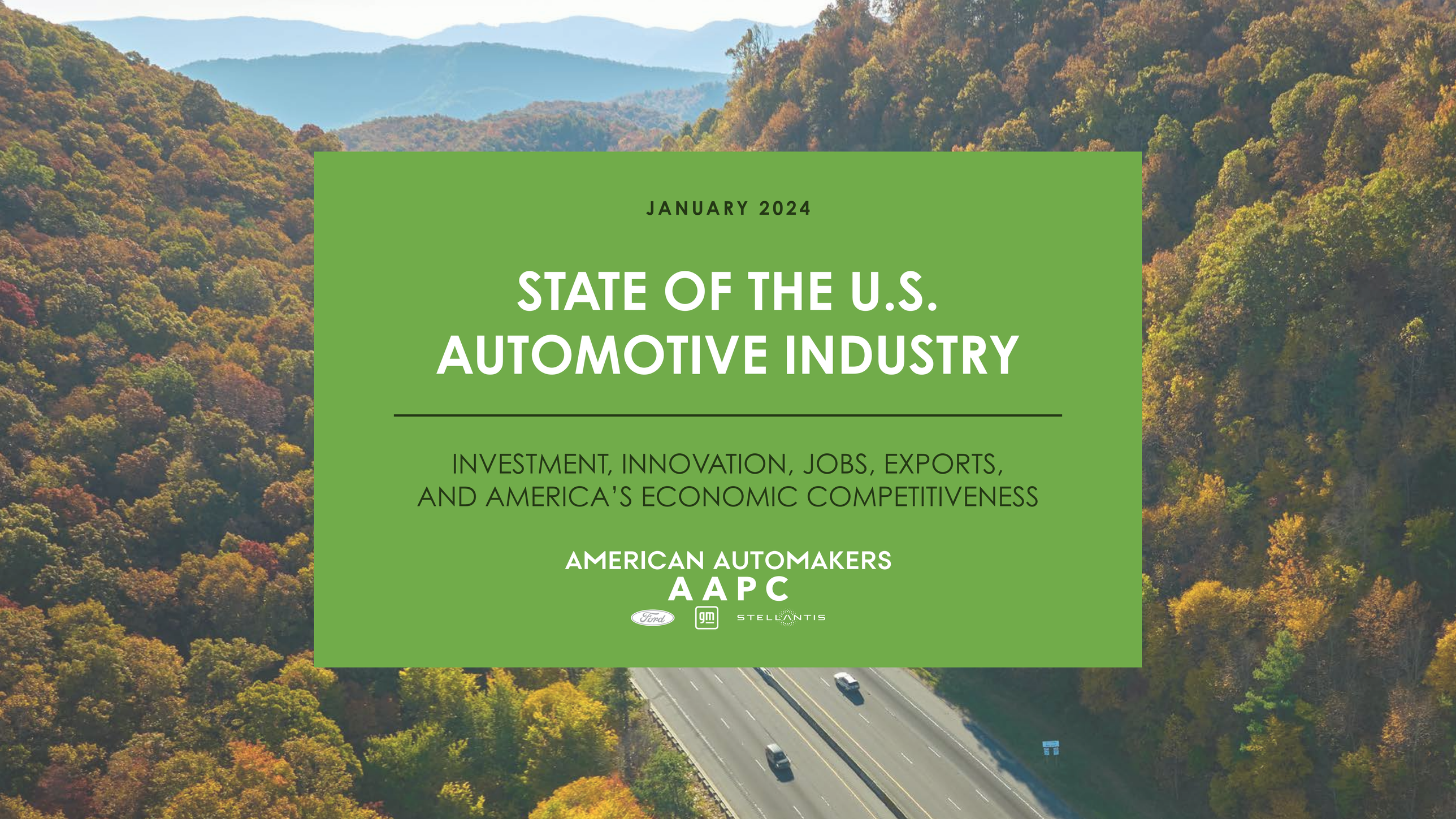


JANUARY 2024

STATE OF THE U.S. AUTOMOTIVE INDUSTRY

INVESTMENT, INNOVATION, JOBS, EXPORTS, AND AMERICA'S ECONOMIC COMPETITIVENESS

AMERICAN AUTOMAKERS

AAPC

Ford gm STELLANTIS

FOREWORD

This report is meant to serve as a resource for policymakers, researchers, and media interested in the state of automotive manufacturing in America, and what leadership in this industry means for our nation's economic competitiveness.

Automakers contribute a great deal to our economy, but some automakers contribute more than others. AAPC members – Ford, GM, and Stellantis – employ more Americans and invest more in America than their foreign competitors because American Automakers produce more vehicles here, buy more parts here, conduct more R&D here, and manage more of their global operations from here.

Those U.S. investments have always been good business: America is, after all, home to the most efficient workforce in the world.

But the long-term success of any American automotive facility – whether an assembly plant or research lab – also depends, in part, on how international public policies affect an automaker's global competitiveness. Although the U.S. automotive industry is already making an enormous contribution to the U.S. economy and its workforce, a policy environment aimed at facilitating and growing U.S. auto manufacturing and exports would help American Automakers do even more.

The U.S. exported $1.26 trillion worth of vehicles and parts over the past 10 years – more than any other U.S. manufacturing sector.[1] Despite this success, the U.S. automotive industry has room to improve its export performance. Many barriers to access remain in key automotive markets in Asia, Latin America, and the Middle East, among others – making it difficult for American Automakers to compete on a level playing field.

These market access issues include the non-acceptance of U.S. auto safety and environmental standards in key regions and countries – as well as other non-tariff barriers designed to put American Automakers at a competitive disadvantage.

Over the past 10 years, Ford, GM, and Stellantis have invested $87.8 billion in their U.S. facilities, with much of that investment directed at future mobility (EV & AV) technologies.[2] The investments include plans for new and expanded EV and EV battery manufacturing plants that will create tens of thousands of new jobs.

But to remain globally competitive – particularly in the world's transition to EVs and AVs – U.S. policymakers must redouble their efforts to ensure that American Automakers can export vehicles built to the rigorous U.S. Federal Motor Vehicle Safety Standards (FMVSS) and stringent U.S. Environmental Protection (EPA) emissions standards.

These efforts include an ongoing, highly successful public-private partnership aimed at keeping key vehicle markets abroad open to vehicles built to FMVSS and EPA standards, while ensuring that other countries and regions (e.g., Europe and China) are not given the opportunity to unilaterally "write the rules" for future mobility testing and deployment around the world.

This 2023 Economic Contribution Report describes in detail the vital role that American Automakers play in our economy. To ensure that the American auto industry continues its important contributions to the U.S. economy and, by extension, to the people who depend on our industry, we also urge readers to keep in mind the importance of international trade policies in shaping the future of America's automotive industry.

