

BATTERY BELT

Powering Southeast Real Estate With EV Demand

OVERVIEW

The Southeast has been a major automotive manufacturing hub for decades, emerging as a key location for auto assembly plants and production facilities in the 1980s and growing substantially through the 2000s. Since the Inflation Reduction Act (IRA) was signed in August 2022, 77 electric vehicle (EV) projects were announced in the U.S., totaling more than \$80 billion in investments and nearly 49,000 in projected new jobs.*

Nearly half (49.4%) of these projects are concentrated in the Southeast, earning the region a new moniker: The Battery Belt.

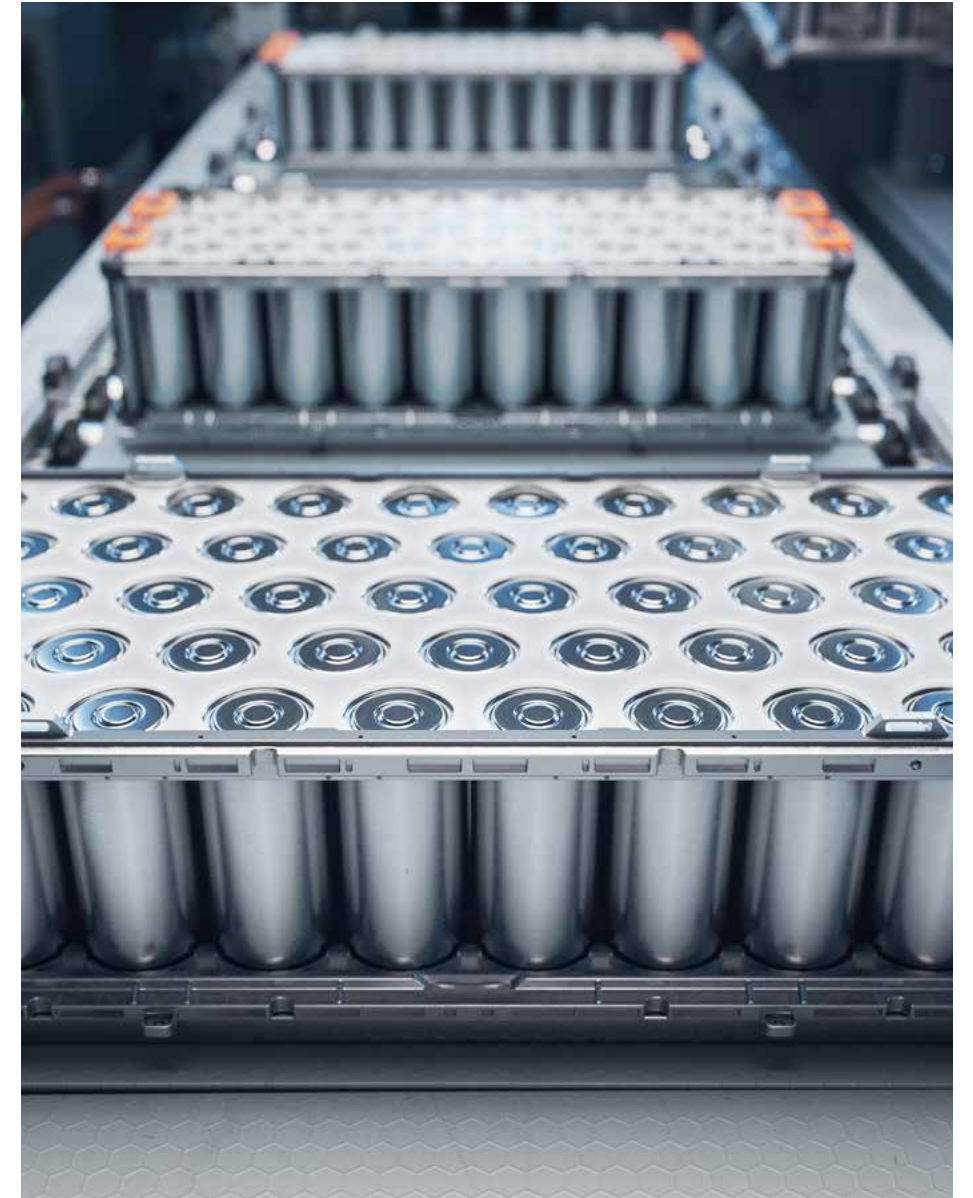
Gigafactories and electric battery production facilities are becoming a major driver of domestic and foreign direct investment amidst global efforts to transition the energy sector away from reliance on fossil fuels. This investment is critical to locales with existing automotive industries and is vital for the vehicle manufacturers.

