



ACC NEWS



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YOUR WEEKLY UPDATES

Week 50 of 2021



Healthcare



Ports



Shipping



Rail



Supply Chain



Santa shortage is the latest labor blow to retailers



Beverages



Retail



C-Stores



Road



Handling

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- Nicholas Bertram, president of The Giant Company, in a column for CNN warns that food prices are at their highest levels in a decade, inflation pressures have accelerated in recent months and “there does not appear to be any real deflation on the horizon.”
- “At Giant, we are trying to absorb as much of these higher costs as we can to avoid passing them on to customers and protect them from more frustration,” he wrote.
- The U.S. Chamber of Commerce (USCC) said food prices at grocery stores were up 5.3 percent through October year over year, well above annual increases of 1.3 percent during the decade prior to the start of the pandemic.
- The lobbying group cited four factors driving food inflation:
 - ❖ **Labor shortages:** The pandemic has exacerbated shortages of dock workers and truck drivers. Companies are competing heavily to attract workers, offering enhanced bonuses and benefits.
 - ❖ **Supply chain disruption:** Food shipments, such as pork from overseas, have experienced delays, but the bigger food sector hurdle is attaining aluminum, cardboard and other packaging materials. Domestically, overtime costs to catch up for last year’s plant shutdowns are escalating meat prices.
 - ❖ **The energy crisis:** A confluence of factors, from extreme weather conditions to increased demand, “is causing a national energy crisis of sorts,” according to the USCC. The American Petroleum Institute estimates that energy accounts for between 20 percent and 30 percent of absolute agriculture costs.
 - ❖ **Higher wages, more demand:** Due to pantry-loading habits begun at the pandemic’s start, stimulus checks, higher wages and other factors, demand for food has increased, thereby also elevating prices.
- To combat higher prices and food shortages, Mr. Bertram said Giant is sending products from warehouses to stores earlier than needed and in larger quantities to reduce truck trips. Giant and Martin’s stores are encouraging shoppers to use the Flashfood app, which allows them to purchase fresh food nearing its best-before date at significantly reduced prices. The chains are also bringing in products from both new and local suppliers and encouraging customers to be flexible and purchase only what they need.
- “If we’ve learned anything over the past nearly two years, it’s how resilient each of us can be,” he wrote. All these variables are long-term issues, so I don’t see inflation going away any time soon.



- Malaysia is a case study in the conflict between people and profit. The government spent decades attracting foreign investment and diversifying its economy beyond rubber and tin. The country now accounts for 13% of the world's chip testing and packaging, a key step in producing the semiconductors that go into automobiles, smartphones and other devices. Some 575,000 people were employed in the electrical and electronics industry in 2020, working with global chipmakers such as STMicro, Infineon, Intel Corp. and Renesas Electronics Corp.
- The country's government was slow to react to the crisis this year. As Covid infections surged early this year, then-Prime Minister Muhyiddin Yassin said in a televised address he wouldn't impose a full lockdown — even though the health ministry had said that would be the best way to stop the virus — because such a step would have negative repercussions for the economy.
- Then the delta variant sent infections to a record of more than 20,000 cases a day over the summer. The administration scrambled to put more restrictions in place. But it was too late. Deaths spiked. Battered by public anger over the government's handling of the virus and political infighting, Muhyiddin and his entire cabinet resigned in August. "In Malaysia, where the electronics industry is such a big economic source for the country, it's a tricky balance," said Peter Hanbury, a partner at Bain & Co. in San Francisco, who specializes in the semiconductor supply chain. "It gets pretty challenging for folks to make a call" between shutting down a factory or keeping it open.
- Companies like STMicro had every incentive to keep operating. The French-Italian chipmaker has to answer to customers like Apple, Tesla and tier one auto components companies such as Continental AG and Robert Bosch GmbH — all of which got caught in the supply chain squeeze.
- The country's factories do serve a critical step in the global supply chain. The most sophisticated semiconductors are made in countries like Taiwan and South Korea. Then they are shipped to Malaysia for final testing and assembly into the components customers can use. Only afterward can they be integrated into final products like automobiles for features such as steering, brakes and infotainment systems.
- And just as Malaysia was contending with its second surge, an acute shortage of chips set off alarm bells in the upper echelons of government in the U.S., Japan and Europe. The wait times for chips reached a record 18 weeks.

SUPPLYCHAINBRAIN

"Nobody wants to get old, but nobody wants to die young" Keith Richards

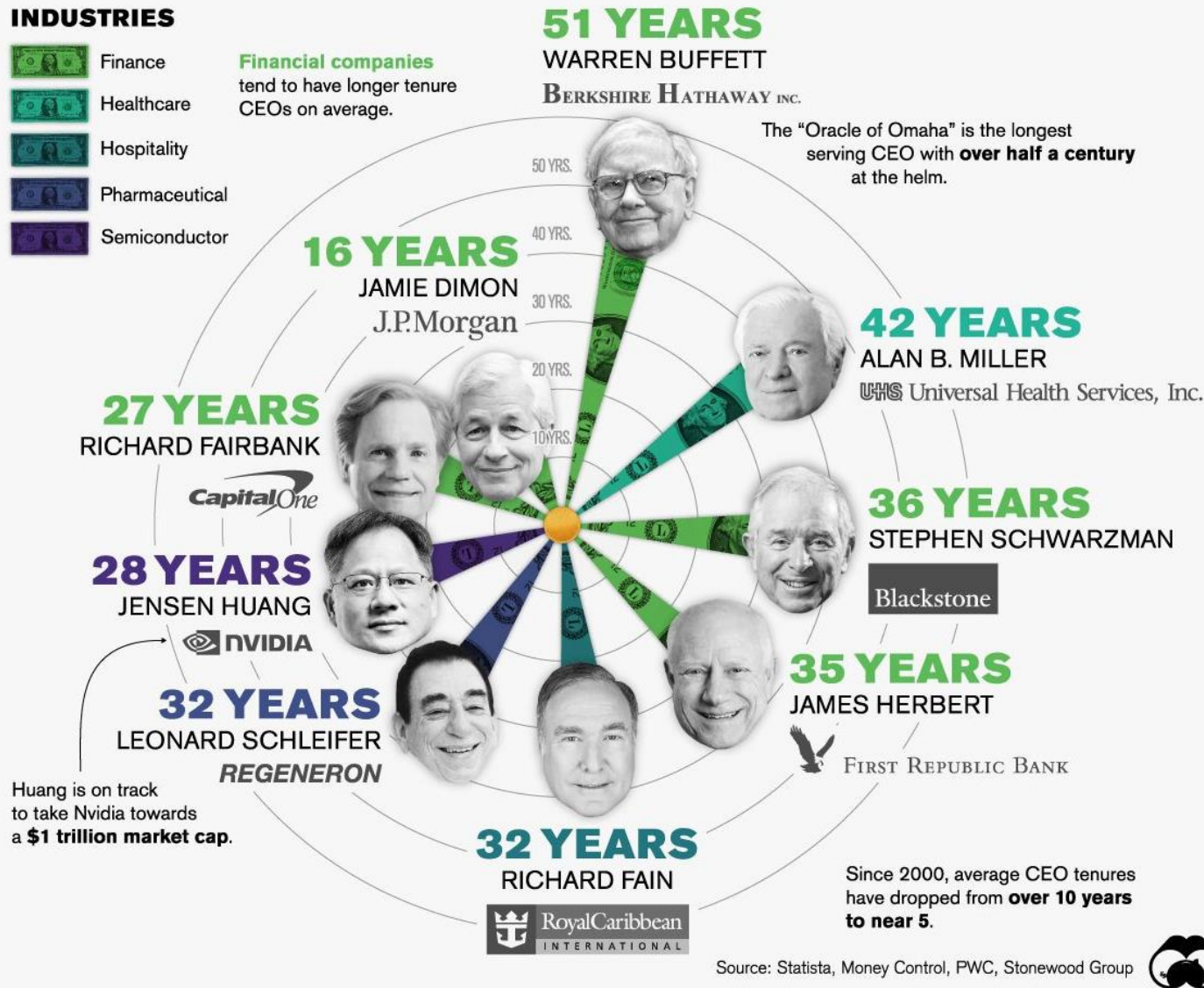


Longest Serving Active CEOs in the S&P 500

INDUSTRIES

- Finance
- Healthcare
- Hospitality
- Pharmaceutical
- Semiconductor

Financial companies
tend to have longer tenure
CEOs on average.



"Nobody wants to get old, but nobody wants to die young" Keith Richards





Can Safeway slam the door shut on shoplifters?

- Customers entering one Safeway location near San Francisco's Castro district are now greeted with metal gates that swing shut and lock behind them, preventing anyone from making a break for it with a shopping cart full of items, according to the San Francisco Chronicle. The self-checkout area is now surrounded by barriers to direct customers through a single exit, un-staffed checkouts are blocked off with metal barriers and the side entrance to the store is entirely blocked off.
- The measures have not gone unnoticed by customers, with one overheard by the Chronicle describing the store location as "getting weirder and weirder." Others interviewed said they did not have concerns about the changes, saying they made things seem more organized and did not impede the shopping experience.
- Safeway's enhanced security measures come in the wake of an explosion in brazen, flash-mob style shoplifting.
- The week of Thanksgiving, locations of Nordstrom, Lululemon, Louis Vuitton, Bloomingdale's, Burberry and Neiman Marcus in major markets were all targeted and ransacked by organized mobs of shoplifters.
- Even before the high-profile spate of holiday incidents, some retailers had begun making changes to their operations in some markets in response to this type of crime. Walgreens, for instance, closed five San Francisco locations due to an unsustainable rate of theft.
- Best Buy recently said that a high rate of organized shoplifting was putting pressure on its bottom line, according to Axios. The chain is experiencing a nationwide problem but pointed to Northern California as a theft hotspot.

