



ACC NEWS



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YOUR WEEKLY UPDATES

Week 47 of 2021



Healthcare



Ports



Shipping



Rail



Supply Chain



Beverages



Retail



C-Stores



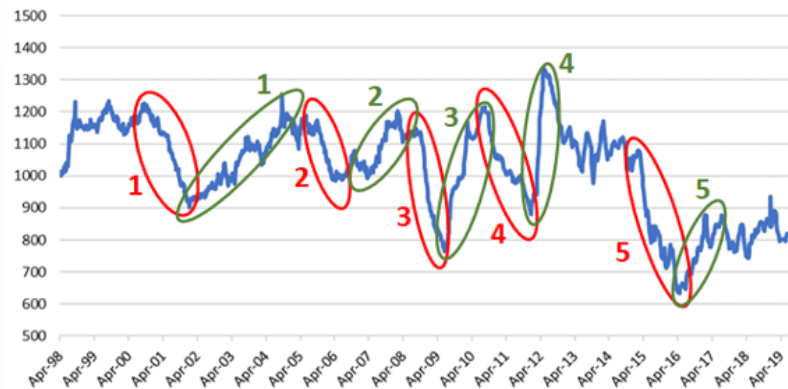
Road



Handling

Rate reduction could take 18-30 months

Fig. 1: CCFI Composite Index



Red: Periods of sustained rate declines

Green: Periods of sustained rate increases

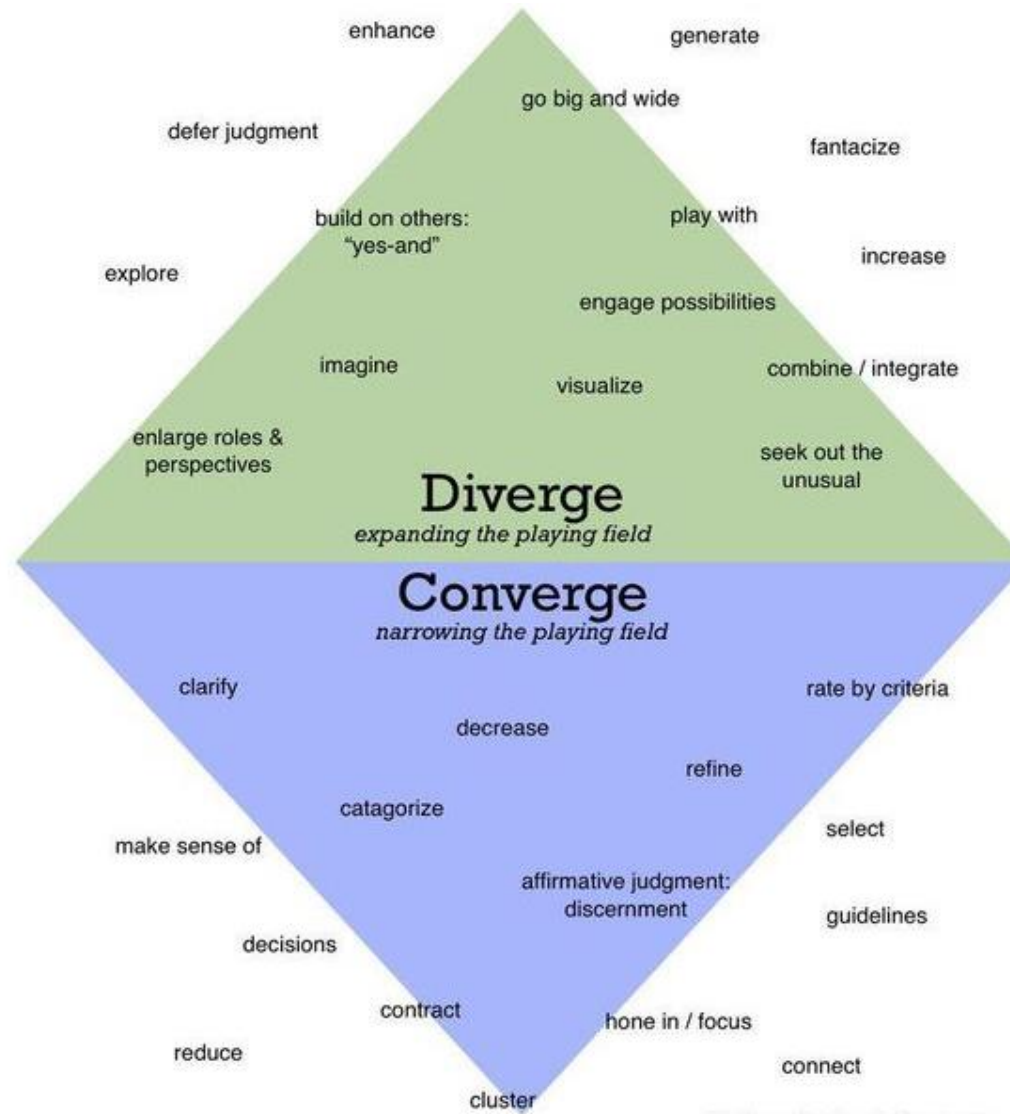
Sea-Intelligence



global
shippers
forum

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The Center for Creative Emergence
www.creativeemergence.com

Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."



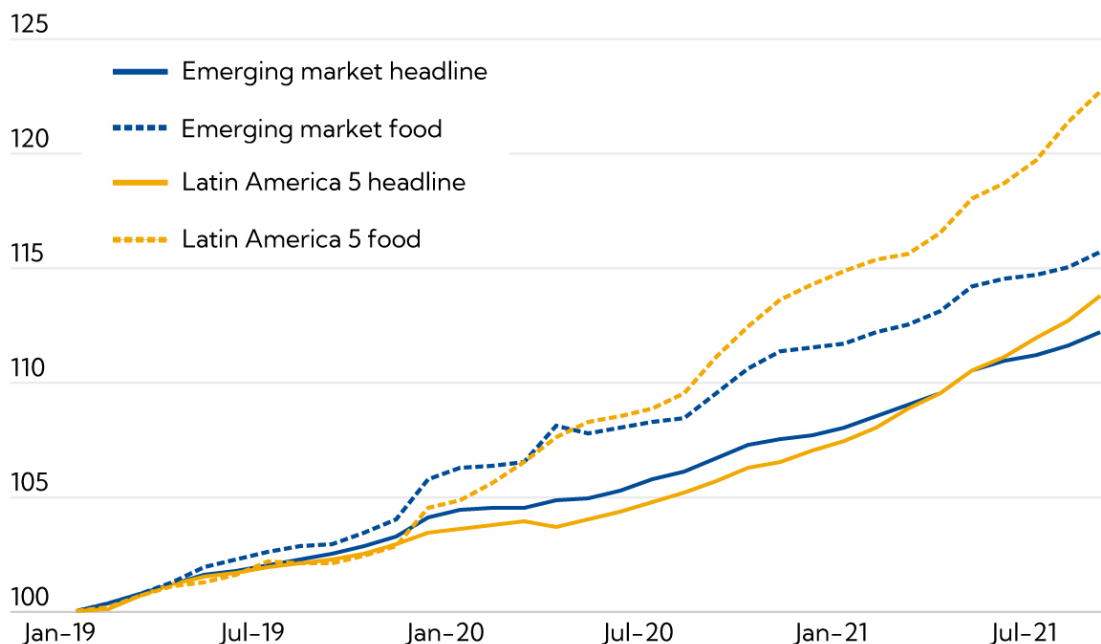
Latin America's Inflation Challenge

- Inflation has surged in the largest economies of Latin America, prompting large central banks in the region to raise interest rates before economic activity has fully recovered.
- Our latest Regional Economic Outlook shows how rapidly inflation is rising. In the first year of the pandemic, average inflation in Brazil, Chile, Colombia, Mexico, and Peru—the LA5—was below the average for other emerging market economies. It's now higher, averaging 8% year-on-year in October and in the case of Brazil, surpassing 10.5%. Soaring food prices are partly driving the surge. They started increasing even before the pandemic and have risen more than 18 percent on average in LA5 countries since January 2020.
- Even core inflation, which excludes food and energy prices, has exceeded the pre-pandemic trend this year, reaching an average of 5.9 percent year-on-year in October.

Inflation makes a comeback

Driven in part by rapidly rising food prices, inflation in Latin America has surged, prompting rate hikes early on in the recovery.

(headline and food consumer price index; index: January 2019 = 100)



Sources: Haver Analytics; and IMF staff calculations.

Note: Aggregates are PPP-weighted. Emerging markets (EM) includes LA5, Hungary, India, Indonesia, Malaysia, Philippines, Poland, Russia, South Africa, and Thailand. LA5 includes Brazil, Chile, Colombia, Mexico, and Peru.

What Happens in an Internet Minute In 2021?

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Setting the Thanksgiving table eMarketer.

More than three-quarters of Americans will host or attend Thanksgiving this year, according to a survey by Ace Hardware.

How consumers plan to shop for the holiday:

- Nearly 30% of US holiday shoppers expect to spend more than \$100 on Thanksgiving items this year, followed by 24% who intend to spend \$75 to \$100, and 21% who plan on spending \$50 to \$75, per Numerator. Only 1% reported they expect to spend less than \$10.
- Compared with last year, 51% of US adults expect to spend the same amount, per Jungle Scout. Meanwhile, 18% expect to spend more, and 15% intend to spend less.
- Lower-income shoppers tend to wait to buy meat and side items until closer to the holiday, while middle- and high-income households are more likely to shop for those items ahead of time, per IRI. Households at all income levels purchase pies, baking products, and beverages in the weeks leading up to Thanksgiving.
- Meat and pies are the most at risk of out-of-stocks, per IRI. These are the only categories that show lower in-stock percentages versus last year, down 13% and 3%, respectively. Amazon reported that grocery out-of-stocks are up 59% since the beginning of 2021, per CommerceIQ.
- Turkey, specifically, is at risk of out-of-stocks this year. “It’s probably the lowest bird inventory we’ve had for perhaps 10, 11 years,” said Curt Covington, senior director of institutional credit at AgAmerica, per CNBC.

Acosta To Acquire Premium Retail Services, Broaden Omnichannel Reach



THE SHELBY REPORT
Your Source for Grocery News and Supermarket Insights

- The Jacksonville, Florida-based integrated sales and marketing services provider has signed a definitive agreement to acquire Premium Retail Services, a provider of tech-enabled retail merchandising, in-store sales and training, advanced analytics and other purpose-built solutions for omnichannel retail.
- Although Acosta and Premium will offer clients a combined suite of services, each brand will continue to have its own identity in the marketplace. With the addition of more than 9,000 Premium employees, Acosta’s combined workforce of nearly 30,000 employees will continue to provide clients of both companies with the service and solutions which they have come to expect from both companies.

Mark Twain famously said: “There are three kinds of lies: lies, damn lies and statistics.”