Consequently, the Southeast's well-established automotive manufacturing industry and the business-friendly state governments help position the region as a crucial player in shaping the industry's future, providing an environment for technological advancements, production efficiencies, and sustainability initiatives. As [corporations explore onshoring](#) opportunities and look to expand battery production and manufacturing capacity, the landscape of industrial users in the Southeast has shifted.

Suppliers and secondary vendors, recognizing the strategic advantage of proximity, are purposefully situating themselves in the same geographic area as plants and auto makers. This spatial proximity not only reduces shipping costs but also increases overall production efficiency in the electric vehicle ecosystem.

This report examines the impact of battery plants, EV manufacturing facilities, and gigafactories on the Southeast's commercial real estate market. Additionally, it explores the ripple effects of the changing landscape, highlighting the influx of suppliers aligning themselves with the region's evolving industrial needs and raising the demand for proximate space.

BATTERY
BELT



* Source: Jay Turner, Wellesley College



TAILWINDS



Access to Raw Materials

Lithium—which is required for rechargeable batteries—is available locally, making the region unique. Kings Mountain, NC contains one of the largest lithium deposits in the country.



Port Connectivity

[The robustness of seaports](#), particularly the [Port of Savannah](#), is complemented by the inland port network and the transportation infrastructure throughout the Southeast which facilitates the import of materials and supplies not available locally.



Business-Friendly Environments

Southeast states have right-to-work laws, making them attractive to many companies due to demonstrated lower labor costs and reduced union influence.



Economic and Workforce Incentives

Southeast states offer tax incentives, grants, and workforce training programs for companies looking to establish manufacturing plants. This aids in attracting investment and building a skilled labor force.

HEADWINDS



Labor Constraints

The high volume of job announcements across the region risks a labor shortage. Gigafactories require skilled labor, which will be in even higher demand when the multitude of plants currently in planning stages begin hiring. Many employers are also boasting high wages to attract talent, driving up the cost of labor.



Construction Funding Roadblocks

A high initial investment and the reliance on advanced technology and specialized equipment make gigafactories extremely capital-intensive. Higher interest rates and market instability have increased lender hesitancy.



Significant Utilities Requirements

Battery plants are large energy users, and infrastructure upgrades are often needed to support power requirements. Municipalities also need to have the capability of supplying the massive amounts of water required for these plants.



Complicated Permitting

Highly flammable materials are involved in EV production. Ensuring regulatory compliance—especially when raw materials are involved—can be both difficult and costly, so landlords are not keen to deal with these users in markets with low vacancy.

