

INTRO

DIRECTOR, STRATEGY AND PARTNERSHIPS

FOUNDING EDITOR-IN-CHIEF



HEADLINES VS. REALITY

GM to take \$6 billion writedown on EV pullback

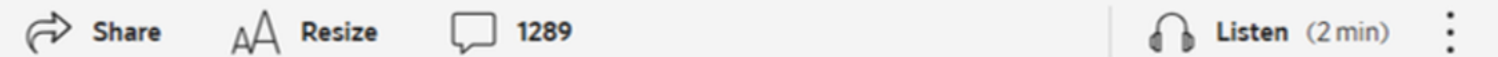
By Kalea Hall and Nora Eckert

January 9, 2026 2:13 PM EST · Updated January 9, 2026



Detroit Automakers Take \$50 Billion Hit as EV Bubble Bursts

Companies are taking big losses and making moves to reduce electric-vehicle capacity amid regulatory changes and cooling demand



Tesla Inc., US88160R1014

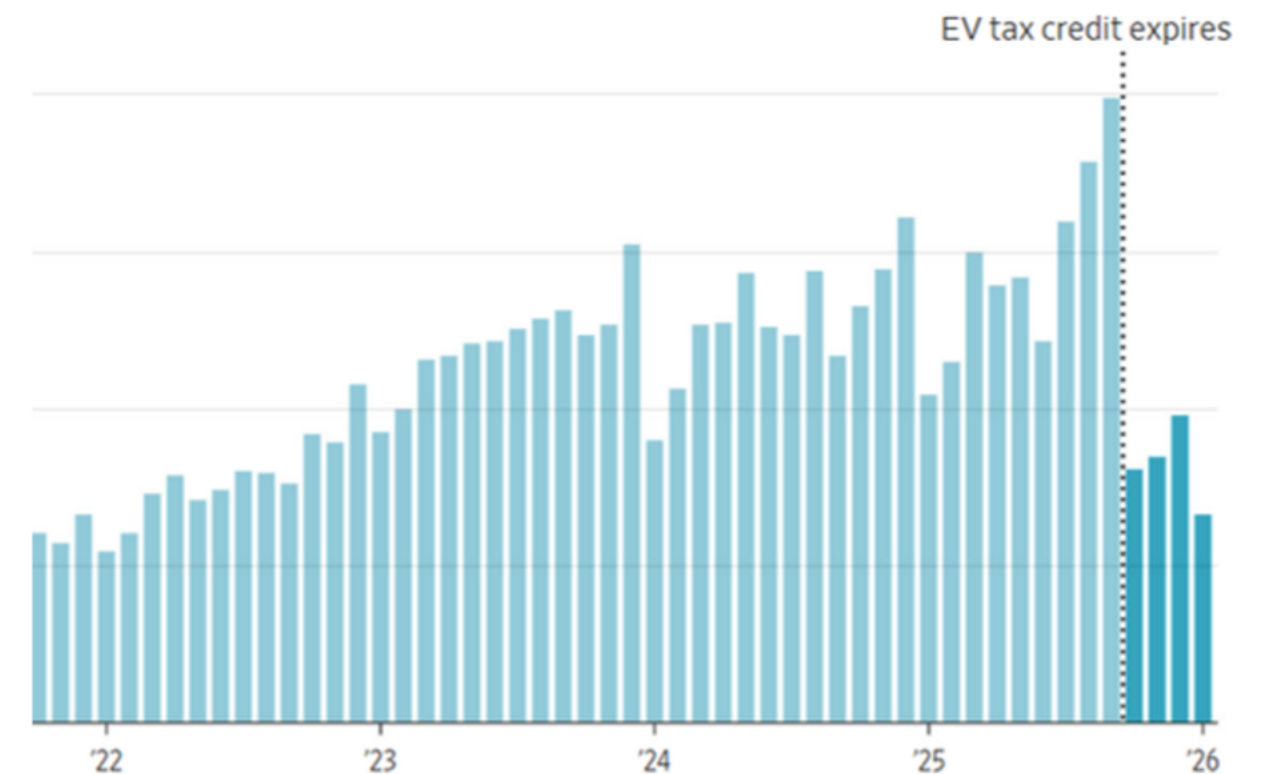
Tesla Inc. stock faces pressure amid EV market slowdown and production updates as of March 2026

1.03.2026 - 14:56:58 | ad-hoc-news.de

Tesla Inc. (ISIN: US88160R1014) navigates challenging market dynamics with recent production figures and analyst adjustments drawing investor focus. German-speaking investors in DACH region should monitor EV demand trends and regulatory shifts impacting global auto sector exposure. Latest developments highlight resilience amid volatility.



U.S. electric-vehicle sales, monthly



and light-duty vehicles. Includes plug-in hybrid electric vehicles. Global Intelligence

MARKETPLACE

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Used EVs under \$25,000 propel sales even as new models languish

Kyle Stock Bloomberg

Feb. 16, 2026, 9:52 a.m. ET



THE FREEPRESS

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NEWSLETTERS SIGN IN SUBSCRIBE

The Car World Is Going Electric, Without America



After \$50 billion in squandered investments, will U.S. auto companies finally get serious—or just watch while China wins?

By Michael Dunne

02.16.26 —U.S. Politics

U.S. Politics

Breaking news, deep investigations, and eye-opening commentary that favor no party.

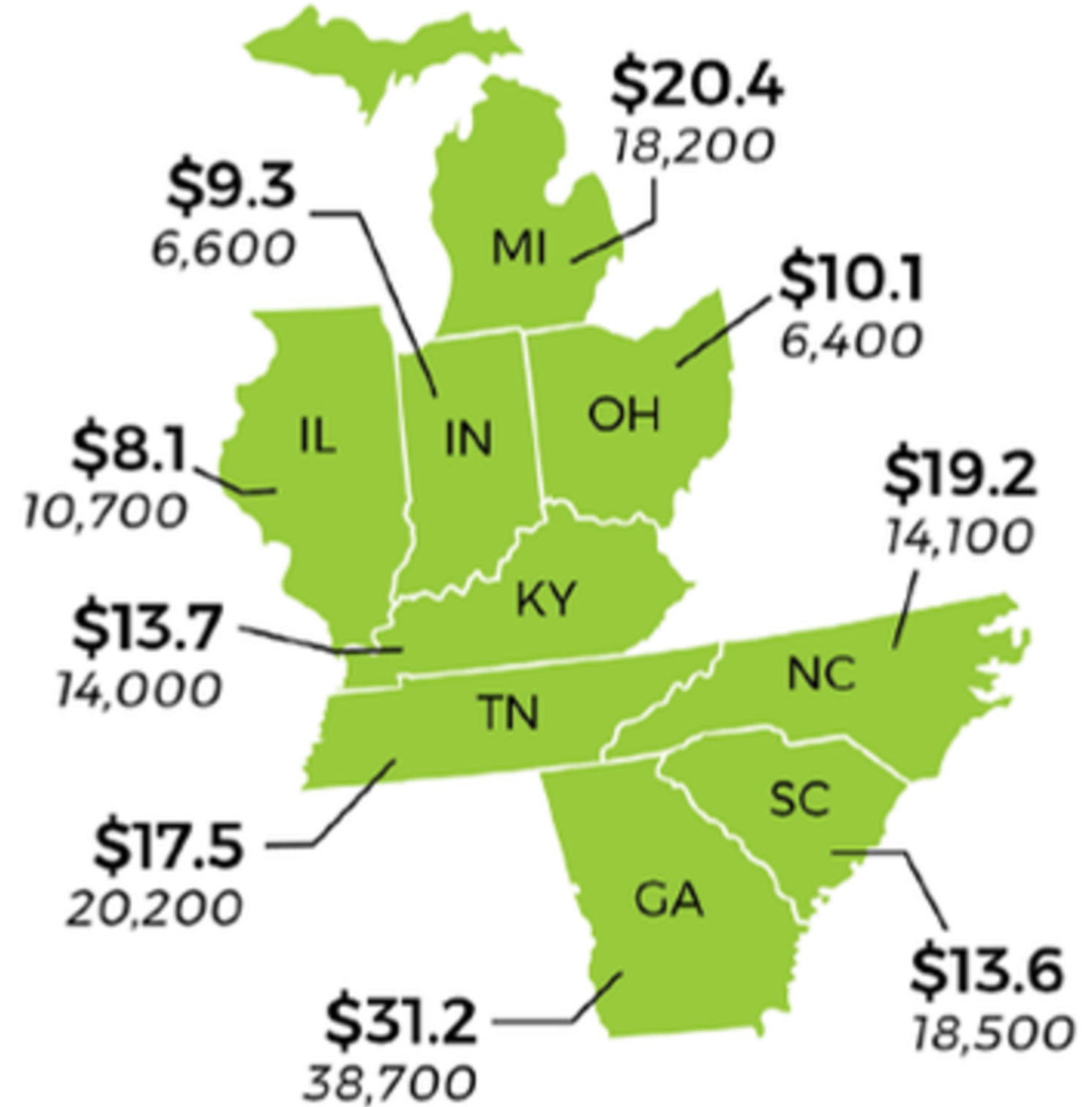
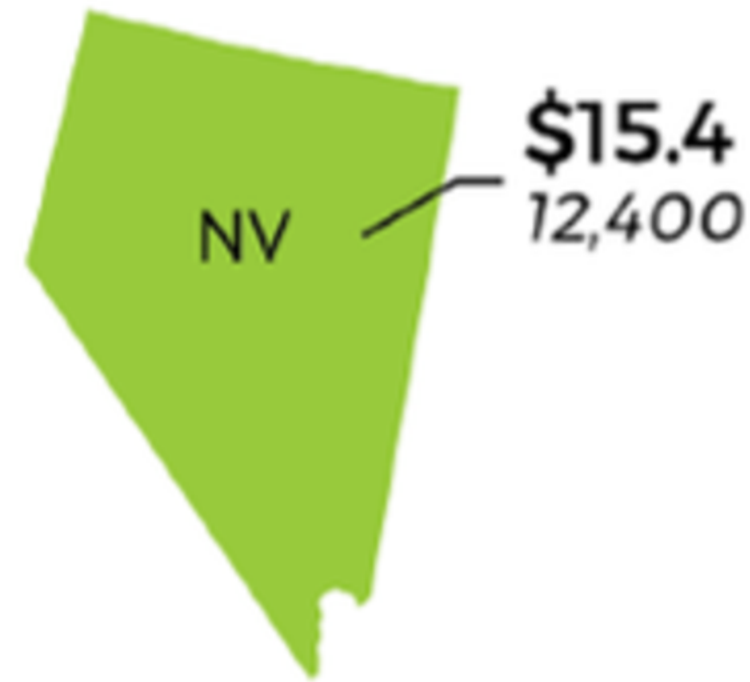
FOLLOW TOPIC

FOR A DEALER, EVERY EV SOLD REPRESENTS YEARS OF LOST SERVICE INCOME. (CFOTO/FUTURE PUBLISHING VIA GETTY IMAGES)

The electric and future mobility industry is stronger than it has ever been.

More capital deployed, manufacturing capacity online...

\$ Billions of Investment
Number of new jobs



Investment has also been spurred by nearly \$27 billion in federal, state, and local incentives.

and more infrastructure being built than at any point in the past decade

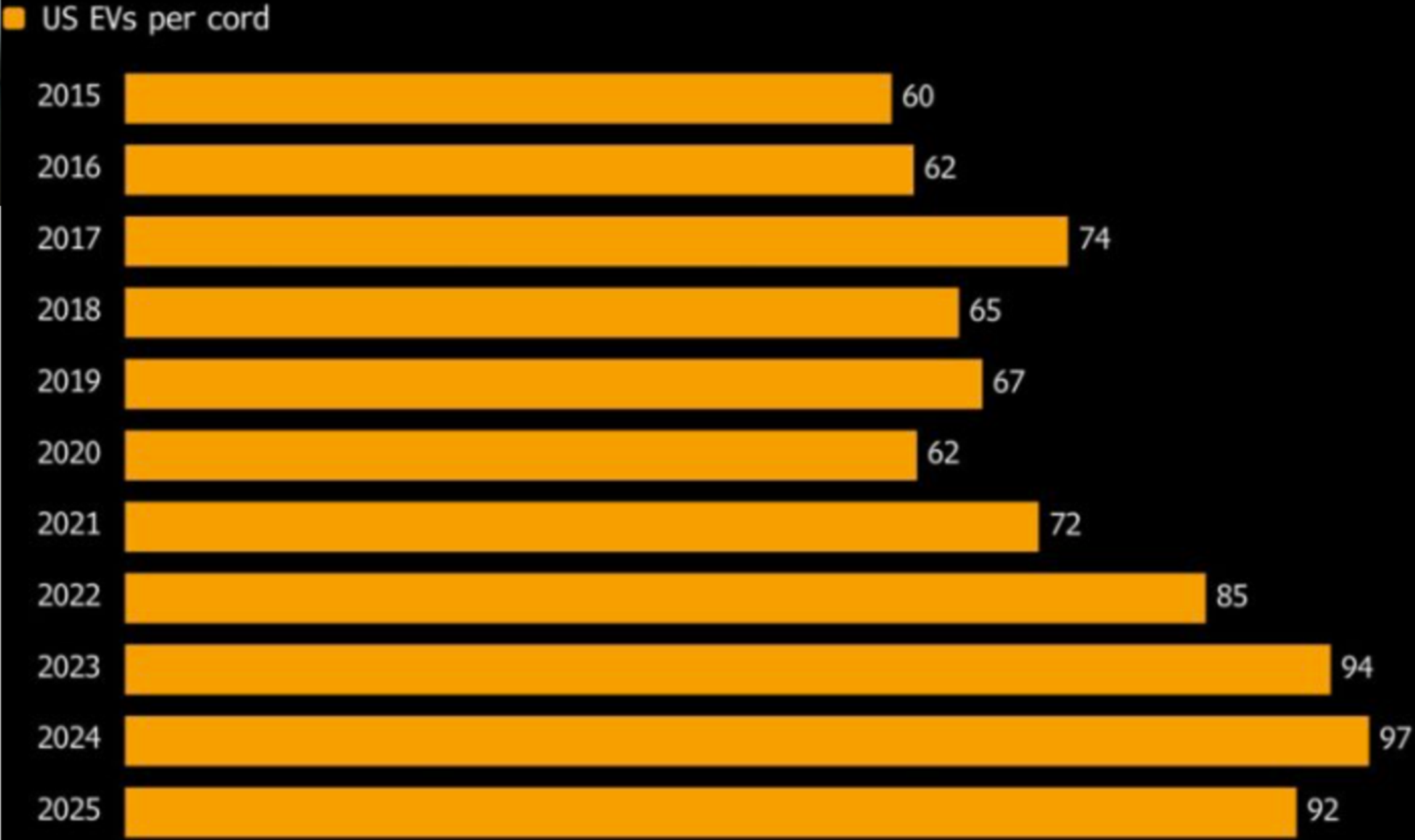
Why EV Chargers Are Booming Despite Slumping New Car Sales

By Kyle Stock | March 5, 2026



More Chargers, Much More Cars

EV adoption has outpaced the construction of public, fast-charging cords



Source: Alternative Fuels Data Center, Cox Automotive, Needham & Co LLC

The electric and future mobility industry is stronger than it has ever been.