Retail Update

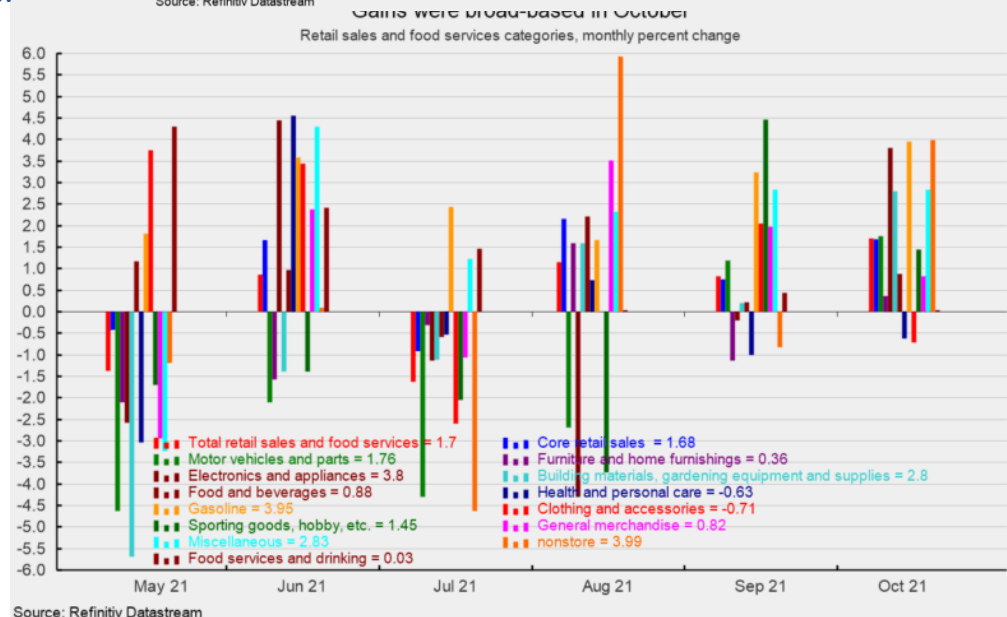
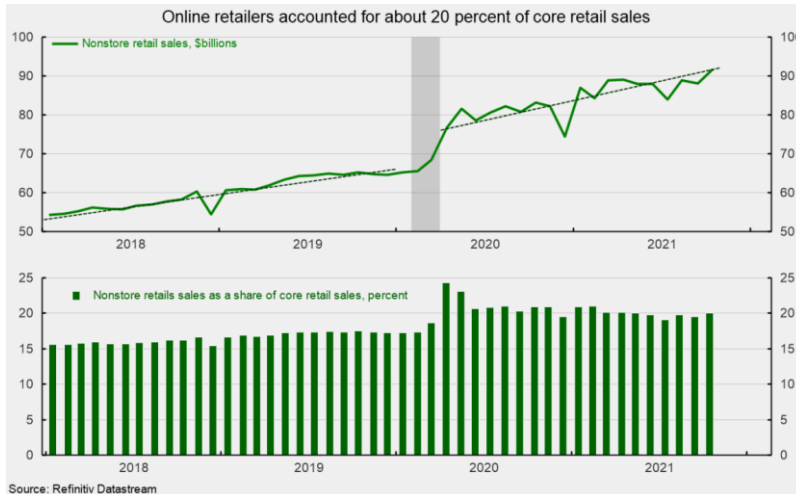
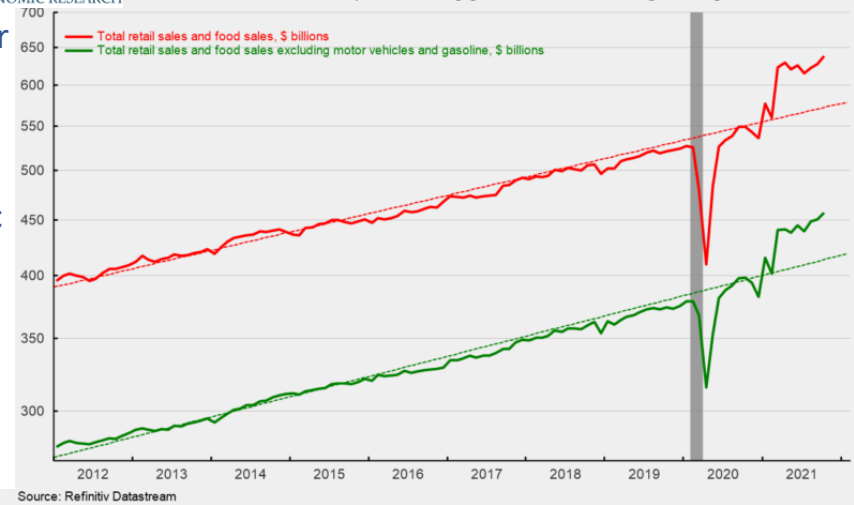
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Retail Spending Hits a New Record High in October AIER

AMERICAN INSTITUTE
for ECONOMIC RESEARCH

- Retail sales and food-services spending rose 1.7% in October following a 0.8 percent gain in July and a 1.2% increase in August. The three-month annualized growth rate over that span is a very strong 15.8%. The increases put total retail sales at a new record high and well above the pre-pandemic trend.
- Core retail sales, which exclude motor vehicle dealers and gasoline retailers, posted a strong 1.4% increase for the month, following gains of 0.5 percent in September and 2.2% in August, leaving that measure with a 17.6% annualized growth rate over the past three months. Core retail sales are at a new record high and well above the pre-pandemic trend.

Total and core retail sales posted strong gains in October, hitting new highs



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Consumer Packaged Goods and Retail in the Age of Instinct

97mn

The number of new jobs created by AI by 2025. However, 85 million jobs will be displaced.

Source: World Economic Forum

\$1tn

The amount that delays in tackling climate change will cost the world's top 30,000 companies over the next 15 years.

Source: United Nations

\$30tn



The global sustainable investment in environmental social governance initiatives in 2019, up 68% since 2014.

Source: McKinsey

28%

The decrease in the amount of sugar in soft drinks in the UK following the introduction of a sugar tax in 2018.

Source: Public Health England

70%

The increase in sales across food and beverage categories through 2022 from the shift to e-commerce.

Source: Boston Consulting Group

79%

of consumers find health, food, and nutritional messaging confusing.

Source: New Nutrition Business

\$12.1bn ↓

The value of US sales that large CPG manufacturers collectively lost to smaller players in 2020.

Source: IRI

11.6%

The increase in private-label dollar sales in 2020 compared to 2019.

Source: Private Label Manufacturers Association

38%

The increase in Amazon's annual revenue in 2020, which came in at \$386 billion.

Source: Forbes

17%

How often Amazon's Alexa recommends its private label products, even though they only represent 2% of the site's volume.

Source: Bain & Company

\$370bn

The extent of tariffs the US has imposed on imports from China.

Source: The Wall Street Journal

33%

The percentage of global supply chain leaders that have moved sourcing and manufacturing out of China or plan to in 2023.

Source: Gartner



“Given the changing consumer buying behavior, it's time to radically unchain the supply chain for a competitive advantage in the marketplace.”

Ajay Kapoor, Head of Consumer Goods and Retail, North America, Genpact



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Retail Update

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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: 11-15-2021

Category	Indicator	Relationship	Next Update	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Nov 2021
Business Investment	Average Weekly Hours - Retail	Procyclic	12-07-2021	-0.21%	-0.21%	-0.00%	-0.21%	
	Small Business Sentiment	Procyclic	12-11-2021	2.72%	0.90%	-1.35%	-3.50%	
	Weekly Economic Index	Procyclic	11-22-2021	9.07%	8.26%	8.18%	7.61%	6.62%
	Weekly Jobless Claims	Countercyclic	11-20-2021	-72.41%	-63.49%	-60.93%	-61.15%	-63.19%
Transportation and Tourism	Google Search "Travel Cancellation"	Countercyclic	12-04-2021	-20.51%	12.50%	36.00%	63.16%	
	ISM Services Index	Procyclic	12-04-2021	17.19%	8.02%	8.62%	11.09%	
	Restaurant and Bar Sales	Procyclic	11-16-2021	49.30%	37.56%	33.90%		
	Sentiment: Vacation Travel Next 6 Months	Procyclic	12-15-2021	31.70%	36.18%	33.18%	35.11%	34.23%
Consumer Big Ticket Purchases	Auto Sales	Procyclic	12-07-2021	22.59%	3.88%	-13.40%	-24.18%	
	Consumer Sentiment - Discretionary Spend	Procyclic	12-13-2021	27.61%	25.54%	25.01%	20.44%	18.09%
	Global Luxury Index	Procyclic	12-02-2021	74.62%	59.30%	47.80%	45.90%	
	Home Building Permits Issued	Procyclic	11-27-2021	20.15%	13.42%	6.10%		
Logistics and Manufacturing	Economic Policy Uncertainty	Countercyclic	11-16-2021	-62.07%	-60.80%	-53.89%	-56.52%	-41.94%
	Industrial Production	Procyclic	11-19-2021	10.98%	7.52%	5.72%		
	Overtime for Hourly Mfg Workers	Procyclic	12-06-2021	21.78%	12.96%	8.85%	6.96%	
	Purchasing Managers Index - Mfg	Procyclic	12-02-2021	20.95%	10.57%	9.00%	6.50%	
Financial	Financial Stress Index	Countercyclic	11-19-2021	-522.70%	-152.29%	-415.80%	-287.25%	-57.66%
	S&P 500	Procyclic	11-16-2021	37.02%	32.41%	32.55%	30.35%	31.44%
	US High Yield Index Option - Adjusted Spread	Countercyclic	11-16-2021	-46.59%	-35.14%	-40.06%	-38.35%	-30.14%
	VIX Volatility Index	Countercyclic	11-16-2021	-37.84%	-23.90%	-31.78%	-36.27%	-36.55%

NOTES

Values represent the percentage change from the previous year.

In November, 9 out of 9 indicators are signaling economic improvement from the previous year.

In October, 13 out of 17 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 lettuce prices continue to climb

- The beginning of lettuce harvest in Yuma, Arizona, is shoring up supplies of iceberg lettuce, knocking prices off their recent peaks, but in an unusual move, romaine prices have continued to climb as growers underestimated demand for the popular leafy green.
- Iceberg lettuce shipping point prices, which are the cost of the product at origin, are just shy of \$44/case, down 10% in the past week, but still roughly double the 10-year average for this time of year, when growing seasons transition from Salinas Valley, California, to Yuma, Arizona. Meanwhile, romaine prices are at \$35/case, up 70% since Oct. 18 and 25% above average.

Dollar General kicks off DoorDash delivery

Dollar General has jumped into the on-demand delivery arena via a national partnership with DoorDash. More than 9,000 Dollar General stores now offer DoorDash same-day service, with the average delivery taking less than an hour, the Goodlettsville, Tennessee-based deep discount retailer said. Plans call for DoorDash delivery to become available at over 10,000 Dollar General stores by December.

Ahold Delhaize plans to list online retailer Bol.com next year REUTERS

Supermarket group Ahold Delhaize said it wanted to spin off its 5.5bln euro (\$6.3bln) Dutch online retail business Bol.com, which is competing with Amazon.com, and to list its shares in the second half of next year.

