



ACC NEWS



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INDUSTRY NEWSPAPER

Week 29 of 2020

YOUR WEEKLY UPDATES



Ports



Retail



Rail



Shipping



Handling



Beverages



Road



Supply Chain



C-Stores



Healthcare

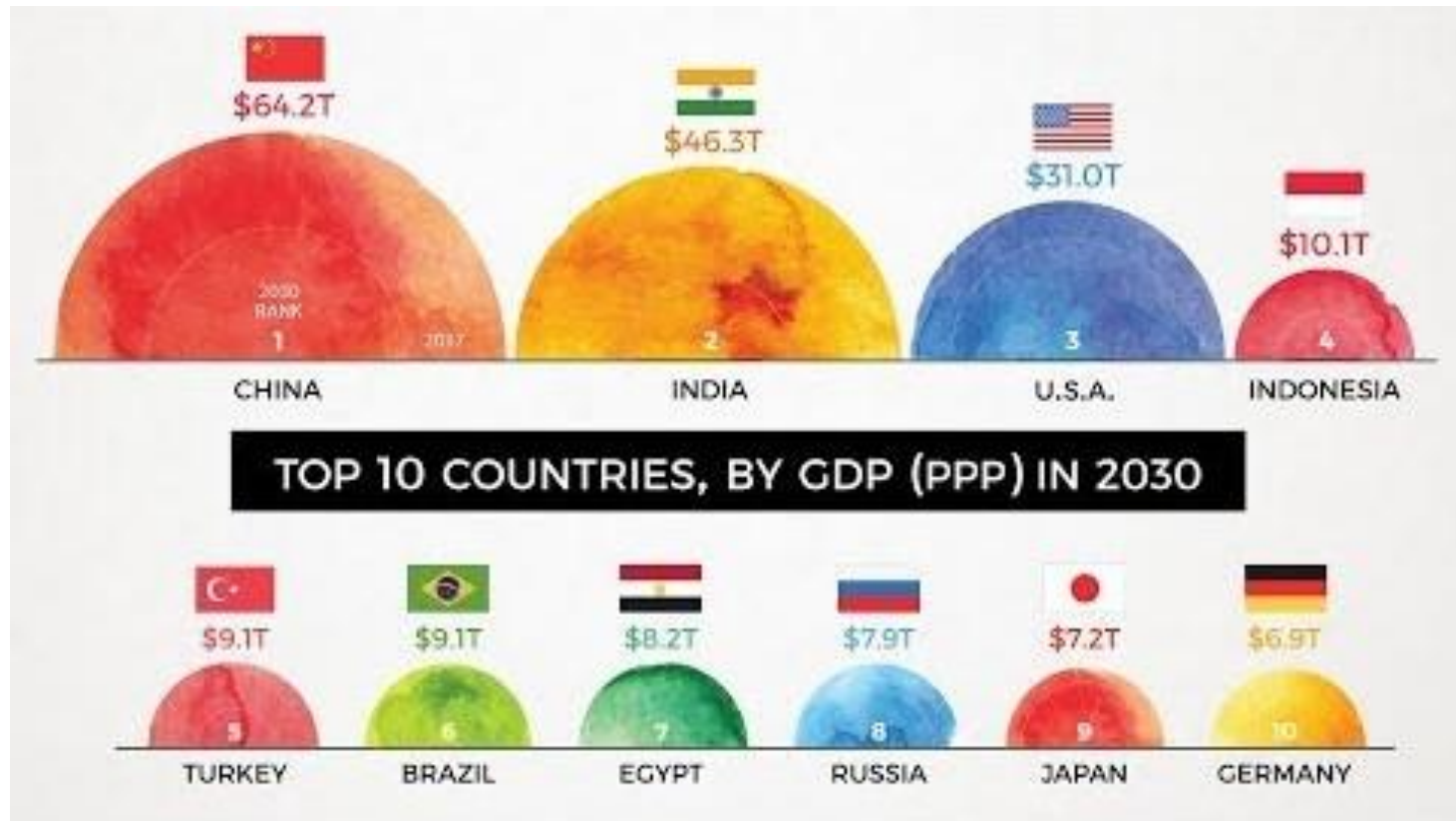


Thinking Differently – Executing Quickly

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This monthly state legislative report is being sent on behalf of IANA. Bills that appeared on the last report but are not listed below have had no change in status. For more detailed information on these bills and current information on all state legislation, please visit [here](#).