Americans keep spending on gifts, despite their concerns **CNBC**

- Americans are concerned about inflation, supply chain issues and the economy as a whole but that will not stop them from spending big during the holidays, according to a new CNBC All-America Economic Survey. Consumers will spend an average of \$1,004 on gifts, the highest amount since 2018, according to the survey of 800 adults.
- Inflation is now the top issue of concern in the country, over Covid. Last quarter, the two issues were tied.
- The CNBC All-America Economic Survey of 800 U.S. adults was taken from Dec. 1 thru Dec 4 and is done quarterly.
- Yet the survey clearly shows that the current issues of supply chain problems, inflation and overall negative views on the economy are creeping into consumers' Christmas cheer.

"Nobody wants to get old, but nobody wants to die young" Keith Richards





Santa (Labor) Shortage Is the Latest Blow to Retailers SUPPLYCHAINBRAIN

- America's labor shortage has spread to the Santa Claus economy.
- Like other industries, demand for workers in this sector has surged as Americans try to return to pre-pandemic life. There are about 3,000 open positions across the country for Kris Kringle look-alikes at malls, homes and corporate events, according to Mitch Allen, founder of Dallas-based talent agency HireSanta. The dearth of Santas comes as the U.S. unemployment rate fell more than forecast last month.
- At the same time, the pool of available entertainers has declined by about 10% this year, Allen said. It's an older cohort that has been hit hard by COVID-19. More than 300 Santa entertainers have died from the virus, according to data collected by Allen. Many more have been scared away by the pandemic. And just like other fields, wages are rising to lure more workers. Pay has increased as much as 15% to \$10,000 for the holiday season, he said.
- "We ran out of Santas," said Allen, whose company has been struggling since October to find workers willing to don that famous red suit.
- Santa has long been a tool for stores and malls to attract customers. And in the e-commerce era, with retailers desperate to draw crowds, Saint Nick has become even more important, leading to a Santa boom over the past decade. He used to only show up in department stores and malls, but more recently he's been found at chains ranging from Walmart to Bass Pro Shops. To stand out, some malls invested more in their Santa experiences, turning them into Christmas villages that feature children's movie franchises like "Shrek" and "Frozen."
- But as Covid ravaged the U.S. last year, Santa experiences changed. Macy's and other retailers turned to virtual visits. The in-person attractions that remained came with social distancing measures, like putting the jolly old elf in a giant snow globe.
- The recent emergence of the omicron variant threatens to revive some of the earlier pandemic protocols. Still, the Santa experience is expected to be more normal this year, said Heather Cromwell, VP at Pennsylvania Real Estate Investment Trust, which owns malls throughout the Mid-Atlantic.
- 15% of consumers say visiting and taking photos with Santa is the holiday tradition they missed the most last year, according to researcher NPD Group.





6 Technologies Retailers Are Turning To in Challenging Times DATALOGIC

E-Commerce, Self-Checkout, Omnichannel and more drive retailers to leverage new technologies

- Razor-thin margins are a fact of life for retailers, keeping the industry on a constant search for operational efficiencies and cost-cutting opportunities. The search became more urgent in early 2020 as a result of new challenges brought on by COVID-19 related lockdowns and restrictions on hours of operation. As the industry – and society itself – return to normalcy, retailers are now facing a critical labor shortage and supply chain disruptions. At the same time, the industry must continue dealing with the usual drive for efficiencies and evolving consumer demands.
- Prior to the pandemic, the industry already was ramping up omnichannel strategies with the goal of delivering a seamless, unified customer experience between online, mobile, and physical purchasing channels. The pandemic, which for a time, restrained consumers from shopping in brick-and-mortar stores, accelerated omnichannel implementation. At the height of the pandemic in spring 2020, research firm NielsenIQ found that 72% of consumers globally were omnichannel shoppers, often using digital channels “to research, compare prices, and hunt for the right deals before deciding whether to leave home to make the purchase at a physical store or buy it online.”
 - **Checkout Solutions** - The main objective at checkout is to shorten lines and move shoppers quickly through the lanes
 - **Handheld Scanning** - Handheld scanners have been part of the point of sale (POS) system for decades; cashiers use them to read barcodes on heavier items without lifting them off shopping carts.
 - **Mobile POS** - Mobile POS, sometimes referred to as mPOS, provides another way to streamline checkout.
 - **Product Feed Management** - As retailers look for solutions to address their challenges, one area that bears close attention is inventory.
 - **AI, Analytics and Mapping** - Deploying a Product Feed Management system helps optimize retail operations and improve the customer experience, but retailers should also consider using AI and data analytics to further refine customer engagement.
 - **Workforce Management** - Considering retailers’ staffing challenges, it makes sense to implement workforce management applications.





Beverage out-of-stocks soar as Christmas and New Year's Eve get closer **RetailWire.**

- The out-of-stock level for beverages has been running around 13 percent compared to five to 10 percent in other grocery categories. This has happened as a result of shortages of ingredients, packaging materials and truckers. Prices are also higher. “When vaccines needed to be moved by refrigerated trucks, overnight refrigerated trucks were not available or were more expensive,” said Bill Creelman, founder of Spindrift Beverage Co. “Overnight, our truck prices doubled. There’s a trickle-down effect, of us not always having what we want, and the just-in-time nature of our supply chain.”
- A shortage of bottles and cans is responsible for much of it, but trucking and shipping snarls, missing ingredients, labor woes and even freak weather are all contributing to shortages, leaving grocers scrambling to fill in the gaps. It’s just the latest example of ongoing food supply problems that have shown up in a variety of sectors, wreaking havoc on prices and contributing to the highest inflation in three decades.

In Italy, a New Beer Made from Olive Leaves **OliveOilTimes**

- A local beer producer has partnered with olive growers from Coldiretti, a leading farmers’ association, to produce Birra Olea near Rome. Olive leaves are the key ingredient.
- Coming from eastern Lazio, parts of which are struggling to recover from a long series of earthquakes that razed entire villages and destroyed most of the local economy five years ago, locals see the announcement as a new beginning.
- Coldiretti said producing the beer requires hundreds of kilograms of olive leaves. The leaves come directly from pruning the trees located near the brewery. Coldiretti added that the beer is an example of a circular economy and a local specialty.
- “In the last few years, we have been working to produce our beers using only 100-percent Italian ingredients; most of which are produced [by the brewery],” said Claudio Lorenzini, owner of the Alta Quota brewery in Rieti and Birra Olea’s inventor. “At the same time, we focus on beers which can represent our territory.”
- The flavor profile of the final product features a smoky taste, which the brewery attributes to the olive leaves. The use of the leaves in the brewing process also means the beer contains polyphenols, powerful antioxidants.

“Nobody wants to get old, but nobody wants to die young” Keith Richards





US ECONOMY: Coronavirus Predictive Indicators for Economic Impact

prevedere

All Categories: Look at these indicators to understand how they are placing upward or downward pressure on the economy.

Last Refresh: 12-06-2021

Category	Indicator	Relationship	Next Update	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021
Business Investment	Average Weekly Hours - Retail	Procyclic	01-05-2022	-0.21%	-0.00%	-0.21%	-0.00%	
	Small Business Sentiment	Procyclic	12-11-2021	0.90%	-1.35%	-3.50%		
	Weekly Economic Index	Procyclic	12-10-2021	8.26%	8.18%	7.60%	7.18%	
	Weekly Jobless Claims	Countercyclic	12-10-2021	-63.49%	-60.93%	-61.15%	-65.79%	
Transportation and Tourism	Google Search "Travel Cancellation"	Countercyclic	01-01-2022	32.14%	52.00%	94.74%	37.50%	
	ISM Services Index	Procyclic	01-03-2022	8.02%	8.62%	11.09%	16.09%	
	Restaurant and Bar Sales	Procyclic	12-18-2021	37.59%	34.06%	30.37%		
	Sentiment: Vacation Travel Next 6 Months	Procyclic	12-15-2021	36.18%	33.18%	35.11%	34.23%	
Consumer Big Ticket Purchases	Auto Sales	Procyclic	01-05-2022	3.88%	-12.82%	-23.93%	-30.17%	
	Consumer Sentiment - Discretionary Spend	Procyclic	12-13-2021	25.54%	25.01%	20.44%	18.09%	
	Global Luxury Index	Procyclic	12-07-2021	59.30%	47.80%	45.90%		
	Home Building Permits Issued	Procyclic	12-26-2021	13.42%	6.10%	5.40%		
Logistics and Manufacturing	Economic Policy Uncertainty	Countercyclic	12-07-2021	-60.80%	-53.83%	-56.65%	-49.41%	
	Industrial Production	Procyclic	12-18-2021	7.45%	5.63%	5.11%		
	Overtime for Hourly Mfg Workers	Procyclic	01-05-2022	12.96%	8.85%	6.09%	4.27%	
	Purchasing Managers Index - Mfg	Procyclic	01-03-2022	10.57%	9.00%	6.50%	6.27%	
Financial	Financial Stress Index	Countercyclic	12-11-2021	-152.76%	-418.48%	-289.09%	-51.22%	
	S&P 500	Procyclic	12-07-2021	32.41%	32.55%	30.35%	31.67%	24.09%
	US High Yield Index Option - Adjusted Spread	Countercyclic	12-07-2021	-35.14%	-40.06%	-38.35%	-29.74%	
	VIX Volatility Index	Countercyclic	12-07-2021	-23.90%	-31.78%	-36.27%	-28.18%	

NOTES

Values represent the percentage change from the previous year.

In December, 1 out of 1 indicators are signaling economic improvement from the previous year.

In November, 12 out of 15 indicators are signaling economic improvement from the previous year.

Look to subsequent pages for monthly trend analysis.

Upward pressure on economy

Downward pressure on economy





US ECONOMY: Coronavirus Predictive Indicators for Economic Impact

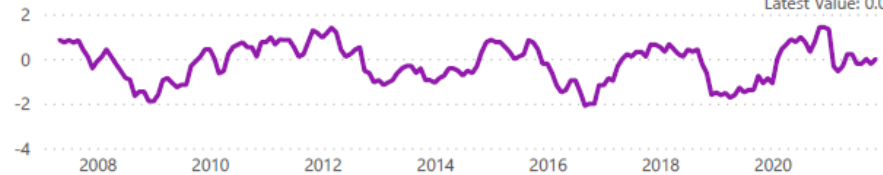
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Business Investment: How businesses react to the health crisis by investments in labor and capital will signal timing of recovery.