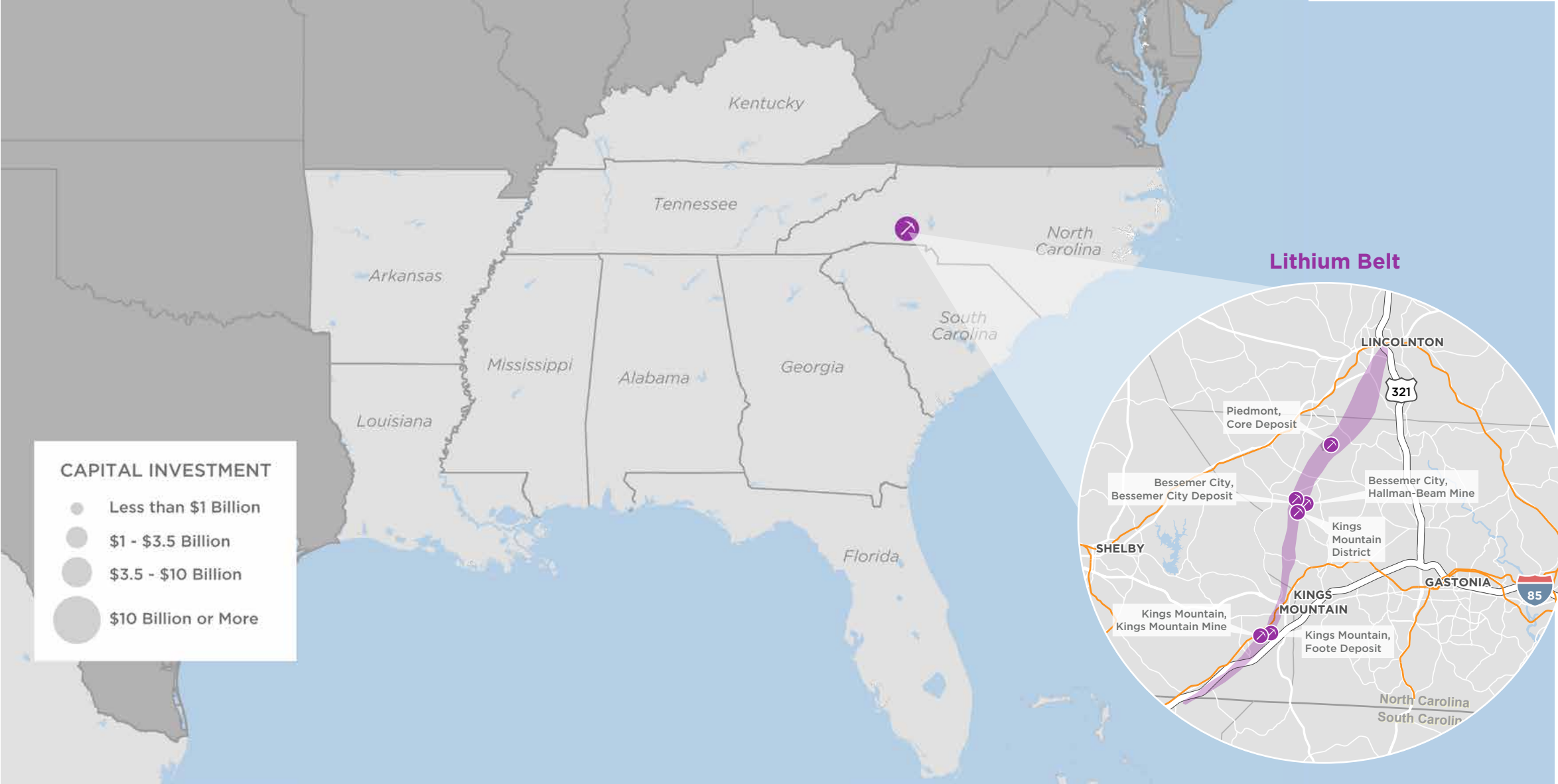
INTERACTIVE REGIONAL MAP



Map Layer Options

Toggle to Enable Views

- Major Metros
- Highways
- Rail & Intermodal
- Cargo Ports
- Operating Facilities
- Under Construction Facilities
- Planned Facilities



NORTH CAROLINA



Real Estate & Industry Highlights



The largest lithium-ion deposit in U.S.—and one of the most prolific lithium mines in the world—sits just west of Charlotte at Kings Mountain, nicknamed the Carolina Tin-Spodumene Belt.



Chemical manufacturer Albemarle acquired the Kings Mountain mine and surrounding land in an acquisition of Rockwood Holdings in 2015. The company launched the Battery Materials Innovation Center (BMIC), a state-of-the-art battery technology lab on the site in 2021.



Piedmont Lithium is in the planning stages of a proposed mine in Belmont. The company is actively working on the state permitting process with a goal of a 2025 construction start, should the project receive approval. Piedmont Lithium owns, leases, or has under contract 3,600 acres in Gaston County for the project, and expects to employ more than 425 people upon full buildout.