Amazon confirms locations of 2 new UK fresh stores

- Amazon is gearing up to open 2 new Amazon Fresh checkout-free stores in Chingford and East Sheen, London. Opening hours are from 7:00 am to 11:00 pm, 7 days a week customers are able to use their Amazon apps to enter and put their phone away and shop for what they need. At the end of their visit, they can head for the exit, with no need to stand in a queue or check out.
- The move comes as Amazon plans to open a further 200 Fresh stores with its cashierless technology within the next two years.





A2Z Smart Technologies announces collaboration with Edgify to enhance the Cust2Mate shopping experience



A2Z Smart Technologies Corp. ("A2Z" or the "Company") announced it will integrate AI-based software from Edgify into Cust2Mate shopping carts, to enhance the smart cart's capabilities for automatic detection of non-barcoded items (fruits and vegetables). Edgify's software provides a 99.98% accuracy. Cust2Mate will use Edgify in all of its carts outside of Israel.

New reports suggest only Okanagan's 'bona fide farmers' should get tax break THE DAILY COURIER

- A 50-page report, prepared by Deloitte for the provincial government and titled The Path Forward: a Blueprint for B.C.'s Tree Fruit Industry, recommends that British Columbia's provincial government should try to separate "bona fide farmers" from those who own agricultural land mainly as a way to secure significant tax benefits.
- This is one of the 19 recommendations aimed at ensuring a more prosperous future for the Okanagan's fruit tree industry, a well-established sector that unfortunately is under considerable financial pressure as well.

British convenience food manufacturer uses three processing lines with UVC-Lock disinfection Fresh Plaza

- A British coleslaw and ready meal manufacturer has recently installed Kronen's UVC Lock lines in its food processing production to ensure the vegetables are in a hygienic condition before the next processing steps for example peeling carrots or cutting cabbage and onions. This results in the surface of up to 3000 kg of vegetable being efficiently disinfected without heat exposure and without leaving residue on the product.
- Disinfection reduces the risk of cross-contamination and increases the food safety of the end product which is why the British company invested in this equipment with its UVC state-of-the-art technology. The three lines ensure optimum hygiene right at the beginning of the processing procedure. They were specially adapted to process these particular vegetables. Two lines are used to disinfect unpeeled carrots and peeled onions, whilst the third line decontaminates the surface of whole cabbages. These lines have already been operating successfully for several months at the British convenience food manufacturer in the UK.



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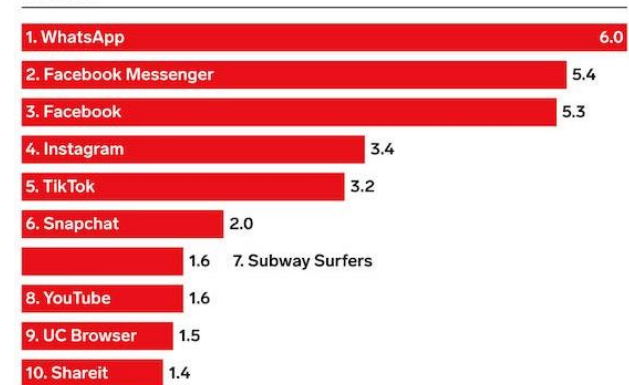


Meta dominates the top 10 mobile apps worldwide eMarketer.

- Meta, the company formerly known as Facebook, owns the top four mobile apps worldwide, with WhatsApp, Facebook Messenger, Facebook, and Instagram seeing the most cumulative downloads between Q1 2014 and Q3 2021. TikTok and Snapchat take the next two spots, while seventh place goes to endless running game Subway Surfers.
- For the first time, in 2021, Instagram will pull in more US ad revenues (\$26.46 billion) than the core Facebook platform, its ad marketplace, and Messenger combined (\$23.84 billion). We predict that Instagram will widen its lead, hitting \$39.70 billion in ad revenues in 2023, though our forecast may change as the apps' parent company focuses on getting Meta.

Top 10 Mobile Apps Worldwide, Ranked by Cumulative Downloads, Q1 2014-Q3 2021

billions



Real and artificial Christmas trees in short supply RetailWire.

Climate change and supply chain issues have cut into Christmas tree supplies this year, and yet demand is expected to pick up compared to previous years. “If you see something you like, buy it,” said Jami Warner, the executive director of the American Christmas Tree Association. “The quantities this year will be fewer than usual and of course the consumer will have to take the brunt of higher prices. They won’t be hugely higher, but they will be higher.”

Texas Instruments to build new chip plants in Texas; add up to 3,000 jobs Seeking Alpha ^α

- Texas Instruments said Wednesday it will build a new chip-fabrication plants in North Texas as part of an investment in production that could reach \$30 billion.
- TI said construction at the Sherman, Texas site will start with two facilities next year, and could expand to include four chip fabrication plants. As many as 3,000 jobs are expected to be created by the new TI expansion.
- The first products from the facilities are expected to roll off the assembly line in 2025.
- TI, which supplies products for Apple, recently was caught up in Apple saying that its quarterly results were heavily impacted by semiconductor supply chain shortages.

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‘Beyond unprecedented’ surge in authorized drivers continues to flood market

More than 195,000 drivers still hold operating authority gained over past 16 months, FTR analysis shows.







- Over the past 16 months, more than 113,000 for-hire trucking applications have received federal operating authority, according to data from consultancy FTR. More than 100,000 of those applicants representing a pool of 195,000 drivers still held authority as of Nov. 1, according to FTR’s analysis of government data.
- Solo operators have accounted for more than 70% of the approved applicants, said Avery Vise, FTR’s vice president of trucking. The six-figure size of approved drivers, which Vise called “beyond unprecedented,” reflects an ongoing trend of owner-operators already with trucks who have obtained their own authority. However, the population includes a significant number of former company drivers who have also obtained trucks and operating authority, another trend that shows no signs of abating, Vise said.
- Many approved applicants presumably want their own authority to participate in what has been a lucrative market for noncontract, or spot, freight, as demand for loads remains highly elevated.

By The Numbers – AR on the rise

AR is a key way that C-suites are achieving transformation at scale. Spending on AR is expected to grow 18-fold over the next four years: from \$2.7b in 2021 to \$48.6b in 2025. Use cases will integrate AR with AI-centric products, IoT, new devices and smart analytics to build knowledge networks that enable workforces to digitally access the data, people, and workflows that help them perform their work fast, efficiently, and safely.

\$2 TRILLION The size of the engineering services outsourcing (ESO) market by 2026, according to Global Industry Analysts.

Perks of Implementing an AR-Remote Workforce Transformation Strategy

	70% INCREASE in worker productivity
	30% INCREASE in cost savings
	60% FASTER turnaround for aircraft on the ground
	5x DECREASE in required onsite visits
	300% INCREASE in number of inspections
	80% FASTER issue to resolution

Source: IDC White Paper, sponsored by HCL and Librestream

Commercial vehicle insurance markets went from bad to less bad FREIGHTWAVES

- Commercial auto insurance, which includes trucking, lost money in 2020. And yet a new report by insurance rating company AM Best still declared last year's performance as "the best underwriting results" in several years.
- Improved performance was recorded "across a number of key metrics, although the line still incurred an underwriting loss overall," Best wrote in a recently released report.
- But the report noted that the improvement last year was driven in part by the sharp drop in the number of cars on the road. That decline "finally moved the needle substantially in 2020."
- Commercial auto insurance includes a wide range of coverage, including trucks. It has been a poor performer for several years, and the woes it faces were summed up in AM Best's inclusion of this number from the Council of Insurance Agents and Brokers: Pricing for commercial auto insurance has been increased for 40 consecutive quarters, starting with the third quarter of 2011. But from 2011 to 2020, commercial auto underwriters have recorded more than \$22 billion in underwriting losses.
- The second quarter of 2021 had average increases of 6.8%. That was well down from the range of 9% to 11% recorded between the third quarter of 2019 and the first quarter of 2021.
- There is almost nothing in the report that buyers of commercial auto insurance would find comforting.

European Road Freight Market Forecasts 2021-2025

- European Road Freight Market Forecasts reveal the market to grow by 8.6% in 2021 and will be 2.2% larger than 2019's pre-pandemic peak.
- The European road freight market has been on somewhat of a rollercoaster ride during the Covid-19 pandemic, buffeted by supply and demand shocks.
- Ti's new market forecast data reveals that the market grew by 11.1% in the first half of 2021 and is projected to be worth €352.39bn at the end of 2021, 2.2% larger than 2019's pre-pandemic peak. This expansion will continue over the next 5 years, with Ti's new data projecting the market will expand at a 4.3% CAGR through to 2025.

Flooding cuts off Port of Vancouver rail service American Shipper

- Flooding and landslides in British Columbia have cut off the Port of Vancouver from all rail services as officials warned on Tuesday of forthcoming vessel delays and disruptions to terminal operations.
- Significant portions of CN and Canadian Pacific rail lines serving the port — Canada's largest — were shut down after heavy rain pounded the province and the Pacific Northwest. The consequences likely will be felt throughout the Canadian supply chain, adding delays for shipments of everything from containers to bulk commodities.
- "Vessel delays and heightened anchorage demand are expected due to disruptions to terminal operations," port spokesperson Polychronis wrote in an email. "We are working closely with our terminal operators, railways, and all levels of government to understand the impacts of these delays on terminal operations and to develop a recovery plan." As of Tuesday night, the port reported 32 vessels at anchor.

WMS - One size doesn't fit all envista[®] enabling enterprise commerce

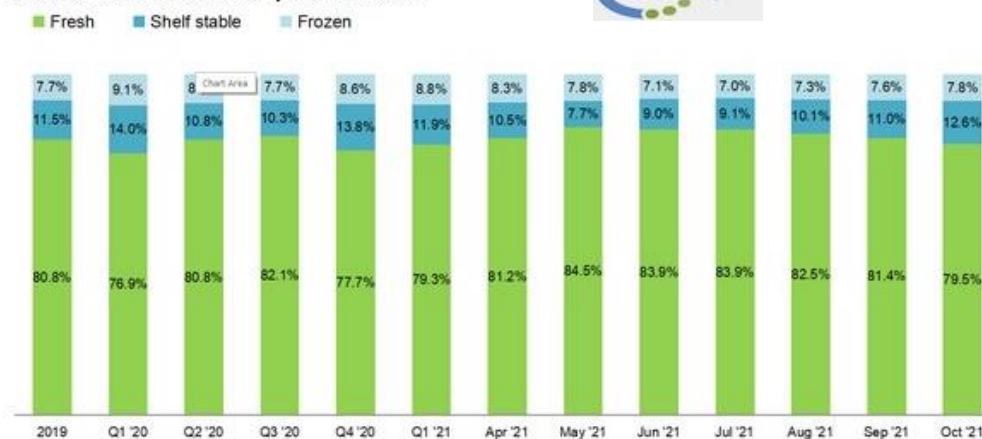
- Executing a formal system selection process have over an 80% probability of completing their projects on schedule
- One of the most important aspects of achieving supply chain optimization is the selection of a supply chain execution system. It can be a long process, with many pitfalls along the way. With many different options, it can sometimes be hard to ensure that your company ends up with the right SCE software system for their current and evolving needs.
- **Forming your team** - The first step to SCE selection is to establish a cross-functional team that is representative of key business users and stake holders.
- **Cost justification assessment** - The second step is to perform an internal justification that is owned and developed by the core selection team.
- **Getting a hands-on answer to "What do we need?"** - The third step is system requirements definition and future functional process flow design.
- **Scenario development: what could go wrong?** - The next step is to develop business scenarios that the eventual SCE system must perform.
- **Scripted demos** - Once you have completed your current and future scenarios and mapped your interfaces, you need to have the SCE vendors demonstrate their solution.



