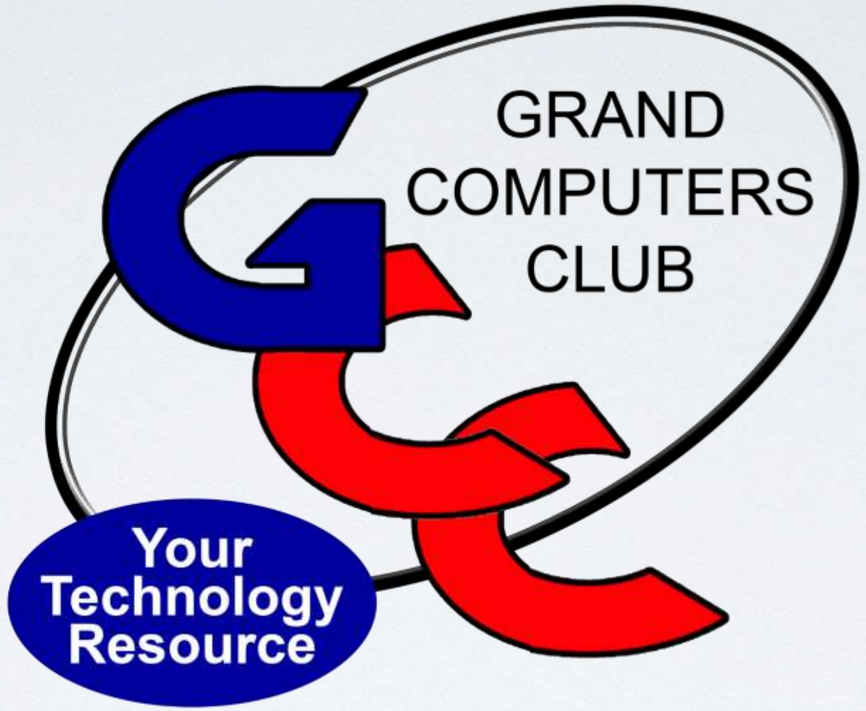
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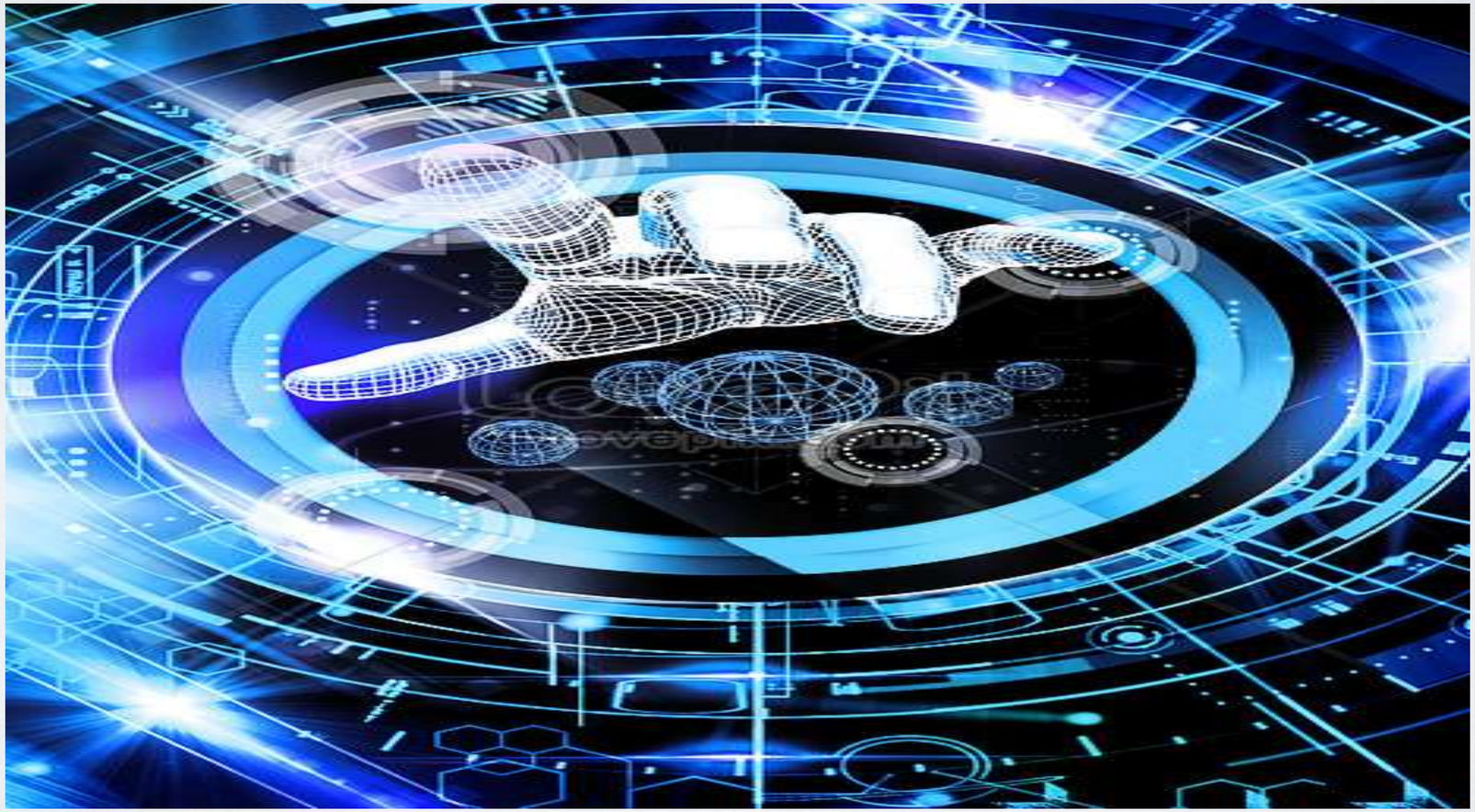
TOM SHEPHERD



NEW TECH SIG UPDATE

NEW TECH SIG

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NEW TECHNOLOGIES SIG

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3RD THURSDAY 3:30

A forum for the open discussion of technologically advanced ideas and experiences

Contact Tom Shepherd for additional information at

NEWTECH@GRANDCOMPUTERS.ORG

Here is what is planned so far for New Tech Sig meetings

Calendar

Date	Time	Location	Topic
September 15, 2022	3:30 PM	GCC Classroom or Zoom	**Automotive Technology Update -** find out the latest developments in this fast changing environment
October 20, 2022	3:30 PM	GCC Classroom or Zoom	**Topic** TBD
November 17, 2022	3:30 PM	GCC Classroom or Zoom	**Zona Wyyerd** - will discuss technical aspects of their fiber technology
December 15, 2022	3:30 PM	GCC Classroom or Zoom	**Tech Toys Buying Guide** - A "geek level" deep dive into the cutting edge science and engineering behind these gadgets
January 19, 2023	3:30 PM	GCC Classroom or Zoom	**All About Alexa**
February 16, 2023	3:30 PM	GCC Classroom or Zoom	**Highlights from the 2023 Consumer Electronics Show**

Today’s Topic

TOP TECHNOLOGY TRENDS IN THE AUTOMOTIVE INDUSTRY SEPTEMBER 2022

AGENDA

Chips and Cars – Supply Chain Issues Continue

Electric Vehicles – The Latest Hot Ones

Displays -

Connectivity – A future dream ?