EXECUTIVE SUMMARY: AUTOMAKERS CONTRIBUTE A GREAT DEAL TO OUR ECONOMY, BUT FORD, GM, AND STELLANTIS CONTRIBUTE MORE THAN OTHERS

- Automakers in the U.S. employ **415,000** workers across hundreds of factories, assembly plants, research labs, offices, and other facilities.[3] Their operations support **9.2 million** other jobs at suppliers, dealerships, and other businesses nationwide.[4]

- Automakers' **55**[5] U.S. assembly plants produce more than **10 million**[6] vehicles each year.

- Automakers and suppliers export more than
- **$12 billion** worth of cars, trucks, and parts each year.[7] The auto industry ranks 1st in exporting over the past 10 years.

- The auto industry ranks **2nd** in global cap ex ($165 billion/year) and **4th** in global R&D ($146 billion/year).[8]

- Ford, GM, and Stellantis – just three of more than **16** global automakers competing in the U.S. – sell about **4** in **10** vehicles purchased in the U.S.[9], but they employ **six** out of **10** U.S. autoworkers.

- Ford, GM, and Stellantis rank **1st**, **2nd**, and **3rd** in auto production[11] and operate half of America's assembly plants.[10]

- Nearly **1.5X** more of the vehicles Ford, GM, and Stellantis sell here are produced here.[12]

- Ford, GM, and Stellantis base **6X** more of their global workforce here.

- Ford, GM, and Stellantis have **invested more** in the past **12 years**, improving existing assembly plants and other facilities, than all foreign automakers have invested over the past **60 years**, building their plants and facilities from scratch.[13]

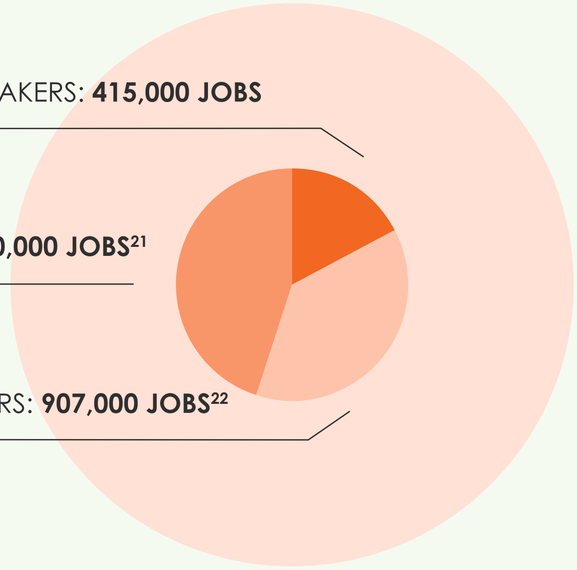
A QUICK LOOK AT WHY AUTOS MATTER SO MUCH

Production	Automakers produce more10 million vehicles[14] in the U.S. each year. Lined up end to end, they would stretch 30,600 miles, enough to travel from the Statue of Liberty to the Golden Gate bridge 10 times.
Plants	An auto assembly plant can cost $3 billion to build, employ 3,000 workers, produce 200,000 vehicles/ year, and contribute $6 billion toward America's annual GDP.[15]
Capital investment	Building, maintaining, and improving those plants costs U.S. automakers billions each year. Ford, GM, and Stellantis alone have announced $65 billion in capital investment over the past five years alone.[16]
Suppliers	Each assembled vehicle contains approximately 15,000 parts. Many of these are assembled by thousands of U.S. suppliers employing 907,000 U.S. workers.[17]
R&D	Designing those parts and integrating them into a single vehicle is an enormous engineering challenge, which is why automakers and suppliers spend more than $23 billion on U.S. R&D each year, about $1,650 per vehicle sold here.[18]
Commodities	A typical auto contains two tons of steel, aluminum, glass, plastic, and other materials – plus approximately 1,500 computer chips. Because of the size of each vehicle – and the number of vehicles produced each year – automakers are among the largest buyers of American raw materials.
Marketing	Companies that distribute, market, sell, and service those vehicles employ hundreds of thousands of other U.S. workers – and support millions of other U.S. jobs. Ford, GM, and Stellantis alone work with 9,700 dealerships[19] that employ 611,000 U.S. workers.[20]

HOW “JOBS MULTIPLIERS” WORK

One way to measure an industry’s economic contribution is to measure its “jobs multiplier,” the number of workers it supports through its own operations, suppliers, and the other local businesses it supports.

THE JOBS MULTIPLIER



AUTOMAKERS: **415,000 JOBS**

DEALERSHIPS: **1,070,000 JOBS**[21]

SUPPLIERS: **907,000 JOBS**[22]

OTHER BUSINESSES THAT SUPPORT THE INDUSTRY: **7,247,000 JOBS**

= 9.6 MILLION JOBS
SUPPORTED BY THE AUTO INDUSTRY

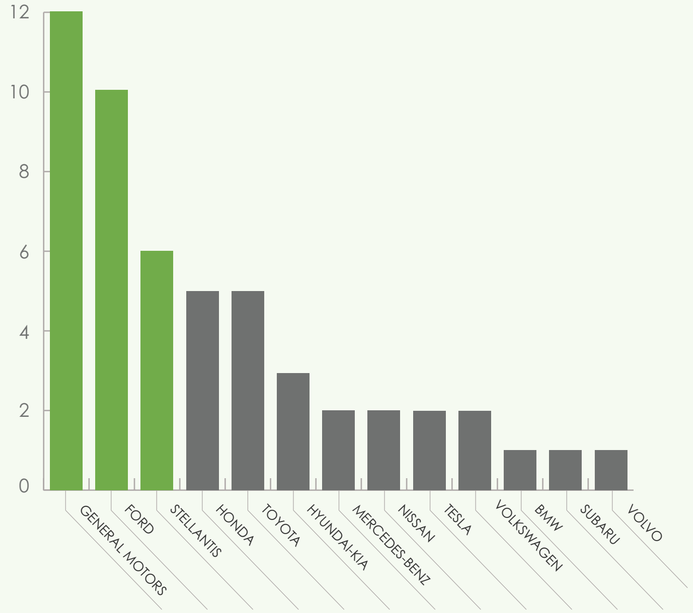
AN INDUSTRY’S JOBS MULTIPLIER GENERALLY GROWS RELATIVE TO ITS SUPPLY CHAIN (THE NUMBER AND COST OF THE INPUTS THAT GO INTO ITS PRODUCTS). BECAUSE THE AUTO SUPPLY CHAIN IS SO LARGE, AUTOMOTIVE JOBS HAVE THE LARGEST MULTIPLIER.

U.S. AUTO PRODUCTION

**America's 55 assembly plants produce 10.2 million cars and trucks here each year.
Lined up end to end, those vehicles would stretch 30,600 miles, enough to cross the U.S. more than ten times.**

FORD, GM, AND STELLANTIS RANK 1, 2 AND 3, OPERATING HALF OF THE AMERICA'S ASSEMBLY PLANTS...