But that strength does not mean the system is fully aligned.

The global, regional and national electric mobility market hasn't just grown.

It has fundamentally changed.

... a transition into a new phase defined by complexity, constraint, and execution.

GLOBAL EV POLICY SHIFT OVERVIEW (2022 - 2027)

REGION	 NORWAY	 EUROPEAN UNION	 CHINA	 UNITED STATES
				FEDERAL STATE LEVEL
POLICY DIRECTION	Gradual normalization of EV tax advantages	Reduction or elimination of direct incentives	End of direct subsidies; reduction of tax exemptions	Restructured incentives with tighter eligibility Targeted expansion in select states (CA, CO, NY, NJ, MA, WA, MD)
TIMING	Adjustments 2023 - 2027	Major cuts 2023 - 2024; continued tightening through 2026	Subsidies ended 2022; tax benefits reduced 2026 - 2027	Changes began 2023; constraints tightening through 2025 - 2026 Ongoing, varies by state and funding cycles
MARKET IMPACT	Transition toward market driven adoption	Greater price sensitivity and uneven adoption	Increased price competition and demand variability	Reduced effective access to incentives Fragmented adoption driven by geography

THE 3 PHASES OF THE ELECTRIC MOBILITY TRANSITION

2010–2018



**PHASE 1:
BATTERY TECHNOLOGY**

2018–2023



**PHASE 2:
MANUFACTURING SCALE**

2023–Now



**PHASE 3:
SYSTEM FRICTION**

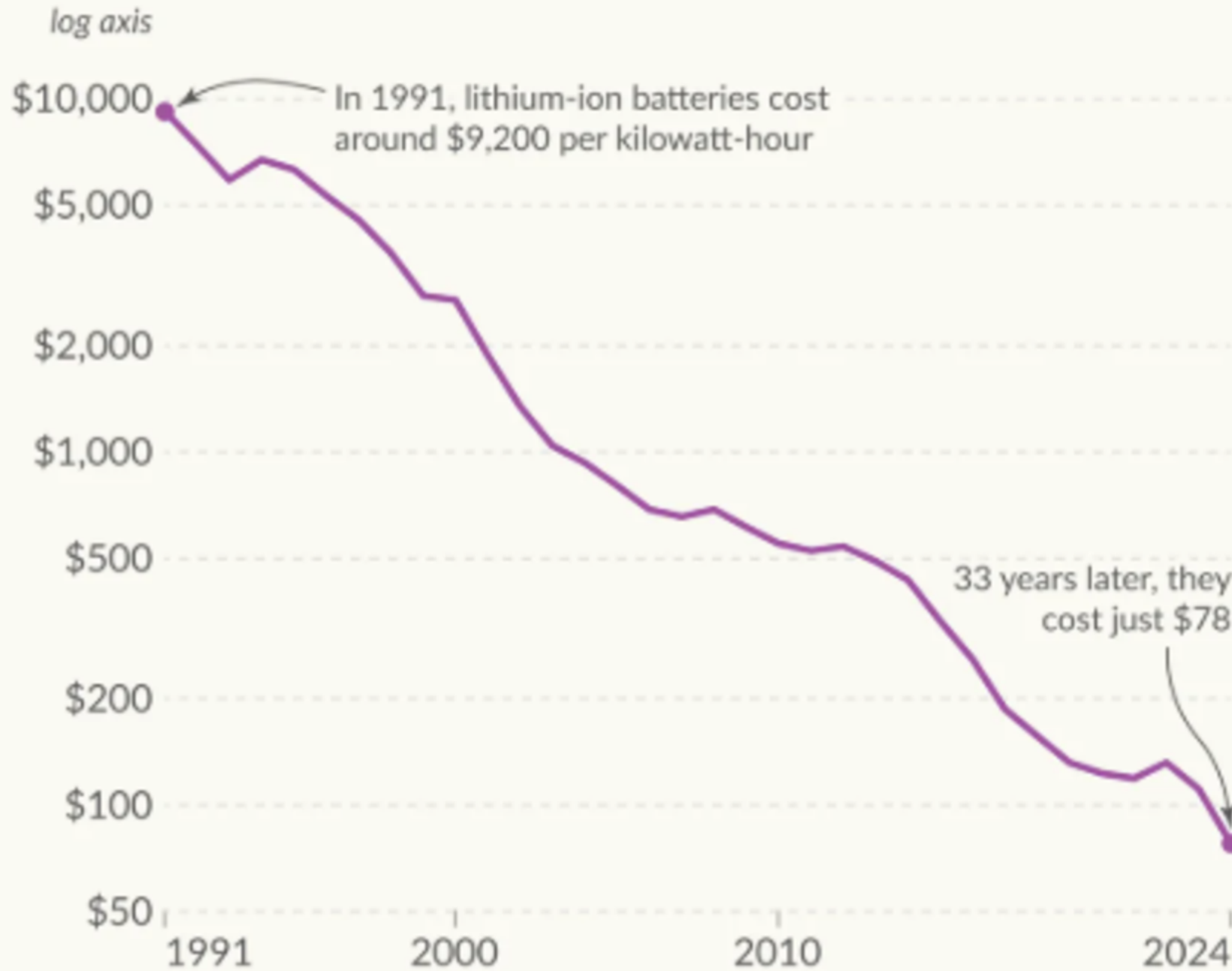


GEORGIA NETWORK for
ELECTRIC MOBILITY
UNIVERSITY OF GEORGIA.

The price of lithium-ion batteries has fallen by 99% since 1991

Our World in Data

Representative estimate of the price of battery cells for lithium-ion batteries, across all major cell chemistries. Prices are in US dollars per kilowatt-hour, adjusted for inflation.



Note: This data is expressed in constant 2024 US\$ per kilowatt-hour.
Data source: Rupert Way (2026) based on Ziegler and Trancik (2021), BloombergNEF, and AvicenneEnergy

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Battery costs have declined by 99% in the last three decades, making electrified transport a reality

Batteries have become much cheaper, making energy storage far more affordable.

By [Hannah Ritchie](#) and [Pablo Rosado](#) (data work)

First published in 2024; updated and rewritten in March 2026.

[Browse past versions](#)

[Cite this article](#)

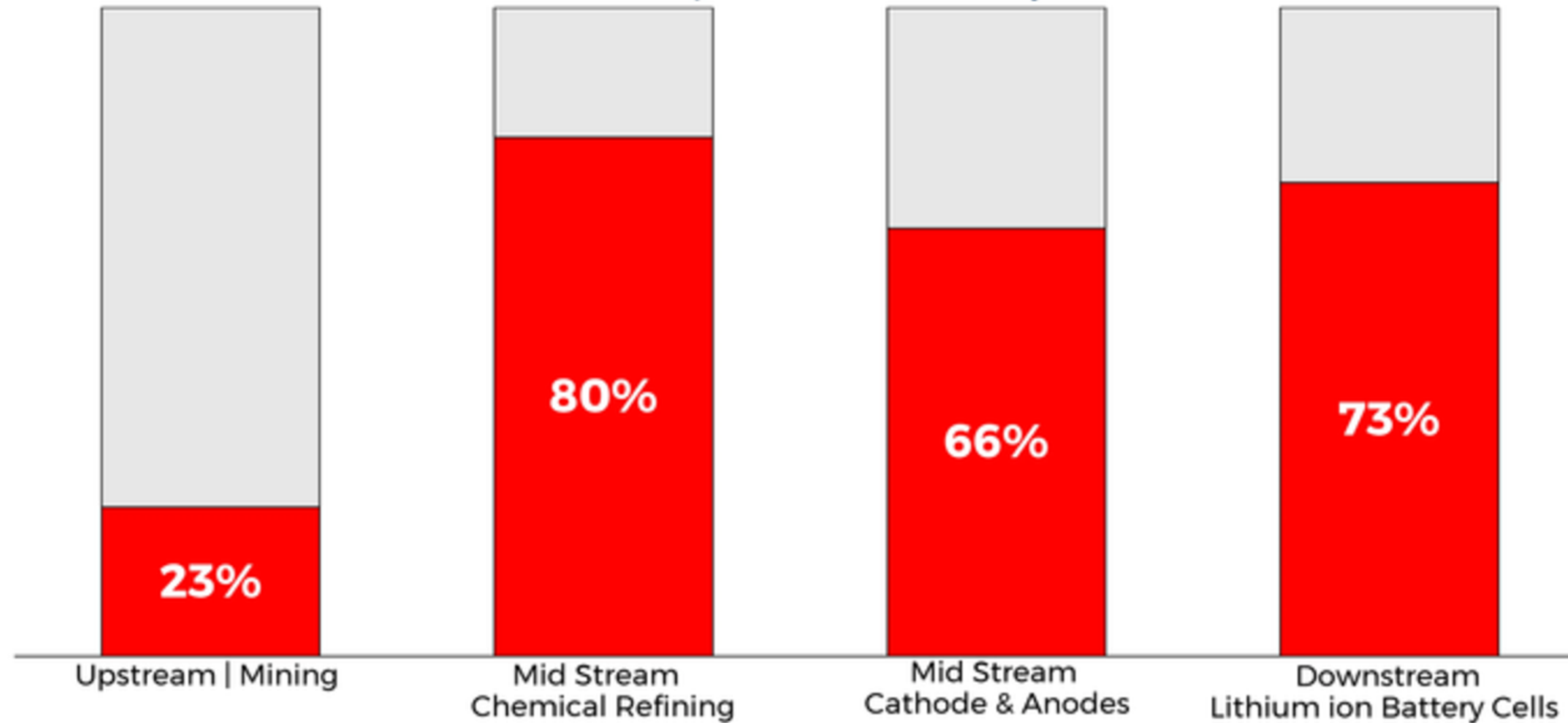
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CHINA CONTROLS 75+% OF BATTERY SUPPLY CHAIN TODAY

Where does China's dominance lie in the lithium ion battery to EV supply chain?



China's share of production % in full year 2019*



*Lithium, Cobalt, Nickel, Graphite, Manganese, Cathode, Anode, Cells accounted for in calculations

Source: Benchmark Mineral Intelligence

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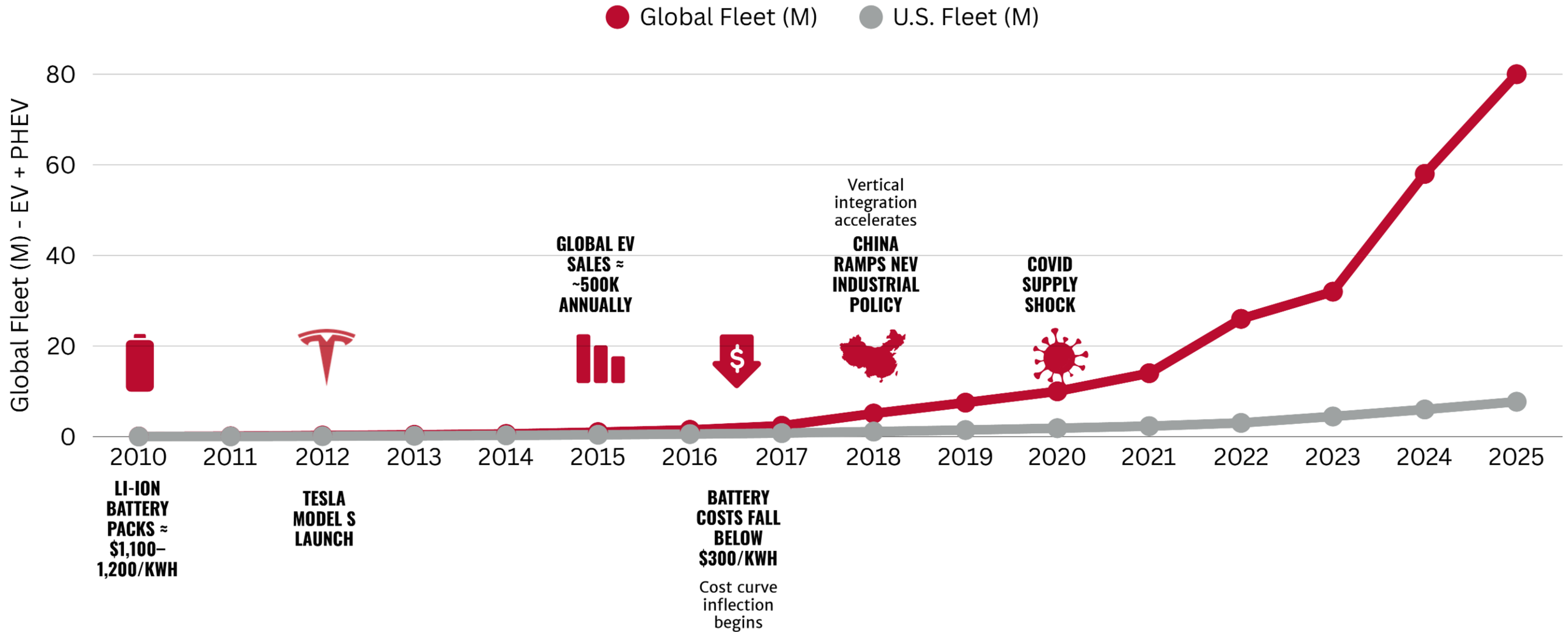