State	Bill	Bill#	SUMMARY	LAST ACTION	NOTES	CATEGORY
CA	Reg		Advanced Clean Truck Regulation	06/25/2020 Approved by the California Air Resources Board.	Accelerates the widespread adoption of ZEVs in the medium-and heavy-duty truck sector.	Clean Trucks
GA	HB	758	Prohibits the consideration of the deployment of motor carrier safety improvements in determining an individual's employment status with a motor carrier	06/26/2020 Died upon adjournment.	No carry-over.	Employee Misclassification
GA	SR	318	Creates the Senate Commission on Freight, Innovation, and Logistics.	06/26/2020 Died upon adjournment.	No carry-over.	Freight, Infrastructure
IA	HF	24	Increases penalties for misclassifying employees for unemployment compensation purposes.	06/14/2020 Died upon adjournment.	No carry-over.	Employee Misclassification
IA	SF	226	Concerns commercial driver's license requirements, including applicability provisions.	06/14/2020 Died upon adjournment.	No carry-over.	CDL
IA	SF	2296	Classifies owner-operators of trucks as independent contractors when performing services while operating the vehicle.	06/18/2020 Signed by Governor.	Effective 7/1/2020.	Employee Misclassification
LA	HB	397	Increases the administrative penalties for the misclassification of employees.	06/30/2020 Died upon adjournment.	No carry-over.	Employee Misclassification
LA	SB	201	Increases the administrative penalties for the misclassification of employees.	06/30/2020 Died upon adjournment.	No carry-over.	Employee Misclassification
NH	HB	264	Makes appropriations for the Carroll and Strafford counties freight rail improvements project and the Coos county freight rail improvements project.	06/30/2020 Died upon adjournment.	No carry-over.	Freight, Rail
NH	SB	681	Provides for additional fines imposed on persons who drive vehicles in excess of a certain percentage of the vehicle's registered weight.	06/30/2020 Died upon adjournment.	No carry-over.	Size and Weight
PA	HB	716	Provides for Joint Task Force on Misclassification of Employees.	06/30/2020 Removed from table in Senate. Can be acted on.	Pending action in the Senate.	Employee Misclassification
TN	HB	2433	Creates a 3-year pilot program to study motor carriers that transport freight shipments.	06/19/2020 Died upon adjournment.	No carry-over.	Freight
TN	SB	663	Removes the use of safety improvement required by motor carrier from consideration when evaluating employment classification.	06/19/2020 Died upon adjournment.	No carry-over.	Employee Misclassification
TN	SB	2808	Creates a 3-year pilot program to study motor carriers that transport freight shipments.	06/19/2020 Died upon adjournment.	No carry-over.	Freight