Date Range: 1/1/2007 12/6/2021

Average Weekly Hours - Retail

3 Period Year over Year
Latest Value: 0.0



Changes in hours can signal coming job losses or need for new hiring.

Source: U.S. Bureau of Labor Statistics

Data as of 11-2021

Weekly Economic Index

Raw
Latest Value: 7.7



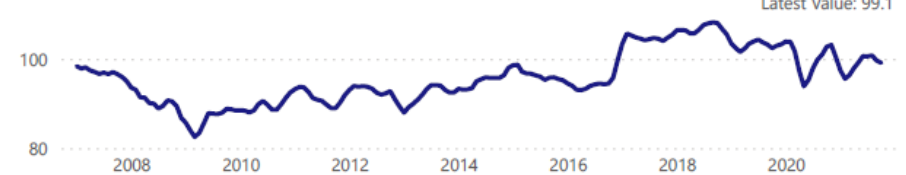
Weekly released; a composite of 7 non-financial measures of real economic activity.

Source: Stock, James H.

Data as of 11-27-2021

Small Business Sentiment

3 Period Moving
Latest Value: 99.1



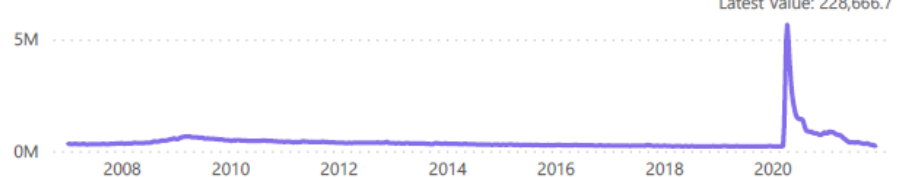
Small Businesses can be quicker to react to economic conditions than big firms.

Source: National Federation of Independent Business

Data as of 10-2021

Weekly Jobless Claims

3 Period Moving
Latest Value: 228,666.7



This data is weekly, and so is one of the earliest measures of the job market.

Source: Employment and Training Administration

Data as of 11-27-2021

MONTHLY TRENDS

How have these indicators changed up or down in the past 5 months.

Indicator	Relationship	Aug 2021	Sep 2021	Oct 2021	Nov 2021	Dec 2021
Average Weekly Hours - Retail	Procyclic	↑	↑	↓	↑	
Small Business Sentiment	Procyclic	↑	↓	↓		
Weekly Economic Index	Procyclic	↓	↓	↓	↑	
Weekly Jobless Claims	Countercyclic	↑	↓	↑	↑	

↑ Upward pressure on economy

↓ Downward pressure on economy

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“Nobody wants to get old, but nobody wants to die young” Keith Richards





Top fulfillment options among US adults this holiday season eMarketer.

Nearly three-quarters of US adults will likely use standard delivery for their purchases this holiday season. Almost half expect to receive their orders directly from retailers, either the day of purchase or the day after. Click and collect and curbside pickup will also be popular, as US adults prioritize speedy fulfillment options.

Insider Intelligence's Retail Trends to Watch in 2022 eMarketer.

- Pandemic-accelerated trends like quick commerce or resale business models will become a must-have for retailers to stay relevant. Retailers and brands need to adapt these new models to retain fickle consumers.
- Total US retail sales will increase 2.5% year over year (YoY) in 2022 to \$6.624 trillion. Ecommerce sales will grow 16.1%, while growth for in-store sales — which will account for more than 80% of total retail sales—will be close to flat.
 - **Trend 1:** Technology Will Drive the Bridging of Physical and Digital Retail
 - **Trend 2:** Ecommerce Same-Day Delivery Will Take Its Cue From Digital Grocery
 - **Trend 3:** Retail Media's Rise Will Drive Retailer Competition for Brand Budgets
 - **Trend 4:** TikTok Makes Social Commerce Go Viral
 - **Trend 5:** A Sustainability Strategy Will Be a Need-to-Have for Retailers
- Questions for retailer will be; (i) will immersive experiences draw shoppers to stores?, (ii) will shoppers demand more categories be available for same-day delivery?, (iii) will retail media networks lure major brand budgets away from TV?, (iv) will viral commerce move beyond the confines of TikTok? And (v) is resale the answer for brands looking to address sustainability concerns?

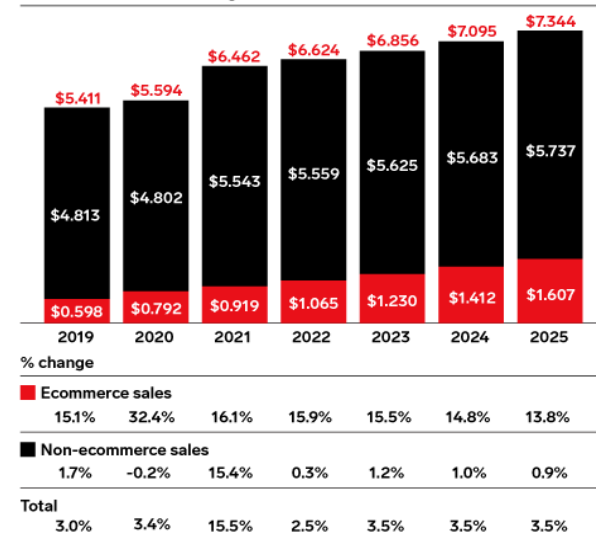
Coronavirus Impact: Fulfillment Methods US Adults Are Likely to Use During the Upcoming Holiday Season, Sep 2021

% of respondents



US Total Retail Sales, by Channel, 2019-2025

trillions and % change



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China creates new state-owned logistics group

- China has formally established a new state-owned logistics group on 6 December, according to China Television, a Chinese state-owned broadcaster, aiming to strengthen domestic and global supply
- CCTV reports that China Logistics Group aimed to become a “global supply chain by developing international trade links and freight services, as well as cross-border e-commerce.
- The new logistics group was created by the merger of China Railway Materials, China National Materials Storage and Transportation Group, Huamao International Freight Limited Company Shenzhen Branch, China Logistics, and China National Packaging Corporation.
- The newly-formed company will also include as strategic investors the parent firms of China Eastern Airlines, COSCO Shipping and China Merchants Group, who will respectively hold share percentages of 10%, 7.3%, and 4.9%. The remaining shares will be evenly split to China's State-owned Assets Supervision and Administration Commission (SASAC) and China Chengtong Holdings Group.



DoorDash gets into the ultra-fast delivery race **RetailWire.**

DoorDash has opened a DashMart warehouse in New York City where it will stock more than 2,000 grocery items, household products and prepared foods. The delivery service expects the warehouse to give it the ability to deliver orders in Manhattan in 10 to 15 minutes from the time they are placed. Customers will pay \$1.49 for deliveries if they do not have DashPass. Members will not be charged a delivery fee.

FedEx to deliver record number of packages for Christmas **RetailWire.**

FedEx has forecast that it will deliver 100m more packages this holiday season than in 2019. “We’ve seen a lot of people starting their Christmas shopping in October, which is fundamentally different than we have seen traditionally in the past,” said Ryan Kelly, vice president of global e-commerce at FedEx. “What you see is a lot of messaging about shop and ship early, pulling sales forward, pulling promotions forward. A lot of retailers have really leaned into that this year.”



Uber's New Holiday Hub to Deliver Christmas Trees, Wreaths and Seasonal Essentials

- Kicking off the holiday season, today Uber announced the expansion of their seasonal delivery offerings with the brand-new Holiday hub on the Uber Eats platform. The first-of-its-kind category will expand and rotate seasonally throughout 2022 and beyond to accommodate various holidays, making it easier than ever for consumers to have holiday needs delivered right to their door.
- The new hub will also be home to Uber's recently launched Holiday Shop, which will offer on-demand delivery and pick-up of Christmas trees and more to customers in Los Angeles, San Diego, West Palm Beach as well as wreaths in New York City this holiday season. The exclusive partnership with Proper Companies' holiday division (which includes Mr. Jingles Christmas Trees and Mr. Jack O' Lanterns Pumpkin Patch), features 2-4-foot trees, wreaths (in NYC only) and tree preservative for delivery, as well as 5-10-foot trees for pick-up.
- To access the one-stop shop for all things holiday, customers can open the Uber Eats app and tap the "Holiday" billboard (or even search for holiday with the Santa, Mrs. Claus and Christmas Tree and emoji!) to access a wide range of merchants and their holiday aisles, including Rite Aid, GoPuff, Walgreens and more.
- From December 1-31, Uber Eats customers will receive \$20 off orders of \$60+ from gifting merchants and specialty food stores, including Mr. Jingles and Bed Bath & Beyond. As always, Uber One members will enjoy \$0 Delivery Fee on eligible orders of \$15+.

Will DoorDash win the ultra-fast delivery race?