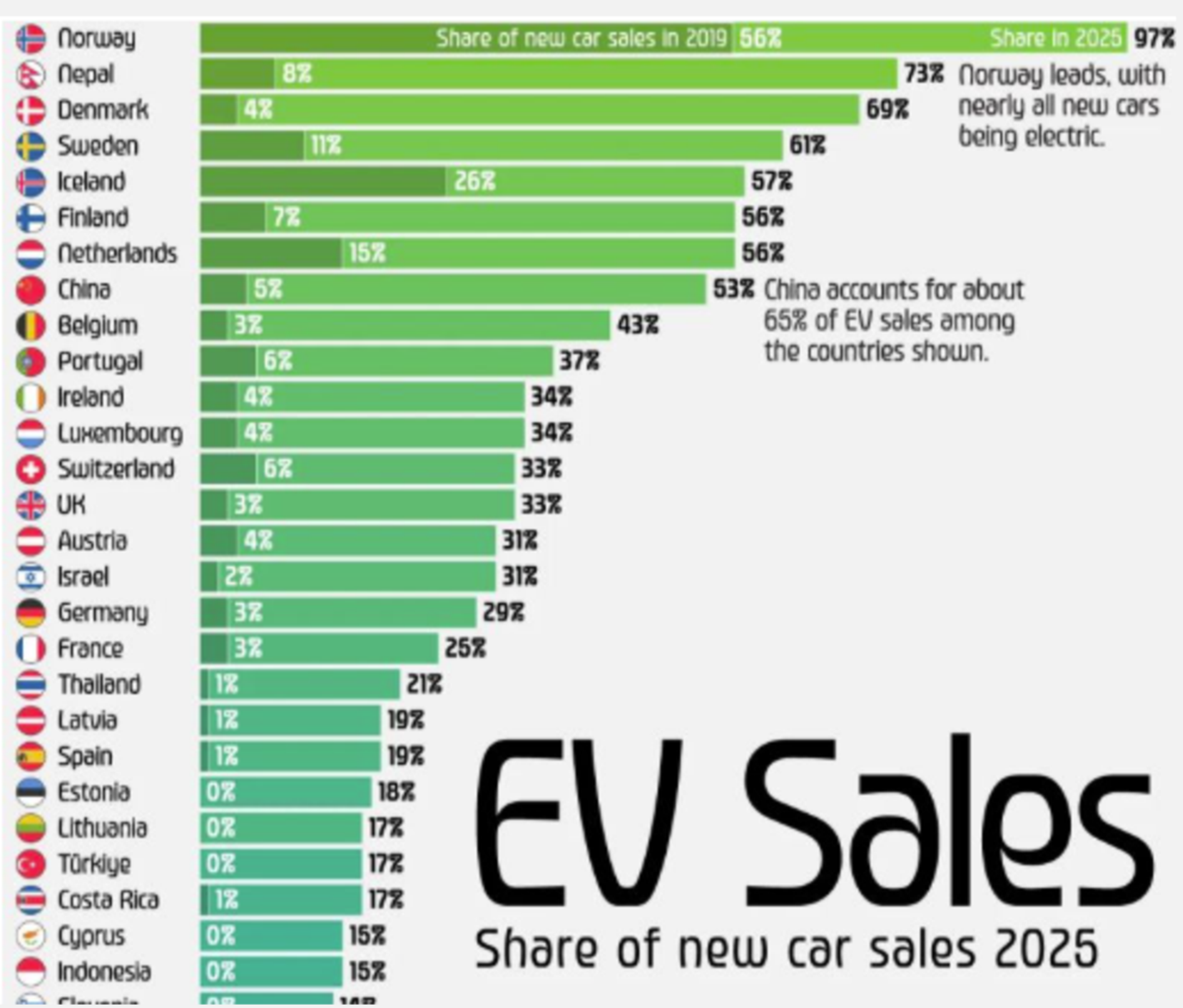
**PHASE 3:
SYSTEM FRICTION**



GEORGIA NETWORK *for*
ELECTRIC MOBILITY
UNIVERSITY OF GEORGIA.

Fleet of EVs today is Over ~80M+ globally and 7M+ in US









Ember analysis of publicly available national data for Jan-Oct 2025. EVs include plug-in hybrid electric vehicles and battery electric vehicles.

Sales figures for 2025 are estimates, assuming the year-on-year change observed so far in 2025 continues through year-end. Source: IEA (2019 data)



ELECTRIC POWERTRAIN MIX BY MARKET - INCLUDING ADOPTION ARCHETYPES (2025)

ADOPTION ARCHETYPES	 NORWAY <i>Fully aligned policy and infrastructure</i>	 EUROPEAN UNION <i>Policy-driven, adjusting to incentive changes</i>	 CHINA <i>Scale, industrial policy, rapid iteration</i>	 UNITED STATES <i>Fragmented adoption, infrastructure constraints</i>
	High Adoption	Mixed	High Volume	
BATTERY EV	~90%+	~15-20%	~25-30%	~7-8%
PLUG-IN HYBRID	Minimal	~8-10%	~10-15%	~2-3%
HYBRID	Minimal	Strong	Growing	Rapid Growth
EV SHARE OF NEW SALES	~90-95%	~25-30%	~50%+	~10%
FLEET CONTEXT	~1M EVs in ~3M total vehicles	~15-20M EVs in ~250-280M total vehicles	~30-50M NEVs in ~330M total vehicles	~7-10M EVs in ~290M total vehicles

POWERING THE NEXT ERA OF MOBILITY

THE 3 PHASES OF THE ELECTRIC MOBILITY TRANSITION

2010–2018



**PHASE 1:
BATTERY TECHNOLOGY**

0.5-1M+
Can EVs
work at all?

2018–2023



**PHASE 2:
MANUFACTURING SCALE**

5-30M+
Can we produce millions
affordably?

2023–Now



**PHASE 3:
SYSTEM FRICTION**

50-80M+
Can the ecosystem
support mass adoption?

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PHASE 3 SYSTEM FRICTION : THE END OF EASY TAILWINDS

WORKFORCE FRICTION

- ICE workforce vs EV skill shift
- Battery manufacturing labor ramp
- Semiconductor + power electronics talent shortage
- Technical retraining lag



OEMS

INFRASTRUCTURE FRICTION

- Charging reliability gaps
- Siting vs utilization mismatch
- Freight corridor readiness
- Grid capacity constraints
- Data center load overlap



CONSUMERS

SUPPLY CHAIN FRICTION

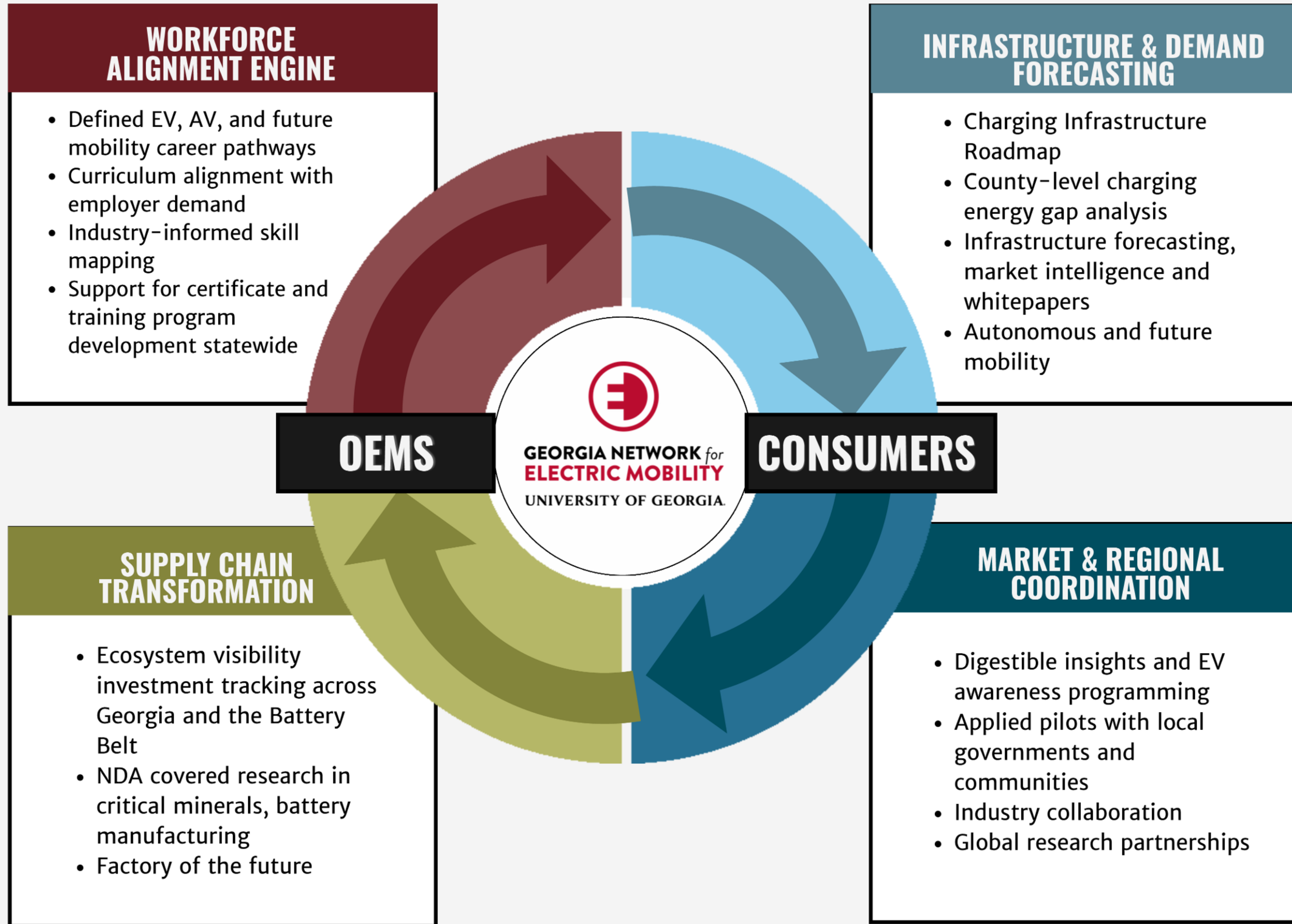
- Lithium refining concentration
- Cathode/anode processing geography
- Permitting timelines in U.S.
- Capital intensity of new facilities
- Geopolitical exposure

MARKET FRICTION

- \$50K average vehicle prices
- Financing costs
- Model mix misalignment
- Consumer charging trust gap

How do you actually solve for system-level alignment?

GNEM ACTS AS A BRIDGE SUPPORTING TRANSITION FROM SYSTEM FRICTION TO SYSTEM LEVEL COORDINATION AND INNOVATION



Our goal has been to act as a bridge across the ecosystem.

Connecting industry, government, and academia in a way that actually moves work forward

SIEMENS

Franklin College of Arts and Sciences
UNIVERSITY OF GEORGIA

AV AMERICA

KIA



ASCEND ELEMENTS



GWINNETT TECHNICAL COLLEGE
LAWRENCEVILLE | ALPHARETTA-NORTH FULTON

heliox
A Siemens Business

GDOT
Georgia Department of Transportation

AIAG
Uniting Minds. Elevating Standards.

MITSUBISHI MOTORS
Built For Living™

STEGO

Chula
Chulalongkorn University

THE MERLIN GROUP
ARCHITECTING INNOVATION

GAMA
Georgia Automotive Manufacturers Association®



HÖGSKOLAN I SKÖVDE

School of Public & International Affairs
UNIVERSITY OF GEORGIA

IAEI
Independent Alliance of the Electrical Industry



AMP
THE UNIVERSITY OF ALABAMA
Alabama Transportation Institute
Alabama Mobility and Power Center

GEORGIA AUTOMOBILE DEALERS ASSOCIATION

TESLA

Curiosity Lab
at Peachtree Corners

TAMA
TENNESSEE AUTOMOTIVE MANUFACTURERS ASSOCIATION

ABM



TCSG
Technical College System of Georgia

ABB E-mobility

Flint Energies
Your Touchstone Energy® Cooperative

ATL
Moving Atlanta Forward

MAYOR'S OFFICE OF Sustainability and Resilience



BLUE BIRD

Audi

RaceTrac

ARC
Atlanta Regional Commission



FORT VALLEY STATE UNIVERSITY

THE BATTERY SHOW
NORTH AMERICA

OVER 100+ ORGANIZATIONS

Carl Vinson Institute of Government
UNIVERSITY OF GEORGIA

Georgia Power

Soteria™

sitelogiq
Efficiency Powered by Intelligence

MAYmobility

GDOT
Georgia Department of Transportation

HYUNDAI AutoEver

CLEAN CITIES GEORGIA
PARTNERSHIP FOR CLEAN TRANSPORTATION

ACTEXPO

Georgia Gwinnett COLLEGE



UNIVERSITI TEKNOLOGI PETRONAS

alpitronic

Southern Company



HYUNDAI MOTOR GROUP

ESSPI
ENERGY SAFETY STORAGE PRODUCTS INTERNATIONAL

SAC 2024
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COX AUTOMOTIVE



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Aligning Interests to Accelerate Growth™