- While the rise of technology has been part of the story, seismic demographic and cultural shifts have also played a role, none more so than the rise of Millennials. The generation born between 1980-1995 have collectively had a profound impact on society, bringing with them a thirst for technology, immediate gratification, flexibility, authenticity and transparency. Their impact on the financial sector goes beyond this as they make up about 40% of the world's working population. As their spending power increases, they are becoming even more influential consumers.
- While the majority of Millennials have visited a bank, they are predominantly mobile-oriented, with around 94% actively using online banking services. They use online banking services regularly at a rate 3x that of older generations. This, combined with the increased use of contactless payment methods and a declining reliance on cash, have been key considerations in the rationalization of retail bank branch and ATM networks over much of the western world. England has been especially hard hit as an estimated 30 of bank branches have shuttered in the past 3 years.
- It remains to be seen whether the effects of COVID-19 will further accelerate this trend, though early reports suggest that as social distancing has become more universally adopted, there has been strong growth in digital financial services.
- To compound matters, nearly ½ of Millennials do not think their bank communicates to them through the right channels. Consequently, this generation has little affinity to existing bank brands. Among those surveyed, 73% said they would be more receptive to financial services from tech companies such as Google, Apple and PayPal than their current bank. Additionally, 33% believe that banks will not exist within 5 years.
- Hot on the heels of Millennials is Gen Z, born between 1996-2012. Still in the early days of their banking experience and professional careers, there are already some indicators of their intent. This is the 1st generation exclusively born into the digital age, being more tech-savvy, but also more cautious about money having grown up during the 2008 Global Financial Crisis.
- As a result, they tend to gravitate to brands they know, trust and that provide them with a highly personalized experience, which is likely to be increasingly found in the digital world. In support of this, Morgan Stanley research estimates that 50% to 80% of smartphone-owning members of Gen Z are already using mobile banking. However, they are far from a homogenous generation with a UK study finding that 45% of Gen Z would not open an account with an online-only bank (the other 55% would use an online-only bank). The majority of these respondents cited a lack of physical presence as a key reason. This underlines their more cautious approach to finance as well as the “phigital lens” that Gen Z brings – the experience that all of life is both physical and digital.
- Just as retailers with both physical stores and eCommerce capabilities have thrived over the past few years, fintech and traditional banks will need to respond accordingly and focus on customers' digital and physical needs.



Sur La Table files for bankruptcy with plans to close nearly half its stores CSA

The nearly 50-year-old, upscale kitchenware retailer filed for Chapter 11 bankruptcy protection after considering the "rationalization of its national store footprint and "certain store closures to prosper in the current retail environment." On its FAQ page, the privately held Sur La Table said it has decided to close over 50 of its 121 stores.

Nike goes big with new 'Rise' store concept CSA

- Nike had added yet another store concept to its brick-and-mortar portfolio.
- The athletic apparel and footwear giant continues to blend its digital and brick-and-mortar experiences with the debut of Nike Rise. Located at Grandview Mall in Guangzhou, China, the 22,000-sq.-ft. store is designed to serve as a data-powered hub for sports in general — and members of Nike's loyalty club in particular.
- The store has three floors of product, experiences and services, with most connecting to the Nike app. Nike said that more Rise doors will be added to its global fleet in 2021, with some existing locations revamped to fit the concept.



Three retailers getting it right with in-store checkout CSA

1. **Decathlon** - Based in France, the world's largest sporting goods retailer has been testing out various mobile checkout options at different global locations for the past couple of years. In response to COVID-19, Decathlon is rolling out mobile self-checkout across its 81 German stores.
2. **Walmart** - Walmart is testing a store design that takes the self-checkout experience to a new level. The discount giant's pilot supercenter in Fayetteville, Ark., replaces traditional, in-person checkout lanes with self-checkout kiosks. Instead of arranging POS terminals in lanes, the store has a front-end layout in which 34 registers line the edges of a wide-open area.
3. **Amazon** - Although Amazon introduced its Amazon Go cashierless/frictionless convenience and grocery store format in January 2018, it still represents the cutting edge of contactless shopping and checkout.



Walgreens swings to \$1.7 billion quarterly loss; slashes jobs in the U.K.



Walgreens Boots Alliance

- Walgreens Boots Alliance reported a big third-quarter loss as its profits were hurt by plunging sales in its U.K. division and COVID-related expenses, including increases costs for store cleaning.
- The company, which previously announced an ambitious cost-cutting initiative, raised its annual cost-savings target to more than \$2B by 2022. (Previously in excess of \$1.8B by 2022.) Walgreens also said it plans to eliminate more than 4,000 jobs in its Boots and Boots Opticians divisions in the U.K., where it is closing 48 optician centers.

Meijer expands footprint with five new stores



- Meijer is growing across the Midwest.
- The retailer has opened new locations in Manitowoc, Wis.; Sycamore, Ill.; Bad Axe, Mich.; and Brimfield and Lorain, Ohio. The 159,000-sq.-ft. stores combine a grocery and a full-service meat department with a pharmacy and a wide range of general merchandise items that include women's apparel and beauty care.