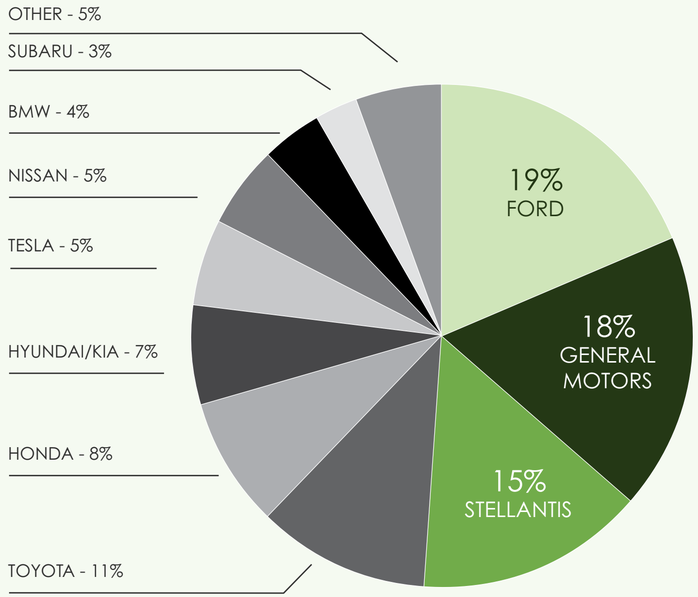
U.S. ASSEMBLY PLANTS BY OEM (2022)[23]



* NOT LISTED: KARMA, RIVIAN, AND LUCID MOTORS EACH OPERATE ONE PLANT

... AND PRODUCING HALF OF THE VEHICLES ASSEMBLED HERE.

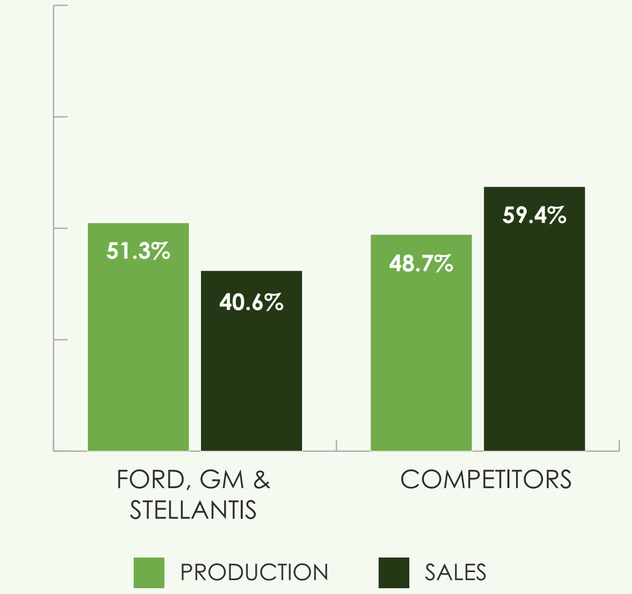
TOTAL U.S. PRODUCTION BY OEM (2022)[24]



COMPARING PRODUCTION SHARE WITH MARKET SHARE DEMONSTRATES FORD, GM, AND STELLANTIS' COMMITMENT TO THE U.S.

Ford, GM, and Stellantis combined sell 2 out of 5 cars in the U.S. – but they produce 1 in 2.

U.S. SHARE OF PRODUCTION[25] AND SALES[26] (2022)

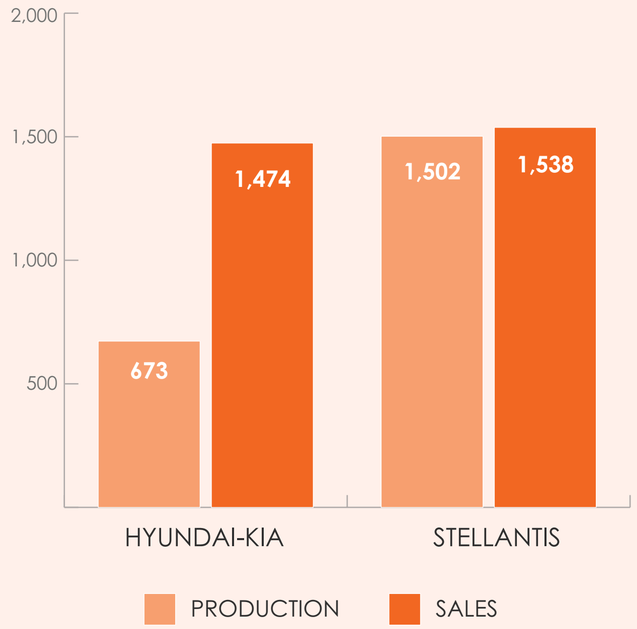


U.S. AUTO PRODUCTION CASE STUDIES

CASE STUDY: STELLANTIS

Stellantis and Hyundai-Kia sell about the same number of vehicles in the U.S. each year, but Stellantis produces 2X more vehicles here.

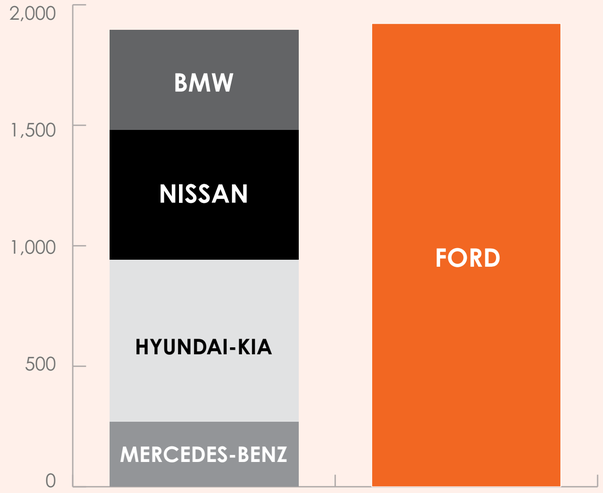
U.S. SALES[27] AND PRODUCTION[28] (2022)
IN THOUSANDS OF VEHICLES



CASE STUDY: FORD

Ford produces the same number of automobiles in the U.S. as BMW, Nissan, Hyundai-Kia, and Mercedes-Benz, combined.