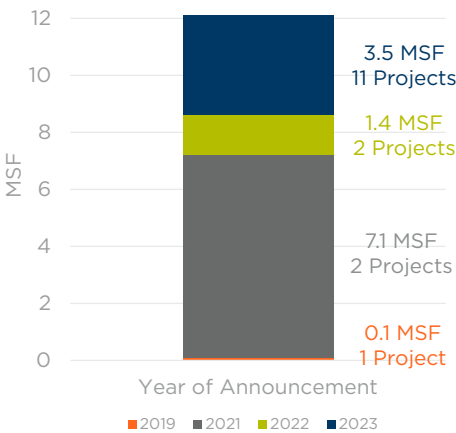
Near Raleigh-Durham, **VinFast and Wolfspeed** alone will add **nearly 2.0 million square feet (msf)** of manufacturing product to Chatham County.



Known as the BATT CAVE—the North Carolina Battery Complexity, Autonomous Vehicle and Electrification Research Center—UNC Charlotte’s \$40 M autonomous vehicle and electrification research center aims to create a new talent pool of EV industry workers in partnership with GM, BMW, Albemarle, Duke Energy, and the U.S. Department of Energy.



Announced Project Square Footage



Announcements by EV companies have resulted in plans for the industry’s footprint to **grow by more than 12.1 msf** (under construction or substantiated planned projects). Cascading effects are expected to continue as over 3.0 msf of battery-related tenant requirements are currently active in North Carolina.

Source: Cushman & Wakefield Research, Press releases

Key EV Announcements

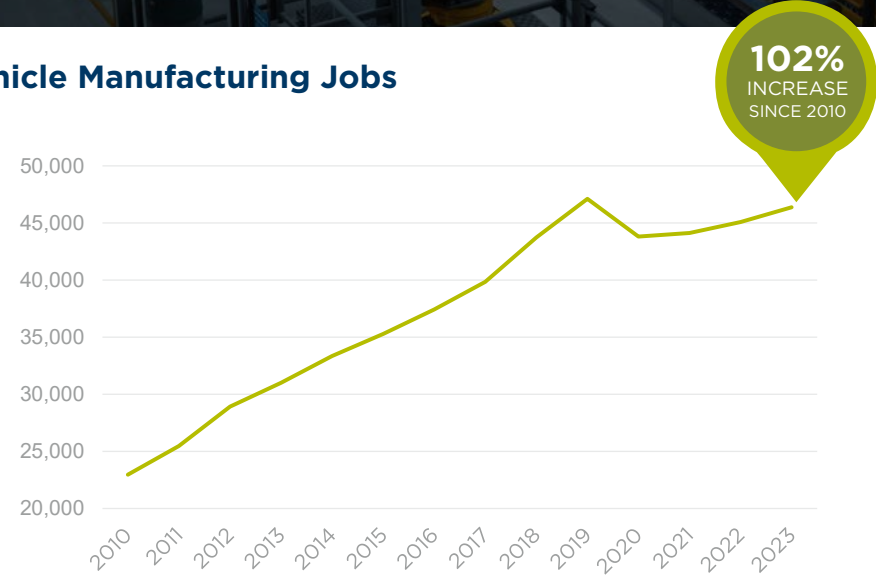
Company	Operating Status	Capital Investment	New Jobs	Manufacturing Type	Construction Start	Production Target	City, County
Toyota	Under Construction	\$13.9 B	5,000	Hybrid EV, Battery EV, Battery Cell	2022	2025	Liberty, Randolph Co.
Wolfspeed	Under Construction	\$7.8 B	2,500	Battery Component	2022	2024	Siler City, Chatham Co.
VinFast	Under Construction	\$2.0 B	7,500	Electric Vehicle	2023	2025	Moncure, Chatham Co.
Epsilon Advanced Materials	Planning	\$650 M	500	Battery Component	2024	2026	Wilmington, Brunswick Co.
Dai Nippon Printing Co., Ltd.	Planning	\$233 M	352	Battery Component	TBD	TBD	Linwood, Davidson Co.
Forge Battery	Planning	\$165 M	200	Battery	2024	2026	Morrisville, Wake Co.
Kempower, Inc.	Planning	\$41 M	600	EV Charger	2023	TBD	Durham Co.
alpitronic	Planning	\$18 M	300	EV Charger	N/A	N/A	Charlotte, Mecklenburg Co.
Atom Power	Operating/Under Expansion	\$4 M	205	EV Charger	2023	2023	Huntersville, Mecklenburg Co.
Celgard	Planning/Operating		100	Battery Component	2024	2026	Charlotte, Mecklenburg Co.
Livent	Operating		30	Battery Component	2019	2022	Bessemer City, Gaston Co.