Lucky Brand files for bankruptcy with plan to sell itself



The denim brand has filed for Chapter 11 bankruptcy protection, blaming its troubles partially on the COVID-19 pandemic, with initial plans to close at least 13 stores. As of May, the company operated 112 stores and 98 outlet locations in North America. Lucky Brand, which is owned by Leonard Green & Partners, had been working to restructure its retail operations and refinance debt before the pandemic struck.

More than 80% of US Internet Users Will Access Their Bank Accounts Digitally in 2020



eMarketer.

This year, 81.6% of internet users in the US will access their bank accounts digitally at least once per month, according to our latest estimates. That's significantly higher than the 72% we previously projected, due in large part to the pandemic. We expect this behavior to continue, and by 2023, we forecast there will be 207.3 million US digital banking users.

US store re-openings lift Asia imports in June



JOC.com

Imports from Asia and China rebounded in June as a number of US retailers reopened, but consumer demand could pull back later this summer if stores are forced to close again due to the spike in COVID-19 cases.



Walgreens reportedly in talks to go private REUTERS

The drug-store giant has held preliminary discussions with some of the world's largest private equity firms about putting together what would be the biggest ever leveraged buyout, Reuters reported. Walgreens, which has a market value of more than \$55 billion, operates Walgreens in the U.S. and Boots pharmacies in the U.K. and Europe.

Mobile Shopping Gains Are Likely to Stick in the Future eMarketer

- As lockdowns slowly lift in the US, retailers face a changed shopping landscape. With lingering fears over renewed outbreaks, many consumers are wary of returning to stores. A Morning Consult survey conducted from June 9 to 11 found that just 35% of US adults would be comfortable going to a mall.
- Over 40% of digital grocery shoppers during the pandemic never used online grocery shopping prior to the lockdown, according to a Business Insider Intelligence survey released in early April.
- Moreover, discomfort with physical shopping has forced consumers to try ecommerce in new areas.
- A separate study by Aki Technologies and TapResearch found that 68% of new grocery ecommerce shoppers would continue to shop online in the future.
- The rush to ecommerce has also forced retailers to improve distribution and pickup options. Grocery delivery service Instacart alone hired 300,000 workers during lockdowns in March and April. And along with delivery, many retailers honed their curbside and click-and-collect services. As a result of these changes, it is expected click-and-collect sales in the US to increase 60.4% in 2020, a massive \$22.04 billion rise over 2019.
- We expect that the effects of the pandemic will accelerate long-term trends in mobile usage. Although some gains with mcommerce and other mobile activities will not last beyond quarantines, the baselines for mobile activities will be higher than they would have been otherwise.
- Overall, we forecast US adults will spend 24 additional minutes on their mobile devices in 2020. In 2021, they'll add only 4 minutes—but the total of 4 hours, 22 minutes (4:22) will still be 28 minutes more than we had forecast for that year in November 2019.
- Many of these new mobile behaviors, including mobile shopping, will remain steady as we fully return to pre-pandemic conditions in a year or two.



Preparing for Online Shopping Festivals **EDGE**[^]

BY ASCENTIAL

- As we head into the second half of the year, brands and retailers are starting to shift their focus to online festivals. Since digital commerce being the number one driver of global growth, it will be vital for brands to take advantage of these significant shopping events to make up for lost sales due to COVID-19.
- As the trend towards digital retail continues to grow, retail sales events will also become increasingly more important. For example, during Alibaba's Single's Day, a brand's sales during a single day could exceed \$1B, making their event trading performance critical for annual targets. This event is only getting bigger, as it is expected to grow to \$50B in 2020 and \$80B by 2024. Furthermore, the US and China will secure their positions as the two largest ecommerce markets by 2024, with China forecasted to have \$2,400B and the US \$976B.

Amazon will start listing names and addresses of Marketplace sellers to combat counterfeiting **BUSINESS INSIDER**

Amazon will start publicly listing the names and addresses of US-based third-party sellers on its Marketplace platform as a measure to fight counterfeiters, according to a report from Business Insider. The change was announced in a note sent to sellers on Wednesday, and the change goes into effect on September 1st.