Self-Driving Vehicles

Automotive Software – What’s New

Q&A

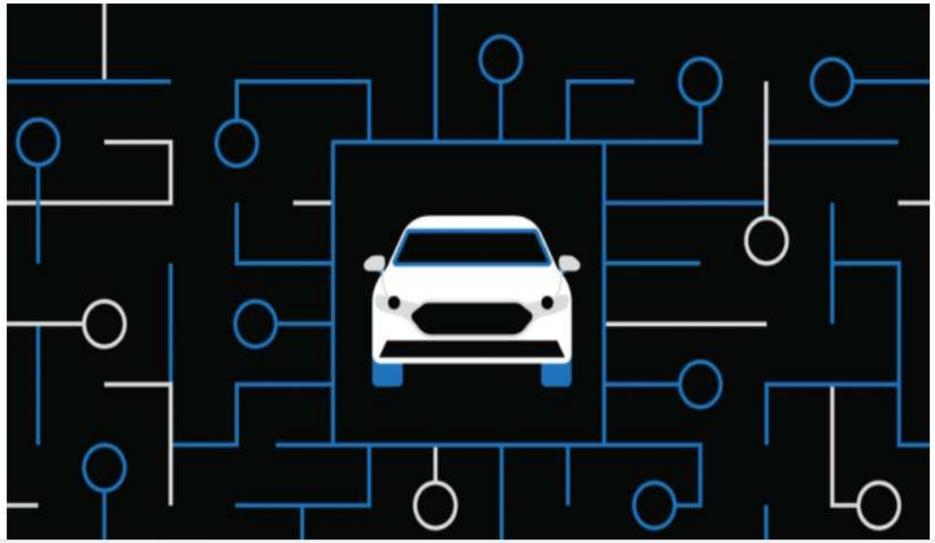
Here’s an article from June 2022

Global Chip Shortage Makes It Tough to Buy Certain Cars

A major chip manufacturer says the shortage could stretch into 2023. CR offers expert advice on how to navigate the current car market.

By Benjamin Preston

Published May 6, 2021 | Updated June 13, 2022



Build & Buy Car Buying Service

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The chip shortage is expected to continue

The global semiconductor shortage continues to squeeze the supply of microchips used to manufacture everything from cars to robotic vacuum cleaners, and Intel's CEO Pat Gelsinger said at the World Economic Forum in Davos, Switzerland, this spring that supply problems would most likely persist into 2024. That's a revision of his earlier prediction that chip manufacturers would be able to bring production in line with demand by 2023.

TSMC Hoping for end of 2023

Sam Abuelsamid, an analyst at Guidehouse Insights, which tracks the automotive industry, says the Taiwan Semiconductor Manufacturing Company (TSMC), one of the larger chip manufacturers, will be able to increase production capacity by the end of 2023. But efforts by other companies to beef up manufacturing may take longer, even stretching into 2024 and 2025.

Strategies for coping with chip shortage

Automakers, Abuelsamid says, are responding to the ongoing shortage in a variety of ways.

"In some cases, they are replacing short-supply chips with others that are more readily available, although that often requires software rewrites, testing, and revalidation," he says. "In other cases, they are just deleting or limiting the availability of features until such time as chips are available."

General Motors, for example, temporarily suspended seat heat on a number of its vehicles, although it promised to retrofit the feature when the necessary chips some in.

Here’s another article about the effects of chip shortages

Almost 3 million vehicles to be cut from production in 2022 for lack of microchips

Diminished Value Car Appraisals / By Diminished Value Car Appraiser / June 9, 2022

Almost 3 million vehicles to be cut from production in 2022 for lack of microchips (PDF)

Slowly the worldwide shortage of microchips is decreasing, and automakers square measure being forced to eliminate fewer and fewer vehicles from their weekly production schedules.

But the numbers of chip-related mill cut square measure continued to rise, in step with the latest tally of producing activity estimates that over 167,000 vehicles will be scraped from mill plans this week, with makers in Asian markets outside of China suffering the heaviest hit. Plants around Asia, outside of China, have cut nearly 434,000 vehicles therefore far this year due to the chip shortage, a rise of nearly 111,000 cuts from one week earlier.

Table: Number of vehicles eliminated from production schedules

	2022 YTD	2022 Projected
Europe	794,600	1,058,000
North America	559,000	781,000
Japan / S. Korea	434,000	642,000
China	107,000	213,000
South America	73,000	75,000
Middle East / Africa	12,000	22,000
Total Reduction	1,979,600	2,791,000

What Are Automakers Doing to Help?

Automakers are going to great lengths to try to manage the chip shortage. They don’t want to lose money, and they certainly can’t afford to lose loyal customers to rivals.

Most brands have prioritized using the chips that are available in their most popular and profitable vehicles. In the meantime, they’ve temporarily stopped production of less popular models, and even gone so far as to shut down some factories until more chips become available.

.

More recently, companies like Tesla and Ford have been removing certain chips from their vehicles, though the vehicles can still be delivered to customers.

Some of these chips, or the parts that rely on them, will be installed at a dealer or service center once they’re back in stock.

In other cases, certain chips and related vehicle features were eliminated entirely

Lets’s talk about Electric Vehicles

First off, I found this video, which gives a brief overview of the components on an Electric Vehicle.


CNET

People are buying EVs at an increasing rate, but they are still a small share of the market

U.S. Electric Car Sales Climb Sharply Despite Shortages

A scarcity of semiconductors and raw materials held back production, but buyers remain enthusiastic.

By Jack Ewing

July 14, 2022

Americans are buying electric vehicles at a record pace, undeterred by rising prices and long waits for delivery, a further indication that the twilight of the internal combustion engine is on the horizon.

Vehicles that run on batteries accounted for 5.6 percent of new-car sales from April through June, still a small slice of the market but twice the share a year ago, according to Cox Automotive, an industry consulting firm. Overall, new-car sales declined 20 percent.

Companies like Tesla, Ford Motor and Volkswagen could have delivered more electric cars if they had been able to build them faster. The carmakers struggled with shortages of semiconductors, which are even more essential to electric cars than to gasoline vehicles, while prices soared for lithium and other raw materials needed for batteries.

“The transformation is real,” said John Lawler, the chief financial officer of Ford, which sold 15,300 electric cars from April through June, a 140 percent increase from a year earlier. “Electric vehicle demand is well beyond what we can supply.”

At the same time, the popularity of electric vehicles has taken the industry by surprise and exposed deficiencies that could slow the transition to battery power, which is considered essential to containing climate change.

One of the lessons for Ford and other carmakers is that the switch to electric vehicles requires them to fundamentally remake their factory and supply networks. To make the transition, they have begun underwriting makers of advanced batteries, for example, and are dealing directly with mining companies to secure scarce raw materials. Ford is planning a $5.6 billion complex near Memphis to build electric vehicles.