SOUTH CAROLINA



THE AUTOMOTIVE MANUFACTURING INDUSTRY HAS HISTORICALLY BEEN A PILLAR OF SOUTH CAROLINA'S ECONOMY.

Vehicle Manufacturing Jobs



As EV technology prompts a new wave of growth for the state economy, the completion of multiple projects currently underway are expected to add thousands of additional jobs in the immediate future.

Source: Lightcast

Real Estate & Industry Highlights

- BMW Group** first began production in Spartanburg in 1994 and after six expansions, has a **current footprint of 8.0 msf**. In its seventh expansion, BMW is **investing \$1.7 B in the SC Upstate**: \$1.0 B to prepare its existing manufacturing facility in Greer for EV production and \$700 M to build a new state-of-the-art high-voltage battery assembly plant in Woodruff. The Woodruff facility, which began construction in June 2023, will be 1.0 msf and will **create more than 300 onsite jobs** once complete in 2026.
- Envision AESC** will supply BMW with battery cells from its Florence County gigafactory. The **1.5-msf facility** is currently under construction, and is expected to create **1,620 jobs**.
- Redwood Materials** made the largest economic development investment in state history at **\$3.5 B**, aiming to create **1,500 jobs** in Berkeley County. Operations on its **600-acre campus**, which is currently underway, will **center on recycling and refining lithium-ion batteries and remanufacturing components to create a closed-loop**, domestic supply chain. Redwood and Toyota announced a partnership in November 2023 in which the latter will source materials from the former as part of its production in Toyota's upcoming battery manufacturing plant in North Carolina.

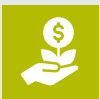
Key EV Announcements

Company	Operating Status	Capital Investment	New Jobs	Manufacturing Type	Construction Start	Production Target	City, County
Redwood Materials	Under Construction	\$3.5 B	1,500	Battery and Recycling Materials	2023	2024	Charleston, Berkeley Co.
Scout Motors (VW backed)	Planning	\$2.0 B	4,000	Electric Vehicle	TBD	2026	Columbia, Richland Co.
Envision AESC	Under Construction	\$1.6 B	1,620	Battery	2023	2026	Florence, Florence Co.
Albemarle	Planning	\$1.3 B	300	Materials Processing	2024	TBD	Richburg, Chester Co.
BMW Group	Operating	\$1.0 B	11,000	Electric Vehicle	N/A	2030	Greer, Spartanburg, Co.
BMW Group	Under Construction	\$700 M	300	Battery	2022	2026	Woodruff, Spartanburg Co.
Pallidus	Operating	\$443 M	405	Battery Component	N/A	2023	Rock Hill, York Co.
Cirba Solutions	Planning	\$300 M	300	Recycling Materials	TBD	2024	Richland Co.

Real Estate & Industry Highlights



General Motors is close to completing construction on a **2.8-msf battery plant for Ultium Cells LLC**, its joint venture with LG Energy Solution. The **\$2.3 B facility** will create **1,300 jobs** and mass-produce cells for GM’s battery-powered lineup. GM’s Spring Hill automotive manufacturing operation has been a mainstay in Tennessee’s production landscape since 1990.



LG Chem celebrated a December 2023 groundbreaking on its state-of-the-art cathode manufacturing facility in Clarksville. Expected to create **860 new jobs** and span **420 acres**, the Korean-based company provided **the largest foreign direct investment in state history at \$3.2 B**. Once complete, the facility will be the largest of its kind in the U.S.



Construction is underway at **BlueOval City**, **Ford’s \$5.6 B** vertically-integrated EV and battery manufacturing mega campus in West Tennessee. In a joint venture with **SK On**, the company will **employ 6,000** on the **3,600-acre** campus.