Southern Company

ARC
Atlanta Regional Commission

BURNS & MCDONNELL

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JACKSON ELECTRIC MEMBERSHIP CORPORATION™

beep™

WORK SOURCE GEORGIA

METRO ATLANTA CHAMBER

Terry College of Business
UNIVERSITY OF GEORGIA

British Consulate-General Atlanta

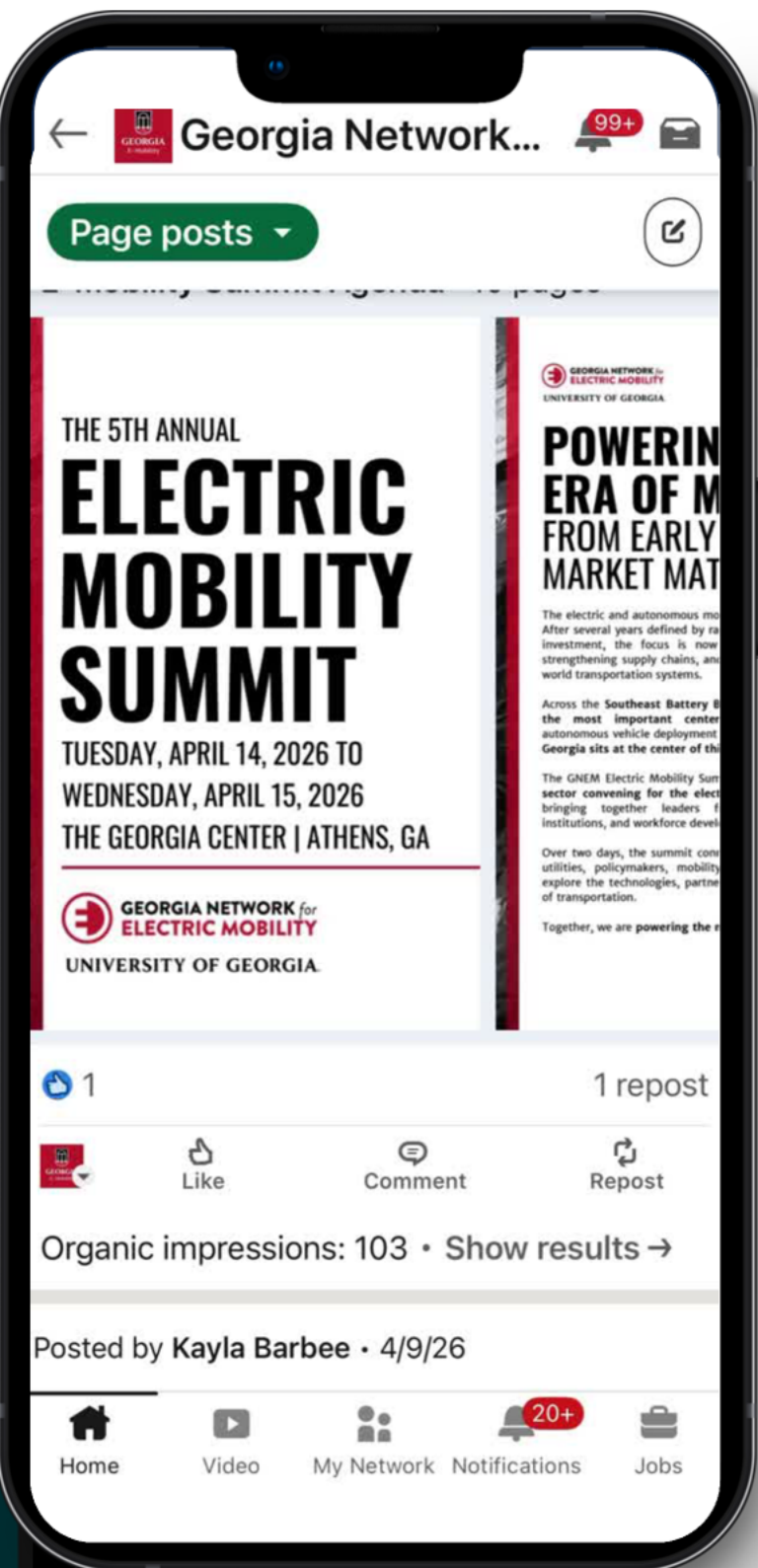
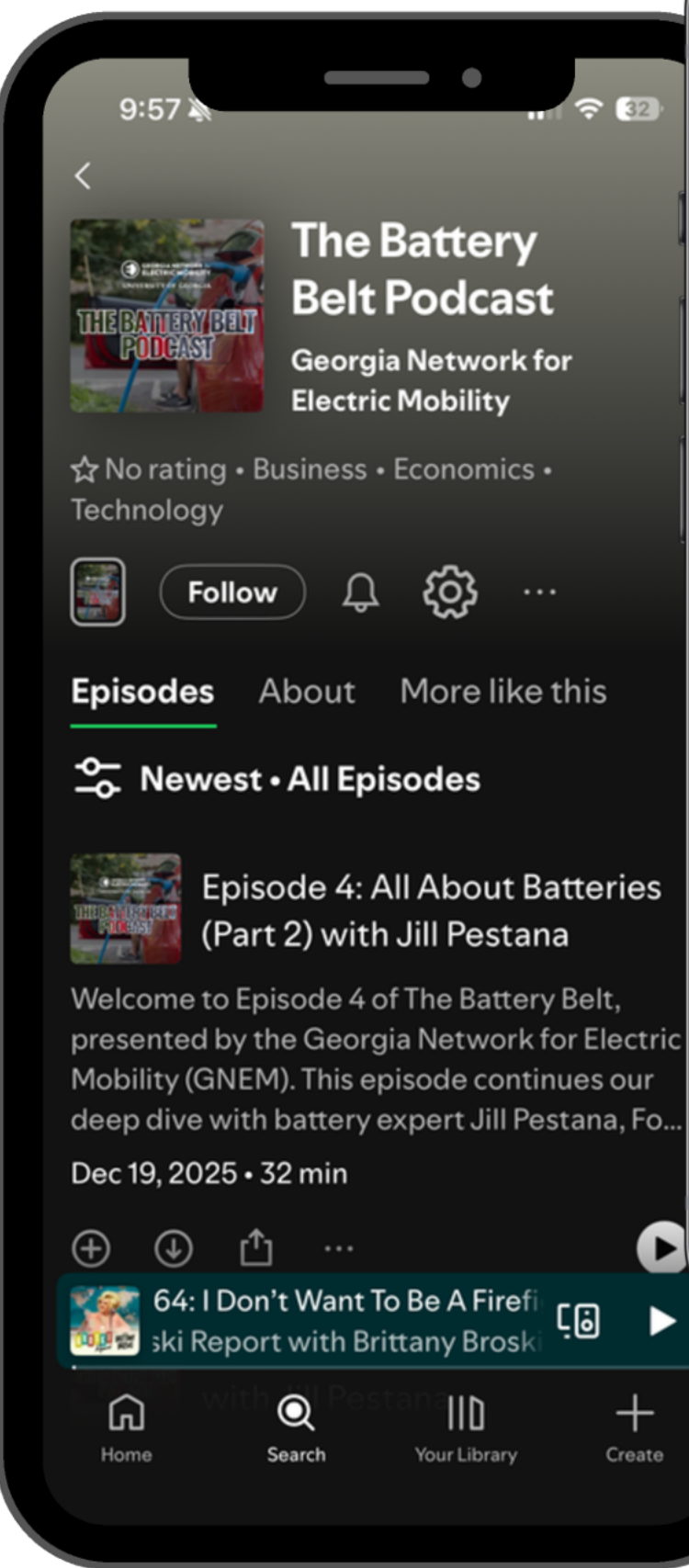
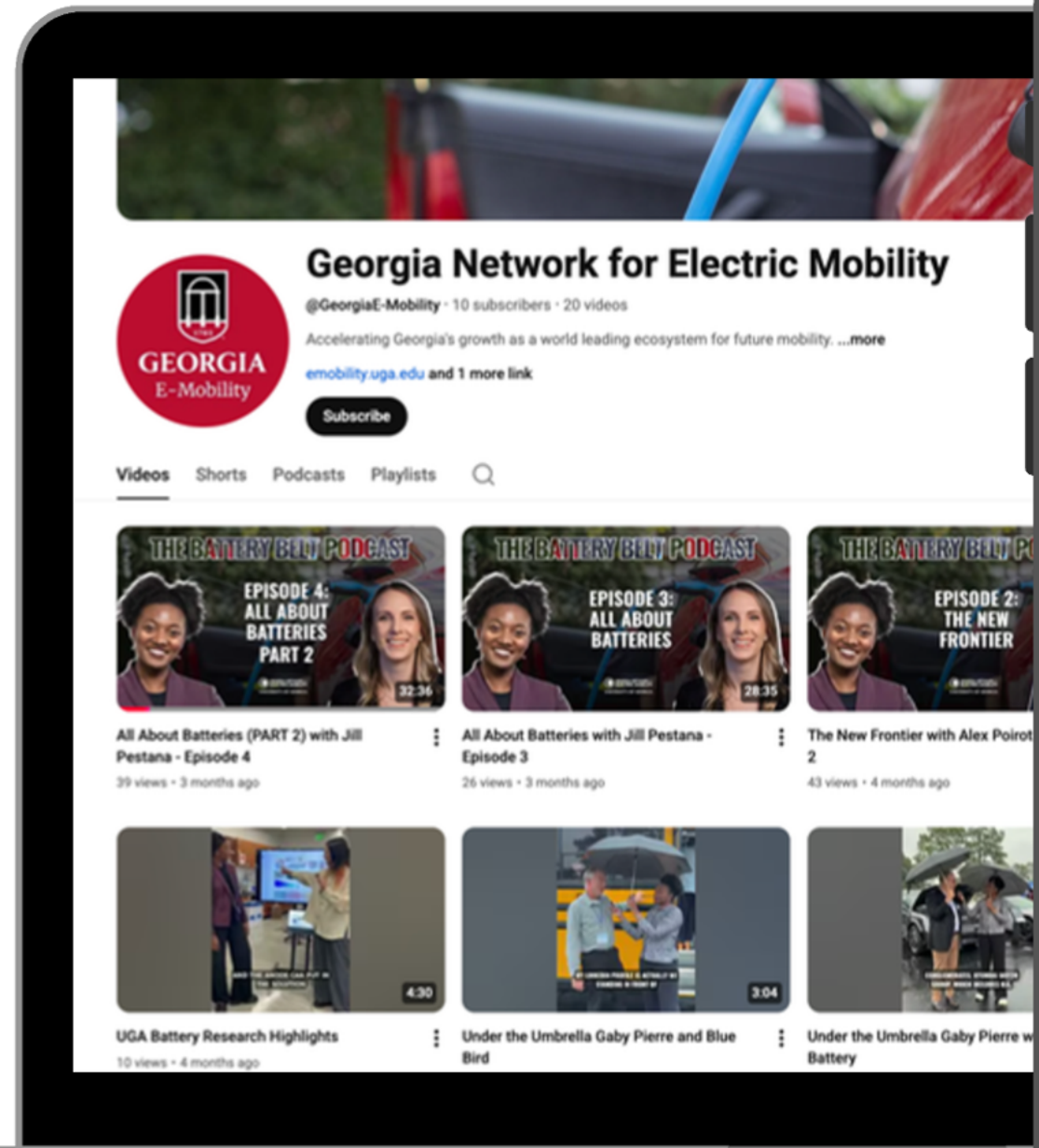
Goodwill of North Georgia

voltera

eVerged

MARKET & REGIONAL COORDINATION

BUILDING A GROWING NATIONAL AND GLOBAL PRESENCE



MARKET & REGIONAL COORDINATION



**BUILDING A
GROWING
NATIONAL
AND GLOBAL
PRESENCE
ACROSS 10+
COUNTRIES
AND 8+
STATES**



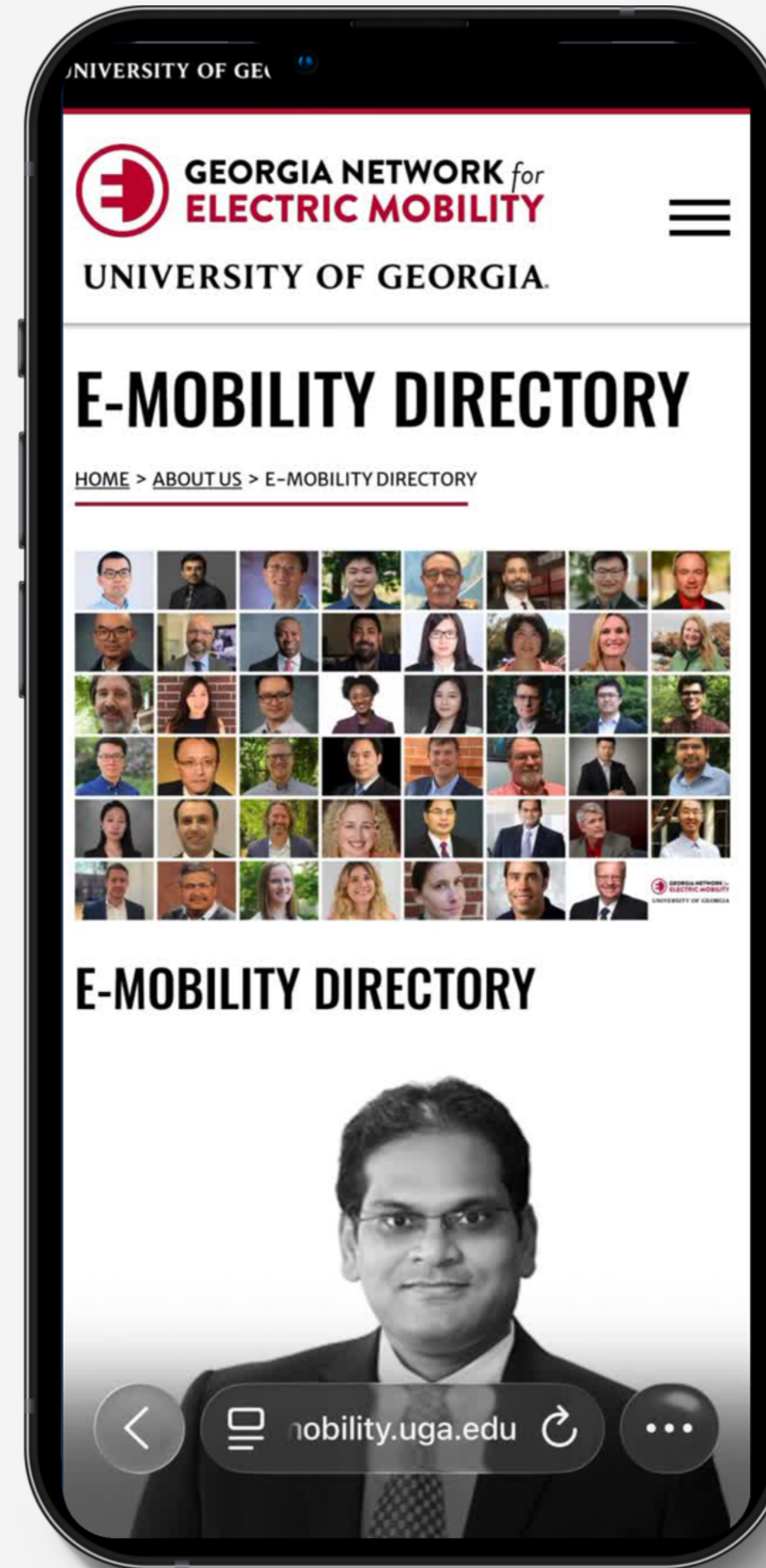
OVER 40+



RESEARCH FELLOWS



**OVER 40+
E-MOBILITY
FACULTY
AND STAFF**



PLUG INTO GEORGIA



61

COUNTIES REACHED
ACROSS GEORGIA

220+

COMMUNITY AND
GOVERNMENT LEADERS
ACROSS GEORGIA
REACHED

Plug Into Georgia: Building local capacity to leverage EV adoption and industry growth