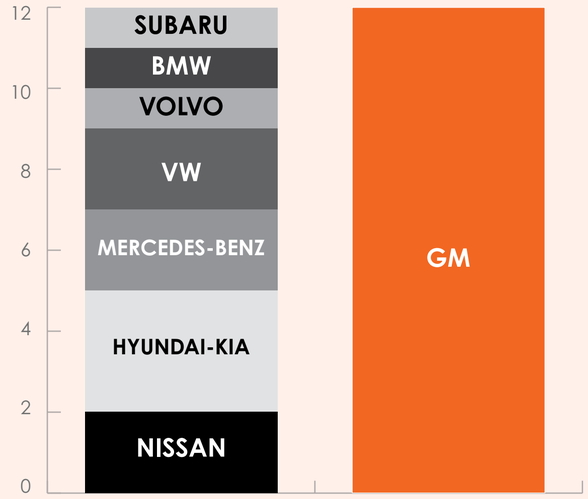
U.S. PRODUCTION (2022)[29]
IN THOUSANDS OF VEHICLES



CASE STUDY: GM

GM has the same number of manufacturing plants as BMW, Hyundai-Kia, Mercedes, Nissan, Subaru, Volvo, and VW, combined,

U.S. AUTO PLANTS (2022)[30]



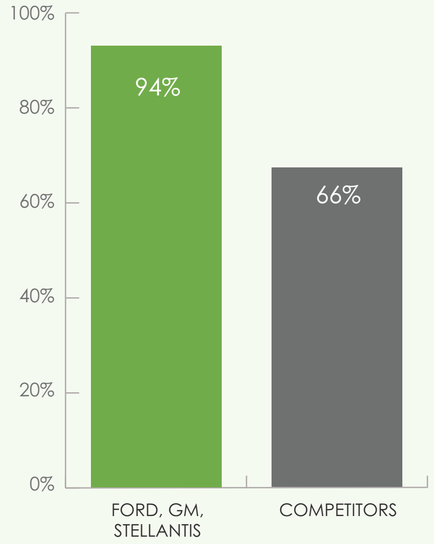
FOREIGN AUTOMAKERS' PRODUCTION GAP = 2.9 MILLION VEHICLES

To appreciate the scale of the difference between Ford, GM, and Stellantis, on one hand, and their foreign competitors, on the other, it helps to consider how much stronger our economy would be if foreign competitors produced as many of the cars they sell here as Ford, GM, and Stellantis do.

MORE OF THE VEHICLES FORD, GM, AND STELLANTIS SELL HERE ARE MADE HERE

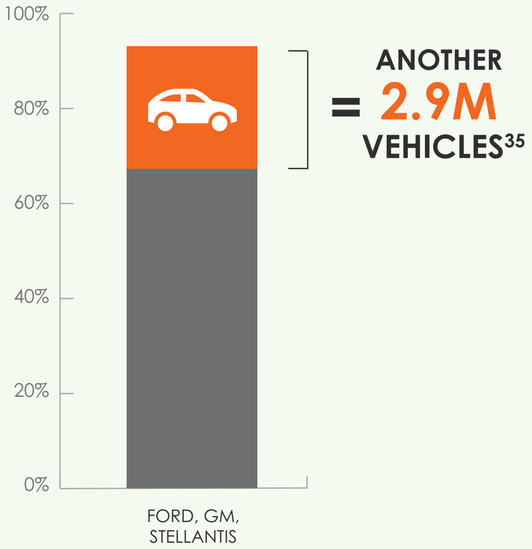
94% of the cars Ford, General Motors, and Stellantis sell here are produced in the U.S., keeping production domestic and providing good jobs for Americans.

AVERAGE PRODUCTION[31] AS A PERCENTAGE OF U.S. SALES[32] (2022)

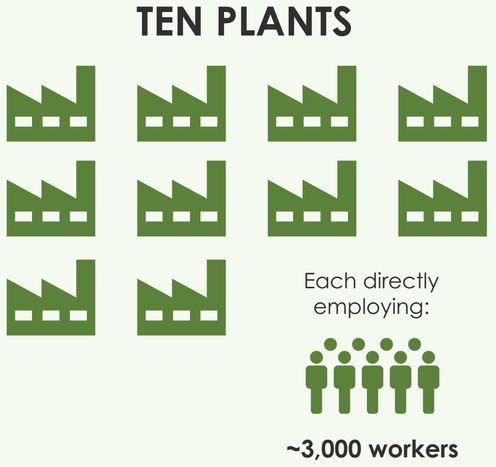


TO MATCH FORD, GM, AND STELLANTIS' U.S. PRODUCTION RATE, FOREIGN AUTOMAKERS WOULD HAVE TO PRODUCE ANOTHER 2.9 MILLION VEHICLES HERE EACH YEAR

AVERAGE PRODUCTION[33] AS A PERCENTAGE OF U.S. SALES[34] (2022)



TO PRODUCE ANOTHER 2.9 MILLION VEHICLES HERE EACH YEAR, FOREIGN AUTOMAKERS WOULD HAVE TO BUILD 10 OR MORE ASSEMBLY PLANTS[36]



10 PLANTS X $3 BILLION+/PLANT = $30B IN ADDITIONAL U.S. INVESTMENT

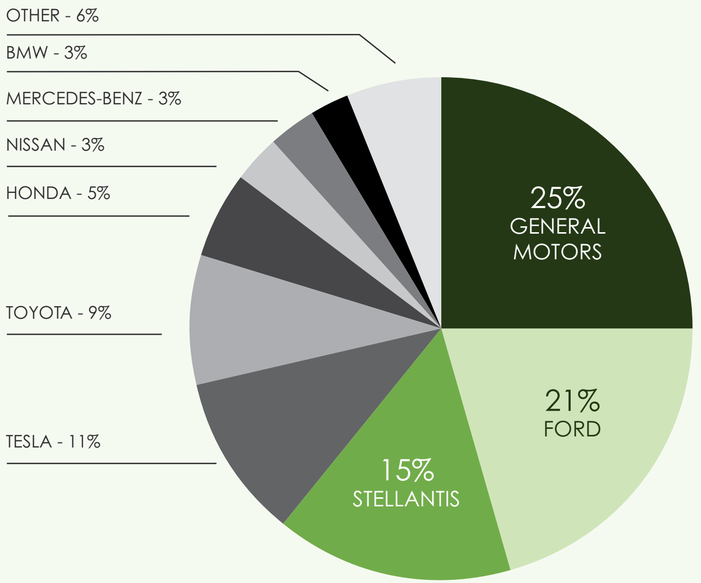
10 PLANTS X 3,000 WORKERS = 30,000 MORE AMERICAN JOBS

AUTO JOBS MATTER – AND FORD, GM, AND STELLANTIS BASE MORE OF THEIR WORKFORCE HERE IN THE U.S.

Stellantis and Hyundai-Kia sell about the same number of vehicles here each year, but Stellantis employs 7X more U.S. workers. That's because Stellantis produces twice as many vehicles here, conducts more R&D here, buys more parts here, and manages more of its global operations from here.

