and more flexible, UPS leaders are leaning into two challenges: How will we deliver the customer experience of the future? And how will we take advantage of technology to enable those experiences?

Drones help us meet both challenges. By using this technology, we can shift from offering mass services to customized services tailored to each customer's unique needs.

UPS has already established itself as a leader in unmanned aerial vehicle delivery. We've tested drones for urgent commercial deliveries above water; funded and supported humanitarian deliveries in Africa; and tested commercial residential delivery in rural areas with drones launched from a UPS package delivery car.

This is certainly exciting, and it's natural to imagine a day when drones fill our skies. But don't overlook the reason for these groundbreaking innovations: Ultimately, we'll help those on the frontlines of healthcare and retail deliver better results.

It's not about the technology itself. For UPS, it's about the solution the technology enables.

We're building a supply chain that is more responsive to the needs of healthcare professionals, patients, retailers and the businesses that serve them.

If you want to know where healthcare and retail are heading, just look to the sky.

Published in UPS Longitudes, October 2019





STORD DELIVERS WAREHOUSING AND DISTRIBUTION NETWORK NEEDS

STORD provides the software and network to run a shipper's core distribution needs, creating a long-term, high-value relationship. Our goal is to optimize and centralize our customers' distribution by combining the benefits of traditional 3PLs (Third Party Logistics), software providers and supply chain consultants.

Traditional 3PLs provide warehouse capacity and logistics services, but without a software platform. 35 percent of facilities don't use a Warehouse Management System at all¹, and those that do use different platforms. So, the 3PLs are able to provide warehouse locations and services, but the shipper's distribution is still fragmented and technology deficient.

Software providers can offer visibility, but only into one warehouse, not an entire network. The product is usually

purchased by the shipper, not by the 3PL, so you only gain visibility into the shipper's owned and operated warehouse.

Supply chain consultants can build an optimized warehouse network and inventory placement design, but without a network of warehouses and services, they can't help implement those optimization improvements.

STORD can use the data from our platform to provide real-time optimization recommendations fully backed by our network and service capabilities, not just historical data. This means our customers can make optimized decisions in real-time, supported by STORD's supply chain expertise and services network.

¹WERC DC Measures 2018



SMC³ HELPS FREIGHT TRANSPORTERS WITH LOGISTICS TECHNOLOGY

Georgia has the whole package, says Andrew Slusher, president and CEO of SMC³, an information systems provider for technology and manufacturing companies. “Georgia is truly a hub of transportation and logistics, not only in the Southeast region but nationally and globally,” Slusher says. “In 2017, Deloitte ranked Atlanta as the number two city for digital supply chains, and Georgia was named Site Selection magazine’s top state for business in 2018. I can’t say enough about all the logistics assets that exist in Georgia.”

SMC³ provides data for technology and manufacturing powerhouses around the country and beyond. The company maintains its headquarters in the Atlanta suburb of Peachtree City.

“A majority of all LTL shipments in the country move on the SMC³ CzarLite® base rates,” Slusher notes. “It is the industry’s leading base rate, and we have different means of delivering that data.” And the control center for all this progress will be Georgia. “SMC³ will remain front and center as Georgia’s role in logistics evolves,” he adds.

ABOUT US

TAG Supply Chain & Logistics

The pace of technology innovation will continue to accelerate, and the complexity of global supply chains will increase. Meanwhile, Georgia’s reputation continues to strengthen as a desirable location for global manufacturing and logistics companies. Supply Chain practitioners must embrace technology to achieve the flawless execution their customers expect.

Our mission is to create collaboration and education opportunities for Georgia’s supply chain and logistics community responsible for designing, developing, implementing or operating technology solutions to improve supply chain and logistics performance. Join us to learn the supply chain trends and achievements that are powering the modern supply chain.

Technology Association of Georgia

TAG is the leading technology industry association in the state, serving more than 30,000 members through regional chapters in Metro Atlanta, Athens, Augusta, Columbus, Macon/Middle Georgia, and Savannah. TAG’s mission is to educate, promote, influence and unite Georgia’s technology community to foster an innovative and connected marketplace to fuel the innovation economy.

The association provides networking and educational programs; celebrates Georgia’s technology leaders and companies; and advocates for legislative action that enhances the state’s economic climate for technology. TAG hosts over 200 events each year and serves as an umbrella organization for 26 professional societies. Additionally, the TAG Education Collaborative (TAG-Ed) focuses on helping science, technology, engineering and math (STEM) education initiatives thrive.

For more information visit the TAG website at www.tagonline.org or TAG’s community website at www.hubga.com. To learn about the TAG-Ed Collaborative visit <http://www.tagedonline.org/>.

SPONSORS

GEORGIA CENTERS OF INNOVATION



The Georgia Centers of Innovation (COI) are the state's leading resource for facilitating business innovation. Through the assistance of the five centers, Georgia companies translate new ideas and technologies into commercially viable products and services to better compete in the global marketplace. This economic catalyst, in turn, promotes the continued growth of the state's economy. A division of the Georgia Department of Economic Development, COI provides the leading technical industry expertise, research collaborations, and business partnerships to help the state's strategic industries connect, compete and grow.

GOOGLE



Google's mission is to organize the world's information and make it universally accessible and useful. Their key commitments include the following: protecting users, expanding opportunity, including all voices, responding to crises, and advancing sustainability. Some of their key services include YouTube, Google Search, Google Chrome, and Google Maps. They also have products such as the Google Pixel and Google Home.

METRO ATLANTA CHAMBER



MAC works to position metro Atlanta as a top-tier global region by focusing on key areas: economic development, public policy and promotion. MAC's efforts focus on recruiting new companies to the region and retaining businesses already in the area, reflect the organization's commitment to protect Georgia's status as the number one state to do business, and include robust marketing and communications.

SAGE



Sage Business Cloud is changing how businesses compete and grow, by delivering faster, simpler and flexible financial, supply chain and production management, at a fraction of the cost and complexity of typical enterprise ERP systems. The industries that are covered as of now are distribution, process and discrete manufacturing, food and beverage, chemicals, and services.

SCIENTIFIC GAMES



With global Lottery group headquarters located in metro Atlanta, Scientific Games is a world leader in entertainment offering dynamic games, systems and services for casinos, lotteries, online gaming and sports betting. Since 1973, the company is a trusted supplier of games, technology and services to regulated gaming organizations and lotteries around the world, including the Georgia Lottery and nearly every North American lottery. Scientific Games offers the gaming industry's broadest and most integrated portfolio of game content, advanced systems, cutting-edge platforms and professional services. Committed to responsible gaming, Scientific Games delivers what customers and players value most: security, engaging entertainment content, operating efficiencies and innovative technology. For more information, please visit scientificgames.com.

QUALITY TECHNOLOGY SERVICES



Quality Technology Services (NYSE: QTS) is a leading provider of data center solutions across a diverse footprint spanning more than 6 million square feet of owned mega scale data center space throughout North America. QTS is proud to boast an industry-leading Net Promoter Score (NPS) of 75, nearly twice that of the nearest data center company.



Supply Chain
& Logistics

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