- Year 1 Impact: 61 Counties Engaged | 750+ Leaders Reached | 7 Resources published | Resource Website Launched
- Year 2 Priorities: Fleet Guidebook | Community Pilots | Utility Convening | Expanded reach guided by Research & Community Feedback



GNEM RESEARCH PIPELINE:

4 Stage gates for Research Engagement and Co-Development

1

Academic Research & Knowledge Building:

Faculty- and student-led fundamental research
Journal submissions and foundational inquiry

2

Translational Research & Solution Building:

White papers, technical briefs, applied and operational analysis
Interprets academic work for industry, government, and communities

3

Multidisciplinary Tools & Business Intelligence:

Data-driven frameworks and tools
Decision-grade insights with ROI and subscription potential

4

Industry Product Co-Development & Applied Research:

Select industry-funded or partner-supported projects
Pilots, tools, and market-facing outputs

Not all project topics move through all stage gates and topics are intentionally selected to address: Near-term needs and Long-term strategic bets identified by our statewide ecosystem of public and private sector industry partners

GNEM IS AN INDUSTRY CONSORTIUM AND A THINK TANK

Industry Consortium:

- Co-creates research agendas with industry partners
- Aligns research with real-world needs and deployment pathways
- Supports industry through applied research and talent development

Future Mobility Think Tank:

- Produces independent, evidence-based research
- Applies multidisciplinary analysis across manufacturing, policy, infrastructure, safety, and markets
- Translates complex research into actionable insight and business intelligence
- Uses industry practitioner peer review to strengthen credibility and relevance

UGA and GNEM's role:

- Serves as a neutral, credible, catalytic platform
- Provides academic rigor, convening power, training capability, and community engagement

EV FIRE SAFETY GUIDE



Scan QR code to read full guide



SIDE-BY-SIDE FIRE RISK ASSESSMENT (GAS/DIESEL, HYBRIDS, EVS)

	BASIC VEHICLES	HYBRID VEHICLES	ELECTRIC VEHICLES (EVs)
FIRE INCIDENCE RATE	~1 in 1,200 vehicles per year (US)	~1 in 100 vehicles per year (US)	~1 in 100 vehicles per year (US)
PRIMARY FIRE CAUSE	Fuel leaks, engine failure, battery packs, electrical faults, mechanical failures, overheating.	Combustion of fuel tanks and battery packs, engine overheating, mechanical failures, electrical faults.	Battery damage, thermal runaway from overcharging, mechanical failures, electrical shorts.
REFUELING/CHARGING RISK	Highly flammable liquid fuels, high pressure pumps, electrical sparks, fuel leaks, fuel spills.	Combustion of fuel tanks, high voltage systems, electrical faults, battery damage.	High voltage electrical systems, thermal runaway, electrical faults, battery damage.
TIME TO FIRE ONSET	Seconds to minutes (fuel leaks, engine failure).	Minutes to hours (fuel leaks, engine failure, battery damage).	Minutes to hours (battery damage, thermal runaway).
FIRE SEVERITY	Variable: Moderate to high intensity, fuel-fed fires, high heat and potential for explosion.	Variable: Fuel-fed fires and battery damage, high heat and potential for explosion.	Very high intensity, potential for explosion, high heat and potential for explosion.

EV FIRE SAFETY SOLUTIONS BY SECTOR

As EV adoption continues to accelerate, the burden of fire safety responsibility must be shared across sectors – from first responders to grid managers, charger manufacturers, and everyday EV users. Each group occupies a unique position within the broader EV ecosystem, and their preparedness directly influences how effectively fire risks are identified, mitigated, and responded to. This section offers a sector-by-sector guide to critical technologies, policies, and practices essential for preventing and managing electric vehicle fires, grounded in international technical standards and real-world deployment strategies.

- BEST PRACTICES FOR FIRE DEPARTMENTS**
- BEST PRACTICES FOR ELECTRICAL UTILITIES**
- BEST PRACTICES FOR EV CHARGER OEMs & INSTALLERS**

ARE EVs AND EV CHARGERS SAFE?

A common misconception is that EV batteries can spontaneously combust. However, data shows that battery ignition generally requires an external trigger such as:

- Severe physical impact (e.g., traffic collisions)
- Exposure to increased high temperatures or open flame
- Significant manufacturing defect or electrical short circuit

Modern EVs are engineered with multilayered protections, including:

- Thermal barriers between individual battery cells
- Pressure release vents to safely discharge gases
- Battery Management Systems (BMS) to monitor charging rates and cell temperatures
- Intelligent software that limits overcharging and excessive current flow

Recent research, the key hazard associated with EV batteries, occurs when one cell in a battery pack overheats and triggers adjacent cells to also overheat, leading to a potentially catastrophic chain reaction. During such an event, internal temperatures can reach 1,500°C (2,700°F), creating flames, toxic gas plumes (including hydrogen fluoride and carbon monoxide), and risk of re-ignition even after initial suppression.

HOW SAFE IS INDOOR CHARGING?

Indoor EV charging is generally very safe, especially when certified equipment is installed by licensed professionals in accordance with National Electrical Code (NEC) and UL Underwriters Laboratories (UL) standards. Key safety features include:

- Adequate ventilation to manage heat and fumes
- Ground Fault Circuit Interrupter (GFCI) safety devices that detect imbalances in electrical current and rapidly shut off power to prevent electric shock, installed on dedicated circuits
- Flame-retardant insulation and materials
- Emergency disconnect switches and signage

Fires during EV charging are extremely rare, with incident rates below 0.2% per charger per year. Most EV fires occur after crashes or due to battery defects, not from charging itself. When charging-related fires do occur, they're usually linked to uncertified equipment or improper installation.

BEST PRACTICES FOR FIRE DEPARTMENTS

Fire departments serve as the frontline of defense during EV fire incidents, and they face one of the most urgent mandates in the EV fire safety equation. Unlike traditional fires, lithium-ion battery fires can re-ignite after being extinguished, emit toxic vapors, and reach extreme temperatures, requiring specialized tools and methods. Firefighters must evolve alongside EV technology to remain effective in safeguarding public safety. This means embracing response strategies, modernizing apparatus, and ensuring that fire crews are equipped with the knowledge and tools to tackle multi-phase and high-voltage fire scenarios. Additionally, fire departments must adopt data-driven training approaches and simulation environments to prepare for the care for high-risk nature of EV fires. It also demands systemic coordination with city planners, utilities, and OEMs to ensure preparedness is not isolated but integrated across emergency response networks.


- Use Thermal Imaging in Multi-Phase Fire Response**
- Submersion Readiness:** Mobile submersion containers or water tanks for thermal events
- Equip Crews for High-Voltage Response:** Arc-rated PPE, insulated tools, ISO 15400 rescue sheets
- Enhance Garage Ventilation Response:** High-capacity fans, smoke detectors, integrated schematics
- Upgrade Apparatus & Gear:** Telescopic cameras, foam-safe extinguishers, mobile cooling pods
- Adopt Smart Helmets:** AR overlays of schematics and thermal maps, LTE/5G connected
- Train with VR Simulators:** Simulate public charger and battery fires
- Engage Communities:** Safety workshops, EVSE audit support, fire prevention checklists

CHARGING INFRASTRUCTURE ROADMAP



Scan QR code to read full Part 1 guide






GEORGIA NETWORK for ELECTRIC MOBILITY
UNIVERSITY OF GEORGIA

PT. 1

BEYOND AVAILABILITY: THE MARKET SHIFT TOWARDS USABLE, SEAMLESS COVERAGE



GEORGIA'S CHARGING INFRASTRUCTURE ROADMAP

ABOUT GEORGIA'S CHARGING INFRASTRUCTURE ROADMAP

Georgia currently has the most extensive public charging network in the Southeast, leading the region in both total coverage and per capita access. The state ranks highest in public charging ports per 1,000 residents and in EV registrations per 1,000 vehicles. However, this rapid expansion has not been fully comprehensive, making data-driven insights and forecasting tools essential for guiding future planning and equitable growth.

GNEM's flagship report series, Georgia's Charging Infrastructure Roadmap provides a comprehensive, data-driven view of the state's public charging network and its evolution within the broader Southeast mobility ecosystem. By giving a clear understanding of today's and tomorrow's trends and needs, it charts a forward-looking path for sustained economic development and innovation.



EMOBILITY.UGA.EDU

A GNEM FLAGSHIP REPORT SERIES: DELIVERED IN ACROSS 3 CORE PARTS

Part 1 introduces the concepts of usability and seamless coverage, including definitions, key driver expectations and how they're met, and usable coverage extends this idea to the network level, measuring how much of today's public charging infrastructure successfully delivers that same high-quality experience. Together, these measures define how access, usability, and driver experience shape real-world market performance and confidence.

Part 2 builds on these findings by modeling the geographic and market-based gaps identified in Part 1. It analyzes existing trends driving charging infrastructure growth, as well as, where and how charging infrastructure must evolve to meet future energy demand, travel behavior, and adoption trends across Georgia.

Part 3 expands the framework further by connecting a high-performing public charging network to its broader economic potential, including grid resilience, workforce development, and the growth of Georgia's advanced automotive and battery manufacturing economy.

Together, these reports form one of Georgia's most comprehensive frameworks for guiding equitable, efficient, and economically sustainable charging infrastructure deployment. In future years, GNEM plans to extend the Charging Infrastructure Roadmap to include commercial and fleet infrastructure and expand its scope to include the broader Southeast battery belt.

This report represents only the first step towards a more robust and global look for EV and advanced automotive production, battery innovation, and supply chain growth. By aligning infrastructure planning with workforce, energy, and transportation strategies, GNEM is helping position Georgia and the Southeast as leaders in the nation's next-generation mobility economy.

After we complete publishing the subsequent parts of this edition of the roadmap, all reports, data tables, and trends will be made available on our website as a resource for industry, government, and academia.

THE EV CONSUME R JOURNEY

1 FINDING A STATION

DATA / RELIABILITY
Best search engine app (1-5) due to data reliability. Available data can be expensive or outdated. Partner offers sometimes fail. Partner offers sometimes fail. Partner offers sometimes fail.

2 ARRIVING AT THE CHARGER

DATA / RELIABILITY
Service may be listed as operational but is affected by older. Charge may have been paid or broken down. Partner offers sometimes fail. Partner offers sometimes fail.

3 STARTING SESSION/PAYMENT

DATA / RELIABILITY
Fast lane self-driving. Partner offers sometimes fail. Partner offers sometimes fail.

OVERALL CONVENIENCE ISSUES
Finding a good parking lot (1-5) is a challenge. Partner offers sometimes fail. Partner offers sometimes fail.

R JOURNEY

4 ACTIVELY CHARGING

DATA / RELIABILITY
Charging speed varies in high heat. Partner offers sometimes fail. Partner offers sometimes fail.

5 OVERALL EXPERIENCE

DATA / RELIABILITY
"Bad" charges sometimes not. Partner offers sometimes fail. Partner offers sometimes fail.

OVERALL CONVENIENCE ISSUES
Partner offers sometimes fail. Partner offers sometimes fail.

EXECUTIVE SUMMARY

Public charging infrastructure in the United States has grown at an extraordinary pace in recent years, increasing by roughly 25 percent per year since 2019. From mid-2022 to early 2023, total public charging ports rose from 12,000 to 18,000, including a 10 percent increase in DC fast charging and a 20 percent increase in Level 2 units (NCTC, 2023). These gains reflect major federal, state, and private investments through programs such as the National Electric Vehicle Infrastructure (NEVI) program, network expansion by Tesla, Electrify America, ChargePoint, and other major and regional providers including Wal-Mart, Costco, Walmart, etc., and other infrastructure providers (NCTC, 2023).

Despite rapid infrastructure expansion, the EV market faces a system-wide usability and branding problem. Many drivers still experience inconsistent reliability, broken or outdated equipment, and incompatible payment systems (Chargemaster, 2023; J.D. Power, 2023). Differences in hardware, software, and customer interfaces have created brand fragmentation across networks, making public charging feel inconvenient and less trustworthy. As a result, confidence in the infrastructure is not keeping pace with the scale of deployment, and usability has become a decisive factor in adoption. The next evolution of public charging will require a service standard that prioritizes reliability and uptime, shifting the focus beyond infrastructure availability toward usability and consumer confidence.

Georgia offers a clear view of this national inflection point. The state now has roughly 2,000 public charging stations and about 8,200 ports, including more than 400 fast-charging sites, an increase of over 200 percent since 2020. Yet dozens of counties across Georgia and the Southeast still lack fast-charging assets, underscoring persistent regional gaps and the work that remains to achieve full, equitable coverage.