Carmakers and suppliers have announced plans to invest more than $500 billion worldwide through 2026 to upgrade their factory networks and supply chains, according to AlixPartners, a consultancy. But it will take several years for manufacturing capacity to meet demand.

Lack of public chargers is another impediment, especially for apartment dwellers who lack garages or private driveways where they can plug in. Numerous companies are competing to build networks, and the Biden administration is providing funding, but they are playing catch-up.

US Government promotes EVs using American batteries

New $7,500 EV Tax Credit Passes Senate, Requires Carmakers To End Reliance On Chinese Batteries

BY STEPHEN RIVERS | AUGUST 8, 2022 36

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The Inflation Reduction Act of 2022 has just passed the Senate after a 51 to 50 party-line vote. As it goes to the House for what will almost surely be an easy pass we're taking a deeper look at the newly uncapped $7,500 EV tax credit included in the bill. While it will offer new EV buyers further incentive to switch, it will also require automakers to switch their manufacturing plans and eventually end their reliance on China for the battery supply chain.

The cost of batteries is an issue

AUTOS

Ford CEO doesn't expect electric vehicle battery costs to drop anytime soon

PUBLISHED WED, AUG 10 2022•1:44 PM EDT | UPDATED WED, AUG 10 2022•10:09 PM EDT

John Rosevear
@JOHN__ROSEVEAR

Michael Wayland
@MIKEWAYLAND

KEY POINTS

- Farley said Ford increased prices on the F-150 Lightning to help offset surging battery costs.
- Battery costs have climbed sharply as prices for minerals like lithium, nickel and cobalt have surged.
- Ford is investing in longer-term solutions to bring down costs.

The cost of batteries is an issue

Farley's comments come a day after the Detroit automaker announced it would be raising the starting prices for its electric F-150 pickup due to "significant material cost increases." The increases range from $6,000 to $8,500, depending on the model. Ford isn't alone: Rival Tesla increased its U.S. prices in June.

Prices of all lithium, cobalt and nickel have risen sharply over the past year as demand from battery makers has outpaced miners' efforts to increase supply.

Farley said the fast-rising costs of the minerals used in its current lithium-ion batteries are why Ford plans to offer lower-cost lithium iron phosphate, or LFP, batteries in vehicles such as the F-150 Lightning and Mustang Mach-E crossover.

Increasing investment into batteries

Forbes

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TRANSPORTATION • EDITORS' PICK

Tesla's Long-Time Partner Panasonic Building $4 Billion EV Battery Plant In Kansas

Alan Ohnsman Forbes Staff

I follow technology-driven changes that are reshaping transportation.

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Jul 13, 2022, 07:24pm EDT

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Increasing investment into batteries

The announcement follows similarly large investments in new U.S. battery and electric vehicle plants in the past year. Hyundai Motor said in May that it will pour $5.5 billion into a Georgia plant to make EVs and batteries, following news in January that General Motors and LG Chem were building a $2.6 billion battery plant in Michigan.

Last September, Ford and its battery partner, South Korea's SK Innovation, announced plans to invest more than $11 billion in battery production facilities in Kentucky and Tennessee.

U.S. sales of electric vehicles continue to grow rapidly, despite relatively high prices compared with gasoline-fueled models. In fact, the average transaction price for electric cars jumped to $66,997 in June, up 14% from a year ago, compared with an average price for all new vehicles of $48,043, according to Kelley Blue Book.

Who dominates the EV Market

Tesla still on top but others are coming

How is Tesla doing ?

How is Tesla doing ?

Delivery numbers, which are the closest approximation of sales reported by Tesla, fell just shy of analysts' expectations.

According to a consensus compiled by FactSet-owned Street Account, analysts were expecting deliveries of 256,520 vehicles for the quarter, which was marked by Covid restrictions, supply chain snarls, semiconductor chip and other parts shortages.

Last year, Tesla delivered 201,250 vehicles in the second quarter, its first time delivering more than 200,000 units in a three-month period. In the first quarter of 2022, Tesla delivered 310,048 vehicles.

What is the future ?

Tesla has about 18 months to maintain its spot of number-one EV maker in the world. And then other automakers—especially VW—have a good chance of catching up.

That's one of the predictions from a Bloomberg Intelligence report out today, looking at the battle for EV market dominance between a range of global players.

Globally, Bloomberg anticipates that battery-electric vehicles will make up 15% of the global vehicle market share for 2025, versus about 6% in 2021. In the U.S., it stands at about 5%.

How much longer can Tesla Dominate ?

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JUL 14, 2022

INDUSTRY NEWS

'Car Wars' Study Predicts Tesla Will Lose EV Market Share

Legacy automaker General Motors to add Chevrolet Silverado to growing EV ranks.

Tesla's share of the EV market in the U.S. will plunge from more than 70% today to under 11% by 2026, Bank of America Merrill Lynch analyst John Murphy predicts.

Joseph Szczesny | Jul 08, 2022

How much longer can Tesla Dominate ?

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Autoline Daily 2022: Top Industry News for July 15

JUL 15, 2022

Nissan, Brie Larson 'Thrill' Again With Most-Seen Auto Ad

JUL 15, 2022

Traditional automakers are doing better than many analysts expected, and two of them, Ford and General Motors, are poised to overtake and surpass Tesla in the pivotal electric-vehicle market despite rising costs.

That's according to John Murphy, lead automotive analyst at Bank of America Merrill Lynch and the author of the annual "Car Wars" study for the past 25 years.

But for now, Tesla is still the Top Dog (by far)

It's a bullish prediction, when Ford sold 15,527 BEVs in the second quarter of 2022 in the US, GM sold 7,217, while Tesla sold... 254,695. The necessary rapid growth isn't impossible, but that's quite a head start to overcome in just a few years. Both Ford and GM have only just started selling EVs in volume, and of course Ford has the F-150 Lightning to challenge for a key US market, pickup trucks, whereas Tesla's alternative, the Cybertruck, is still far from release. However, while GM's Chevrolet Bolt has been well received, and the Hummer EV is now starting to arrive, most of GM's brands are still waiting to be electrified.

The real competition for Tesla may come from Asia

It's not other American automakers that could be the real threat, though. Recently, Chinese BYD surpassed Tesla for EV sales in 2022. While Tesla sold 564,000 cars for the first half of the year, BYD sold 641,000. Korean brands Hyundai and Kia, both part of the same group and sharing EV platforms, are releasing highly acclaimed new vehicles like the IONIQ 5 and EV6, with further models imminent. Luxury partner brand Genesis is also now releasing some very promising EVs. Nissan has been soldiering on with its venerable Leaf, but is now adding the much more exciting Ariya SUV.

Here is a video about how the Tesla Model S works


SECRETS OF TESLA MODEL S

Hyundai is getting a lot of attention for their Ioniq5

The 2022 Hyundai Ioniq 5 is an all-new, all-electric vehicle (EV) from Hyundai. It's a compact SUV built on its own specific platform, with a lot of interior space. And an exterior that is not only a departure from Hyundai's already interesting design approach, but could signal the creation of another brand. Like Genesis has done in the luxury class.