Impact of inflation and supply chain woes felt in October

- Twenty months into the pandemic, fresh produce retailing remains in flux. IRI, 210 Analytics and the Produce Marketing Association have documented the changing marketplace.
- Meals continued to be home-centric in October. “According to the October IRI primary shopper survey, the share of meals prepared at home is back to late spring, early summer levels,” said Jonna Parker, team lead fresh with IRI.
- The first 10 months of the year brought \$577 billion in food and beverage sales — now up 1.0 percent over 2020 and 15.5 percent over the 2019 pre-pandemic normal. However, inflation played a significant role with year-on-year units still down 3.6 percent.
- Fresh produce prices are higher than last year. Year-to-date, prices for total fresh produce are about 6 percent higher than they were last year. Inflation for fruit is above average at +7.9 percent year-to-date through October 31st. Fruit prices during October 2021 were 10.5 percent higher than in October 2020. “I certainly remember other times of high inflation for produce but the level of media attention to the food supply chain supply challenges has shoppers ever so aware today,” said Joe Watson VP of membership and engagement for PMA.
- While fresh sales are strong, produce isn’t capturing all the demand that returned to retail.

Share of dollars across temperature zones



Source: Source: IRI Integrated Fresh, Total U.S., MULO, % change vs. YA

Top 10 in sales		Dollar sales increase over comparable period in 2019/2020								
	Q1 '20	Q2 '20	Q3 '20	Q4 '20	Q1 '21	Q2 '21	Q3 '21	Oct '21	Oct vs '20	Oct vs '19
Fresh vegetables	+8.4%	+20.7%	+15.1%	+14.8%	+4.6%	-7.4%	-2.6%	\$3.4B	-1.1%	+13.9%
Tomatoes	+12.7%	+24.7%	+17.8%	+17.6%	+3.6%	-8.7%	-4.5%	\$336M	-1.7%	+16.1%
Packaged salad	+13.0%	+11.6%	+14.0%	+21.7%	+13.0%	+14.8%	+10.5%	\$313M	+6.9%	+23.7%
Potatoes	+19.4%	+36.8%	+16.6%	+12.1%	-4.1%	-19.9%	-4.8%	\$312M	+0.3%	+11.5%
Lettuce	+3.5%	+14.2%	+8.0%	+23.2%	+8.9%	-3.5%	+2.3%	\$252M	-3.1%	+17.8%
Onions	+11.5%	+23.4%	+11.9%	+11.2%	+0.8%	-14.8%	-2.0%	\$229M	+0.9%	+11.4%
Peppers	+5.5%	+28.0%	+22.1%	+21.7%	+11.5%	-7.1%	-3.7%	\$220M	-4.5%	+17.7%
Carrots	+6.4%	+12.1%	+6.5%	+4.6%	-5.1%	-7.6%	-0.1%	\$127M	-1.6%	+3.7%
Mushrooms	+8.1%	+31.2%	+23.0%	+17.5%	+8.2%	-13.0%	-9.5%	\$119M	-6.9%	+11.7%
Cucumbers	+10.2%	+21.4%	+18.9%	+21.8%	+9.9%	+2.5%	+3.9%	\$118M	+3.4%	+27.6%
Broccoli	+5.3%	+19.0%	+13.9%	+11.9%	+5.0%	-5.0%	-0.4%	\$116M	+5.7%	+18.5%

Source: Source: IRI Integrated Fresh, Total U.S., MULO, % change vs. YA



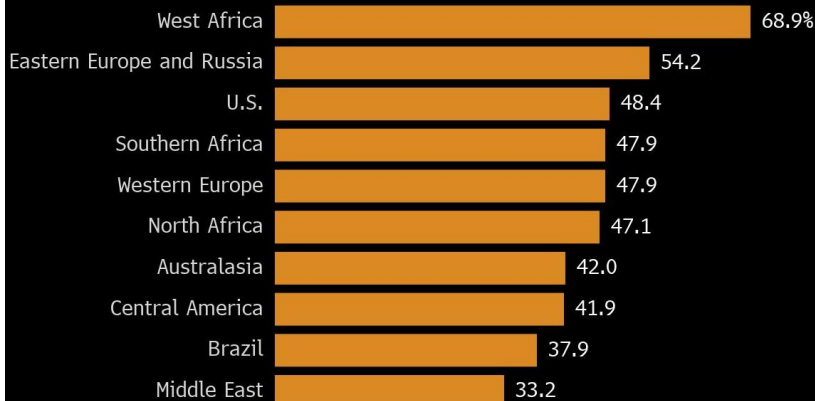
Farmers Around the World Are Battling 'Post-Apocalyptic' Food Crisis SUPPLYCHAINBRAIN

- The world is facing a new era of rapidly increasing food prices that could push almost 2 billion more people into hunger in a worst-case climate crisis.
- Confronting the dire predictions, farmers have begun to adapt. On Jody Brown's ranch in Australia, she's experimenting with regenerative-farming practices better suited to drought. And across the globe, farmers are swapping crops, switching seeds, increasing irrigation and even putting face masks on their cows in the battle to both increase output and reduce their own emissions. Companies including Syngenta Group, the Swiss agrichemicals giant, are developing new varieties for vegetables like cabbages that are more resistant to extreme weather.
- Global crop yields could fall about 30% because of climate change, while food demand is expected to jump 50% in the coming decades, according to United Nations' estimates. Fisheries and water supplies are increasingly threatened, too, said the U.N.'s Food and Agriculture Organization.

Crop Risk

Large swaths of Africa, Europe and the U.S. set to see drought

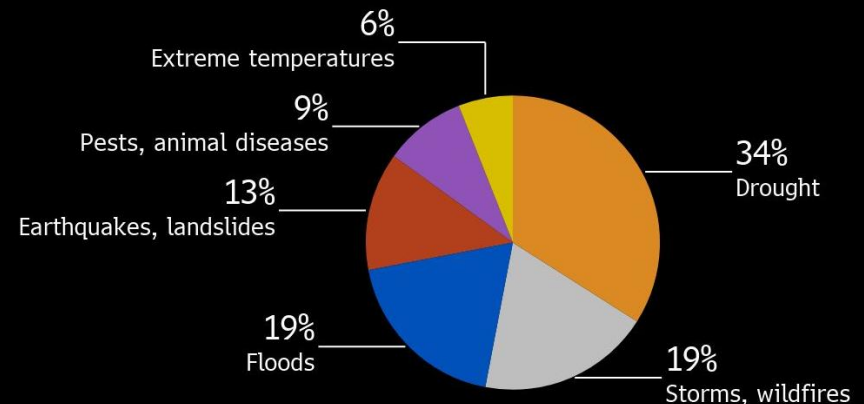
■ Cropland exposed to drought in 2050



Source: Chatham House, Arnell et al (2019)

Drought Is Most-Destructive Force

Crop, livestock production loss by disaster type



Source: U.N. FAO

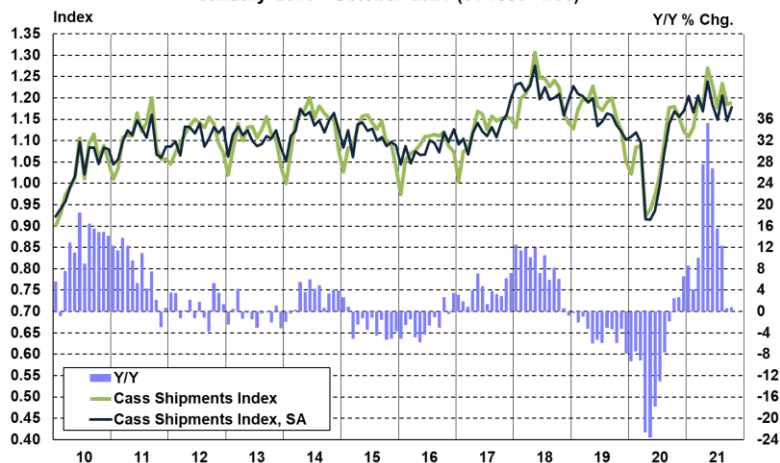
Data covers 2008-2018 for least-developed and lower-middle-income countries

Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."



Cass Freight Index® - Shipments

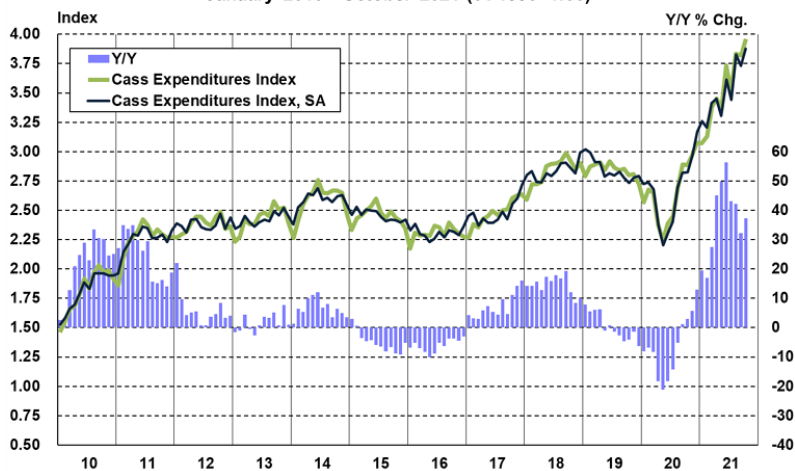
January 2010 - October 2021 (01'1990=1.00)



Source: Cass Information Systems, Inc., ACT Research Co., LLC: Copyright 2021

Cass Freight Index® - Expenditures

January 2010 - October 2021 (01'1990=1.00)



Source: Cass Information Systems, Inc., ACT Research Co., LLC: Copyright 2021

North American Class I Rail Volumes by Segment

Load Volume, millions

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021E
Intermodal	17.0	17.8	18.6	19.8	19.7	19.3	20.3	21.3	20.3	19.8	21.0
Chemicals	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.4	3.3	3.2	3.4
Metals	2.3	2.3	2.3	2.3	1.9	1.8	1.9	2.0	1.9	1.8	2.1
Automotive	1.7	1.9	2.0	2.0	2.1	2.2	2.1	2.1	2.1	1.6	1.6
Petroleum	0.9	1.2	1.6	1.8	1.7	1.4	1.3	1.6	1.8	1.5	1.5
Minerals/Sand	2.2	2.3	2.4	2.7	2.5	2.4	2.7	2.7	2.5	2.1	2.2
Paper/Lumber	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3
Grain/Food	3.6	3.5	3.4	3.7	3.6	3.7	3.6	3.7	3.6	3.7	3.7
Coal	8.4	7.5	7.2	7.5	6.5	5.3	5.6	5.5	5.1	3.9	4.3
Total	41.6	41.9	42.9	45.7	43.8	41.7	43.5	45.0	43.2	40.0	42.2
Carloads, ex-Intermodal	24.6	24.2	24.4	25.9	24.1	22.3	23.1	23.7	22.9	20.2	21.3