Ascena preps bankruptcy plan that would close 1,200 stores **Bloomberg**

Ascena Retail Group is preparing to file for Chapter 11 bankruptcy as soon as this week. The apparel retailer plans to close at least 1,200 stores and shed some \$700 million of debt in the bankruptcy process while handing ownership over to lenders, according to Bloomberg. Ascena, which owns among others the Ann Taylor and Lane Bryant banners, would hold on to some of its businesses through the bankruptcy process while selling or closing others. Catherines and Justice are among those Ascena may shutter or jettison, Bloomberg reported.

COVID-19's Impact on Retail Grocery Agilence **DATE CHECK PRO**

A new investigative report has been issued by Agilence and DATE CHECK PRO, looking into changes COVID-19 has brought to grocery & food retailers worldwide and what the grocery industry may look like post-pandemic.

Report is attached



Cashierless convenience-store retail comes to Southern California

- A new autonomous convenience store format is debuting in a Santa Ana, Calif. luxury complex.
- The cashierless c-store, operated by Aramark, is located in Greenwood & McKenzie's luxury apartment community in Santa Ana. The first store of its type in the Southern California market, Quick Eats Close Convenience uses computer vision cameras and sensors to provide a fully automated, frictionless, self-guided shopping experience.
- Shoppers download the QuickEats Close Convenience app, scan the app at the store entrance, and conduct their shopping. As customers grab items off the shelves, they are added to the app's shopping cart. When customers finish shopping, they exit the store, and are automatically charged the total amount to their digital wallet and receive an emailed receipt. The shopping experience does not include any checkout lines or payment terminals.

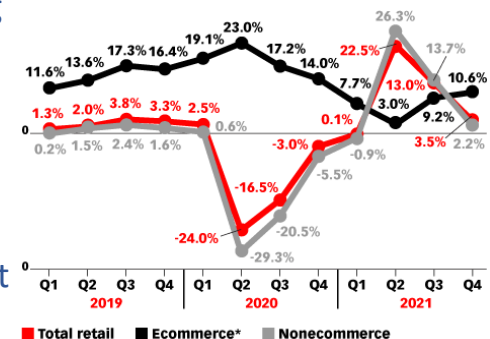
Alibaba lays out five-year plan, eyes 2 billion consumers globally

Chinese ecommerce group Alibaba has laid out its strategic plan for the next five years, which includes serving over one million domestic Chinese customers, facilitating RMB10 trillion worth of consumption through the platform by 2025. This objective will help Alibaba meet its long-term vision of serving 2 billion consumers globally by 2036. The announcement came after Alibaba revealed net income rose 75% to RMB140 billion (USD20 billion) in the year ending March 31, 2020.

US Ecommerce Will Rise 18% in 2020 amid the Pandemic

- Our February 2020 forecast projected modest growth of 2.8% to \$5.6T in total US retail sales, the coronavirus pandemic then took the US economy by storm, causing store closures, stay-at-home orders and declined demand for nonessential goods.
- As a result, we now expect there to be a 10.5% decline in total US retail sales this year, with a 14.0% drop in brick-and-mortar sales.
- The news isn't dire for all retail channels. Ecommerce is poised to grow 18.0% following a 14.9% gain in 2019, further evidence of the digital shift.
- As market volatility and an uncertain end to the pandemic make it harder to predict sales

Retail Sales Growth in the US, by Segment, Q1 2019-Q4-2021
% change





Economists Say 68% Of Unemployed Workers Collected More Than Their Regular Wages

- The \$600 federal jobless benefit that has been added to the state's unemployment checks will end shortly.
- These payments have put \$18B a week, a total of \$288B for 16 weeks, into the world's largest economy since the COVID-19 crisis began.
- The Financial Times reported the cash has exceeded earnings for 68% of workers, and doubled them for the lowest-wage workers, according to economists at the University of Chicago and the National Bureau of Economic Research.