It looks and feels like it's pushing the EV envelope by another step or two with innovations like an augmented-reality head-up display and the ability to run other pieces of electrical equipment. The new Ioniq 5 also has seriously fast battery charging technology, taking on about 60 miles of range in five minutes, or charging from 10 to 80 percent in 18 minutes.

Here’s What Kelly Blue Book says about Hyundai IONIQ 5

Kelley Blue Book
THE TRUSTED RESOURCE

Home | Car Values | Cars for Sale | Car Reviews | Car Repair | Research Tools

Home > Hyundai > IONIQ 5 > 2022

Year
2022

2022 Hyundai IONIQ 5

Surprise, AZ 85374 Change Vehicle

4.4 Expert 5.0 Consumer Write a Review

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2022 Hyundai IONIQ 5 Review

By **Colin Ryan**
Updated February 10, 2022

More Research Tools
2022 Chevrolet Bolt EUV

2022 Hyundai IONIQ 5 Review

By **Colin Ryan**

Updated February 10, 2022

Pros

- Stunning looks
- Maximum range of 303 miles
- Fast-charging ability
- Sustainable cabin materials
- Zero-emissions driving
- Over-the-air updates for maps and multimedia software

Cons

- Range good, but still not at Tesla levels
- Entry-level version with smaller battery not on sale until the spring
- Interior lacks the retro-futuristic charm of the exterior

What's New?

- The Ioniq 5 is a completely new vehicle
- Comes with 800-volt fast-charging capability
- Offers latest Highway Driving Assist 2 feature
- Base model with 220 miles of range arrives in the spring

Price: The 2022 Hyundai Ioniq 5 starts at $43,650

Display Screens

Almost all new vehicles sold in the U.S. this year (98.8 percent) will have a digital display screen, according to the market research firm IHS Markit. But how well and easily the systems operate can be vastly different depending on the car and model year. Most new cars this year will also be equipped with Apple CarPlay and Android Auto compatibility (76 percent and 69 percent, respectively), allowing drivers to merge their smartphone's features with their vehicle's built-in screen.

This is from Consumer Reports - 2020

9 Biggest Screens In New Cars Right Now

MAY. 31, 2022 7:00 PM ET / BY KARL FURLONG IN TECHNOLOGY / 8 COMMENTS

RIP, buttons and knobs.

Digital screens, whether touch-sensitive or not, have fundamentally changed the way that we interact with our vehicles. Not all of these interactions are a step forward - changing the climate control at 60 mph on the highway by tapping a tiny icon remains both infuriating and dangerous - but we understand the basic logic behind it. With countless settings and controls in the modern, connected vehicle, screens allow for a cleaner interior layout.

Today's in-car displays are a world apart from the antiquated nine-inch Graphic Control Center that Buick installed in the Riviera in 1986, but the debate about how distracting they are rages on. Nevertheless, automakers are forging ahead with interior screens that are progressively larger, replacing nearly all the physical knobs and buttons that used to do the same job. In a world where size clearly matters, these are the biggest screens currently available in the industry.

Screens are getting bigger

1. Tesla Center Touchscreen (15 Inches)

Tesla was one of the pioneers of the giant touchscreen that replaced the majority of physical controls when it launched the Model S sedan. Today, the smaller Model Y crossover and Model 3 sedan sport 15-inch touchscreen interfaces. These horizontal touchscreens are bright and responsive, but a task as simple as adjusting the exterior mirrors also requires the use of the screen. Even drivers with the steadiest hands will sometimes find the interface distracting on the move, although it's superb for tasks like displaying navigation maps.

Tesla

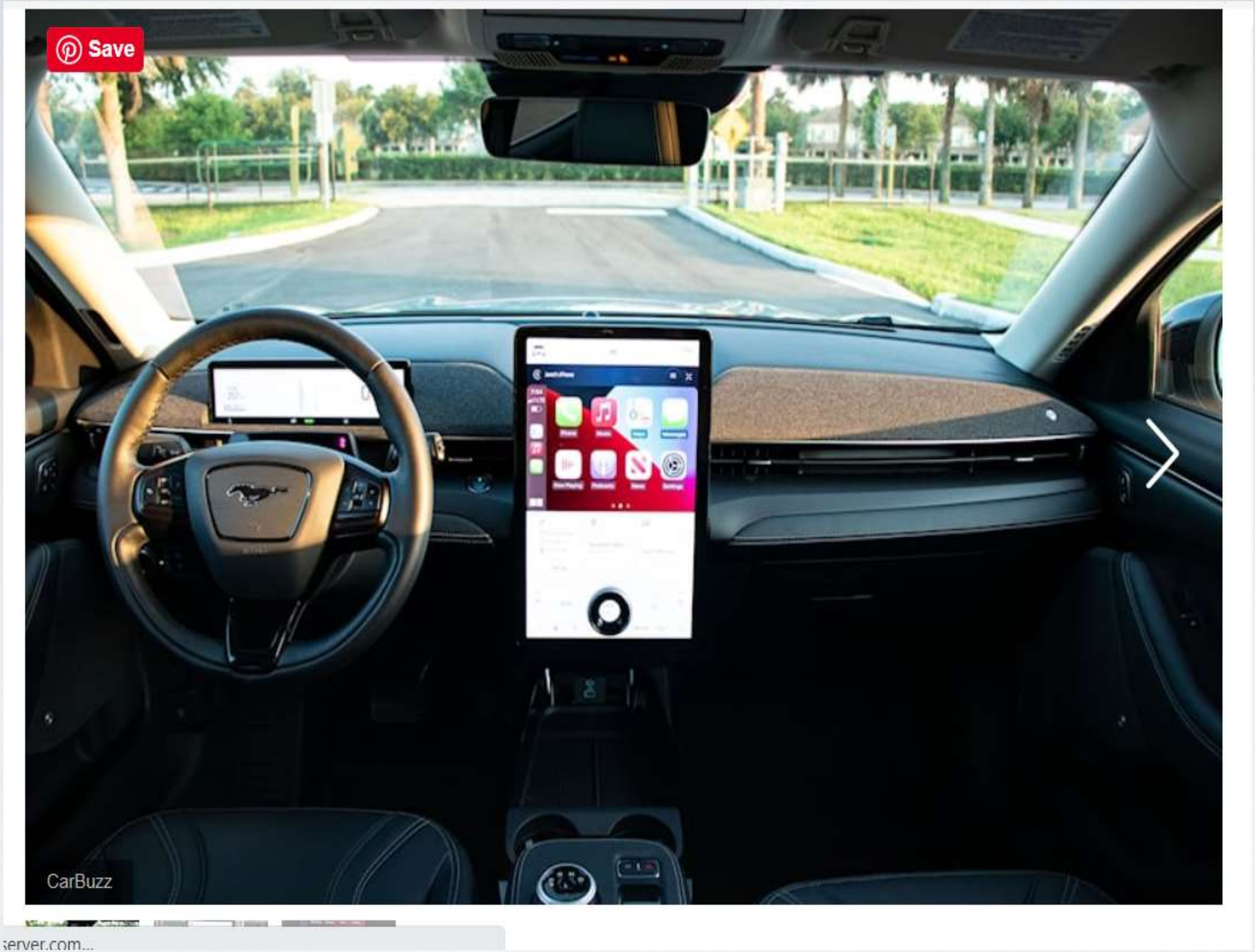
Tesla

2. Ford Touchscreen With Sync4A (15.5 Inches)

Ford's two most promising EVs - the F-150 Lightning and Mustang Mach-E - both have large 15.5-inch touchscreens. This lends the interior of each model a high-tech feel, especially the Lightning as, until quite recently, trucks weren't known for having the most advanced interior tech. That being said, the 15.5-inch screen is only standard on the Mach-E, whereas the lower F-150 Lightning trims have a smaller screen.