North American Class I Rail Volumes by Segment

	2011	2012	2013	2014*	2015	2016	2017	2018	2019	2020*	2021E
Intermodal	5.1%	4.5%	4.5%	6.6%	-0.5%	-1.7%	5.2%	4.8%	-4.5%	-2.5%	5.7%
Chemicals	3.4%	-2.4%	2.4%	3.5%	-2.0%	-0.5%	2.3%	3.9%	-1.6%	-2.9%	4.8%
Metals	6.9%	-0.8%	-0.8%	2.9%	-17.8%	-8.2%	9.8%	4.6%	-4.1%	-9.3%	16.7%
Automotive	8.8%	13.8%	2.8%	2.8%	3.6%	4.0%	-1.9%	-0.1%	-2.0%	-21.4%	-3.2%
Petroleum	8.4%	44.4%	27.3%	17.3%	-6.7%	-20.1%	-3.4%	21.7%	13.1%	-18.1%	-0.2%
Minerals/Sand	5.8%	2.7%	6.1%	13.2%	-8.5%	-5.8%	15.6%	-0.9%	-6.7%	-15.2%	5.1%
Paper/Lumber	3.9%	1.0%	1.9%	1.9%	-1.9%	-3.3%	-0.9%	2.6%	-5.4%	-5.4%	4.6%
Grain/Food	-1.4%	-2.7%	-3.6%	9.4%	-2.8%	1.7%	-1.5%	1.1%	-2.2%	2.9%	1.0%
Coal	-0.1%	-11.1%	-3.8%	4.3%	-12.6%	-19.8%	6.4%	-1.1%	-7.9%	-24.0%	12.3%
Total	3.5%	0.9%	2.4%	6.4%	-4.2%	-4.9%	4.4%	3.4%	-3.9%	-7.4%	5.5%
Carloads, ex-Intermodal	2.4%	-1.7%	0.9%	6.3%	-7.0%	-7.4%	3.6%	2.2%	-3.3%	-11.7%	5.3%

Source: Company reports; ACT Research Co. Copyright 2021

*Excludes unusual 53rd week

Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."



Freight rates to stay high into 2022, Bloomberg and Truckstop.com say ^{CSCMP's} Supply Chain _[QUARTERLY]

- Shippers will continue to see “robust” contractual pricing for moving their truckload freight heading into 2022 thanks to solid demand and lingering capacity constraints, according to a survey of owner-operators and small fleets conducted by Bloomberg and Truckstop.com.
- "The survey data shows what has likely become the tightest trucking market in a generation and looks poised to keep supporting spot rates into 2022," Bloomberg Intelligence said in a release. "We believe contractual pricing may increase in the mid- to high-single digits next year because of limited driver availability and the prospects for robust demand created by economic recovery and a prolonged inventory-replenishment cycle."
- More specifically, the Bloomberg and Truckstop.com “Truckload 3Q-21 survey” also shows that 56% of respondents hauled more loads in the third quarter of this year than last year, 55% of truck drivers expect spot rates (excluding fuel surcharges) to rise in the next six months, and 74% expect rates will either rise or stay steady in 2022.
- Those conditions are being triggered by forces including: (i) steady demand due to restocking, (ii) structural shifts in e-commerce and peak-season preparation, and (iii) pent-up demand from increased port congestion, the researchers said. And those factors are expected to continue into the first half of 2022, reflecting the heavy demand put upon businesses and carriers, Truckstop.com CEO Paris Cole said in a release.

Truck shortage hampers transport of Maine potatoes



- Although Maine potato growers saw strong yields this season, a driver shortage slowing down shipment to the markets. Of course, this also drives up prices. Supply chain delays, higher fuel costs and lack of transportation will probably now cut into growers' incomes.
- Nationwide, the trucking industry was short of drivers before the pandemic. “Trucks have been a challenge, but they're even more of a challenge now,” said Don Flannery, executive director of the Maine Potato Board.
- But supply chain delays, higher fuel costs and lack of transportation could cut into growers' income.
- “The real problem is no trucks to haul containers. That means prices go up for the transportation, prices go up to our consumers for the goods, and we end up selling for less,” said Brian Guerrette of Guerrette Farms in Caribou.



Gatik and Walmart achieve fully driverless deliveries, a first for autonomous trucking **FurnitureToday**

- Short-haul trucking and delivery firm Gatik has removed the driver from its autonomous trucks in all its Walmart deliveries in Bentonville, Ark., a worldwide first.
- Gatik's driverless operations, which began in August 2021, involve repeated delivery runs multiple times per day on public roads. The company says this allows for increased speed and responsiveness when fulfilling e-commerce orders, increased asset utilization and better road safety for everyone.
- In December 2020, Gatik and Walmart received the Arkansas State Highway Commission's first approval to remove the safety driver from Gatik's autonomous trucks, following the completion of 18 months' successful operations. Since launching commercial operations in 2019, the company says it has achieved a 100% safety record across multiple operational sites in North America (including Arkansas, Texas, Louisiana and Ontario).



'US trucker pay may need to rise to resolve supply chain troubles' **REUTERS**

- U.S. Federal Maritime Commission Chairman Daniel Maffei has stated that a lack of warehouse space and truckers to move products seemed to be at least part of the problem, as vessels laden with consumer goods are stuck outside ports because there is no space to dock and unload. Wages for truckers and warehouse workers may need to rise to resolve shipping backups, he said.
- Kristen Monaco, director of the FMC's Bureau of Trade Analysis, said truck drivers are generally not paid for the time they spend waiting, and long waits hurt efficiency: "Think of it as sort of reducing your labor supply by having the same number of people there because you're just not making use of their time. And that is an inefficiency. And it's not currently paid, which means there's very little economic incentive to fix that inefficiency."

Humber Express rail freight service launched **Global Railway REVIEW**

A new intermodal train service directly from the Port of Immingham to iPort Rail in Doncaster has been launched, intent on easing the pressures of the current HGV driver shortage by having the capacity to move 80 containers a day by rail.





Georgia Ports adds rail capacity amid record container traffic

- Georgia Ports Authority (GPA) has completed and is now operating the second set of nine new rail tracks for a total of 18 tracks at its Mason Mega Rail Terminal. The expansion immediately increases intermodal capacity to and from the Port of Savannah by more than 30%.
- “The massive new Mason Mega Rail yard is coming online at the perfect time to help address the influx of cargo crossing the docks at the Port of Savannah,” said Governor Brian P. Kemp. “The added rail capacity, along with new container storage on and off terminal, are already serving as important tools to resolve the supply chain issues for Georgia and the nation.”
- Since 1 September, GPA has seen a 60% reduction in the amount of time that containers are on terminal, as major retailers have begun moving cargo off-terminal at a faster pace. The improved flow of cargo and additional space at Garden City Terminal has allowed the Port of Savannah to expedite vessel service, reducing the number of ships waiting at anchor by 40%.
- In addition, GPA and its two Class I rail providers are working in tandem to open temporary container yards to expedite cargo flow at the Port of Savannah. The GPA is expected to open its first off-terminal overflow container yard less than five miles from the port today, 15 November.

Trains increasing between major seaports



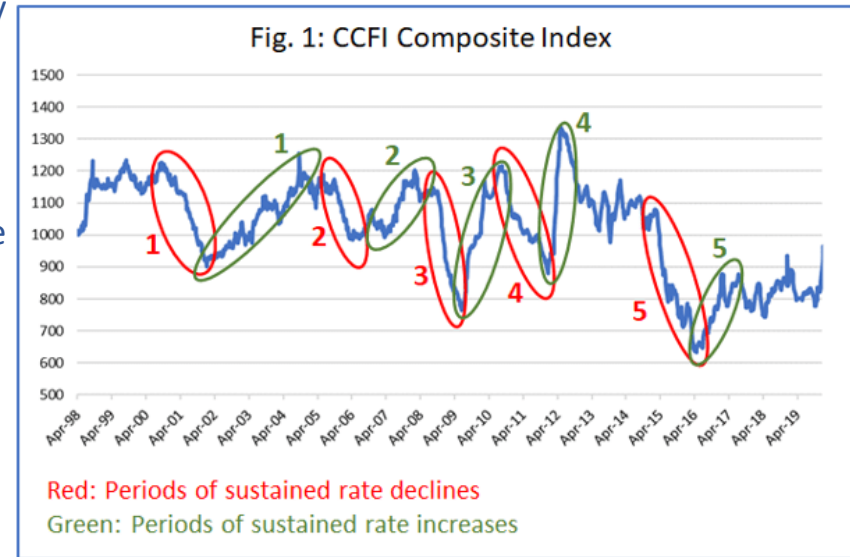
- UTLC ERA, the largest operator on the broad-gauge section of the New Silk Road, sees container transport by rail between Europe and China growing by 25 per cent this year, according to CEO Alexey Grom. The company expects a volume of 676,000 TEU in total that will be transported along this rail route in 2021.
- According to Grom, the growth is partly due to the stable position of rail transport during the corona crisis. “The pandemic has forced many shippers to reconsider the use of a particular mode of transport. At a time when shipping companies had to cancel many routes and air freight came to a standstill, rail freight traffic was able to proceed fairly smoothly.’ In 2015, UTLC ERA started with a focus on expensive goods such as electronics and cars, and three years ago more than 80 per cent of the cargo supply consisted of expensive goods. Now it is about 40 per cent.





Rate reduction could take 18-30 months, reports Sea-Intelligence

- The Danish provider of research & analysis, data and advisory services within the global supply chain industry, Sea-Intelligence has analyzed the composite China Containerized Freight Index (CCFI) to see how quickly freight rates could normalize, if using history as a guide.
- In the figure to the right, Sea-Intelligence narrowed down the CCFI to the pre-pandemic data and identified five periods of sustained rate decreases (marked in red), as well as five periods of sustained rate increases (marked in green).
- Sea-Intelligence analysts defined the time periods of increases and decreases and analyzed each separately.
- "We measured the rate of decline in terms of the average percentage point drop per week, over the full period of each of the 5 decline periods. This ranged between -0.4% and -0.9% per week. If these time periods are to reflect the inherent pricing mechanisms in the industry, we can use them to calculate a reversal back to normality," explains Alan Murphy, CEO of Sea-Intelligence.
- This, however, presents the next question: what is a normal rate level? Based on historical CCFI data, this is represented by rate levels around index level 1000.
- "This represents a decline of -69% from the current rate level," pointed out Sea-Intelligence.
- During the global financial crisis of 2008-2009, rates declined at the fastest rate of a weekly decline of -0.9%, and if we apply this speed of decline to the current rate levels, it will take 18 months to get back to "normal".
- If, however, the rate of decline matches the average seen over the five rate decline periods, then normalization would take as much as 26 months. However, it can be argued that the current increase is much stronger than before, and that should be accounted for.