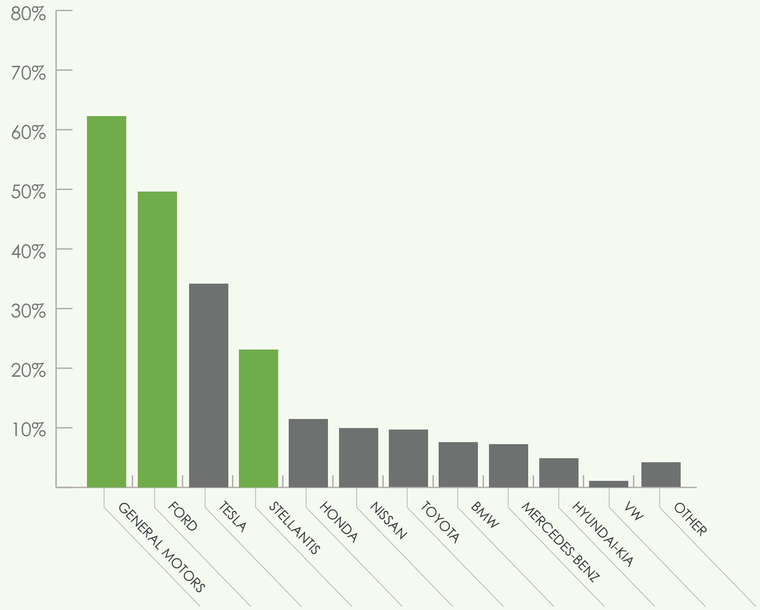
AUTOMAKERS EMPLOY APPROXIMATELY 415,000 WORKERS ACROSS THE U.S. FORD, GM, AND STELLANTIS EMPLOY SIX OUT OF 10 OF THEM

TOTAL U.S. JOBS BY OEM (2022)[37]



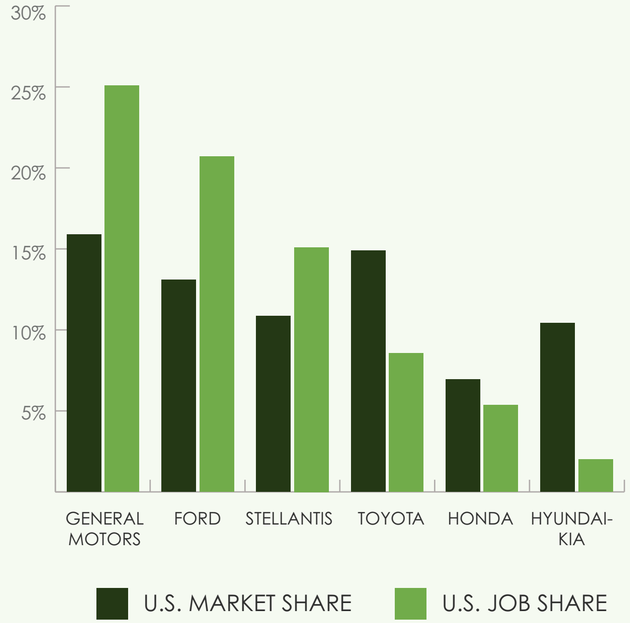
BECAUSE FORD, GM, AND STELLANTIS CONDUCT SO MUCH MORE OF THEIR WORK HERE, THEY BASE 6X MORE OF THEIR GLOBAL WORKFORCE HERE

PERCENT OF GLOBAL WORKFORCE BASED IN THE U.S., BY OEM (2022)[38]



COMPARING COMPANIES' JOBS AND MARKET SHARE DEMONSTRATES FORD, GM, AND STELLANTIS' COMMITMENT TO THE U.S.

U.S. MARKET SHARE[39] VS. U.S. JOB SHARE[40], SELECTED OEMS (2022)



FORD, GM, AND STELLANTIS' SUPPLY CHAINS MAKE EVERY STATE AN "AUTO STATE"

The auto industry supports approximately 9.6 million U.S. jobs nationwide. Through their own operations, suppliers, and dealerships, Ford, GM, and Stellantis contribute far more than their market share would suggest.

SUPPLIERS

America's auto suppliers collectively employ 907,000 workers across all 50 states, and Ford, GM, and Stellantis work with most of them.[41]

DEALERSHIPS

Ford, GM, and Stellantis work with 9,700 U.S. dealerships (6 out of 10 dealerships operating in the U.S.)[42] that employ 611,000 workers.[43]

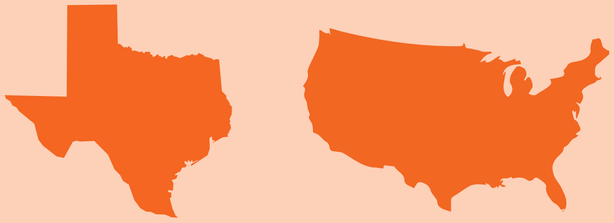
RETIREES

Together, Ford, GM, and Stellantis serve 703,000 retired auto workers.[44]

DIRECT OPERATIONS

Together, Ford, GM, and Stellantis operate 260 factories, assembly plants, research labs, and other facilities across 31 states.[45]

Ford employs about as many workers in Kentucky as BMW employs nationwide.



GM employs about as many workers in Texas as VW employs nationwide.

Stellantis employs about as many workers in Indiana as Mercedes employs nationwide.

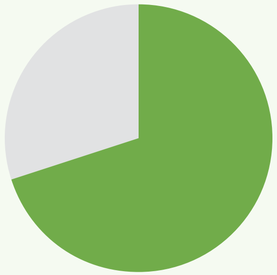
AMERICA'S LEADING 'MADE IN AMERICA' INDEX DEMONSTRATES THE DIFFERENCE BETWEEN FORD, GM, STELLANTIS AND THEIR COMPETITORS

Each year, AU's Kogod School of Business ranks approximately 370 cars and light trucks sold in the U.S. Kogod uses a scale of 1 to 100, based on where each model is assembled, where its engine and transmission are produced, how much "domestic content" it contains, and where the automaker's HQ is based.

FORD, GM, AND STELLANTIS DOMINATE THE TOP OF KOGOD'S RANKINGS[46]

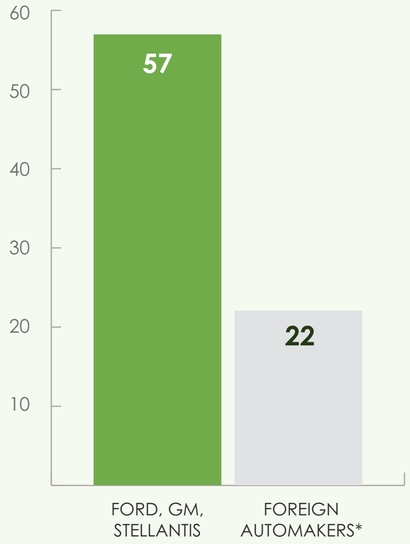
15 OF TOP 24

42 OF TOP 60



THEIR AVERAGE SCORE IS 2.5X HIGHER THAN FOREIGN AUTOMAKERS

KOGOD AVERAGE SCORE (2022)

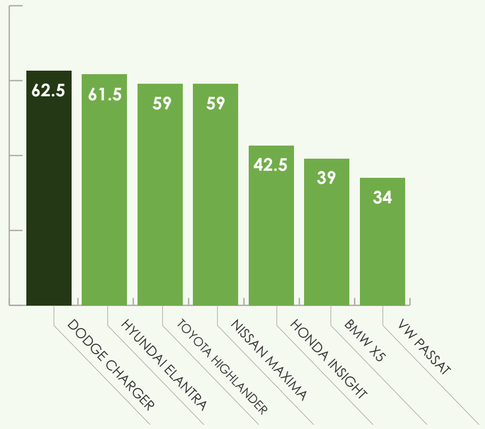


* ALSO INCLUDES TESLA

SOME FORD, GM, AND STELLANTIS MODELS ASSEMBLED IN MEXICO CONTRIBUTE MORE TO THE U.S. ECONOMY THAN FOREIGN AUTOMAKER MODELS ASSEMBLED HERE

A Dodge Charger assembled in Canada scores higher than some foreign automakers' vehicles assembled in the U.S.