Both systems employ Ford's user-friendly Sync4A software. Features like wireless Apple CarPlay and Android Auto are standard, and the portrait-style screen is generally easy to navigate. Ford has also found a clever way to integrate a large, physical volume knob within the touchscreen, making at least one of the often-used interior functions operable without needing to divert your focus from the road.

Ford



Ford

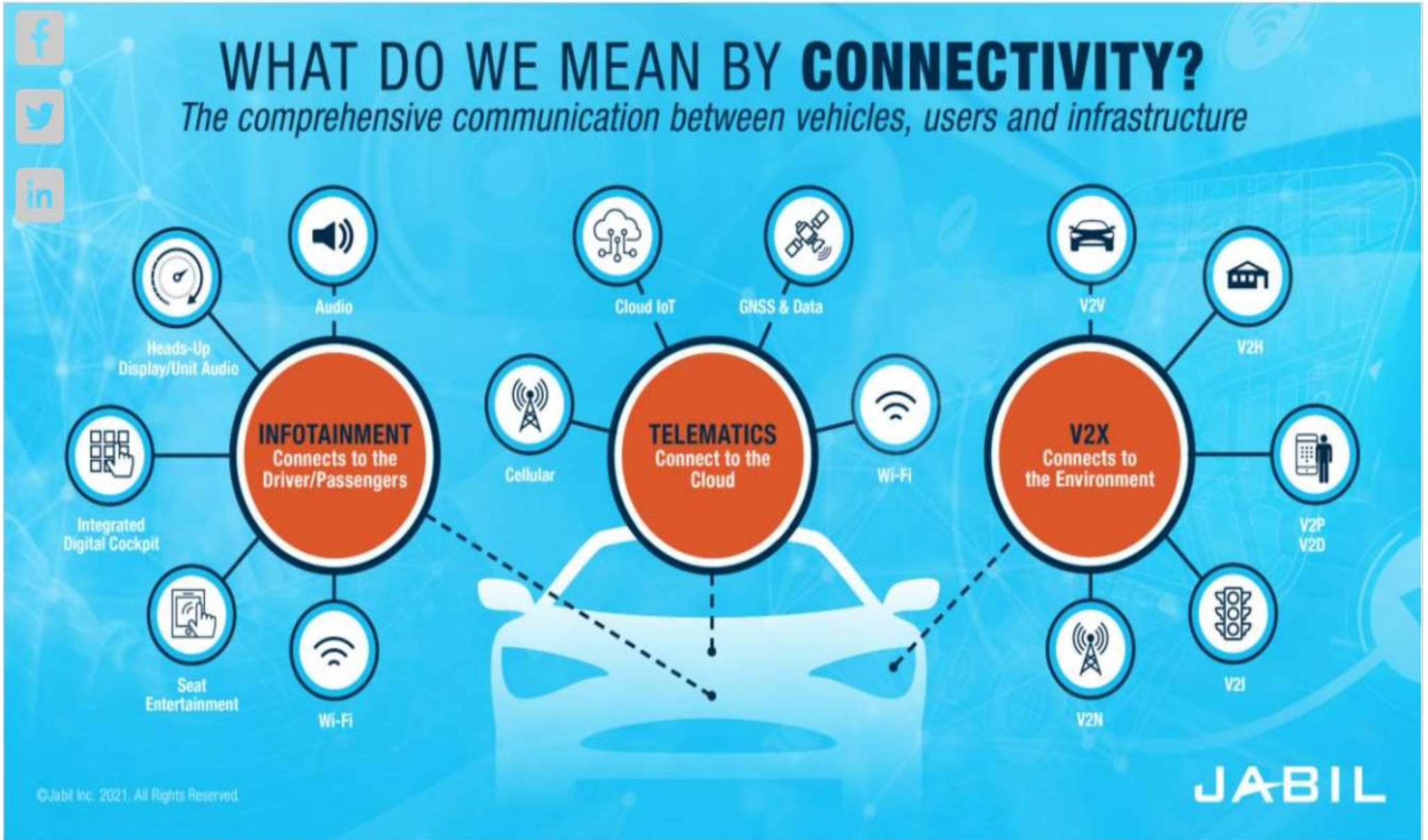
Connectivity – Reality or Hype ?

Here’s the Vision

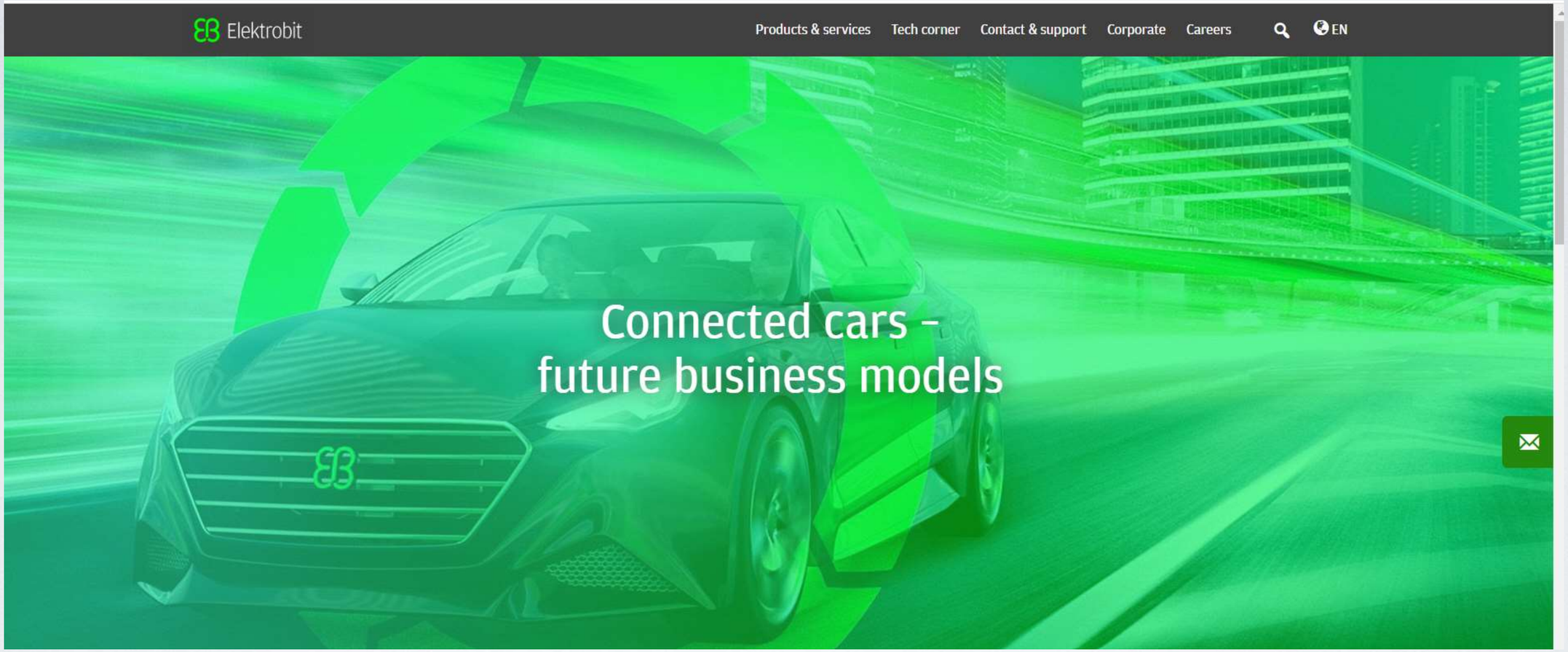
What Will the Fully Connected Car Look Like?