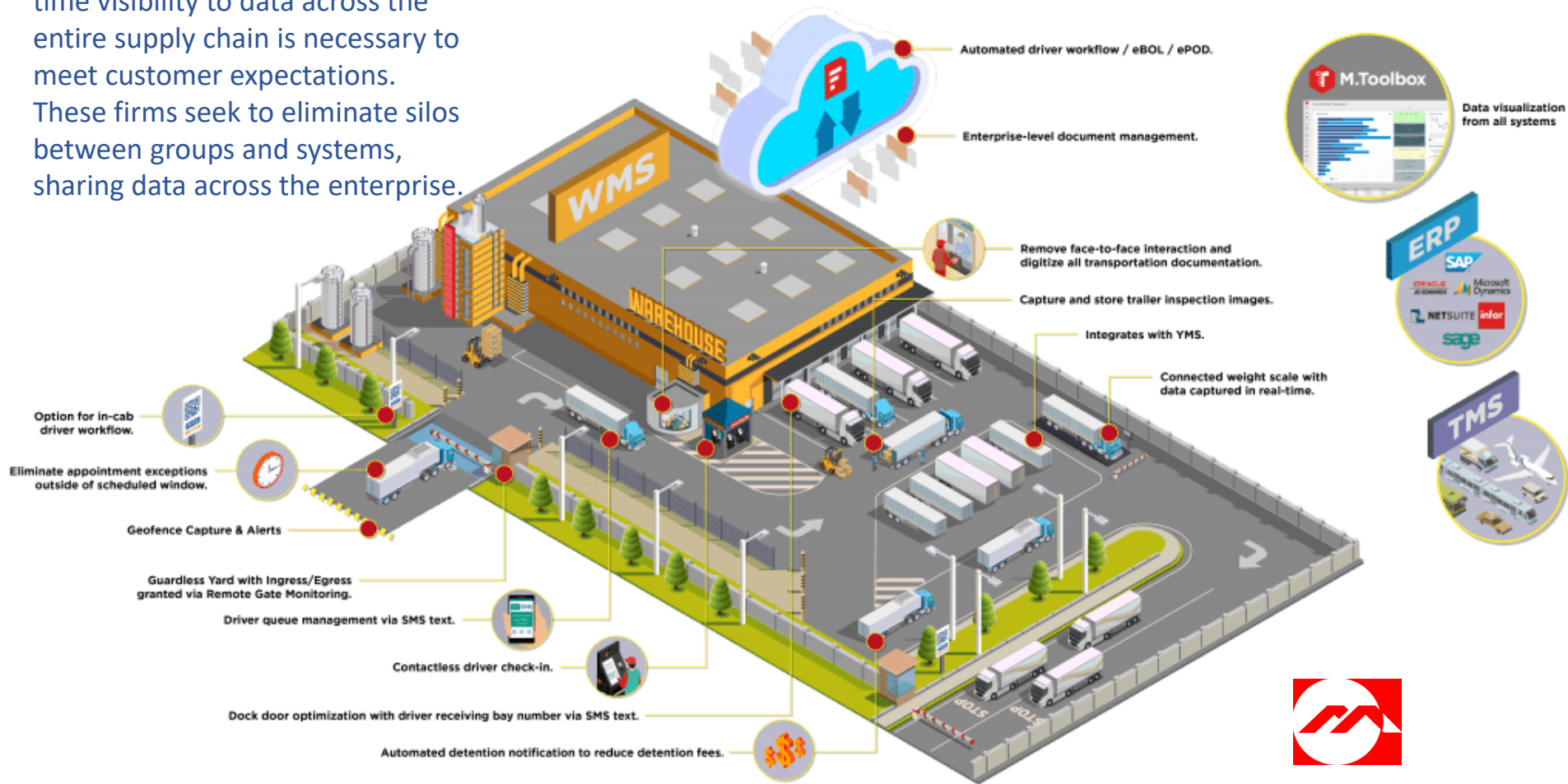
- DoorDash announced it will be offering ultra-fast grocery delivery with a new service in the Chelsea neighborhood of Manhattan. Customers can order products available in the DashMart warehouse and, for a charge of between 99 cents and \$1.99, receive them in 10 to 15 minutes. DoorDash will hire full-time employees at \$15 per hour plus benefits for the service via a new subsidiary called DashCorp, who will carry out deliveries on e-bikes.
- DashMart, which will facilitate the ultra-fast option, is a fairly new element of the DoorDash business model. It launched in the summer of 2020 in eight U.S. cities. While much of what DoorDash delivers comes from restaurants, convenience retailers and other stores in the markets it serves, DashMart warehouses hold an inventory of around 2,000 grocery items and essentials along with branded convenience and restaurant products.

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Clever organizations recognize that in a world of exceptions, real-time visibility to data across the entire supply chain is necessary to meet customer expectations. These firms seek to eliminate silos between groups and systems, sharing data across the enterprise.

The Digital Yard of the Future



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Squirrel-cheeked liquid H₂ airliner will take you anywhere in two hops **NEW ATLAS**

- Long-haul aviation presents a tough challenge for decarbonization, but a group of 100 aerospace experts working on the UK government's FlyZero project says 279-seat liquid hydrogen airliners will connect any two points on the globe with just one stop.
- The FlyZero team, led by the UK's Aerospace Technology Institute but featuring talent seconded from a range of aviation companies, was put together to examine all promising paths to zero-carbon intercontinental aviation, and propose solutions that can be put into service by the end of the decade. With experts from across the aviation and clean fuels spectrum, the approach is holistic, and covers technology, design, manufacturing, operational and marketing elements of possible solutions.
- The team examined the pros and cons of batteries, gaseous hydrogen, ammonia, liquid hydrogen as a combustion fuel and liquid hydrogen used in fuel cells. Batteries were off the table pretty much immediately, being too heavy and bulky for the job. Ammonia was dropped due to excessive harmful NO_x emissions and the heavy weight of the required fuel and propulsion systems – although it could come back into the discussion at some point when the technology to extract energy from ammonia evolves.
- That left hydrogen. Gaseous H₂, while promising for shorter flights, takes up too much space, and the heavy tanks and fuel cell systems make it inappropriate for long-range planes. Cryogenic liquid H₂, the team decided, offers the best path forward, burned as a combustion fuel in large turbofan engines. Combustion beat out liquid H₂ fuel cells and electric propulsion systems simply on weight.
- The team also projects that these machines will "have superior operating economics from the mid-2030s" as hydrogen prices fall.

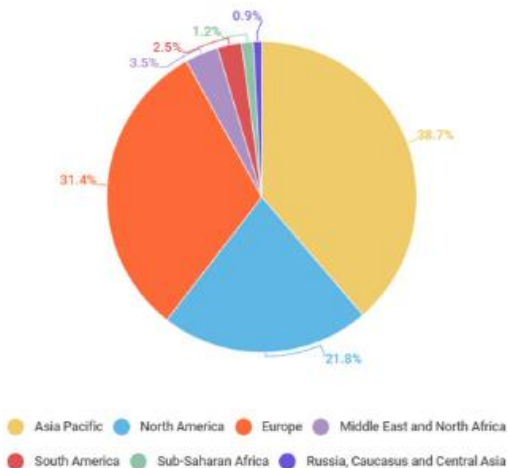


	Battery	LH ₂ Fuel Cell	LH ₂ Combustion	Gaseous H ₂	Ammonia
CO ₂ Emissions	●	●	●	●	●
NO _x Emissions	●	●	●	●	●
Contrails	●	●	●	●	●
Fuel Volume	●	●	●	●	●
Fuel+Propulsion System Mass	●	●	●	●	●
Airport Infrastructure	●	●	●	●	●

Global Express and Small Parcels Market Sizing 2021-2025

- Ti's new global express & small parcels market data highlights several revisions at country, region and global level as COVID-19 restrictions have continued to ease. In many locations, express markets continued to grow during H1 2021, however with the gradual re-opening of societies, worldwide supply chain challenges, and rising internal inflation rates affecting prices of goods and purchasing power, express growth looks to be slowing in the second half of 2021.
- The global express and small parcels market is forecast to grow at a 7.7% CAGR and reach a total value of €560,854m in 2025, according to Ti data. The CRT25 shows that by 2025 the global market will have grown 64.1% larger than pre-crisis levels. The domestic express market is expected to grow at a 7.6% CAGR to 2025, reaching a value of €460m, whilst the international market is expected to reach a value of €101,138, growing at a CAGR of 8.4% to 2025.
- Growing research indicates that older demographics are increasingly using e-commerce and are the fastest-growing group of online shoppers. An IUB UK 2021 study reported that older age groups are fueling e-commerce growth, with approximately 60.0% of those aged 55 and over increasing their online shopping in 2020. According to Insider Intelligence, US digital buyers aged 45 and over is forecast to increase by 2.9% y-o-y in 2021.

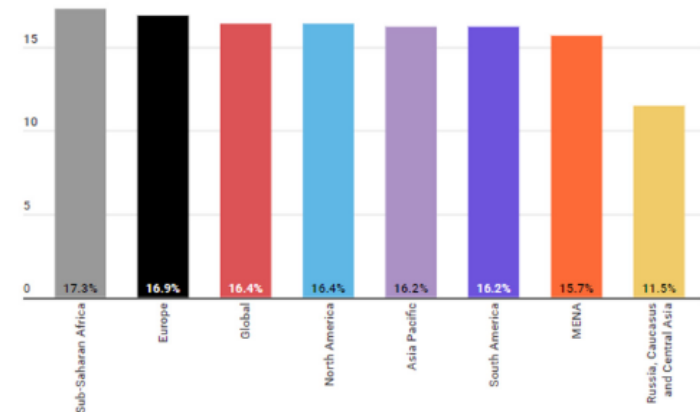
2021 (F) Global International Express Market Size by Region (%)



Global Express and Small Parcels International Market Size (€m) and Growth (%)



Global Express and Parcels - H1 2021 Regions (%)





Five Supply Chain Trends to Expect in 2022 SUPPLYCHAINBRAIN

Supply chains have been severely impacted by COVID-19. A recent Statista survey found nearly 72% of businesses suffering detrimental effects related to the pandemic. Now, even as disruptions persist, supply chains the world round have begun picking up the pieces and charting new territory to recover. Here, then, are some 2022 predictions for supply chain trends.

1. **Supply Chain as a Service** - The industry is evolving at a pace where anything and every is offered “as a service,” and the supply chain is no exception.
 2. **Circular Economies** - Up to now, the traditional, linear supply chain has been sufficient to keep economies churning, but a more profitable methodology is gaining in popularity: the circular supply chain. It encourages manufacturers and sellers to take discarded materials and remake them for resale.
 3. **Elastic Supply Chains** - The past year has shown more than ever that supply chains must be responsive and flexible to deal with market fluctuations and unforeseen influences. The days of reducing inventory to the furthest possible degree may be ending; instead, organizations will need to respond to growing volatility in consumer behavior with “elastic” strategies — the flexibility to expand and contract capabilities to meet demand within a given time frame.
 4. **Greener Management** - Sustainability awareness is springing up in countless industries. A growing number of consumers prefer businesses that are dedicated to environmentalism, and companies are striving to address their concerns while improving internal systems and scrutinizing energy use throughout the supply chain.
 5. **Objectives and Key Results** - Objectives and key results (OKR) can play important roles in operationalizing supply chain strategies. Measuring what matters is crucial to the success of any business, regardless of whether it’s embracing new trends and technologies. OKR allows companies to focus on measurements that matter and eliminate those have no impact on supply chain performance.
- As the pandemic unfolds, leaders must ensure that corporate goals stay aligned with autonomous and connected supply chains, through execution frameworks. Companies will need to invest in capabilities to capitalize on the dynamic insights coming from their supply chains. They should also drive corporate ethics policies defining acceptable business practices and determine operational boundaries. Talent requirements must shift to those who understand supply chain dynamics, adapt to changing environments, and decide the best way to make use of new technologies.