KOGOD AVERAGE SCORE (2022)



KOGOD DEMONSTRATES THAT HALF OF THE MODELS SOLD IN THE U.S. CONTRIBUTE VERY LITTLE TO OUR ECONOMY

3 IN 4
FORD, GM, OR STELLANTIS MODELS SCORED

50 POINTS OR MORE

BUT 6 IN 10 FOREIGN AUTOMAKER MODELS SCORED

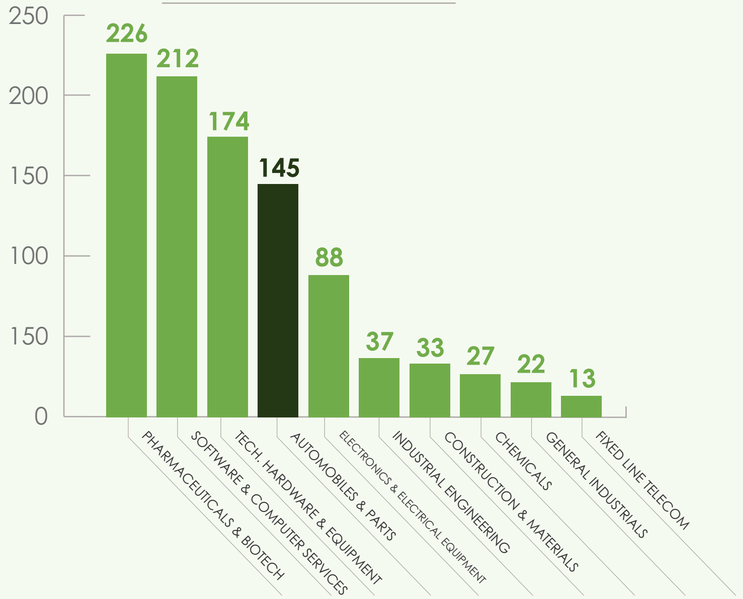
10 POINTS OR BELOW

AND 1 IN 4 SCORED ONLY 1 POINT

AUTOMOTIVE R&D MATTERS

AUTO INDUSTRY RANKS 4TH IN R&D, WORLDWIDE

INDUSTRY RANKING BY R&D SPENDING (2021)[47]
IN BILLIONS OF DOLLARS



AUTOS ARE GROWING EVEN MORE R&D INTENSIVE

U.S. automakers and suppliers invest $23 billion in R&D here each year[48], or $1,650 per car sold.[49]

1 in 10 U.S. auto jobs is in R&D

and 1 in 10 R&D workers in the U.S. works for the auto industry.[50]

R&D IS CRITICAL TO AMERICA'S EV TRANSITION

IN 2022,

THE 10 LARGEST

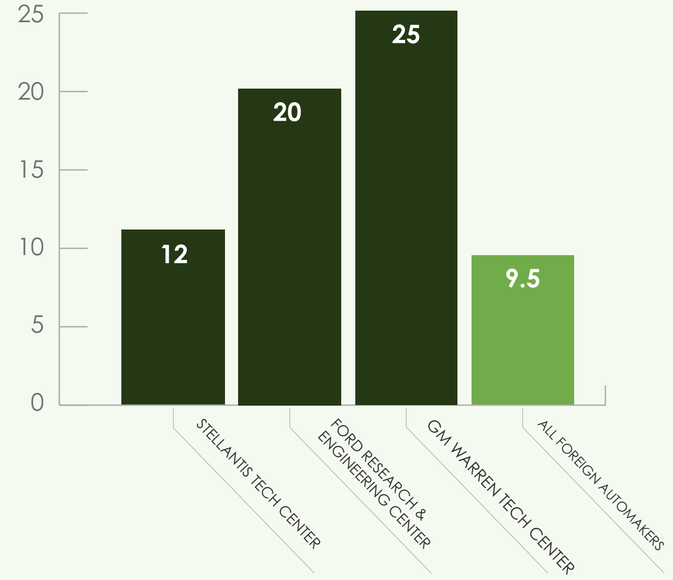
AUTOMAKER INVESTOR ANNOUNCEMENTS WERE

EV-RELATED[51]

FORD, GM, AND STELLANTIS INVEST MORE IN U.S. R&D THAN THEIR FOREIGN COMPETITORS

FORD, GM, AND STELLANTIS EACH EMPLOY MORE WORKERS AT A SINGLE ONE OF THEIR U.S. R&D FACILITIES THAN ALL FOREIGN AUTOMAKERS EMPLOY NATIONWIDE, COMBINED