Frozen foods surge during COVID-19, suppliers highlight opportunities in "segment of the future"

Frozen food sales have surged amid the COVID-19 lockdown period as consumers frequently turn to the freezer for a variety of meal occasions. Players in the space are tapping into new opportunities in functional ingredients, ready meal solutions and color-preserving clean label agents.

While independent retailers close, dollar stores are preparing to move in

- Dollar General CEO Todd Vasos said in a recent: “we do very good in good times and we do fabulous in bad times.”
- Since the last recession, dollar stores have thrived. Between 2008 and 2018, locations for the three major dollar store chains — Dollar General, Dollar Tree and Family Dollar — increased by 62%. There are now more than 30,000 outlets across the US, with an extra 1,500 Family Dollar and Dollar General stores slated to open by the end of 2020.
- These efforts are not uncontroversial, however. Once dollar stores are in place, it's hard for lower profit, full-service grocery stores to compete, let alone to open up next door. In small towns in Kansas and Iowa, small grocery stores have been forced to close after dollar stores opened nearby, sending sales plunging by as much as 30%.
- There are other concerns as well - “While they likely play a role in supporting the immediate needs of their customers, dollar stores’ corporate model funnels profits out of neighborhoods, contributing little to local economic development and failing to address racialized economic disparities.” says U of Georgia researcher Jerry Shannon in a coming paper.
- “They’re predatory,” said Julia McCarthy, of Columbia U’s Laurie Tisch Center for Food, Education & Policy. “Dollar stores have moved into lower income neighborhoods that tend to be communities of color. These are the same communities that, for years, have suffered as a result of redlining and where other grocery stores won’t go.”



Amazon leads in online grocery shopper satisfaction

- Amazon leads in customer satisfaction among online grocery shoppers, while traditional supermarkets have seen the biggest gain in online shopping use versus a year ago, according to the 2020 U.S. Online & In-Store Grocery Shopping Study from Retail Feedback Group (RFG).
- On a scale of 1 to 5, Amazon scored 4.47 in online grocery customer satisfaction, putting the e-tail giant just ahead of Walmart at 4.38, reported RFG, which polled 2,000 grocery shoppers (split evenly between online and in-store visitors) in late April to early May. Supermarkets and food stores rated at 4.33 for their online shopping experience, below the overall satisfaction score of 4.38. Instacart-fulfilled service earned a score of 4.35.

Americans Are Rethinking Their Grocery Run

- Nearly 70% of Americans believe that the traditional grocery store run will be a thing of the past due to COVID-19.
- 54% of respondents said that the top challenge they face when grocery shopping now is product shortages. Aside from this worry, 42% of those surveyed also said that they worry about the cleanliness of the products they buy, and of the grocery store as a whole. Around 28% of respondents shared that they often have anxiety when they have to go to the grocery store now.
- 64% of those surveyed said that they've used grocery deliveries, and 55% have tried a meal-kit delivery service.

Retailers have filed for bankruptcy in 2020 so far:

RTW Retailwinds (July 13) / Muji USA (July 10) / Sur La Table (July 8) / Brooks Brothers (July 8) / G-Star Raw (July 3) / Lucky Brand (July 3) / GNC (June 23) / Tuesday Morning (May 27) / Centric Brands (May 18) / J.C. Penney (May 15) / Stage Stores (May 11) / Aldo (May 7) / Neiman Marcus (May 7) / J. Crew (May 4) / Roots USA (April 29) / True Religion (April 13) / Modell's Sporting Goods (March 11) / Art Van Furniture (March 9) / Bluestem Brands (March 9) / Pier 1 (Feb. 17)



JLL: The new ‘darling’ of the commercial real estate industry is... JLL

- The U.S. industrial real estate sector will grow to more than 1 billion square feet by 2025, fueled by e-commerce’s pandemic boom.
- In a new report, JLL said it expects e-commerce sales could hit \$1.5 trillion by 2025 — which would increase the demand for industrial real estate to an additional 1 billion square feet.
- The real estate services firm said that prior to the COVID-19 pandemic, about 35% of its industrial leasing activity was related to e-commerce. Currently, however, as much as 50% of that leasing activity has already been tied to the online retail industry in 2020, JLL said.
- E-fulfillment is among the most intensive uses of logistics real estate, noted Chris Caton, head of global strategy & analytics for Prologis, the largest owner, operator and developer of logistics real estate in the world.
- “Prologis estimates these customers require 1.2 million square feet of distribution space for each \$1 billion in sales, which means e-commerce requires three times the space as traditional through-put distribution,” said Caton.