Building charging infrastructure is complex and capital-intensive, and technology reflects an ever-evolving landscape. Rapid hardware and software updates, such as outdated hardware, broken equipment, and delayed firmware updates, for drivers, these challenges translate into inconsistent performance and declining confidence in public charging. According to Chargemaster's most recent industry report, only 21 percent of charging attempts succeed on the first try, meaning nearly one-third fail initially despite network operators' best efforts.

“**DESPITE RAPID INFRASTRUCTURE EXPANSION, THE EV MARKET FACES A SYSTEM-WIDE USABILITY AND BRANDING PROBLEM.**”

GEORGIA NETWORK for ELECTRIC MOBILITY



FINDING A STATION

Fragmented data and confusing maps



ARRIVING AT THE CHARGER

Blocked, hidden, or offline stations



STARTING A SESSION

Inconsistent payment and authentication



ACTIVELY CHARGING

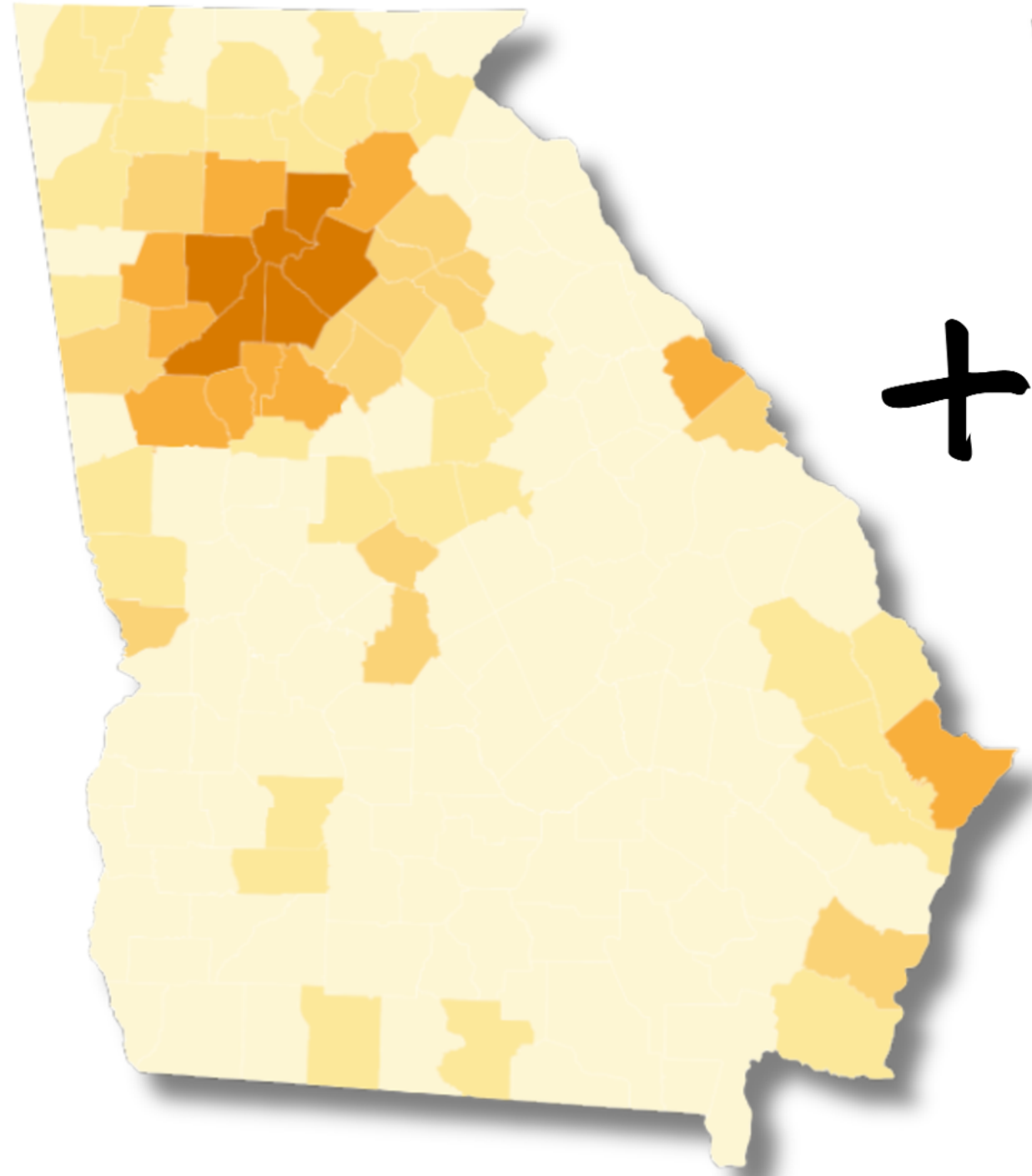
Variable speed, weather impacts, and failures



AMENITIES & DWELL TIME

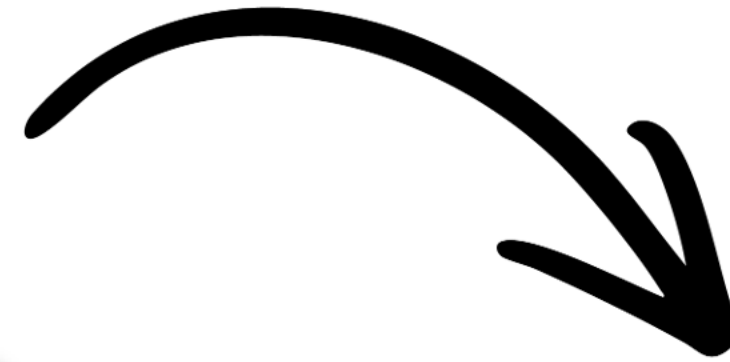
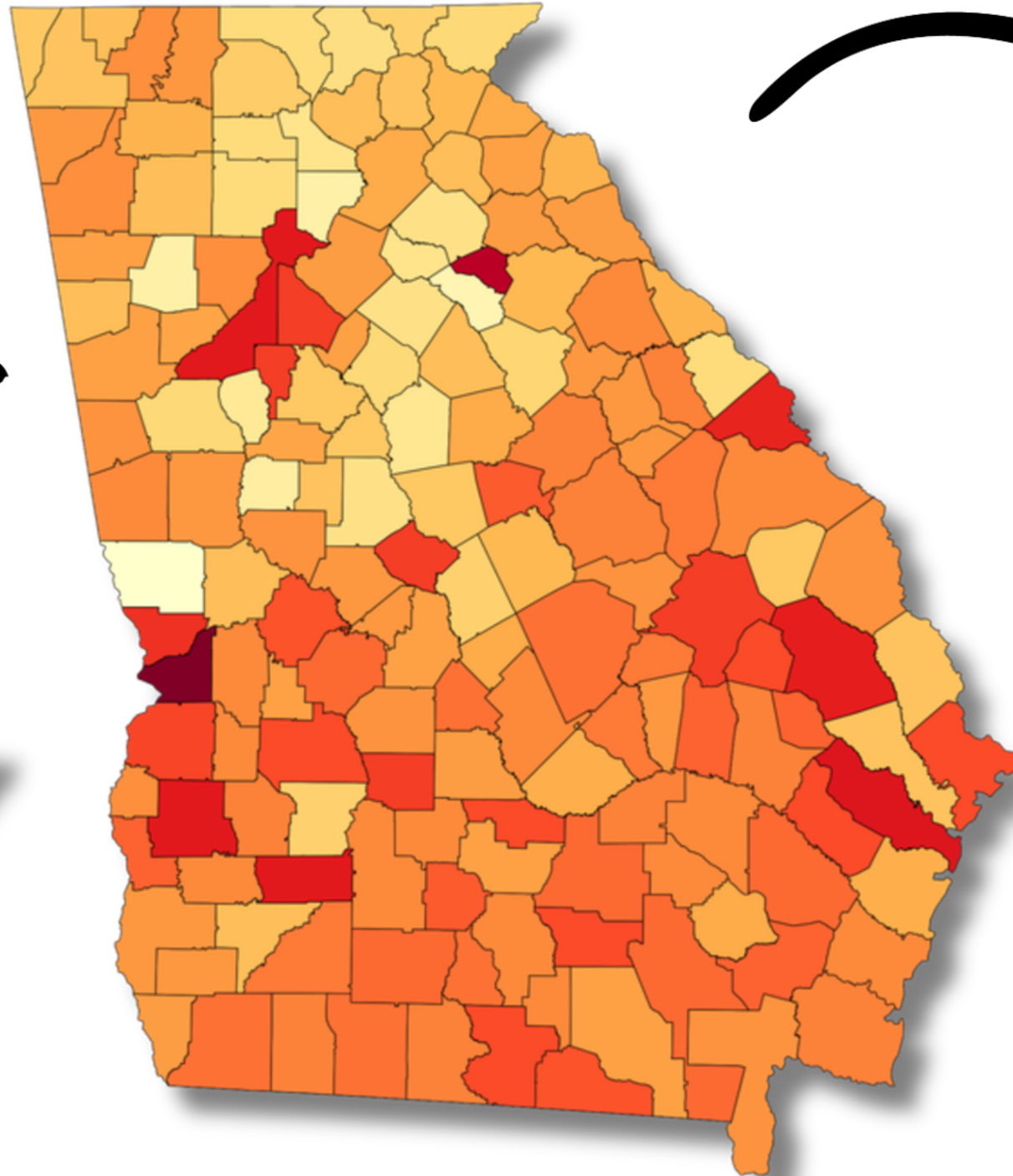
Lack of restrooms, lighting, or comfort

**EV Registration
Growth**



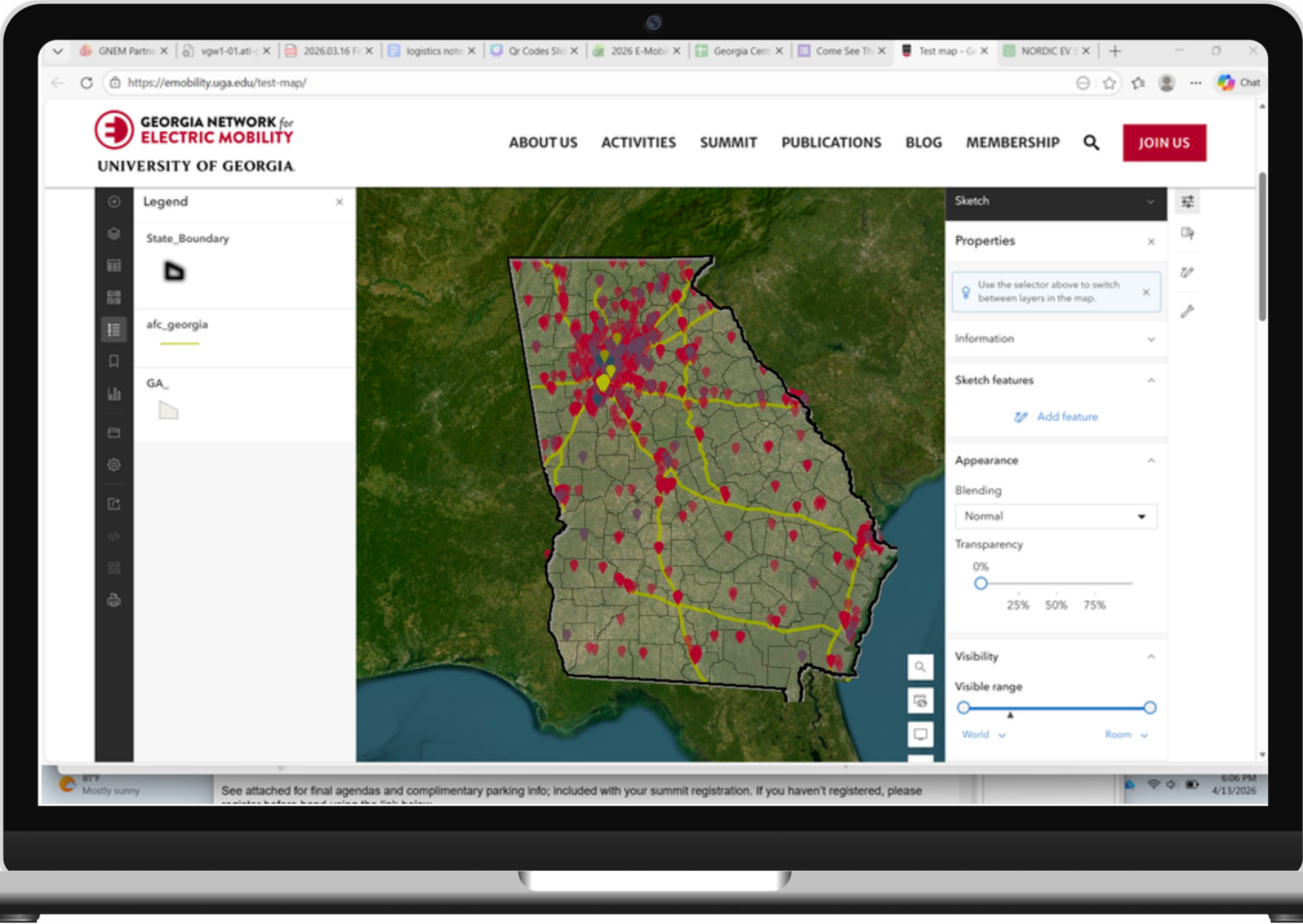
+

**Public Charging
Need (%)**



**County-level
Public
Infrastructure/
Energy Gap**

INFRASTRUCTURE & DEMAND FORECASTING



BATTERY BELT EV SUPPLY CHAIN EXPLORER AND CHARGING INFRASTRUCTURE ROADMAP

AI-enabled regional planning and coordination tool

- Maps EV manufacturing, supply chains, and charging infrastructure across the Southeast
- Supports coordinated planning across states, utilities, and industry
- Reinforces GNEM's role as a regional convener and strategic coordinator