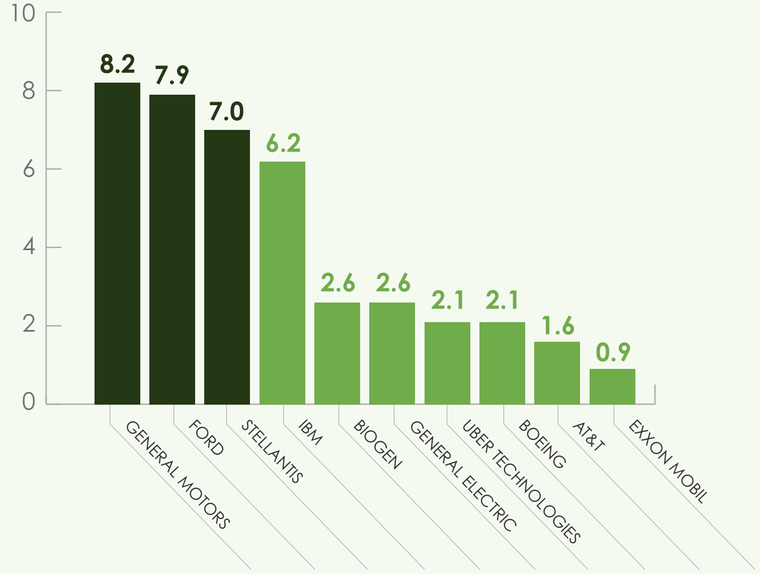
U.S. EMPLOYMENT[52,53]
IN THOUSANDS OF WORKERS



FORD, GM, AND STELLANTIS ARE AMONG THE WORLD'S TOP R&D INVESTORS

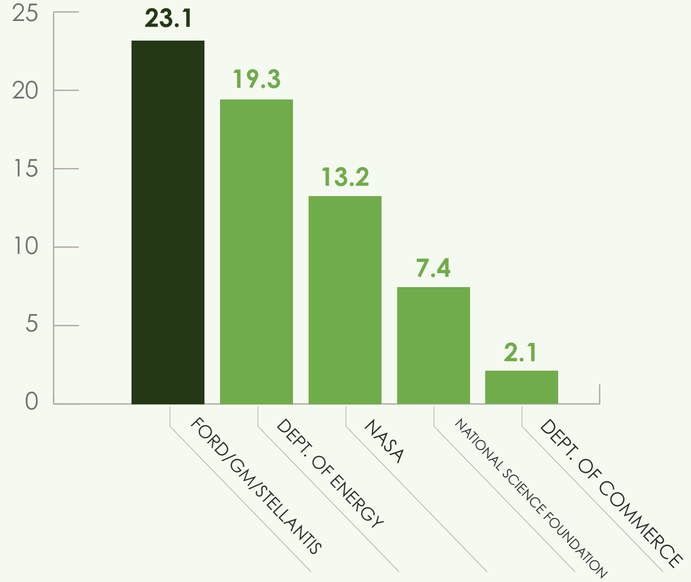
Each invests more than IBM, General Electric, Uber, and Boeing.

ANNUAL R&D OF LEADING INNOVATORS (2021)[54]
IN BILLIONS OF DOLLARS



TOGETHER, THEY INVEST MORE THAN SOME FEDERAL AGENCIES

ANNUAL R&D GOVERNMENT COMPARISON (2021)[55]
IN BILLIONS OF DOLLARS

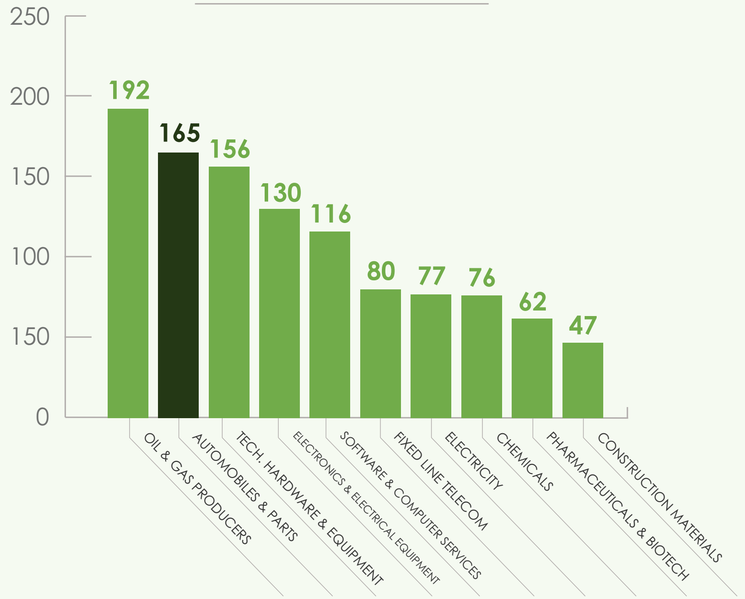


AUTOMOTIVE CAPITAL INVESTMENT MATTERS

THE AUTO INDUSTRY RANKS 2ND IN CAPITAL INVESTMENT, WORLDWIDE

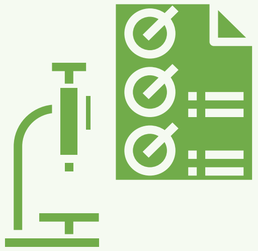
Automakers and suppliers invested $165 billion, worldwide, in 2021.

INDUSTRY RANKING BY CAPEX SPENDING[56]
IN BILLIONS OF DOLLARS



AUTOMAKERS HAVE ANNOUNCED $75 BILLION IN NEW U.S. INVESTMENT OVER THE PAST TWO YEARS ALONE[57]

These investments, encouraged by the Inflation Reduction Act's EV tax credits and other incentives, will be made over several years.



CAPITAL INVESTMENT IS CRITICAL TO AMERICA'S EV TRANSITION

FROM 2018-2022, AUTOMAKERS INVESTED

$87.9B

IN BATTERIES AND EV INFRASTRUCTURE, REPRESENTING

85.7%

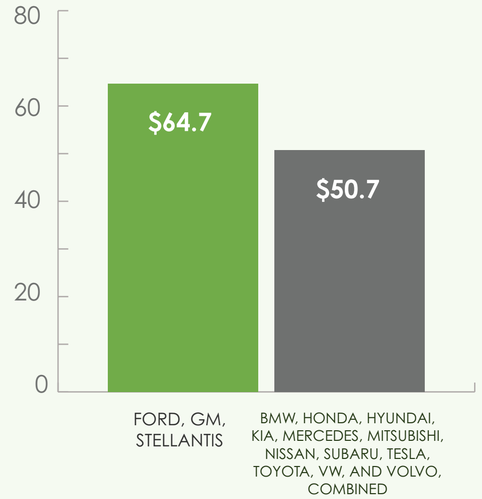
OF ALL CAPITAL INVESTMENTS[58]

FORD, GM, AND STELLANTIS INVEST MORE IN U.S. PLANTS THAN FOREIGN COMPETITORS

TOGETHER, FORD, GM, AND STELLANTIS ANNOUNCED $65 BILLION IN NEW INVESTMENTS TO THEIR U.S. PLANTS AND EQUIPMENT OVER THE PAST FIVE YEARS ALONE

That's more than BMW, Honda, Hyundai, Kia, Mercedes, Mitsubishi, Nissan, Subaru, Tesla, Toyota, VW, and Volvo, combined.