Yellen Says Supply Chain Shift May Need Protectionist-Like Steps [SUPPLYCHAINBRAIN](#)

Treasury Secretary Janet Yellen said that U.S. reliance on foreign supply chains has proved a vulnerability and that the country needs to produce more critical goods domestically in order to protect both its economic and national security.

Kroger Fulfillment Network expands with customer fulfillment center in North Carolina [THE PRODUCE NEWS](#)

Kroger announced it will offer more Americans delivery through the addition of a new customer fulfillment center in North Carolina, powered by the Ocado Group and combining vertical integration, machine learning, and robotics to provide an affordable, friendly, and fast fresh food delivery service as part of the company's seamless ecosystem.

Walmart to open new high-tech fulfillment center in Wilson County [THE PRODUCE NEWS](#)

Walmart recently announced plans to open a 925,000-square-foot automated fulfillment center in Lebanon, TN, to support the retailer's growing supply chain network and eCommerce business. The new facility, located at 1015 Hixson Boulevard, is set to open fall of 2022 and will create up to 300 full-time jobs. Walmart's high-tech fulfillment center will include the unique combination of associates, AI-software and automated robots that work together to ship orders to customers even faster. The new fulfillment center marks the retailer's first in the state of Tennessee.

From northern Norway to the rest of Europe, fish products go by rail



Fish products from Narvik, Norway's northernmost terminal, now find their way to the rest of Europe via train. A new intermodal service organised by Norwegian Blue Water Shipping, in collaboration with CargoNet and Nor-log Thermo, connecting Narvik with Padborg in Denmark and from there to other European destinations. The solution saves an estimated 40 per cent of transport time for fish products in this route.

EU not pushing hard enough for intermodal case



European Shippers Council voiced the expectations of shippers for more intermodal transport services. According to him, there were still a lot of dreams that had yet to come true. As an example, he named the single window for intermodal transport through Europe. He was also critical of the fact that the Handbook for International Contingency Management, which was brought to life after the Rastatt debacle, is still not implemented as it should be in reality.

“Nobody wants to get old, but nobody wants to die young” Keith Richards





Blackstone to acquire stake in Dexu Australia Logistics Trust for A\$2.1bn

- Blackstone has agreed to acquire Singapore wealth fund GIC's 49% stake in the Dexu Australia Logistics Trust, an existing joint venture with Dexu that owns a portfolio of high-quality logistics assets in Australia, for A\$2.1 billion.
- The portfolio of 77 premium-grade logistics assets is concentrated in Australia's gateway cities, Sydney and Melbourne, with high exposure to densely populated areas and major transportation hubs.

A nationwide shortage of this crucial grocery item is making people nervous

- Here's what's going on. One of the many products caught up in the global supply chain snarls — exacerbated by everything from manufacturing delays to a surge in consumer demand — is glass bottles. David Ozgo, chief economist for the Distilled Spirits Council, says this has been true across the industry sector. And is affecting everything from tequila to vodka and whiskey.
- "Some of the large distillers, even though they have multiyear contracts for millions of bottles, they're finding in some instances that they have to pick and choose as to which bottle sizes they're going to get," Ozgo told CNBC. As one consequence, this could end up leading to "tighter supplies" of small-volume bottles. Since the shortage means a likely emphasis or preference going to more popular sizes, like 1.75-liter bottles.
- For an example of what the supply chain issues along these lines look like in the real world, Frankfort, Kentucky's Castle & Key distillery recently switched its glass suppliers because of all this. A coronavirus outbreak at the factory in the UK the distillery had previously worked with forced a shutdown there. Which put the distillery's production months behind schedule.

Carriers skipped 25 percent of European Port calls due to congestion

- New data from Alphaliner highlights the impact port congestion is having on the major carriers scheduled into the Northern European ports. The market research analyst firm has revealed that, over the past five months, the major carriers have skipped nearly a quarter of all scheduled calls in Northern Europe on their Far East routes.
- from Felixstowe in the U.K. to Rotterdam, Hamburg, and Antwerp all experienced omitted calls. Fully 40 percent of the skipped calls were at Felixstowe, which had reported extensive congestion during the fall.

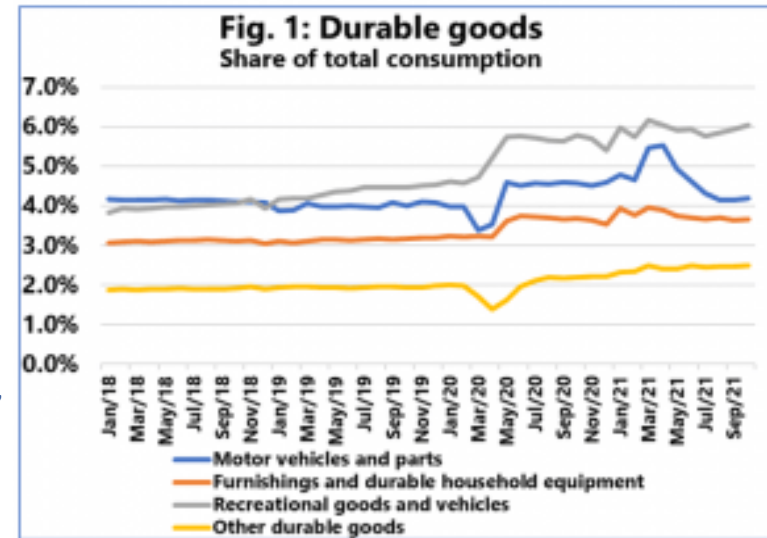




Sea-Intelligence sees no end in US demand boom



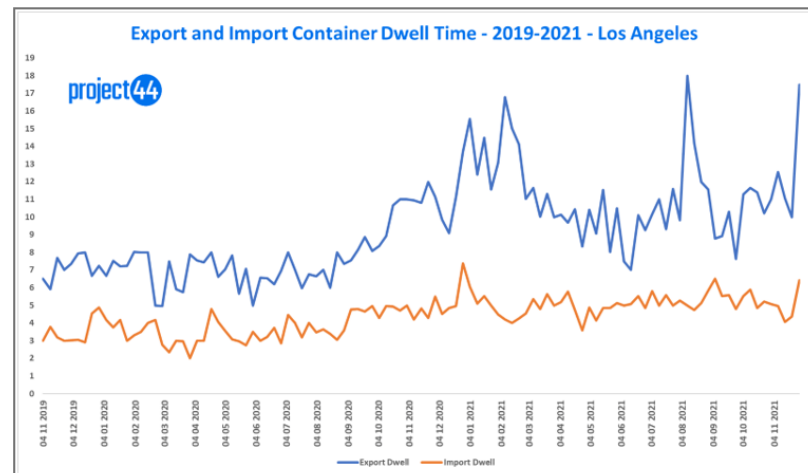
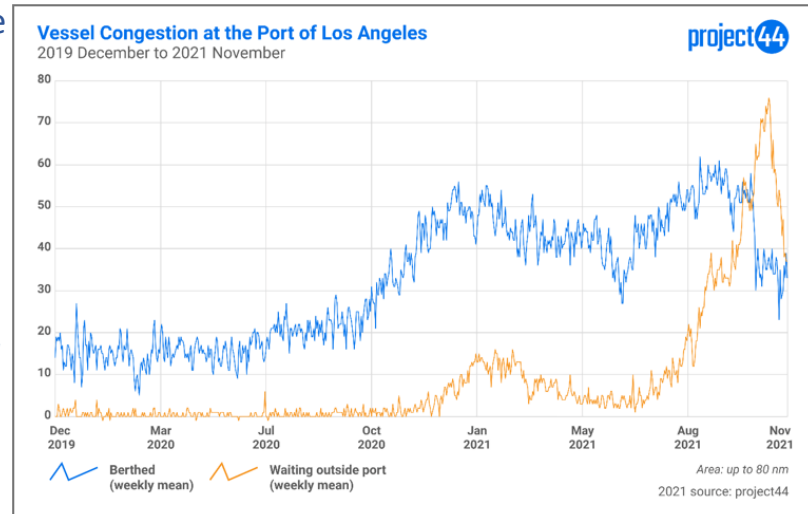
- The Danish provider of research & analysis within the global supply chain industry, Sea-Intelligence has analyzed data for personal consumption in the United States, showing record levels in October.
- Sea Intelligence analysts explained that data from the US Bureau of Economic Analysis (BEA) indicated that consumption of services is nearing the pre-pandemic levels, and consumption of goods is continuing to increase.
- "Breaking it down further, non-durable goods plateaued at a higher level after the initial impact of the pandemic, whereas durable goods plateaued at a higher level, followed by an upwards spike in early 2021, followed by a downshift to that higher plateau," said Alan Murphy, CEO of Sea-Intelligence.
- As seen right, there is an increase and a subsequent sharp decrease in motor vehicles and parts, with the decline caused by shortages of computer chips, and not due to container shipping supply chain issues.
- "However, that decline, which largely does not impact container shipping, is compensated by the continued increase in recreational goods and vehicles and other durable goods, items which are overwhelmingly moved in containers," noted Murphy.
- Within recreational goods, the main driver of the increase is video, audio, and photographic goods. Concerning the other durable goods category, the growth is primarily driven by telephones and communication equipment, as well as jewelry and watches.
- Meanwhile, there was a slightly declining trend for furniture, and a slightly increasing trend for the consumption of glassware, tableware, and household utensils, according to the Danish company's analysis.
- In non-durable goods, there is a slight shift in how food is consumed, gradually shifting back to on, premises from off-premises, but from a shipping perspective, it does not matter how these goods are sold as they still need to be moved.