AI-DRIVEN SUPPLY CHAIN EXPLORER

- Academic + translational research examining EV supply chain resilience, cost competitiveness, and adoption dynamics
- Addresses industry-critical questions on price sensitivity, consumer confidence, infrastructure dependency, and manufacturing competitiveness
- Designed to inform OEMs, Tier 1–3 suppliers, utilities, and state agencies navigating a post-incentive, margin-constrained market
- Leveraging LLM (large language models) testing and analysis



GENG YUAN



SREEJA MUVVA



GABY PIERRE



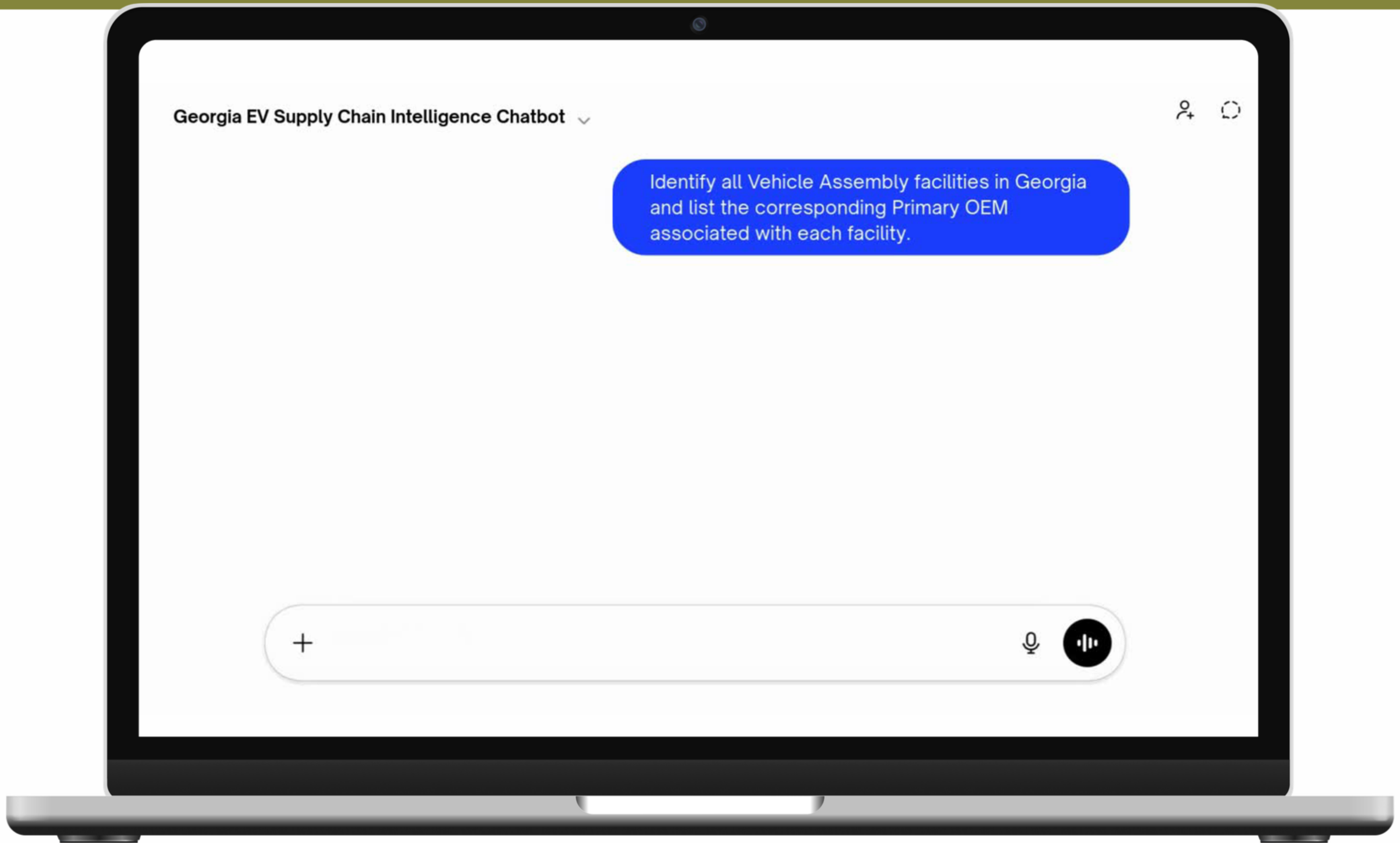
PRASHANT DOSHI

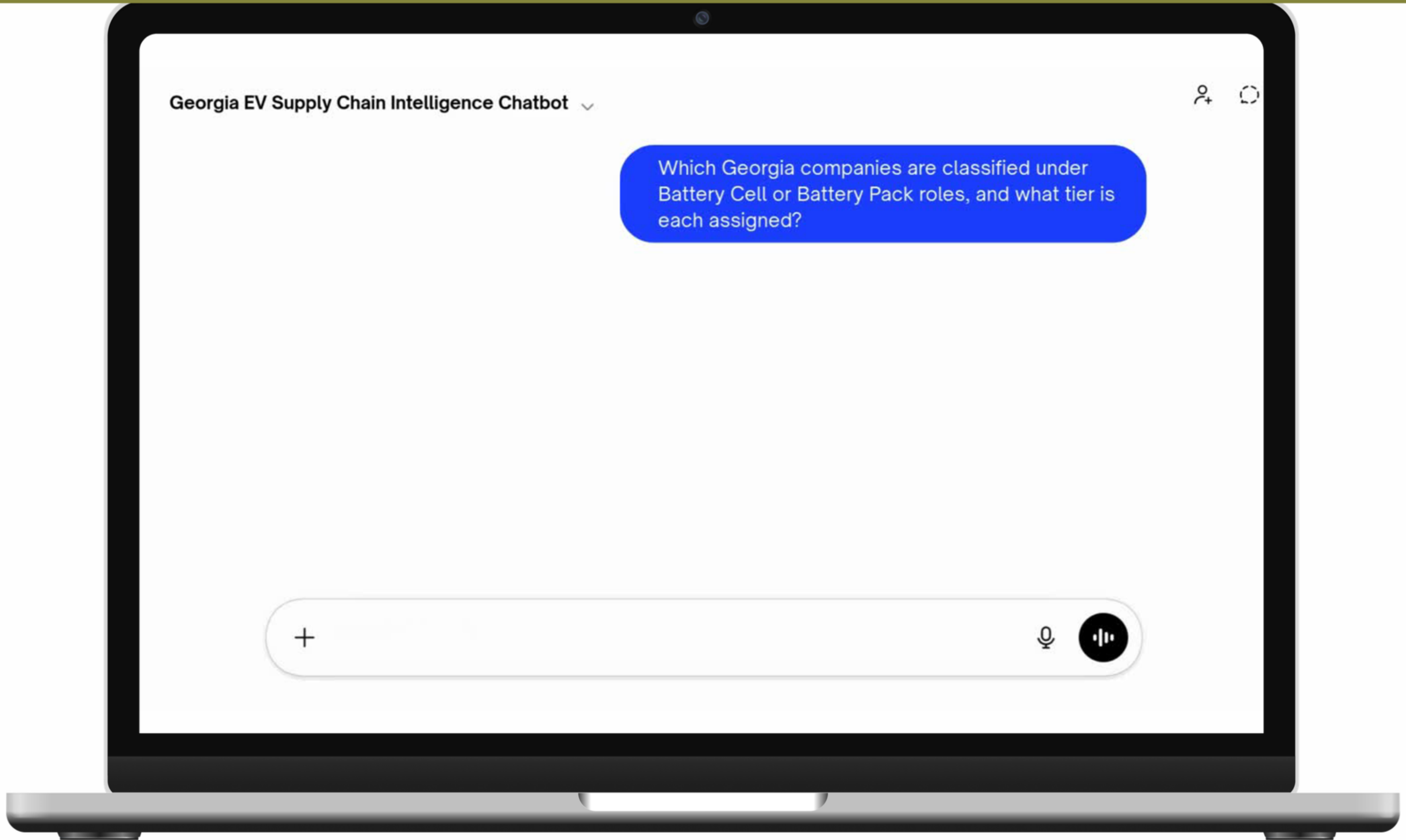


HONGYUE SUN

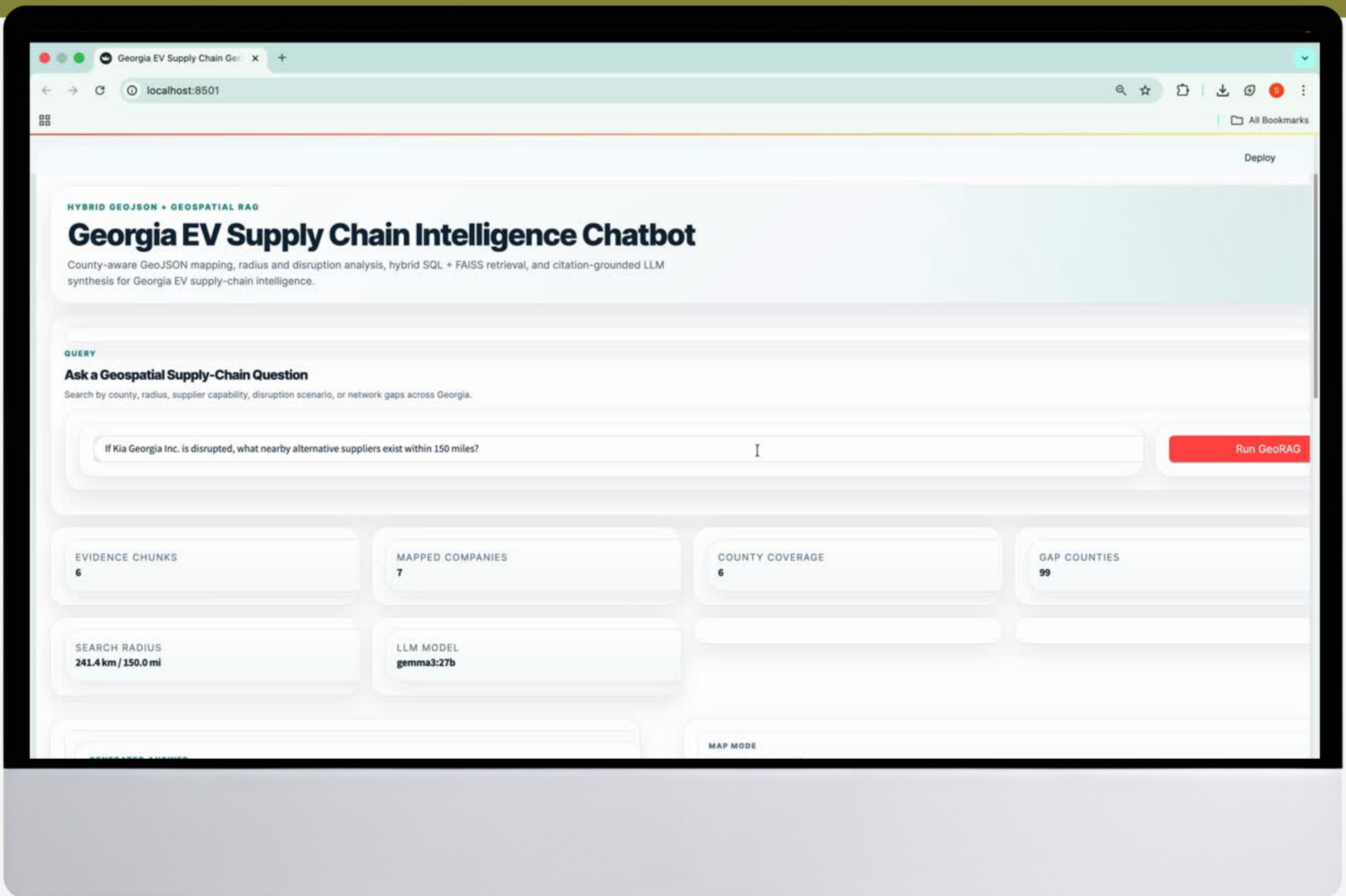
EXPLORER PHASES

PHASE	PILOT		ROADMAP		
	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
EXPLORER MODULE	BASE EXPLORER: LOCATION & EV MATERIAL FLOWS	NEXT-GEN SUPPLY CHAIN LOGISTICS VISUALIZATION	LOCALIZATION & RESHORING INSIGHTS	JOBS MULTIPLIER & WORKFORCE GAP ANALYSIS	COGNITIVE SUPPLY CHAIN BRAIN
CORE FUNCTIONALITY	<p>Maps EV suppliers, facilities, and material flows</p> <p>Baselines supply chain structure and value chain position</p>	<p>Maps logistics flows, infrastructure, and choke points</p> <p>Identifies supplier dependencies and disruption risks</p>	<p>Identifies import-dependent materials and components</p> <p>Maps localization and reshoring opportunities</p>	<p>Quantifies jobs and economic multiplier effects</p> <p>Aligns supply chain demand with workforce capacity</p>	<p>Identifies capacity gaps and material mismatches</p> <p>Models scenarios to prioritize investment and deployment</p>
MAIN AUDIENCE	Industry, policymakers, researchers	Industry, economic developers, infrastructure planners	OEMs, suppliers, state & regional economic development	Workforce agencies, state & local government, industry	Advanced industry users, policymakers, researchers
WHY IT MATTERS	Establishes baseline visibility across Georgia's EV and automotive supply chain	Reveals vulnerabilities across suppliers, logistics, and operations	Supports investment, supplier recruitment, and capacity planning	Connects supply chain growth to jobs, skills, and workforce strategy	Enables scenario-based decisions and supply chain optimization