Key EV Announcements

Company	Operating Status	Capital Investment	New Jobs	Manufacturing Type	Construction Start	Production Target	City, County
Ford/SK On	Under Construction	\$5.6 B	6,000	Electric Vehicle and Battery	2022	2025	Stanton, Haywood Co.
LG Chem	Under Construction	\$3.2 B	860	Battery Component	2023	2025	Clarksville, Montgomery Co.
General Motors	Under Construction	\$2.3 B	1,300	Battery Component	2021	2024	Spring Hill, Maury Co.
Magna	Under Construction/Planned	\$790 M	1,300	Automotive Supplier	2023	2025	Stanton & Lawrenceburg
Microvast	Operating/Under Expansion	\$220 M	287	Battery	2022	2024	Clarksville, Montgomery Co.
Enchem	Planned	\$152 M	190	Battery Component	TBD	TBD	Brownsville, Haywood Co.
Dongwha Electrolyte	Under Construction	\$70 M	68	Battery Component	2023	2024	Clarksville, Montgomery Co.

Real Estate & Industry Highlights

\$5.5 B
17 MSF

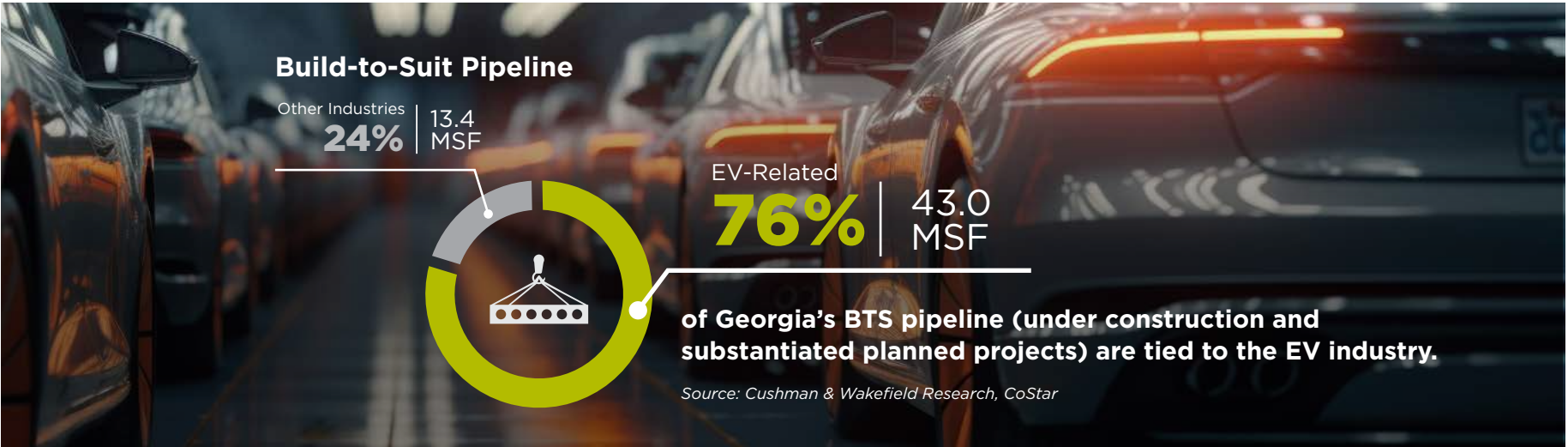
The **Hyundai** plant in Savannah will be one of the largest in the U.S.—12.0 msf is currently being constructed with an expected production date of early 2025. It will **total 17.0 msf at full build-out** once an LG battery component and other future phases are complete.

In addition to the **8,100 jobs announced** for this project, it has already had cascading impacts on the industry, with multiple suppliers establishing facilities nearby. Companies including **Hyundai Mobis, Seoyon E-Wha, Sewon, and PHA** together account for more than **2.6 msf of new build-to-suit construction** that broke ground in 2023 alone in Savannah.

\$5.0 B
20 MSF

After closing on a 50-year land lease in November 2023, EV company **Rivian** confirmed it will begin moving forward in early 2024 with its **\$5.0 B manufacturing plant** spanning 2,000 acres and totaling up to **20.0 msf**.

The facility, located in both Morgan and Walton Counties, is expected to produce **400,000 EV** cars per year and bring **7,500 jobs** to the state.