“Congestion is not just for Christmas,” says Global Shippers Forum



- The wave of congestion that is sweeping through global supply chains delaying deliveries of seasonal goods and essential commodities, stranding many shippers between meeting impossible delivery deadlines while paying record shipping rates is not set to subside anytime soon, according to Global Shippers Forum (GSF).
- “This is proving to be the ‘Peak Season like no other’, just as we predicted,” said GSF, the voice of cargo owners in international trade.
- Importers and exporters are struggling with historically poor levels of service from shipping lines, ports and terminals, and inland logistics providers, yet paying the highest shipping rates and surcharges seen for decades, according to Hookham.
- He explained that “Global shippers are riding a tidal wave of congestion this Peak Season that started in exporting countries and is now arriving on the shores of importers and sweeping inland. First, we had lockdowns in Chinese ports, then an inexplicable shortage of empty containers, then the ships suddenly all maxed out and slots were like gold dust (and costing as much). Now our goods are queuing to get into ports, waiting for a crane to unload the box and then for a driver to move it inland to where we need it. It’s been a tough ride and it’s not yet over, but most of us are still standing, although, sadly, there will be ‘wipe-outs.’”
- The most vulnerable businesses are importers and distributors fighting to meet delivery deadlines, set by retailer customers, according to GSF, as they cannot predict when the goods they have paid so much to have transported will be available. Not only have they blown their logistics budgets this year, but they are facing stiff penalty charges for late delivery, and possible loss of future contracts, added GSF.
- But with most deliveries expected to land in the next few weeks, and Thanksgiving and Christmas probably safe for this year, big questions remain. “Will this congestion continue well into next year? Will tight market conditions persist through 2022?,” asks GSF. “Or will consumer demand slacken, and will capacity and resilience improve service levels prices become more predictable?” “Just about every shipping line is predicting the latter,” noted Hookham.
- “And why wouldn’t they when they are collectively expecting to turn profits exceeding US\$150 billion this year? But there is good reason to query the hype of continued congestion.”





New Queuing Process at Los Angeles and Long Beach Ports Will Have Ships Waiting Far Out at Sea Captain

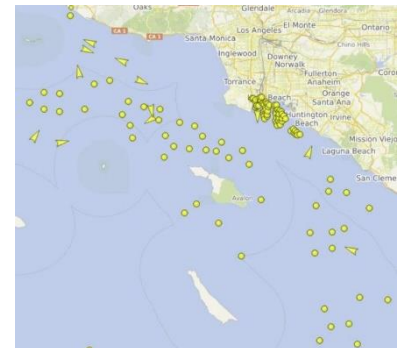
- Beginning November 16th, a new process for container ships bound for the nation's two busiest container ports has ships waiting at least 150 miles from shore, rather than in anchorages and loitering areas closer to the coast.
- The new process was designed to improve safety and air quality off of Southern California while also “dramatically reducing” the number of backlogged ships at anchor close to shore near the ports of Los Angeles and Long Beach. The plan was developed by a working group of maritime industry stakeholders including Pacific Maritime Association, Pacific Merchant Marine Shipping Association and Marine Exchange of Southern California, a Coast Guard affiliated organization that manages vessel traffic services (VTS) for the region, as well as others.
- “This process will allow vessels to slow their speed and spread out, reducing vessels at anchor before the onset of winter weather, in addition to reducing emissions near the coastline,” the organizations said in a statement.
- According to the announcement, the new process calls for inbound container ships arriving from across the Pacific to wait for an available berth approximately 150 miles off the Southern California coast, rather than at anchor in designated anchorages or in loitering areas. The 150-mile boundary will apply only to eastbound ships, while northbound/southbound ships must remain more than 50 miles from shore.

Carriers, shippers jumpstart trans-Pacific contract talks earlier JOC.com

Container lines and their largest import customers are beginning trans-Pacific service contract negotiations earlier month, driven by shippers' concerns about securing enough contracted space and carriers' stronger positioning.

Southern California: Vessel numbers on rise again PORT TECHNOLOGY

- Vessels waiting outside the ports of Los Angeles and Long Beach are on the rise again as 82 vessels were reported to be sitting in the water on 15 November 2021.
- The latest figures comes as part of a social media post from Shipping Analyst Lars Jensen, and clearly demonstrates that the current congestion problem in southern California is still not improving despite efforts from the ports affected.





Empty Containers Pile Up at Port of Los Angeles as Ocean Liners Add ‘Sweeper’ Ships to Clear Backlog Captain

- The number of container ships waiting to enter the busiest U.S. seaport complex hit a new record of 84 on Tuesday, as growing piles of empty containers crowd docks at the Southern California facility that has been racing to remove lingering imports.
- The conundrum illustrates the challenge faced by a U.S. government task force charged with tackling supply chain snarls that are contributing to product shortages and inflation.
- U.S. ports have been inundated with cargo since the pandemic shifted spending away from restricted entertainment like travel and dining out to physical goods. COVID-19 also reduced labor needed to keep goods flowing smoothly. Aging truckers retired early, while infection control measures have limited dock and warehouse staffing.
- There are now roughly 65,000 empty containers on the Port of LA docks, up about 18% from just a couple of weeks ago, said the port’s executive director, Gene Seroka. He added that “sweeper” ships are inbound to shuttle some of those boxes back to factories in Asia. (Seroka said ocean liners have sent six additional ships to pick up 17,500 TEUs worth of empties so far, while two more are on the way. More on Seroka’s comments about “sweeper ships” here).

Zim suspends Asia-LA service due to port congestion JOC.com

Through the suspension of a trans-Pacific service to Southern California, Zim Integrated Shipping Services has become the latest carrier to shift vessels out of trade, blaming port congestion.

Congestion curbs supply of Christmas goods in Germany JOC.com

Not all Christmas goods will be available in Germany as ongoing congestion at the country’s ports disrupts supply lines and delays deliveries for retailers and manufacturers.

APM Terminals to operate new terminal in Louisiana, US

APM will operate the newly planned container terminal and intermodal rail facility in Plaquemines Parish, LA, after the LOI by Plaquemines Port, Harbor and Terminal District (PPHTD) and APMT. The facility is located on the Mississippi River and is in the early stages of development as a 15.2m deep water depth container terminal in Plaquemines Parish of Louisiana.





Associated British Ports confirms over 1,000 acres of land development

- The UK's largest port operator, Associated British Ports (ABP) is bringing forward more than 1,000 acres (4,046,856 m²) of development land to support the UK's supply chain, manufacturing and renewable energy sectors.
- ABP operates 21 ports around the UK and is making 14 strategic sites, encompassing a total of 1,075 acres, available for a range of business uses.
- Full list of site locations and sizes:
 - ABP Business Park, Cardiff (36 acres)
 - Atlantic Side South Dock & West Way, Newport (two sites of 73 acres and 18 acres respectively)
 - Cliff Quay, Ipswich (11 acres)
 - Grimsby Automotive Park (92 Acres)
 - Harbourside, Port Talbot (85 acres)
 - Hull International Enterprise Park (468 acres)
 - Imm-Port and Queens Road, Immingham (two sites of 51 acres and 9 acres)
 - King George & Queen Elizabeth Dock, Hull (159 acres)
 - Redbridge and Site L, Southampton (two sites of 42 acres and 7 acres)
 - High Level North Dock & 1:40, Liverpool (two sites of 6 acres and 11 acres)

LA, Long Beach Ports delay container surcharge until Nov. 22 **FurnitureToday**

- The Port of Los Angeles and the Port of Long Beach have announced that they will delay consideration of the "Container Dwell Fee" directed at ocean carriers until Nov. 22.
- "There's been significant improvement in clearing import containers from our docks in recent weeks," said Port of Los Angeles Executive Director Gene Seroka, adding, "We will continue to closely monitor the data as we approach November 22."
- Since the fee was announced on Oct. 25, the twin ports have seen a decline of 26% combined in aging cargo on the docks. This encouraging momentum supports a delay in implementation of the fee.





McDonald's makes new white label deals with DoorDash, Uber Eats RESTAURANT DIVE

- McDonald's announced on Monday new global partnerships with DoorDash and UberEats that will grow its McDelivery channel, which was first launched in 2017, in the U.S. and around the globe. DoorDash will power delivery orders placed on the McDonald's app through their white label product, DoorDash Drive, while Uber will power orders through the McDonald's app through its white label product, Uber Direct.
- These long-term, global strategic partnerships will build on the channel's growth — from 3,000 restaurants in 2017 to more than 32,000 restaurants in 100 countries today. In McDonald's top six markets, over 20% of sales, or about \$13 billion year-to-date, have come through digital channels including delivery, CEO Kempczinski said Oct. 27.
- DoorDash and Uber Eats stand to gain from these new McDonald's deals, which could drive traffic or increase their market share. McDonald's and DoorDash first partnered in 2019, and Uber was the chain's first delivery partner, launching McDelivery in 2017.
- Taking a white-label approach allows McDonald's to control the customer journey, own consumer data and better customize promotions accordingly. Personalization has been a priority for the company since announcing its Accelerating the Arches strategy in November 2020, which includes its new MyMcDonald's loyalty program. The program has grown to include 21 million members.
- The chain's delivery sales have also grown by billions, Kempczinski said on McDonald's Q3 earnings call, though he didn't break down the specific sales mix of the off-premise channel. On the call, Kempczinski said the company's scale offers competitive advantages that could allow the company to negotiate favorable commission fee rates.
- According to McDonald's, its new partnership with DoorDash and Uber Eats will allow for seamless integration of McDelivery into its global mobile app, which the company expects will create even more personal experiences with customers.
- A white label model allows McDonald's to leverage DoorDash's and Uber's technology and delivery logistics, as well as their scale. DoorDash currently commands 57% of the U.S. market, while Uber owns 24% of the market.