The fully connected car will rely on three pillars: infotainment, telematics and infrastructure. Infotainment consists of heads-up displays, audio, in-car entertainment and more. It will build a bridge between the drivers and passengers and the vehicle, giving real-time insight into functionality. Telematics connect the car to the cloud, allowing it to gather and share data on driver behavior and car function. Finally, infrastructure bridges the car and the environment, allowing the vehicle to perceive the presence of pedestrians, traffic lights and even communicate with the driver’s smart home.

Here’s the Vision in a diagram



Here is another analysis of the future of connected cars



Here is another analysis of the future of connected cars

Why cars should be connected

In a world where people are connected 24/7 through their devices, the isolation of cars seems obsolete. Connected cars make for more satisfied customers. They also provide carmakers with new ways to save money and enable new business opportunities. When done right, the connected car is also a safer car.

Consumers are connected everywhere and all the time through their mobile devices. They rely on that connectivity to get the latest information. Yet, the vehicle still mostly stays unchanged once the customer drives it off the lot.

In fact, with few exceptions, a car's technology remains the same from the day the system is designed until its purchased years later, and on through the entire lifetime of ownership. Meanwhile, portable-device trends continue to ramp up consumers expectations for a connected experience with automatic updates.

That's why the carmakers are moving away from isolation and toward the connected car.

Here is another analysis of the future of connected cars

What are the benefits of connected cars technology?

It's the ability for two-way communication between the vehicle and the cloud. Consumers can get the up-to-date content like the latest maps and software features. Carmakers can gather diagnostic data from vehicles on the road to detect, analyze, and address issues. Data gathered from the car can then be sent to the servicing dealer ahead of time to help improve scheduling and provide faster, better service.

Beyond that, carmakers can crowd-source information from vehicles on the road and throughout their lifecycle, then apply big-data techniques for a host of purposes. They can learn what features are popular with drivers, the kind of driving consumers do and how the car and specific components respond, and what issues can or should be addressed in new models to save money or head off potential bigger issues, like recalls.

Connected Vehicle Technology Use Cases and Application

- Android Auto
- Apple CarPlay
- Connected vehicle tech for fleets
- Digital assistants
- MirrorLink
- Navigation
- Networking in vehicles
- Parking apps
- Smartphones in vehicles
- Telematics

What Is Android Auto?

Android Auto is a system that integrates your phone into your car's entertainment system. It can mirror the phone's screen on the car's display screen, allowing drivers to control their phone using voice commands or the car's touchscreen to minimize fumbling with a phone while driving.

Android Auto can be used in two ways in the car. Both help you use your phone's functions with minimal distraction while driving. But one provides a superior experience.

Many cars now ship with Android Auto functionality installed. It may be available via a wired connection or wirelessly on newer models. Android maintains a regularly updated list of cars available with an Android Auto connection. It is standard or optional equipment on more than half the cars for sale in the United States. It's growing quickly enough that, within a few years, virtually every new car will offer it.

You can also add Android Auto to a car that lacks it. Dozens of aftermarket stereo systems include it.

Google Assistant

Google Assistant is the voice recognition interface for Android Auto. You can activate it by simply saying “Hey, Google,” followed by the command you want to execute. For instance, “Hey, Google, call work” will dial the number stored in your contacts as “work.” “Hey, Google, play my chill playlist on Spotify” will…well, you get it by now. You can also activate voice commands by pressing the microphone icon on the screen or pressing the steering-wheel microphone button if your car has one.

Navigation

Android Auto is compatible with Google Maps, Waze, and several other mapping apps. You can use it to get turn-by-turn directions, search nearby gas stations or electric car chargers, and even reserve parking through SpotHero and other parking apps.

Entertainment

Android Auto works with Google Play Music, Spotify, YouTube Music, Pandora, and many other music apps. News and radio apps like NPR One, BBC Sounds, and TuneIn are also compatible. You can control audiobooks through Android Auto using Audible or use any of the vast arrays of podcast apps.

Commands for music apps are surprisingly versatile. You can select specific playlists, artists, songs, or podcast topics with voice commands, as well as skipping and rewinding songs.

What Is Apple CarPlay?

By John M. Vincent | Reviewed by Nate Parsons | Fact checked by Cody Trotter | April 29, 2022

Apple CarPlay is a simple way to connect your Apple iPhone to your vehicle's infotainment system. More than just a phone and music streaming system, CarPlay brings many of the features of your Apple smartphone onto your dashboard and allows you to use them more safely and legally while you're driving.

It has become a must-have feature for new and used car buyers who have iPhones. Fortunately, Apple CarPlay has become so common that it's more notable when a car does not support it.

We've all become used to frequent smartphone updates and new features. Unlike built-in infotainment systems, which will have the same appearance and functions as the car ages, Apple CarPlay is continually modernized, with new apps and updated features. You'll always have the latest app data, live traffic with updated maps and current contacts from your phone's address book.

We say that cars support Apple CarPlay, because it's actually a function of your iPhone and won't work unless you have an iPhone and connect it to your vehicle. Depending on the car you have, you either need to plug it in using an Apple-approved Lightning cable or use a wireless CarPlay connection.

As soon as you connect, you'll see rows of familiar iPhone home screen icons appear, and your car's voice recognition system will hand its functions over to Apple's Siri voice response. CarPlay is controlled through voice commands, infotainment touch screens or dials, depending on the vehicle.

What Can Apple CarPlay Do?

Apple CarPlay brings your iPhone's most essential functions to your car's infotainment screen, along with several apps that have been adapted for use while driving. The first few apps we'll describe are native to Apple devices, followed by some third-party apps that support CarPlay.

Native Apple Applications

Several of the iPhone apps that support Apple CarPlay were developed by Apple Inc. and are included on most iOS devices, MacBooks and other Apple products. The commonality of apps across different hardware platforms allows you to send data from one to another, including CarPlay, with no barriers.