Berthing delays push up export container dwell times **project44**

- The visibility platform company for shippers and logistics service providers project44 has analyzed data for supply chain, indicating that berthing delays are causing a huge build-up of export containers within port terminals and creating a big spike in container dwell times globally.
- "Berthing delay is defined as the time it takes a ship between its arrival at anchorage until the time it is berthed to commence cargo operations. If there is a queue of ships waiting for a berth, the ships wait at anchorage until it is their turn to berth," explains the company.
- According to the latest data from project44, export containers at the Port of LA took an average of 11.85 days to be loaded on a ship between October and November 2021 while its twin Port of Long Beach took an average of 10.98 days.
- With export containers taking about twice as long to move through US West Coast ports as import containers, project44 analysts claim that the problem appears to be getting containers off docks and onto ships.
- Container dwell time measures the time that:
 - Containers spend in port after being discharged from a ship until it leaves the port for delivery to clients, in the case of imports.
 - Containers spend in port after being delivered to the port until they are loaded onto ships, in the case of exports.
- Other main ports tracked like Singapore and Hong Kong show marked decreases in export container dwell times.





PortMiami breaks container volume record

- PortMiami has reported its busiest fiscal year (1 October 2020 - 30 September 2021), recording more than 1.25m TEU.
- This marked an increase of 17.6% compared to its previous record Fiscal Year 2019, and growth did not generate any vessel congestion or delays at the port's main shipping channel, according to the port authority.
- PortMiami said it has kept the critical movement of cargo flowing despite the ongoing supply chain disruptions and the Covid-19 pandemic.

Ocean shipping lobby grilled on carrier profits **American Shipper**

- After hearing testimony from fellow witnesses on how jammed supply chains and exorbitant shipping charges are hammering their businesses, World Shipping Council President and CEO John Butler was asked how some of his ocean carrier members can justify their best financial quarter in decades.
- “The price situation right now is entirely unfamiliar to us,” Butler acknowledged during a Senate Commerce Committee hearing on Tuesday. “For the last 20 years, the ocean shipping business has been lucky to make its cost of capital. And what we’re facing today is completely unprecedented.” However, as Butler has asserted all during the supply chain crisis, the disruptions are purely the result of supply and demand in the market. In addition, much of the “headline” rates — the container rates many times what they were a year ago that grab the headlines — are in the spot market. Pricing under long-term service contracts between the ocean carriers and customers has not gone up nearly as much as rates obtained today to move a container next week, he said.
- The hearing was held as the Senate readied companion legislation to the Ocean Shipping Reform Act, which now has 80 co-sponsors in the House. The bill, which expands the power of the Federal Maritime Commission, imposes minimum service standards on carriers and prohibits carriers from imposing “unreasonable” demurrage and detention fees, among other things.
- The Senate version, John Thune, R-S.D., one of its sponsors, said during the hearing, “takes significant steps to clarify the authority of the FMC in resolving disputes and curbing anticompetitive behavior. I believe these changes will increase the accessibility of the FMC to smaller shippers and supply the agency with clearer authority to intervene when unreasonable practices related to the movement of cargo are discovered.”





House passes bill expanding powers of maritime regulators

- By a vote of 364 to 60, the U.S. House of Representatives overwhelmingly passed the Ocean Shipping Reform Act of 2021 (OSRA) on Wednesday. The bipartisan legislation moves to the U.S. Senate, where lawmakers are preparing a companion bill they say will be introduced soon.
- Spearheaded by Rep. John Garamendi, D-Calif., and Dusty Johnson, R-S.D., the bill gives the Federal Maritime Commission the power to impose minimum requirements on ocean carrier service contracts and shifts the burden of proof in regulatory proceedings from shippers to the container lines.
- It also establishes reciprocal trade as part of the FMC's mission — including mandating that ocean carriers cannot decline export cargo if the containers can be loaded safely and within a reasonable time frame.
- OSRA was endorsed by 360 state and local groups, Johnson pointed out. The White House officially endorsed the legislation last month.
- Among other new powers given to the FMC in overseeing the ocean carriers, the legislation:
 - Updates requirements on ocean common carriers to incorporate best practices in the shipping industry.
 - Requires ocean common carriers or marine terminal operators to certify that any demurrage or detention charge complies with FMC regulations or face penalties.
 - Limits exemption for marine terminal operators for any terminal detention or demurrage charges if such charges are based on public port tariffs set under state law.
 - Effectively codifies the FMC's Interpretive Rule on Demurrage and Detention Under the Shipping Act and obligates ocean carriers to adhere to minimum service standards that meet the public interest, determined by the FMC in new required rulemaking.
 - Requires ocean carriers or marine terminal operators to maintain all records regarding invoiced demurrage or detention charges for at least five years and provide such records to the FMC or invoiced party on request.
- “The bill is a political statement of frustration with supply chain challenges – frustrations that ocean carriers share,” WSC President and CEO John Butler asserted in a statement following the vote.

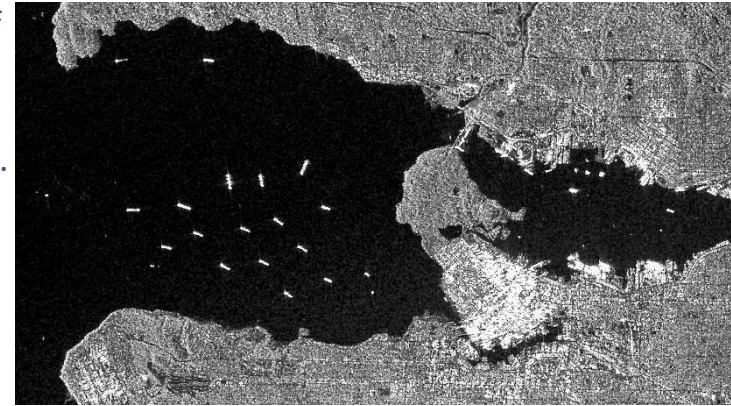
ACC Comment – No mention or inclusion of the slow and one-sidedness of port appointment and access issues.





Port of Vancouver ship backlog hits 60

- The Port of Vancouver hit a grim milestone this week as the number of ships waiting for a berth reached 60 despite the resumption of rail service. It happened Tuesday night, and included nine container, 17 grain and 16 coal vessels. The number had dipped to 57 as of late Wed.
- The Vancouver Fraser Port Authority, in an operations update Wednesday, reported that “anchorage demand continues to exceed capacity” as Canada’s largest port continues to battle the impacts of the flooding and landslides that hit British Columbia in mid-November, cutting off CN and Canadian Pacific rail service.
- While CN and CP have since reopened their rail lines serving the port — between Kamloops and Vancouver — they still aren’t operating at full capacity. And the volume of containers has picked up, particularly since CN began moving trains between Kamloops and Vancouver over the weekend.
- The volume of containers leaving Vancouver via rail has increased by nearly 250% in the past week, according to FreightWaves SONAR platform, but remained about 40% lower than before flooding and landslides cut off CN and Canadian CP service to the port more than three weeks ago.



CMA CGM Group to acquire most of Ingram Micro’s CLS contract logistics business MARINELINK

- France's CMA CGM said it had agreed to buy most of Ingram Micro's Commerce & Lifecycle Services (CLS) activities in a deal valued at \$3 billion, adding this was aimed at accelerating the shipping group's push into end-to-end logistics.
- The remaining portions of the existing CLS business will be retained by Ingram Micro. The enterprise value of the transaction is \$3.0 billion, according to the group’s announcement. The Ingram Micro CLS business being acquired specializes in ecommerce contract logistics and omni-channel fulfillment. The transaction also includes Shipwire, a cloud-based logistics technology platform and represents estimated annual revenues of \$1.7b in 2021 with 11,500 staff members worldwide across 59 warehouses, according to the group, which also owns CEVA Logistics. The deal is the 2nd major takeover in a month after the acquisition of a container terminal at the port of Los Angeles for around \$2 billion.

“Nobody wants to get old, but nobody wants to die young” Keith Richards





Auto suppliers red-flag port automation on FMC agenda **American Shipper**

- Anti-automation sentiment from dockworkers and pending legislation discouraging the practice at container terminals should be enough to prioritize the issue on the FMC's agenda, a shipper adviser told agency official.
- Speaking at the December meeting of the FMC's National Shipper Advisory Committee (NSAC), Steven Hughes, who represents the Motor & Equipment Manufacturers Association on the panel, said the recent developments on automation could hamper progress on improving supply chain resiliency and eliminating bottlenecks.
- "This will extend the crisis we already have," Hughes said. "What I'm trying to do is make sure that the commission and everyone paying attention to our committee is aware that this is a concern, that there is an active movement to try and stop automation."
- The ILWU recently rejected an offer by the Pacific Maritime Association, which represents West Coast container terminal operators, to a one-year extension of its labor contract, according to reports. The current agreement expires on July 1, 2022. Terminal automation is expected to be a hot-button issue in the next round of negotiations.
- Hughes also cited legislation in the President Biden's Build Back Better Act, which is currently being considered in the Senate, that specifically blocks automated cargo-handling equipment from taking advantage of \$3.5 billion in competitive grant funds aimed at cutting pollution at seaports.
- Similarly, the \$750 million Port and Intermodal Improvement Program, part of the U.S.M.A.'s reauthorization that Congress passed on Tuesday as part of the National Defense Authorization Act, includes a requirement that the funds cannot be used to purchase fully automated cargo handling equipment "if the [Transportation] secretary determines such equipment would result in a net loss of jobs within a port or port terminal."
- NSAC Chairman Brian Bumpass agreed that it is "a little bit concerning that [legislation] tagged with improving infrastructure that automation is consciously excluded."
- Wednesday's meeting was the second of the newly formed committee, set up to advise the FMC on policies related to reliability and competition in the ocean freight supply chain. While preliminary work on data transparency and demurrage and detention issues was the focus of the meeting, Dylan Richmond, the designated federal officer tasked with providing support to the committee on behalf of the FMC, told the committee that port automation will be considered as a topic once subcommittees are established.