Online grocery sales drives demand for cold storage space CBRE

- Few sectors of commercial real estate are likely to undergo as much transformation in coming years as cold-storage warehouses, according to CBRE’s Matthew Walaszek.
- The rampant growth of online grocery sales has created demand for up to 100 million more square feet of industrial cold storage space in the coming five years, according to a new CBRE report. The sector current occupies just 214 sq. ft., which adds up to 3.6 billion cubic feet of storage.
- “We will see robust demand, further innovation in delivery and automation, and possibly more consolidation among major players due to e-commerce’s impact on this previously under-penetrated market,” said Walaszek, associate director of industrial and logistics research at the global real estate firm.
- Much of the cold-storage sector’s growth is likely to occur in gateway markets like Los Angeles and New York, as well as in top food-production states like California, Washington, Florida, Texas, and Wisconsin.
- California and Washington lead the nation with 396 million sq. ft. and 271 million sq. ft. of cold storage space, respectively.



Uber Freight provides transparent pricing, booking **UBER FREIGHT**

- Uber's shipping platform is applying artificial intelligence (AI) and machine learning (ML) to pricing and booking.
- Uber Freight is integrating directly into the Blue Yonder Luminate platform to provide instant quoting of real-time market-based prices and instant booking capabilities up to two weeks in advance of loads.
- Blue Yonder's Microsoft Azure-based Luminate platform combines internal and external data from across a customer's digital supply chain assets to allow for actionable AI- and ML-based business decisions. Using an API, the dynamic pricing discovery solution will enable businesses that use the Blue Yonder transportation management solution to tap into automated execution, dynamic routing guides, and Uber Freight's capacity network of over 50,000 freight carriers in the U.S. and Europe.

Rouses Markets To Test Grocery Drone Delivery This Fall



Rouses Markets said July 7 that it will be testing a drone delivery system this fall. The grocer has partnered with Deuce Drone to conduct the demonstration at the Rouses Market on Airport Boulevard in Mobile, Alabama. "Drone delivery offers the fastest, safest delivery store to door," said Donny Rouse, CEO. "We should be able to get groceries to customers in 30 minutes or even less. Plus it's more cost efficient, meaning we can save customers time and money."

Report on Plans for a Network of Electric Trucking Charging Stations Shows Challenge of eTruck Adoption **SupplyChainDigest™**

Your First Stop for Supply Chain Information

As light-duty electric vehicles continue to gain momentum, electric utility companies in the West Coast states of CA, OR and WA have conducted the West Coast Clean Transit Corridor Initiative study to assess the charging infrastructure medium- and heavy-duty electric trucks will need as they travel along the approximately 1,300-mile-long Interstate 5 (I-5) corridor and interconnecting highways.

Some points from the Study;

- Charging stations for electric trucks involve a lot more complexities than those for automobiles.
- Medium and heavy-duty electric trucks will make up over 8% of all trucks on the road in CA, OR and WA by 2030.
- The report is also bullish on improvements in the speed of charging batteries at a station.