Phone Calls

Using phone calls with Apple CarPlay is easy. You can ask Siri to dial by name or number or use your infotainment screen to select which contact to call. Access to your complete phone directory can be limited while the car is in motion to keep things safe. CarPlay uses your car's microphone and speakers, so you can keep your phone safely stored.

When your iPhone receives a call, CarPlay's phone app will open, asking if you want to answer or decline the call, just as it does on your iPhone. CarPlay allows you to listen and respond to cell phone voicemails.

Text Messaging

Sending text messages while driving is safer and easier when using Siri and CarPlay to compose and send your message. Simply tell the system who to send the text to, then state what you want it to say, including punctuation. Saying, "I'm on my way home period would you like me to pick up dinner question mark" will text "I'm on my way home. Would you like me to pick up dinner?"

For group text messages or to respond to a frequent recipient, you can select who to text from a list on the screen.

When you receive a text, Siri will read it to you over the vehicle's speakers and ask if you would like to respond. If you're using Apple Maps to navigate, it can text your contacts, telling them when you'll arrive.

Apple Music

Almost everyone has music stored on their iPhone or streams it from subscription services. The Music CarPlay app manages your music library; whether it's songs you downloaded in the iPod era or fresh music from an Apple Music subscription, it's easy to find and play using either the screen or voice commands. You can joyfully tell Siri to play Jimmy Buffet, and she'll play the DJ.

Apple Maps

One of Apple CarPlay's most powerful abilities is to replace the need to spend thousands on built-in navigation systems with easy-to-use connected mapping applications. The integration of Apple Maps with CarPlay gives you a powerful navigation system with mapping that's always up to date, traffic information and connections to other phone apps, such as your calendar.

While Apple Maps was a bit rough when CarPlay debuted, it has gotten significantly better and more capable with each CarPlay update. It does have one significant limitation, however. When you don't have a solid cellular connection, it can't download mapping or traffic data. That's not a problem in the city, but it can be when traveling in rural areas.

What’s Going on with Self-Driving Vehicles?

Does this sound like a recipe for disaster ?

DOGOnews

Self-Driving Cars Are Coming To San Francisco

View learning activities & reading levels

JUNE 24, 2022

Self-Driving Cars Are Coming To San Francisco

BY ASHLEY ALVARADO

WORD COUNT
308 words

READING LEVEL
Original | Simplified

LISTEN TO ARTICLE
2-Minute Listen

56

Does this sound like a recipe for disaster ?

San Francisco residents may notice something missing the next time they **hail** a taxi — no driver at the wheel.

On June 2, 2022, Cruise, a **division** of General Motors (GM), was approved to charge for rides in its **autonomous** cars.

Waymo, owned by Google's parent company, Alphabet, has been offering a similar service in Chandler, Arizona, since October 2020.
However, Cruise is the first company allowed to **operate commercial** driverless cars in a major US city.

Does this sound like a recipe for disaster ?

San Francisco residents may notice something missing the next time they **hail** a taxi — no driver at the wheel.

On June 2, 2022, Cruise, a **division** of General Motors (GM), was approved to charge for rides in its **autonomous** cars.

Waymo, owned by Google's parent company, Alphabet, has been offering a similar service in Chandler, Arizona, since October 2020.
However, Cruise is the first company allowed to **operate commercial** driverless cars in a major US city.

Here are the rules for the San Franciso experiment

The first-of-its-kind **permit** comes with some **restrictions**.

Cruise vehicles will be **confined** to transporting passengers in less **congested** areas of the city between 10 p.m. and 6 a.m.

The self-driving cars should not exceed a speed of 30 mph.

They are also not allowed to operate in heavy rain or **fog**.

The rules are meant to **mitigate** any injuries or accidents

Apple is trying to get into the self-driving car market, but per the NY Post, there are problems

Comments

TECH

Apple's self-driving cars 'smacked into curbs, veered out of lanes': report

By Ariel Zilber

July 11, 2022 | 12:55pm | Updated

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Apple’s self-driving cars had trouble navigating streets, frequently bumped into curbs and veered out of lanes in the middle of intersections during test drives near the company’s Silicon Valley headquarters, according to a report.

Apple has been trying to work out the kinks in Project Titan, its autonomous electric vehicle program, since it sent several of the self-driving cars on a test run along a 40-mile stretch from Bozeman, Mont., to the nearby Big Sky ski resort last August, according to The Information.

The test drive was a seeming success, as the prototypes managed to make the journey without needing the aid of three-dimensional road maps that are typically used by other firms that are developing self-driving fleets.

The demonstration was even filmed using aerial drones.

The images and footage were then used to make a flashy promotional video to impress top Apple executives, including CEO Tim Cook, according to the report.

But engineers at the iPhone maker were dismayed when the test vehicles struggled to conduct basic navigation maneuvers on city streets near the company’s Cupertino, Calif., headquarters.

According to The Information, the cars slammed into curbs and often had trouble staying in their lanes after crossing intersections.

A source told The Information that a local jogger was nearly hit by one of Project Titan’s cars as the runner was crossing the street.

The car apparently did not recognize that the jogger had the right of way.

The mishaps are part and parcel of an eight-year program that has been plagued by a revolving door of departing executives as well as persistent software problems, according to The Information.

Here is another analyst (Gartner Group) with their thoughts on “autonomous vehicles”

Autonomous Vehicles — More Regulation in Place, But Commercialization Hurdles Persist STAMFORD, Conn. February 17, 2022

Despite sensing technologies improving, perception algorithms becoming more sophisticated and regulations and standards progressing, developers of autonomous vehicles continue to struggle to scale autonomous operations to new cities or geographies.