SELECTED AUTOMAKER INVESTMENTS[59]
(2018-2023[60])



FORD, GM, AND STELLANTIS HAVE INVESTED MORE IN JUST THE PAST 12 YEARS THAN FOREIGN AUTOMAKERS HAVE INVESTED OVER THE PAST 60 YEARS, COMBINED

TOGETHER, FOREIGN AUTOMAKERS HAVE INVESTED

$107 BILLION

OVER THE LAST 60 YEARS[61] COMPARED TO

FORD, GM, AND STELLANTIS'

$111 BILLION

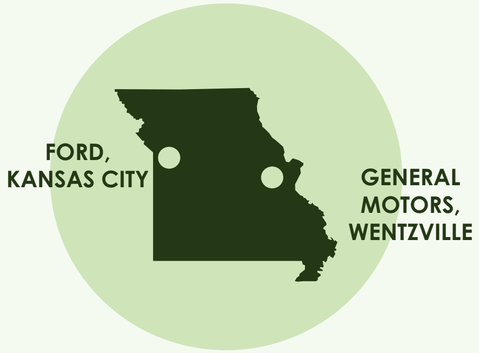
SINCE 2011[62]

WHEN FORD, GM, AND STELLANTIS INVEST IN LOCAL COMMUNITIES, SUPPLIERS FOLLOW THEIR LEAD

FORD AND GM ANNOUNCED

$3.7 BILLION

IN INVESTMENTS IN MISSOURI FROM 2009 TO 2020



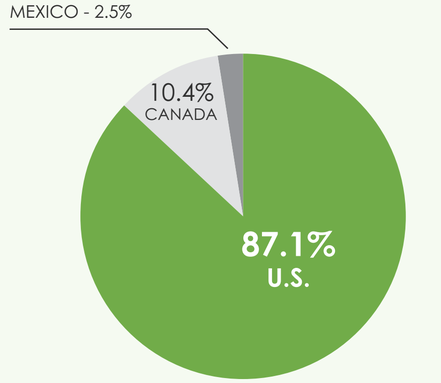
AUTO SUPPLIERS ANNOUNCED

$635 MILLION

IN PLANNED INVESTMENTS IN THEIR OWN MISSOURI OPERATIONS[63]

IN THE EV TRANSITION, AMERICA IS BEATING MEXICO AND CANADA FOR NORTH AMERICAN INVESTMENT

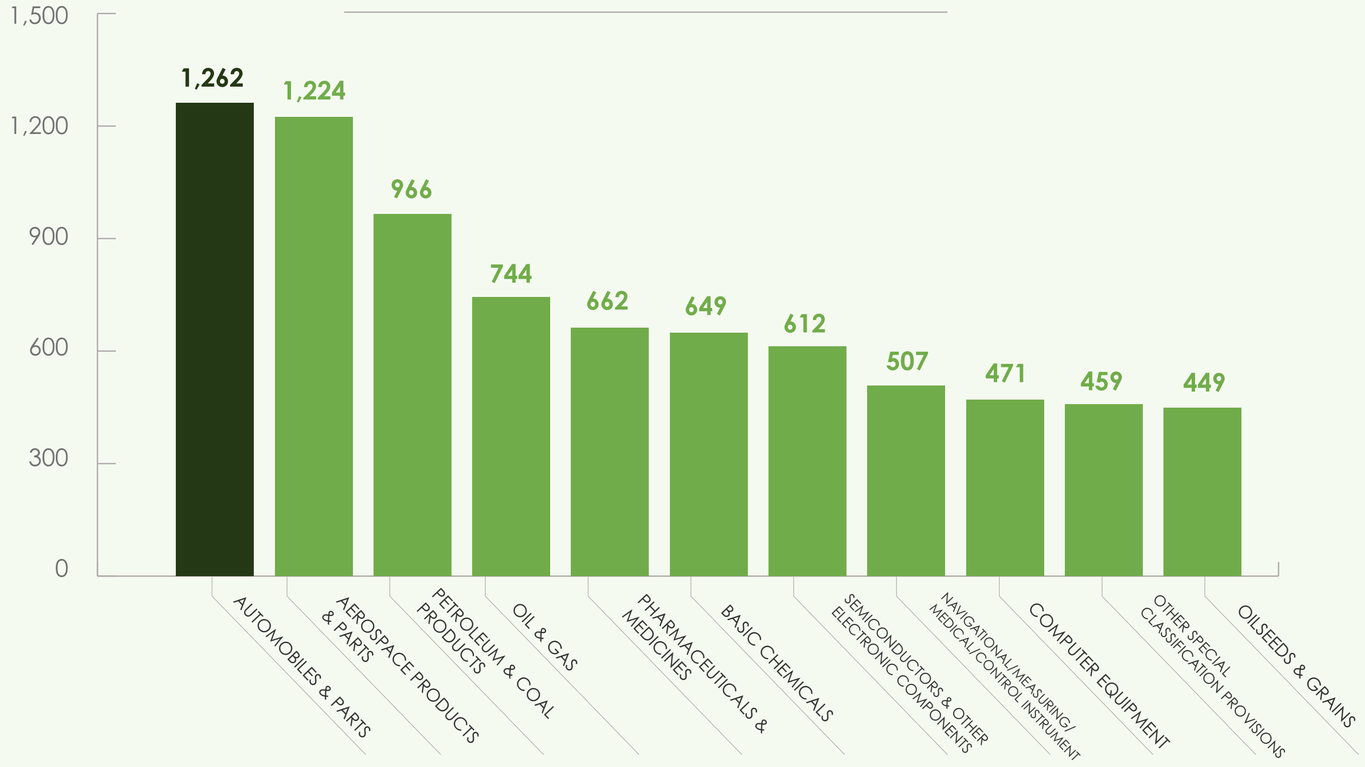
PERCENT OF EV-RELATED INVESTMENTS BY COUNTRY[64]
(2009-2022)



EXPORTS

OVER THE PAST 10 YEARS, AUTOMAKERS AND SUPPLIERS EXPORTED NEARLY $1.3 TRILLION IN CARS, TRUCKS, AND PARTS, RANKING #1 DURING THAT TIME PERIOD.

U.S. EXPORTS BY INDUSTRY (2013-2022)[65]
IN BILLIONS OF DOLLARS



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The bulk of figures presented here are derived from simple comparisons of each automaker's production, sales, and employment in the U.S. and abroad. These figures are obtained from each automaker's respective annual reports and corporate websites, as well as reports produced by several of the industry's trade groups. For more information about how automakers contribute to America's economy and our global competitiveness, visit our website (www.americanautocouncil.org) or the websites of the Alliance for Automotive Innovation (www.autosinnovate.org) and Autos Drive America (www.autosdriveamerica.org). For information on America's automotive parts suppliers and their contribution to America's economy, we rely on analysis produced by the Motor & Equipment Manufacturers Association (www.mema.org).

Most of the critical analysis cited in the report has been produced by The Center for Automotive Research (CAR), a nonprofit organization focused on a wide variety of important trends related to the automobile industry and society at the international, federal, state, and local levels. We rely heavily on CAR's "job multiplier" analysis; sales, production, and employment forecasts; estimates of automaker spending on research and development and capital investment; and analysis of the reach and nature of a typical plant's supply chain. We recommend CAR's research on the EV transition to any policymaker interested in promoting America's continued leadership in auto manufacturing. More information is available at www.cargroup.org.

For data on global spending on corporate capital investment and R&D, we rely on the European Commission's Joint Research Centre's 2018 EU Industrial R&D Investment Scoreboard, which contains economic and financial data for the world's top 2,500 companies. The rankings also include data on employment and revenue. The data are drawn from each company's financial statements. The rankings and related materials are available at www.iri.jrc.ec.europa.eu/scoreboard/2022-eu-industrial-rd-investment-scoreboard.

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