Key EV Announcements

Company	Operating Status	Capital Investment	New Jobs	Manufacturing Type	Construction Start	Production Target	City, County
Hyundai	Under Construction	\$5.5 B	8,500	Electric Vehicle and Battery	2022	2025	Ellabell, Bryan Co.
Rivian	Planned	\$5.0 B	7,500	Electric Vehicle	2024	2026	Morgan & Walton Counties
Hyundai/SK On	Under Construction	\$5.0 B	3,500	Battery	2023	2025	Commerce, Bartow Co.
FREYR Battery	Planned	\$2.6 B	720	Battery	TBD	TBD	Newnan, Coweta Co.
Solvay/Orbia	Planned	\$850 M	100	Battery Component	TBD	2026	Augusta, Richmond Co.
Kia	Operating	\$200 M	200	Electric Vehicle	N/A	2024	West Point, Troup Co.
Hwashin	Planned	\$176 M	460	Automotive Supplier	2024	2025	Dublin, Laurens Co.
Archer Aviation	Under Construction	\$118 M	1,010	Electric Aircraft	2023	2024	Covington, Newton Co.
Toyota	Operating/Under Expansion	\$69 M	250	Automotive Supplier	2023	2025	Pendergrass, Jackson Co.
DAS Corp.	Planned	\$35 M	300	Automotive Supplier	2023	2024	Metter, Candler Co.



100,000-sf

EV Assembly and Distribution Facility

Cenntro was the first tenant to lease in Lane Industrial Park - Building 100, a newly constructed, multi-tenanted property that delivered in early 2022. The company’s 100,000-sf space is used as a light/medium-duty EV assembly and distribution facility for both corporate and government vehicles. The new facility’s proximity to JAXPORT is utilized to import materials as well as export finished products, as Cenntro services both the Southeastern U.S. and Central America.



75,000 sf
Created 100 Jobs

Microvast chose the location of its innovation headquarters partly for its proximity to University of Central Florida, where it will continue mentorship and collaboration opportunities.

Key EV Announcements

Company	Operating Status	Capital Investment	Property Use Type	Announcement Date	City, County
Cenntro Automotive	Operating	\$25 M	EV assembly, upfitting, and inspections	Q4 2021	Jacksonville, Duval Co.
Microvast	Operating	\$25 M	R&D center with laboratory for battery prototyping	Q4 2021	Lake Mary (Orlando), Seminole Co.
Miller Electric	Operating	\$1 M	EV innovation design center	Q3 2023	Jacksonville, Duval Co.

OUTLOOK



The rise of the EV industry in the Southeast presents multifaceted implications across the real estate landscape. Addressing the specialized needs of battery-related facilities, anticipating infrastructure demands, and envisioning future supply chain transformations are integral considerations for stakeholders looking to adapt to, and capitalize on, the dynamic environment.

Navigating the Commercial Real Estate Landscape for Battery-Related Users

The burgeoning EV industry and the establishment of battery-related facilities in the Southeast present unique real estate challenges and opportunities. Stakeholders need a knowledgeable representative who understands the intricacies and specialized building requirements demanded of these facilities. Unique considerations such as proper ventilation, fire suppression, electrical systems, and capacity for battery storage are crucial elements in the design and development of these facilities. Further, navigating zoning requirements and other technical complexities during the site selection process add layers of complexity and cost implications. The guidance of an expert can be instrumental in mitigating challenges and leveraging available incentives, balancing costs against long-term benefits.

Cascading Infrastructure Impacts

The ripple effects of the EV industry growth extend beyond the immediate industrial real estate landscape. The substantial power requirements of these facilities often necessitate upgrades in infrastructure. Investments in road networks, utility enhancements, and improvements in transportation systems are critical components to supporting the industry's growth. This surge in infrastructure development can consequently increase the viability of commercial and residential development in proximate areas, offering strategic opportunities for investors and developers to capitalize on this growth trajectory across the Southeast over the coming years.



Future of Supply Chain Evolution

While batteries are currently unsuitable for long-haul trucking due to size and weight constraints impacting efficiency, the ongoing technological advancements in battery technology indicate a potential paradigm shift in the future. As this technology continues to evolve and batteries become more efficient, utilizing batteries for industrial users in the transportation sector could become more feasible. This could substantially impact the industry's supply chain dynamics, enabling cleaner and more sustainable transportation solutions.



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