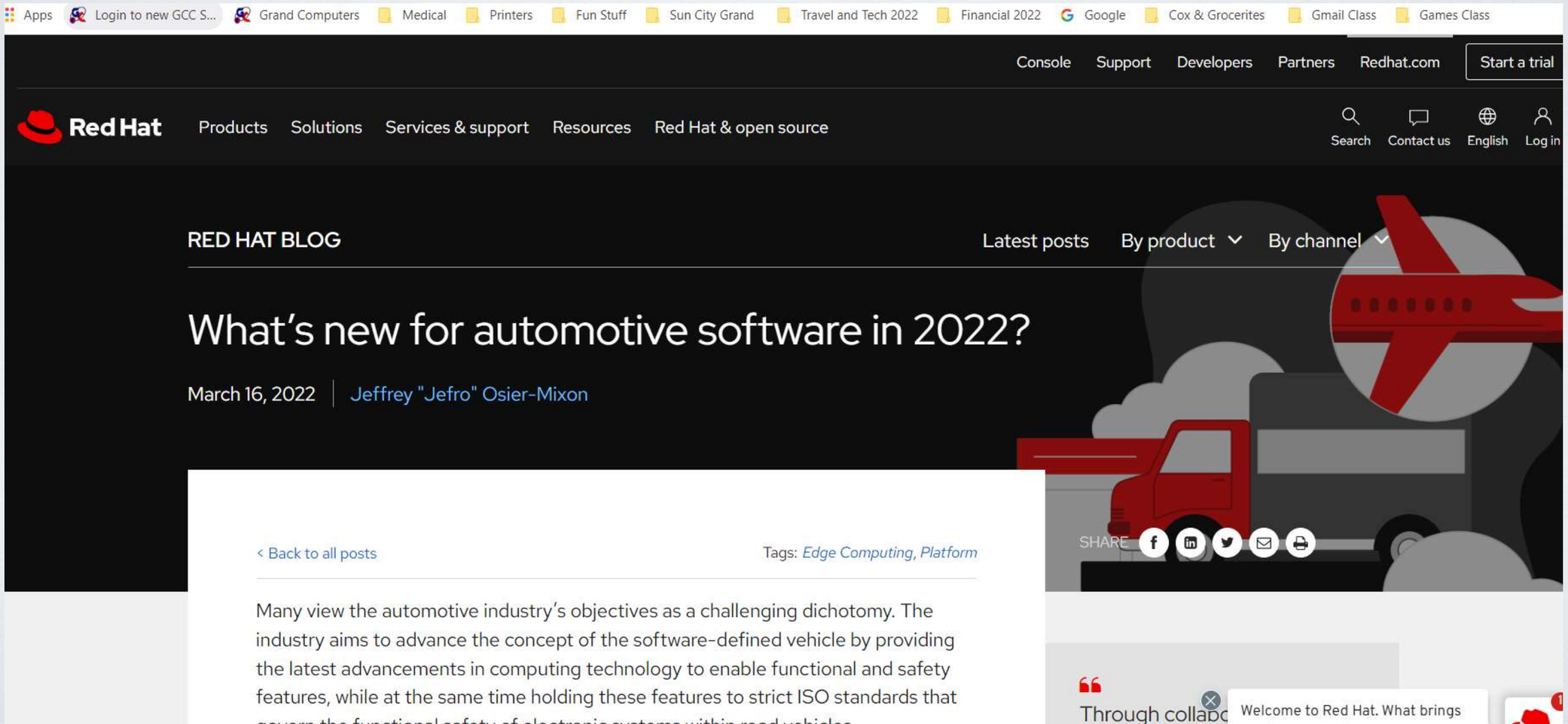
More from Gartner

Automakers have begun to announce Level 3 autonomous driving cars and are working on the deployment of Level 4 self-driving trucks and commercial robotaxis.

However, proving the safety and effectiveness of autonomous technology is taking a long time and extensive simulation and real-world testing are making commercialization slow and expensive.

In addition, issues such as liability in the event of an accident, associated legal and societal considerations, such as how human driven vehicles will interact with an AI-driven vehicle, are adding to the challenge.

Automotive Software – here's an opinion from RedHat Linux



Many view the automotive industry’s objectives as a challenging dichotomy.

The industry aims to advance the concept of the software-defined vehicle by providing the latest advancements in computing technology to enable functional and safety features, while at the same time holding these features to strict ISO standards that govern the functional safety of electronic systems within road vehicles.

These opposing aims slow the development process, and limit industry access to established insiders.

Open source and, in particular, automotive Linux have a potential to fulfill both of these general requirements in. ways that traditional proprietary systems have not managed.

Several trends are emerging in 2022 to address these challenges.

Driving open innovation in automotive software

First, original equipment manufacturers (OEMs) and suppliers understand the advantages of utilizing the rapid advancements in cloud and IoT computing to upgrade in-vehicle systems, including:

- Consolidating workloads into fewer, larger computers rather than dozens of discrete electronic control units (ECU)
- Securing workload isolation using managed containers
- Delivering system updates more safely over the air
- Automated driving through artificial intelligence (AI)

These are just a few of the software-defined features that are being developed through new open working groups such as the Eclipse Software-Defined Vehicle (SDV) working group, the Scalable Open Architecture for Embedded Edge (SOAFEE) initiative led by Arm and industry leaders across the automotive supply chain, as well as OS-specific initiatives like Automotive Grade Linux (AGL) and the CentOS Automotive Special Interest Group.

Tom’s Perspective as a life-long IT person

The same type of issues and standards for code development , testing, QA, implementation, etc. we have had for years in the software world are now becoming a routine part of automotive technology

And just like we have always had frequent code updates, fixes, patches, in the IT world, automobiles will now experience the same

Here is an example of an industry standard for road vehicles

ISO 26262, titled "Road vehicles – Functional safety", is an international standard for functional safety of electrical and/or electronic systems that are installed in serial production road vehicles (excluding mopeds), defined by the International Organization for Standardization (ISO) in 2011, and revised in 2018.

Goals of ISO 26262:

•Provides an automotive safety lifecycle (management, development, production, operation, service, decommissioning) and supports tailoring the necessary activities during these lifecycle phases.

•Covers functional safety aspects of the entire development process (including such activities as requirements specification, design, implementation, integration, verification, validation, and configuration).

Goals of ISO 26262: Further

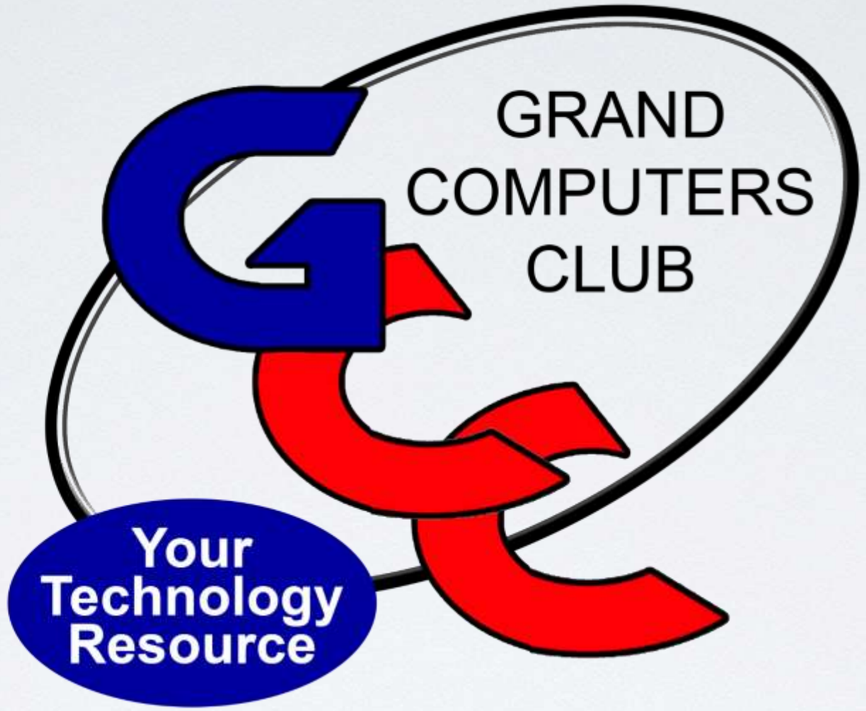
•Provides an automotive-specific risk-based approach for determining risk classes (Automotive Safety Integrity Levels, ASILs).

•Uses ASILs for specifying the item's necessary safety requirements for achieving an acceptable residual risk.

•Provides requirements for validation and confirmation measures to ensure a sufficient and acceptable level of safety is being achieved

That’s It

Any questions or comments ?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