"Nobody wants to get old, but nobody wants to die young" Keith Richards





2021 Restaurant Trend Report *2021restaurants*

- After a challenging year in 2020, the restaurant industry needed a bounceback in 2021. Instead, it got a year that was equally hard to navigate.
- But despite the supply chain disruptions, COVID-19 Delta variant and unprecedented worker shortage that crippled pandemic recovery, restaurant owners refused to throw in the towel, doing everything they could to keep diners in good spirits and balance sheets in the black.
- Through the lens of our 7,500+ restaurant partners, here is how the industry has evolved in this difficult year.
 1. ***Rising Operating Costs Force Restaurants to Find New Efficiencies*** - According to the National Restaurant Association, 91% of restaurants paid more for food this year, 84% paid more for labor and 63% paid more for real estate. As the already-thin margins of their industry grew thinner, restaurant owners pivoted to stay profitable.
 2. ***“New Normal” Begins to Emerge Beyond the Pandemic*** - Dining rooms and offices are open across the country. As people emerge from their homes and re-enter the world, they are defining what the “new normal” looks like for diners. Restaurants that understand and react to the shifting landscape will be rewarded.
 3. ***Restaurant Technology (Slowly) Becomes Less Fragmented*** - The right combination of technology makes restaurants leaner, faster and more profitable. However, fragmentation has made it difficult for restaurants to find the right tech stack for their needs. The pandemic cast a light on this issue, leading restaurants to demand and embrace integration.
 4. ***Restaurants Take Ownership of Online Guest Relationships*** - For years, third-party ordering apps have dominated the digital dining landscape. They have used this dominant market share to nickel-and-dime restaurants with steep commissions. During the pandemic, restaurants started fighting back — and it’s working.
 5. ***Online Ordering Trends Reflect Changing Landscape*** - Before the pandemic, online ordering was a secondary source of revenue. During the pandemic, it was basically the only source of revenue. As it settles into its future role — somewhere between those previous two — several important trends are emerging.





Walgreens Boots Alliance may sell or spin off Boots **RetailWire.**

- Walgreens Boots Alliance is exploring the possibility of selling or spinning off one of the United Kingdom's largest and best-known pharmacy chains, Boots, Sky News is reporting.
- A spokesman for the Deerfield-based international pharmacy behemoth said in a statement that the company "does not comment on market speculation." But the London-based news outlet, citing sources, says the company has asked Goldman Sachs to advise it on a sale or spinning off the Boots pharmacies under its umbrella into a new company.
- It comes less than a decade after the 2014 multibillion-dollar merger of Walgreen Co. and Alliance Boots.
- Walgreens has been cutting costs in some corners while spending in others to get more customers into its bricks-and-mortar stores as the company contends with rapid changes in health care and its drugstore operations face steep competition from the likes of CVS Health and Amazon.

Never Mind Toys, It's Time to Ask Santa for Crutches and Catheters **KHN**

KAISER HEALTH NEWS

- America's hospitals, strained by nearly two years of fighting the covid-19 pandemic, are now scrounging for basic medical supplies.
- In another consequence of the global supply chain crisis, hospitals managing holiday covid surges and all their other patients are running short of many necessities of care: crutches, syringes, needles, tubing, gloves, catheters, drapes for surgery, suction canisters for medical waste and even urine cups.
- After the difficulties that health care workers faced in securing personal protective equipment in 2020, supply chain managers and other experts say shortages and delays of other common supplies escalated this year.
- Federal promises to speed supplies into the country have repeatedly focused on ensuring that holiday gifts fill U.S. store shelves. "Only Santa Claus" can make sure they arrive on time, Biden said in a Dec. 1 speech about his administration's efforts. Medical supplies received a passing reference.
- In the meantime, clinicians describe making do, which sometimes requires piecing together what's needed with odds and ends. And while they play MacGyver, their attention can be diverted from patient care.
- "We just can't get enough volume," said CentraCare's manager of procurement.

"Nobody wants to get old, but nobody wants to die young" Keith Richards





Virtual care still has a place in post-pandemic health care **THE CON**VERSATION

- The delivery of health care has dramatically shifted due to the COVID-19 pandemic causing a move from in-person visits to some form of virtual care.
- Virtual care is a way to deliver health-care services using technology to remotely connect patients and health professionals. While most people think of using videoconferencing technologies such as Zoom or Skype, virtual care can also be conducted by telephone or medical device. In fact, 91.2 per cent of virtual visits during 2020 have been over the phone. Given these successes of virtual care, we believe it would be a mistake to automatically go back to the pre-pandemic ways of treating patients.
- While popularized by the pandemic, virtual care is not new. Psychiatry was one of the earliest adopters of virtual care. This consisted of patient counselling through emails or chat sessions. As a result, patients were provided with greater comfort and discretion, and more timely care.
- Other benefits of virtual care include bridging the geographical divide — allowing patients in small urban and rural areas access to care, increased patient convenience and reduced time for negative results which see doctor and hospital time wasted. It can reduce the need for patients to take time off work, due in part to reduced travel time but also because patients are able to wait at work or at home until the appointment occurs. There is also the reduced cost and stress of not having to find and pay for parking or other transportation.
- Barriers of cost, time and convenience associated with in-person appointments can be enough for some patients to delay care, which may result in downstream emergency room visits if the patient's condition worsens. Patients who have pain or mobility limitations are often challenged by their ability to travel. Virtual care can mitigate these barriers by providing more patient-centred options.
- Certain medical appointments such as physical tests, vaccines, some specialist referrals and clinical treatments do require an in-person visit. Some patients may prefer seeing their doctor in-person and visits should still be an option. However, we should not return to pre-pandemic procedures and disregard the valuable advancements made in virtual care to improve patient-centred care and the quality of our health-care systems.





Maine, New Hampshire Call National Guard To Covid-Strained Hospitals **The Boston Globe**

The Boston Globe says the National Guard is being called in to help at hospitals and long-term care facilities facing high volumes of covid cases. In Maine, care may have to be rationed for the first time, and Wisconsin's top health official calls for federal help in the face of staffing shortages.

South Africa says no signal of increased Omicron severity yet REUTERS

- South African scientists see no sign that the Omicron coronavirus variant is causing more severe illness, they said on Friday, as officials announced plans to roll out vaccine boosters with daily infections approaching an all-time high.
- South Africa alerted the world to Omicron late last month, prompting alarm that the highly mutated variant could trigger a new surge in global infections.
- data show that COVID-19 admissions are now rising sharply in more than half of the country's nine provinces, but deaths are not rising as dramatically and indicators such as the median length of hospital stay are reassuring.

America's healthiest, unhealthiest states for 2021 BECKER'S **HOSPITAL REVIEW**

- The report is the longest-running annual assessment of the nation's health on a state-by-state basis. The latest report examines 81 measures from 30 data sources to understand the impact social, economic, environmental and other factors have on health. This year's report includes data collected during the COVID-19 pandemic.
- Below are the five states that ranked highest and lowest for each of the categories evaluated for the 2021 report.

highest for health outcomes	lowest for health outcomes	highest for clinical care	lowest for clinical care	highest for social and economic factors	lowest for social and economic factors	highest for physical environment	lowest for physical environment	highest for health behaviors	lowest for health behaviors
MA	LA	MA	TX	NH	LA	ND	NJ	VT	LA
HI	AL	RI	MS	MN	NM	SD	CA	UT	MS
CT	WV	VT	GA	NJ	AR	WY	PA	MN	KY
ID	KY	CT	OK	HI	WV	MD	OR	NH	AL
VT	AR	HI	FL	UT	MS	VA	LA	CO	AR





AWS outage hits Amazon logistics hard *The New York Times*

- Amazon.com warehouses yesterday across the country came to a halt when Amazon Web Services' cloud stopped working. The outage, which affected an unknown number of AWS clients, came when Amazon and others are trying to get goods to consumers in time for Christmas.
- Amazon Web Services began reporting increased "error rates" in its cloud operations on Tuesday morning. Amazon uses its own cloud services as the backbone for its operations, and workers across the country reported that the scanners and other systems that they used to process products had stopped working.
- Companies that rely on Amazon's cloud computing experienced interruptions as well. Customers have reported problems with Roomba vacuum cleaners, Amazon's Alexa voice assistant and Disney's streaming service. Ticketmaster said it was delaying the presale of tickets for Adele's tour.
- About 6 p.m., Amazon's cloud computing division said, "Many services have already recovered however, we are working toward full recovery across services."

Definition: network packet

- A network packet is a small amount of data sent over Transmission Control Protocol/Internet Protocol (TCP/IP) networks.
- What is a network packet? - A network packet is a small amount of data sent over Transmission Control Protocol/Internet Protocol (TCP/IP) networks. The packet size is around 1.5 kilobytes for Ethernet and 64 KB for IP payloads.
- A packet is the unit of data routed between an origin and a destination on the internet or other packet-switched network -- or networks that ship data around in small packets.
- What is a packet-switched network? - Everything on the internet, including emails and webpages, makes use of network packets to send information between users and recipients. This approach to sending a network packet ensures information reliability so that data does not have to be sent as a single large file.
- Each packet sent includes information such as the source and destination, protocols or identification.
- Network packets are made up of three different parts: header, payload and trailer.