SUPPLY CHAIN TRANSFORMATION



2

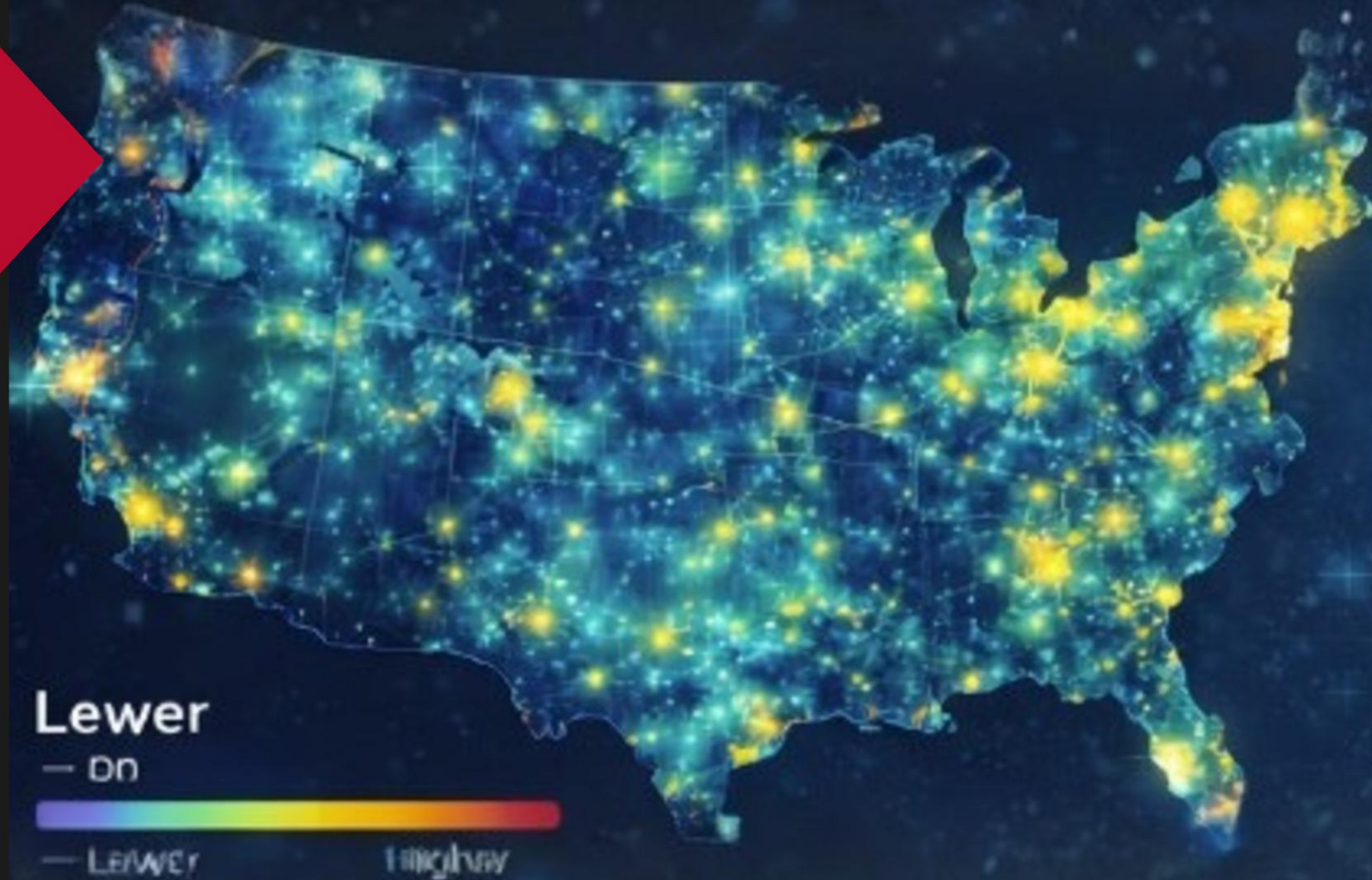


GEORGIA NETWORK *for*
ELECTRIC MOBILITY
UNIVERSITY OF GEORGIA

US EV CONSUMER SENTIMENT EXPLORER

AI-enabled national research platform

- Tracks EV adoption, perceptions, and barriers across regions and demographics
- Informs industry strategy, public policy, and workforce planning
- Positions GNEM as a neutral, data-driven mobility intelligence hub



GEORGIA NETWORK *for*
ELECTRIC MOBILITY

US EV CONSUMER SENTIMENT ANALYSIS

- Multidisciplinary research integrating engineering, business, and geography
- Designed to inform OEMs, Tier 1–3 suppliers, utilities, and state agencies navigating a post-incentive, margin-constrained market
- EV consumer sentiment analysis and AI supply chain explorer both leveraging LLM (large language models)



HAO YANG



ANGELA YAO



GABY PIERRE



ROUWEI LIU



NEIL BENDLE



ITAI HIMELBOIM



ATLAS GUO

EV DISCUSSION NET SENTIMENT BY DEMOGRAPHIC GROUP AND TOPIC



EV DISCUSSION TOPIC PREVALENCE BY STATE

Infrastructure & Charging (National Avg: 0.167)



Policy & Politics (National Avg: 0.166)



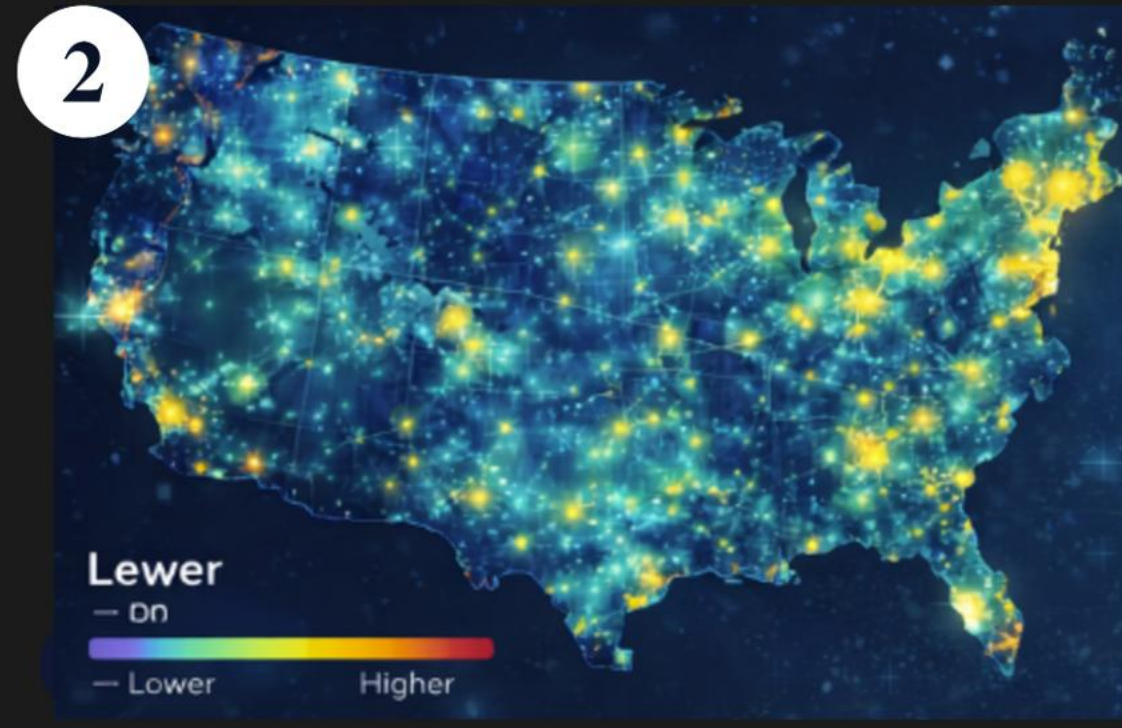
GNEM YR 2-5 IN ACTION:

3 Potential Flagship Platforms by Year 5 currently under development



BATTERY BELT EV SUPPLY CHAIN EXPLORER AND CHARGING INFRASTRUCTURE ROADMAP

AI-enabled regional planning and coordination tool



US EV CONSUMER SENTIMENT EXPLORER

AI-enabled national research platform



FUTURE MOBILITY CITY OF THE FUTURE

Applied research and demonstration environment

3

FUTURE MOBILITY CITY OF THE FUTURE

Applied research and demonstration environment

- Living lab for electric, autonomous, and connected mobility systems
- Enables industry co-creation, workforce training, and applied research
- Bridges university research with real-world deployment and testing



WE ARE AT A ONCE-IN-A-GENERATION INFLECTION POINT—



**ON THE SCALE OF THE TRANSITION FROM HORSE AND BUGGY
TO THE AUTOMOBILE.**

10+ autonomous mobility deployments and testbeds in GA

(Current + prior over 5-7 years)



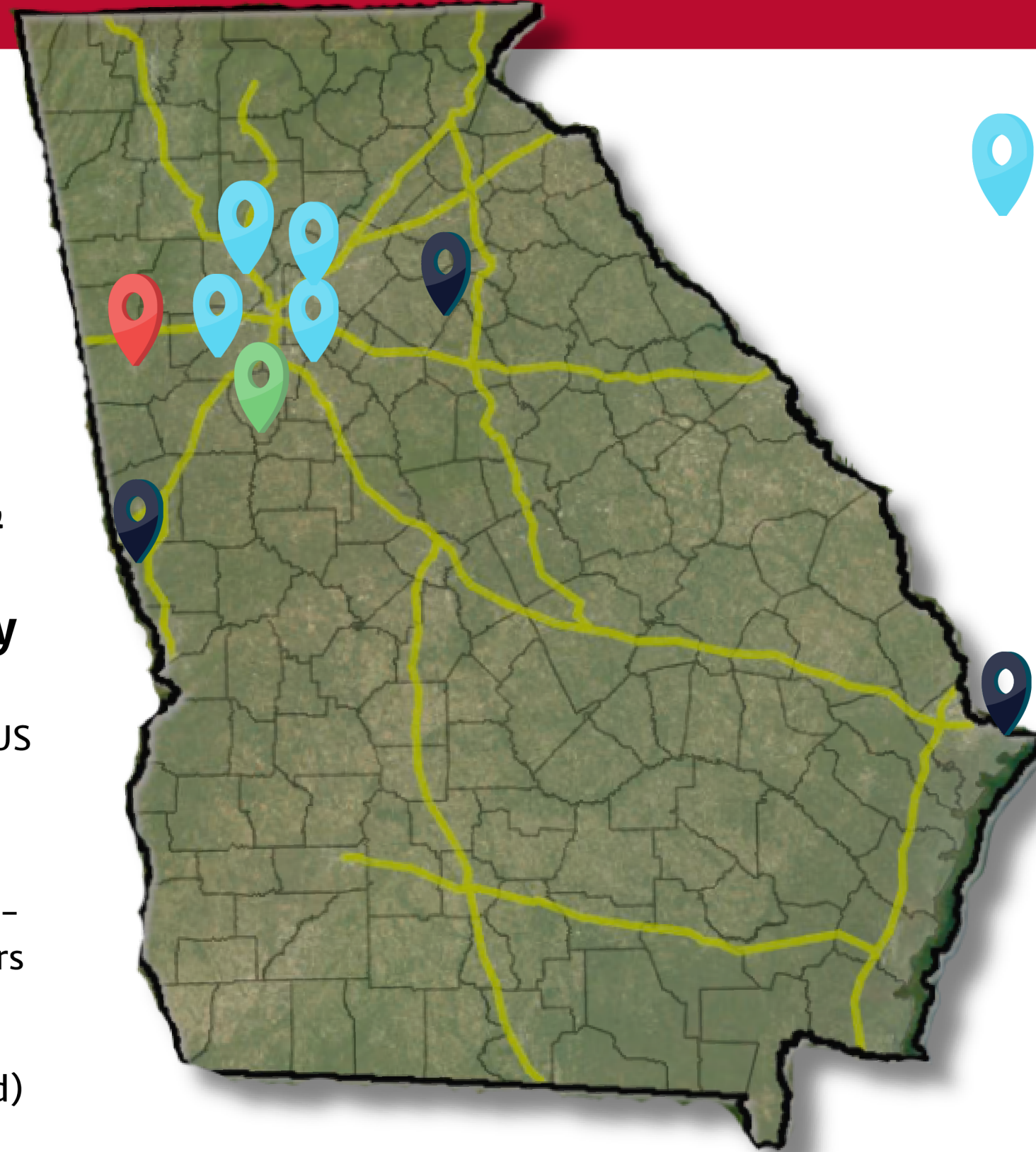
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Freight & Logistics Autonomy

- Villa Rica – Kodiak Robotics + Pilot Autonomous Truckport

Connected Infrastructure & Testbeds (Enablers that are explicitly used for AV/CAV testing)

- Gwinnett County – ST-CTN (ITS4US Complete Trip Deployment)
- West Georgia (I-85) – The Ray Corridor
- Savannah / Coastal Georgia – Port-adjacent connected freight corridors
- Athens – University of Georgia (autonomous mobility pipeline & Future Mobility Living Labs testbed)



Roadway Autonomous Mobility (SAE L4 / pilots & service)

- Cumberland Autonomous Mobility (CAM) Network
- Cumberland Hopper – Truist Park park-and-ride (prior pilot phases)
- Atlanta BeltLine Autonomous Shuttle (launch phase)
- Peachtree Corners – May Mobility (current)
- Peachtree Corners – PAUL Shuttle (prior)
- Atlanta – Waymo Robotaxi (current)
- Atlanta – Zoox (testing/mapping)

Automated Transit / Guideway (GoA standards)

- College Park / ATL Airport Area – Glydways Automated Transit Pilot

Roadway autonomy · Automated transit · Freight autonomy · Connected corridors · University testbeds

AUTONOMY STRESS TESTS THIS ENTIRE SYSTEM

WORKFORCE FRICTION

- ICE workforce vs EV skill shift
- Battery manufacturing labor ramp
- Semiconductor + power electronics talent shortage
- Technical retraining lag

INFRASTRUCTURE FRICTION

- Charging reliability gaps
- Siting vs utilization mismatch
- Freight corridor readiness
- Grid capacity constraints
- Data center load overlap



OEMS

CONSUMERS



SUPPLY CHAIN FRICTION

- Lithium refining concentration
- Cathode/anode processing geography
- Permitting timelines in U.S.
- Capital intensity of new facilities
- Geopolitical exposure

MARKET FRICTION

- \$50K average vehicle prices
- Financing costs
- Model mix misalignment
- Consumer charging trust gap

POWERING THE NEXT ERA OF MOBILITY

**POWER THE NEXT ERA
OF MOBILITY
TOGETHER.**