Blood Types Around the World

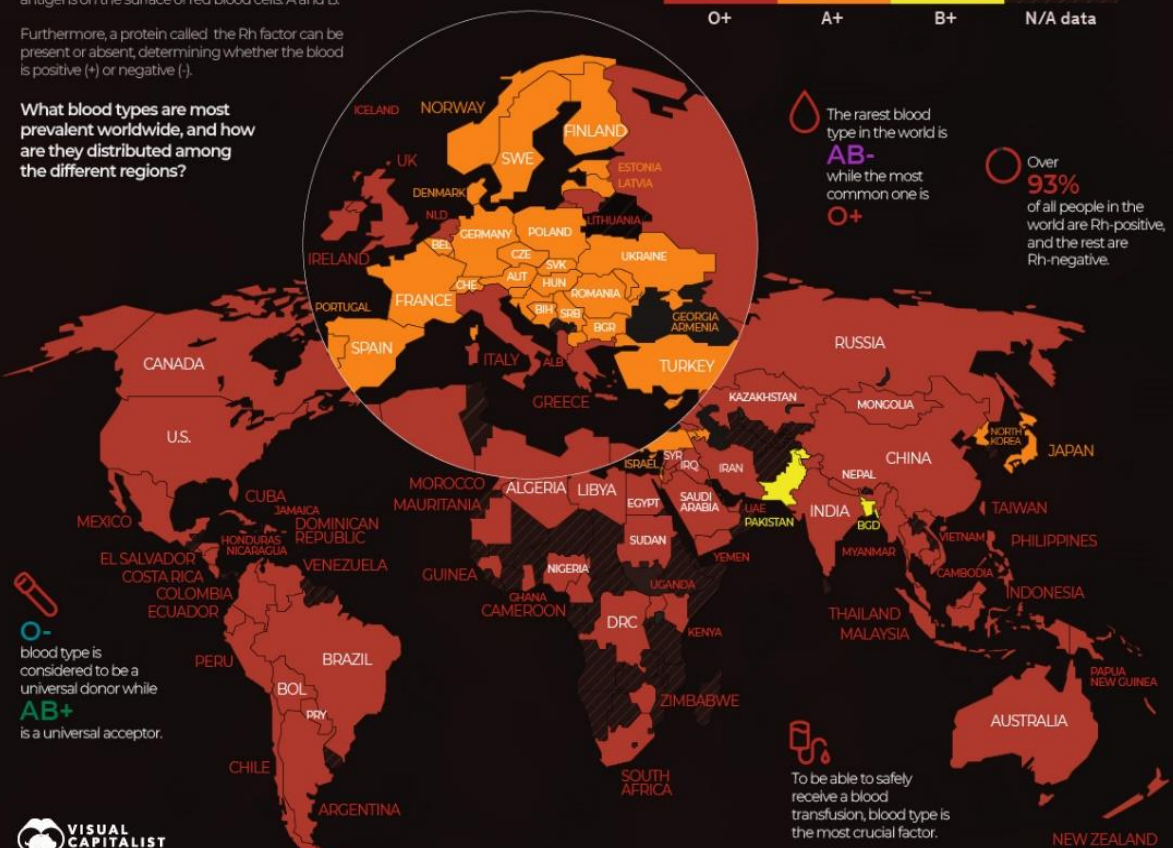
The four blood types - A, B, O, and AB - are determined by the presence or absence of two antigens on the surface of red blood cells: A and B.

Furthermore, a protein called the Rh factor can be present or absent, determining whether the blood is positive (+) or negative (-).

What blood types are most prevalent worldwide, and how are they distributed among the different regions?



O+ A+ B+ N/A data



DISTRIBUTION OF BLOOD TYPES BY COUNTRY

Selected Countries



Based on the 40 European countries included in this data, **33% of the continent's population has the blood type O+**. In comparison, 55% of the people in the Americas are O+.

po



Diverse cultures, living conditions, and hereditary lifestyles have changed the genetic makeup and blood types of individuals over centuries.



According to historical research, blood type B is believed to have been entirely absent from Native American and Australian Aboriginal populations prior to the arrival of Europeans in those areas.



Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."





20 most cost-efficient health systems BECKER'S **HOSPITAL REVIEW**

The cost efficiency metric is a ratio of a health system's mortality rates compared to its Medicare costs. Health systems with the lowest mortality and the lowest costs received the best scores in cost efficiency. For mortality, the Lown Institute used risk-standardized 30- and 90-day mortality for Medicare patients hospitalized between 2016 and 2018. For cost, the organization used 30- and 90-day total risk-standardized Medicare payments for patients hospitalized in 2016 to 2018. Read more about the methodology [here](#). Here are the 20 top health systems for cost efficiency;

1. Centra Health (Lynchburg, Va.)
2. Hawaii Pacific Health (Honolulu)
3. Adventist HealthCare (Gaithersburg, Md.)
4. Cedars-Sinai Health System (Los Angeles)
5. Inova Health System (Falls Church, Va.)
6. Johns Hopkins Health System (Baltimore)
7. Mayo Clinic (Rochester, Minn.)
8. Allina Health (Minneapolis)
9. Prime Healthcare Services (Ontario, Calif.)
10. MercyOne (West Des Moines, Iowa) (CHI parent company)
11. Houston Methodist
12. Asante Health System (Medford, Ore.)
13. Beth Israel Lahey Health (Boston)
14. NewYork-Presbyterian (New York City)
15. Lifespan (Providence, R.I.)
16. North Memorial Health Care (Robbinsdale, Minn.)
17. St. Charles Health System (Bend, Ore.)
18. Swedish Health Services (Seattle)
19. Cone Health (Greensboro, N.C.)
20. Cottage Health (Santa Barbara, Calif.)





All 50 states ranked by number of new ASCs in 2021 BECKER'S **ASC REVIEW**

- Florida led the pack this year with 24 new ASCs opened, announced or proposed in 2021.
- Overall, more than 220 new ASCs were announced this year (details listed here). Here are all 50 states, plus the District of Columbia, ranked by number of new ASCs for 2021: *Note: This is not an exhaustive list.*

JPMorgan's health venture BECKER'S **HOSPITAL REVIEW**

JPMorgan Chase's healthcare company, Morgan Health, is hiring for several new roles, according to the company's career page. JPMorgan Chase unveiled Morgan Health on May 20. The company is seeking to improve employer-sponsored healthcare in the U.S. and bring meaningful innovation into the industry by targeting insurance and keeping populations healthy. Dan Mendelson, CEO of Morgan Health, said success for the company will be measured by whether it improves the "Triple Aim": quality of care, access to care and cost to deliver care.

CommonSpirit eyes sale of 14 hospitals BECKER'S **HOSPITAL REVIEW**

CommonSpirit said it is currently working toward an agreement with an undisclosed third party to transfer ownership of 13 critical access hospitals and one full-service tertiary hospital along with their associated clinics and home health operations. The hospitals are in ND and MN.

U.S. (total)	222
Florida	24
New York	16
Texas	16
Arizona	13
California	9
Michigan	9
Ohio	8
Illinois	7
Indiana	7
Maryland	7
Virginia	7
Colorado	6
Georgia	6
Kentucky	6
Minnesota	6
Missouri	6
North Carolina	6
Pennsylvania	6
Alabama	5
Montana	5
Tennessee	5
Washington	5
Louisiana	4
New Jersey	4
Arkansas	3

Kansas	3
Utah	3
Massachusetts	2
New Hampshire	2
New Mexico	2
North Dakota	2
South Carolina	2
Wisconsin	2
Alaska	1
District of Columbia	1
Maine	1
Mississippi	1
Nebraska	1
Nevada	1
Oregon	1
Rhode Island	1
Connecticut	0
Delaware	0
Hawaii	0
Idaho	0
Iowa	0
Oklahoma	0
South Dakota	0
Vermont	0
West Virginia	0
Wyoming	0





Definitions

Ethernet

Ethernet is the traditional technology for connecting devices in a wired local area network (LAN) or wide area network (WAN).

flow routing

Flow routing is a network routing technology that takes variations in the flow of data into account to increase routing efficiency.

network analyzer (protocol analyzer or packet analyzer)

A network analyzer -- also called a network protocol analyzer or packet analyzer -- is a software application, dedicated appliance or feature set within a network component used in network performance troubleshooting or to enhance protection against malicious activity within a corporate network.

delay-tolerant network (DTN)

A delay-tolerant network (DTN) is a network that's designed to operate effectively in extreme conditions and over very large distances, such as with space communications.

network node

A computer network is a system of computers and computing devices that are connected via communication links.

traceability

Traceability, in supply chain traceability, is the ability to identify, track and trace elements of a product or substance as it moves along the supply chain from raw goods to finished products.

engineering bill of materials (EBOM)

An engineering bill of materials (EBOM) is a product recipe structured from the design standpoint, rather than the manufacturing standpoint.

go-live (go live)

Go-live is the time at which something becomes available for use.





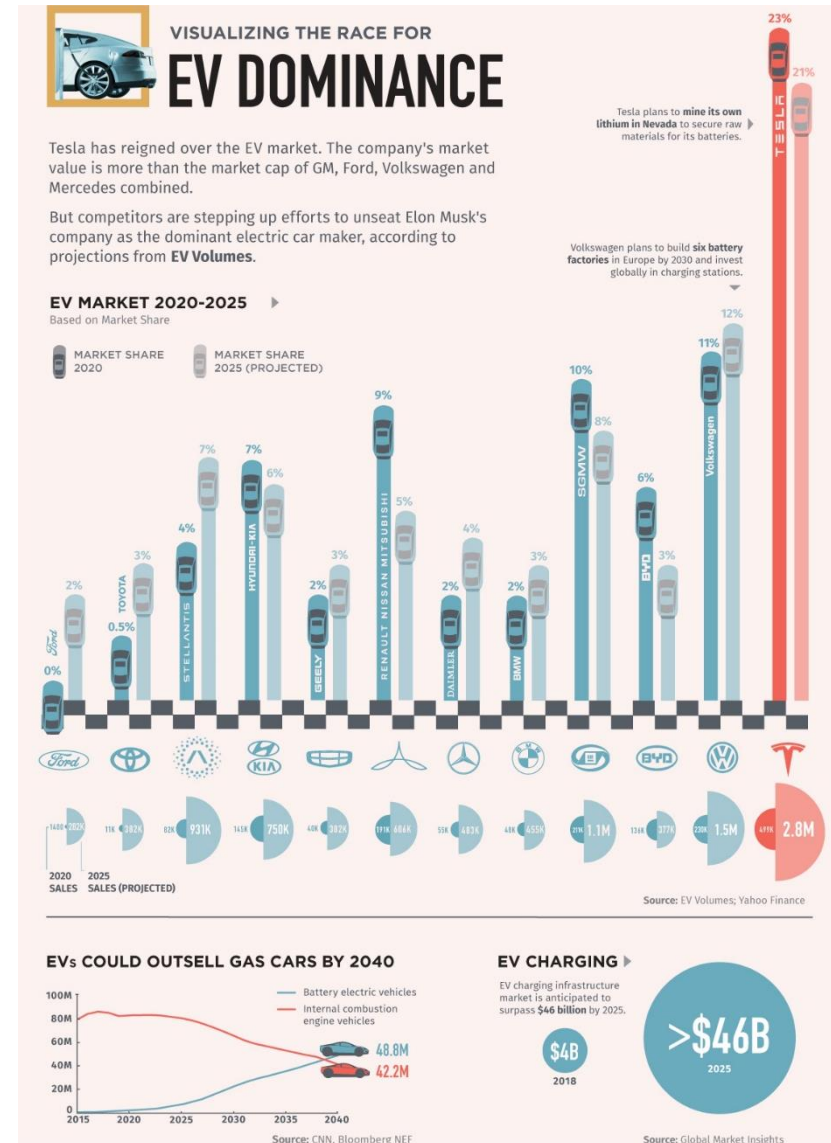
Embraer reveals 'Energia' family of electric- and hydrogen-powered aircraft concepts

- Embraer has unveiled a family of four low- or zero-emission concept aircraft for the regional market that it hopes to fly over the coming decades, including hybrid-, all-electric and hydrogen-powered models.
- Dubbed, "Energia", the concept aircraft family was unveiled during a live-streamed event on 8 November.
- The aircraft will employ next-generation technologies to achieve "low- or zero-carbon emissions" via "different propulsion architectures for different missions" says Embraer's Luis Carlos Affonso.
- Embraer first intends to develop a nine-passenger hybrid-electric model, the E9-HE, for service entry by 2030, says Affonso.
- Two electric motors will be deployed during take-off and climb to provide "boosting power" to the standard piston engine, which will operate on its own during cruise, he says. Embraer thinks the electric motors can be air-cooled "decreasing the complexity of the thermal-management system", says Affonso.
- The E9-HE features twin aft-mounted propellers – reducing noise by about 60% – retractable landing gear and range of 500nm (926km). It will be about 50% more efficient than an aircraft powered by a gas turbine, adds Affonso; CO2 emissions will also be cut by 50%, or 90% if the piston engine uses sustainable aviation fuel.
- Next up will be two models for service entry in 2035: the fully electric E9-FE and the hydrogen fuel cell-powered E19-H2FC.
- As with its hybrid sister aircraft, the high-wing E9-FE will have nine seats and about 200nm range, says Affonso, which "covers more than 90% of the target market". It will have a "glider-inspired" high-aspect-ratio wing and a single propeller mounted at the centre of its T-tail.
- Embraer plans for the E9-FE to have "swappable batteries located at the nose of the aircraft, to reduce turnaround time and reduce charging costs", Affonso says.