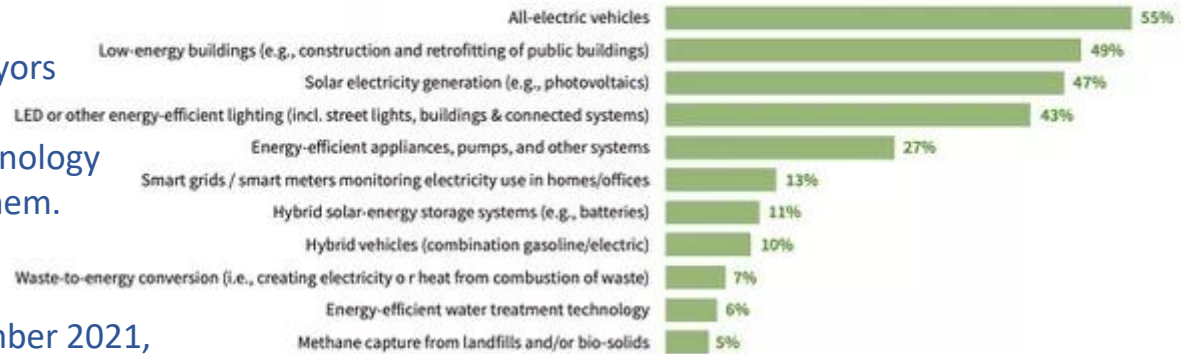




Politicians and Planners Are Missing the E-Bike Revolution **treehugger**

- A recent survey from the United States Conference of Mayors, titled "Leveraging New Technologies to Modernize Infrastructure and Improve Energy Efficiency in America's Cities," made interesting findings: Of the 103 U.S. mayors surveyed, 55% believed "all-electric vehicles" were the most promising technology from a list of 20 options presented to them.
- By all-electric vehicles (EVs), the report clearly meant e-cars and the entire 20-page document, published in November 2021, did not mention e-bikes even once.
- A new study, "E-Bikes and their capability to reduce car CO2 emissions," finds that e-bikes could reduce carbon dioxide (CO2) emissions significantly and that the "e-bike carbon reduction capability is greatest in rural areas." The study estimated how far individuals are comfortable and capable of going by e-bike and noted that they were particularly useful on the urban fringe where people are now forced to own cars. They did statistical analyses to figure out what proportion of the population was fit to ride an e-bike while carrying 33 pounds, which is equivalent to carrying a small child, shopping bags, or day-to-day items.
- They assumed there was safe infrastructure, noting that this is a governance issue, not a question of the ability to ride. According to Pew Research, the vast majority of Americans live in urban and suburban areas now, which puts 86% of the American population within range of e-bike use and the same logic applies: Suburban drivers travel longer distances by car, so their use of an e-bike instead will reduce CO2 emissions more dramatically than urban e-bike users.
- Why politicians and planners in North America are ignoring this opportunity is a mystery

Most Promising Technologies for Reducing Energy Use and Carbon Emissions in Cities



NOTE: Includes up to three choices per city.





This New Hybrid VTOL Has 8 Fans Embedded in Its Wings Robb Report

- The French-designed Ascendance AETA uses hybrid propulsion, with electric for vertical take off and landing, and diesel for forward flight.
- Ascendance Flight Technologies has debuted its new VTOL, with a forward propeller and fans for vertical liftoff in its wings. The five-seat ATEA was designed to operate either intra-city or regionally, with its range of 250 miles. The French startup said carbon emissions will be cut by 80 percent, thanks to hybrid propulsion that include jet fuel and electric. The two systems operate independently, with the electric engines working the rotors and the jet engines operating the forward propellers. The redundancy adds a layer of safety, said the company.
- The fan-in-wing configuration is what sets the eVTOL apart in the rapidly growing field. It has eight rotors in its forward and rear wings, which lowers its noise signature significantly compared to conventional helicopters, as well as two forward-facing propellers. The “Skyview” cabin offers good visibility, with easy access for passengers. Turnaround time for recharging the aircraft will be 10 minutes, according to the company.
- “We set up Ascendance Flight Technologies to accelerate transition towards green aviation thanks to hybrid technology,” says Jean-Christophe Lambert, co-founder and CEO in a statement, noting that its three-year development time involved testing four prototypes. “We also put in a great deal of thought on costs and the ease of flying such an aircraft,” he said. Beyond passenger service, the aircraft will be designed for emergency medical services, patrol and surveillance. Lambert said that ATEA has been designed in compliance with the standards of the European aviation authority, EASA, for SC-VTOL regulations. The company expects to start production in 2025.





- In 2021, where most people just use their phone or a smartwatch to tell the time, the idea of spending thousands – if not tens of thousands – of dollars on a high-end mechanical watch seems completely absurd. But watches are more than just horological instruments: they're pieces of art that you can wear on your wrist.
- Just like art, you don't need to spend a lot of money on a watch to get something cool or beautiful. Real watch collectors have just as much love for Casio and Seiko as they do for OMEGA and Rolex, for example. Also like art, many people buy expensive watches just to flaunt their wealth, not because of any sincere appreciation for what they're buying – which is a shame, but such is life.
- Let's dive a little deeper and explore why these watches are so desirable and able to command such insane prices at auction.
 - ❖ 1953 Patek Philippe Gobbi Milan 'Heures Universelles' (ref. 2523) – US\$8,967,000 ❖
 - ❖ 1943 Patek Philippe Stainless Steel (ref. 1518) – US\$11,137,000 ❖
 - ❖ 1968 Rolex Cosmograph Daytona 'Paul Newman' (ref. 6239) – US\$17,753,000 👑
 - ❖ 1932 Patek Philippe Henry Graves Supercomplication (piece unique) – US\$23,983,000 ❖
 - ❖ 2019 Patek Philippe Grandmaster Chime 'Only One' (ref. 6300A-010) – US\$31,000,000 ❖
- The 2019 Patek Philippe Grandmaster Chime 'Only One' is the most expensive watch of all time. The Grandmaster Chime ref. 6300 is the most complicated watch Patek currently makes, with 20 complications including 5 chiming modes. This is the only one in stainless steel (hence the name, the 'Only One', which even features on the dial) – but it's not just the case material and dial that makes this timepiece special.
- The 'Only One' was created specifically for Only Watch: a biennial charity watch auction that supports research into Duchenne muscular dystrophy. The world's top watchmakers create exotic, special, typically one-off watches for the auction in order to raise the most money for charity, and this was Patek's 2019 entry.
- \$31 million on a watch is excessive, but when you consider that the bulk of that went to charity, it makes it a little easier to justify. We guess.



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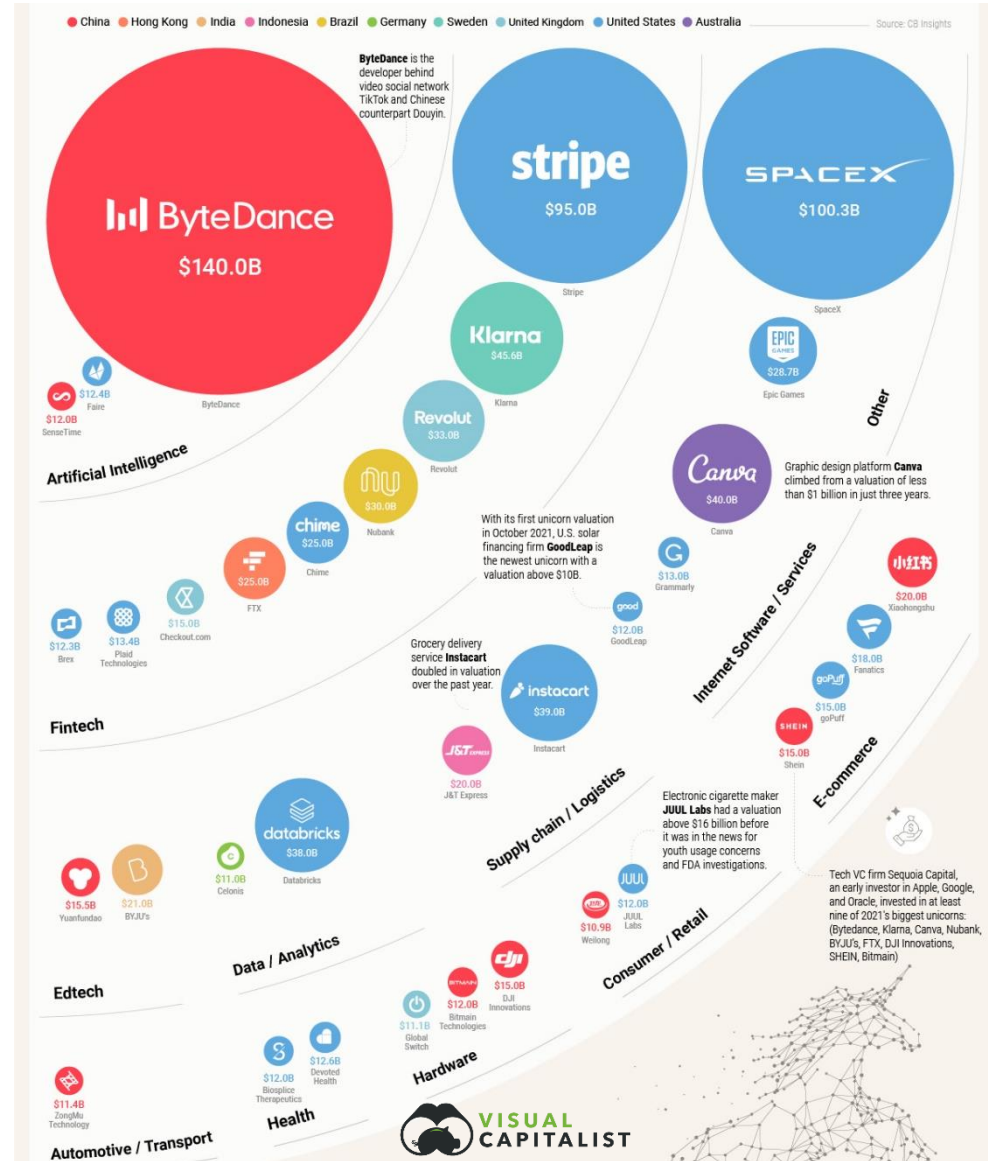




The Biggest Unicorns in 2021

35

- Many entrepreneurs start businesses around the world, but only the most successful new companies become “unicorns”—the biggest startups with a valuation above \$1 billion.
- Some unicorns are little-known companies making quiet but impactful strides in software, healthcare, automotive, and other fields. Others have already become well-known industry leaders, like aerospace manufacturer SpaceX and game developer and publisher Epic Games.
- In total, there are more than 800 unicorn startups globally. That said, this visualization specifically hones in on the world’s decacorns (unicorns with valuations above \$10 billion) as of December 2021 according to CB Insights.
- The world’s most prominent unicorns constantly see their valuations change as they enter different rounds of funding or maturity.
- In December 2021, there were 35 startups with a valuation above \$10 billion, spread out across different countries and industries.
- More than 77% of unicorns valued above \$10 billion are categorized directly in tech-related fields, primarily in financial and commerce software.



“Nobody wants to get old, but nobody wants to die young” Keith Richards