- Tesla has reigned supreme among electric car companies, ever since it first released the Roadster back in 2008.
- The California-based company headed by Elon Musk ended 2020 with 23% of the EV market and recently became the first automaker to hit a \$1 trillion market capitalization. However, competitors like Volkswagen hope to accelerate their own EV efforts to unseat Musk's company as the main manufacturer.
- This graphic based on data from EV Volumes compares Tesla and other top carmakers' positions today—from an all-electric perspective—and gives market share projections for 2025.
- According to Wood Mackenzie, Volkswagen will become the largest manufacturer of EVs before 2030. In order to achieve this, the world's second-biggest carmaker is in talks with suppliers to secure direct access to the raw materials for batteries.
- It also plans to build six battery factories in Europe by 2030 and to invest globally in charging stations. Still, according to EV Volumes projections, by 2025 the German company is forecasted to have only 12% of the market versus Tesla's 21%.
- When it comes to electric car company brand awareness in the marketplace, Tesla still surpasses all others. In fact, more than one-fourth of shoppers who are considering an EV said Tesla is their top choice. Tesla recently surpassed Audi as the fourth-largest luxury car brand in the United States in 2020. It is now just behind BMW, Lexus, and Mercedes-Benz.



Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."



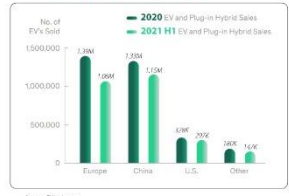


THE GLOBAL EV LANDSCAPE

In 2020, EV sales surpassed the 3 million mark for the first time—but 2021 could blow this record out of the water.

- Europe and China accounted for around 84% of EV sales in 2020.
- Global EV sales in the first half of 2021 have already surpassed 80% of overall sales in 2020.

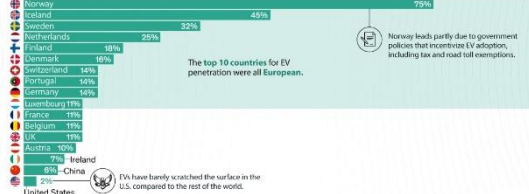
The 3 Biggest EV Markets



In addition to sales, European countries are also leading the charge for EV penetration.

EV Share of New Car Sales by Country

Share of Plug-in EVs in New Passenger Car Sales 2020

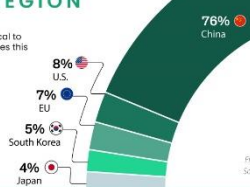


The top 10 countries for EV penetration were all European.

EV BATTERY MEGAFABRICATOR CAPACITY BY REGION

Battery manufacturing capabilities are critical to expanding EV adoption, and China dominates this stage of the supply chain.

- 4 of the 10 largest EV battery manufacturers are headquartered in China.



While Europe and China are leaders in the EV race, the U.S. is lagging behind—but it has plenty of potential for growth.

ELECTRIFICATION POTENTIAL THE U.S. EV MARKET

The future of the auto industry is electric—and made in America.

From the supply of raw materials to new battery manufacturing hubs, the American EV industry is growing in every way.

U.S. Battery Megafactories

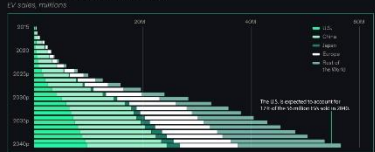


With the U.S. government working for an electric future, EV sales are set to grow.

THE WHITE HOUSE'S ELECTRIFICATION PLAN

- Build network of 500,000 EV charging stations by 2030
- Locally at least 20% of the nation's 100,000 school buses
- Locally the largest fleet of 400,000 vehicles
- Make 50% of all new auto sales zero-emission by 2030

EV Sales Projections* by Region



U.S. DOE: 5 Goals for a Domestic Battery Supply Chain

- Secure domestic access to raw and refined materials and the infrastructure for their transport
- Secure domestic access to raw and refined materials and the infrastructure for their transport
- Support the growth of domestic materials processing
- Implement policies to stimulate the U.S. battery manufacturing sector
- Enable end-of-life reuse and critical materials recycling at scale
- Maximize and advance U.S. battery technology leadership through R&D and innovation development

The supply of critical minerals will be increasingly valuable in building a domestic battery base—especially lithium.

PEDAL TO THE METAL GLOBAL ELECTRIC VEHICLE MARKET

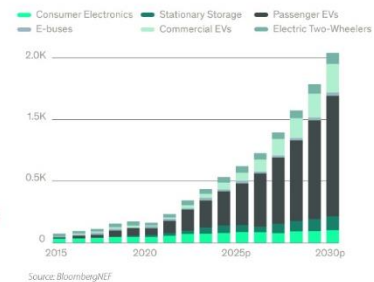


THE EV IMPACT ON LITHIUM DEMAND

The demand for lithium-ion batteries is accelerating with the global EV market.

Lithium-ion Battery Demand

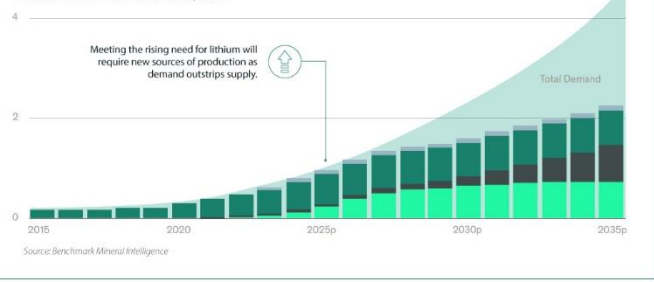
2015-2030, GWh/year



Batteries account for 81% of lithium consumption. As a result, the impact on lithium demand will be massive.

Worldwide Lithium Demand and Supply

Millions of tonnes of lithium carbonate equivalent



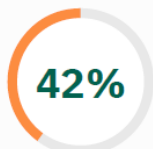
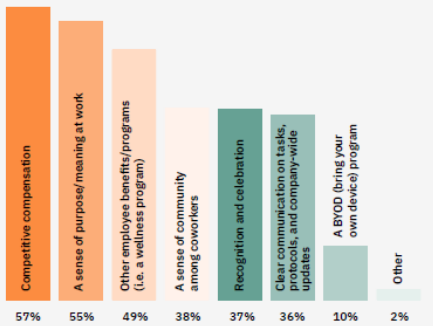
While China and Europe are racing ahead in electric mobility, the U.S. is still playing catch up.

New domestic sources of lithium will be increasingly valuable in advancing U.S. EV adoption.

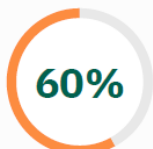




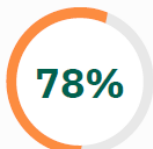
What makes workers feel engaged and motivated?



of workers don't feel connected to coworkers outside their location.



of workers would like to have a stronger community with employees outside their location.

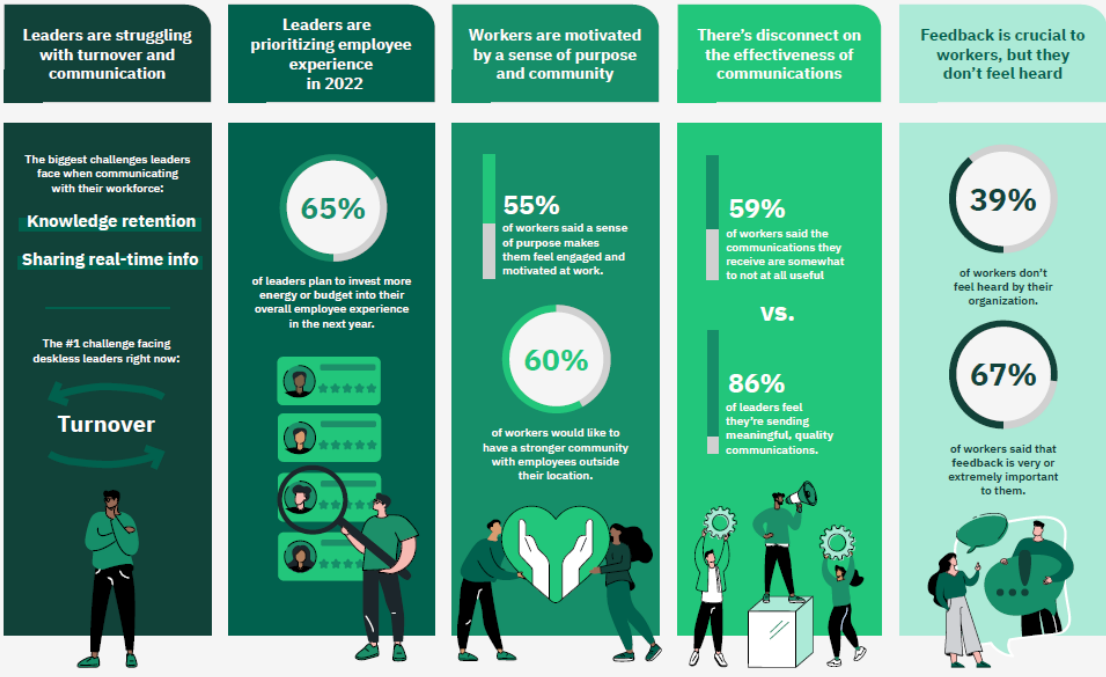


of workers said they feel connected to the coworkers at their location.

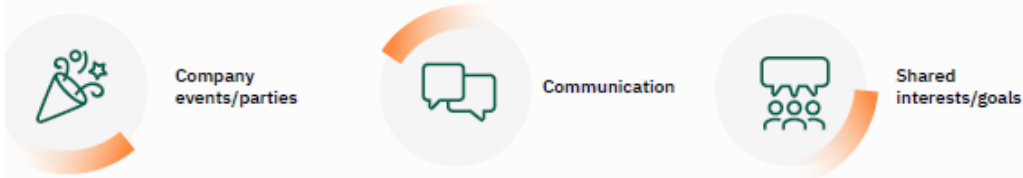
Workers' desire to quit, by industry



Key Findings of The Deskless Report 2021



Top 3 ways deskless workers say they would feel more connected to coworkers



Nudge

Mark Twain famously said: "There are three kinds of lies: lies, damn lies and statistics."