Study attached



Coronavirus and supply chain disruption: prepare for impact



- In a modern-day update to the proverb, “Necessity is the mother of invention,” one could now say that “Necessity is the mother of acceleration.” As the world adjusts to life during the COVID-19 pandemic, we are seeing a marked acceleration in the adoption or improvement of supply chain innovations, and an opportunity to address some pain points that had been lower on the priority list for many industries.
- By some estimates, we’re already seeing, or will see, accelerated adoption of some trends to take place in a mere 10 weeks when they could have otherwise taken 10 years. Some trends, and the changes they bring, will stick. Others may change processes or behaviors temporarily to solve for the ‘here and now,’ but will provide an opportunity for businesses to innovate or improve on longer-term solutions that will yield productivity, efficiency and customer service well beyond the pandemic.
- There are a multitude of supply chain opportunities the pandemic has magnified or highlighted, and many more that will become clear in the not too distant future. Several prominent acceleration needs have emerged and persisted already, and suppliers, manufacturers and distributors in a myriad of sectors should consider these opportunities for ways to drive business success and real estate solutions forward in this challenging time.
- *Fast forward trends*
 - (1) Meeting the customer where they are through online shopping, (2) Revisiting the inventory challenge, (3) Leveraging robotics and autonomous vehicles, (4) Implementing contactless ‘everything (5) Depending on data centers, (6) Exploring cold storage and food processing solutions and (7) Utilizing blockchain

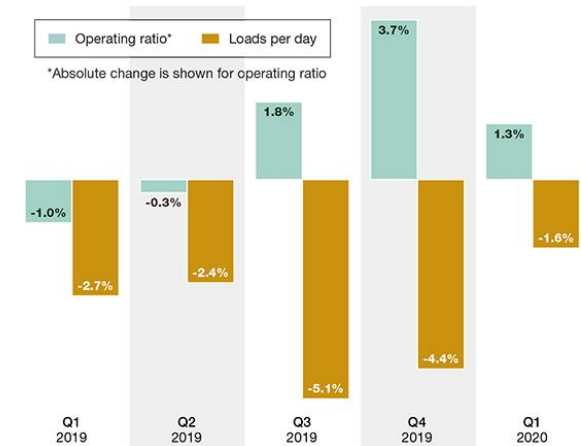
Daimler Trucks recalling nearly 183,000 Freightliner Cascadias FREIGHTWAVES

- Daimler Trucks North America is recalling about 183,000 Freightliner Cascadia tractors from 2017-2021 in the U.S. and Canada. Corrosion of an antilock brake component can cause the truck to pull to one side.
- That could result in a sudden change in vehicle direction due to uneven braking on the front axle, increasing the possibility of a crash. Chemical corrosion can slow the release timing of the single brake modulator valve. That can cause the brakes to pull to the affected side during automatic braking, according to the recall posted on the NHTSA website.

2020 State of Logistics: Truckload

- The headlines have been astonishing: spring tonnage was down double-digits year over year; Class 8 truck sales dropped nearly 50% compared with last year's levels; and U.S. trailer sales fell to an all-time low of 5,700 in April compared with nearly 15,000 a year earlier.
- The problem is overcapacity. The shutdown of the automotive supply chain created additional capacity in the spot marketplace. Shippers enjoyed shopping the spot market for bargains, and that further eroded contract volumes.
- Unlike LTL, where as much as 90% of freight moves under contract rates, TL pricing "is much more transactional," Thompson of SMC3 says, "changing daily and weekly."

Truckload profitability v. demand v. yield
(YOY % change)



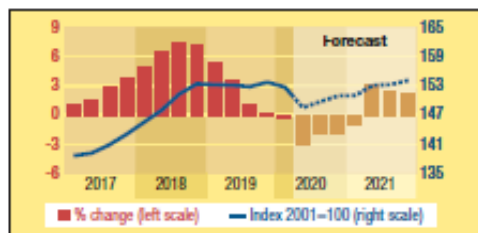
Source: SJ Consulting

Carrefour Poland launches 'Straight from field up to 50 km' initiative (Polish)

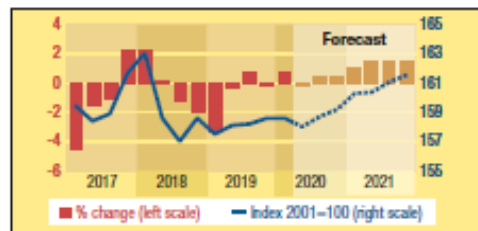
The initiative aims to shorten the supply chain and develop more direct cooperation with local farmers, with customers able to choose locally grown produce from select stores.

The Shipper's Guide to NAFTA 2.0

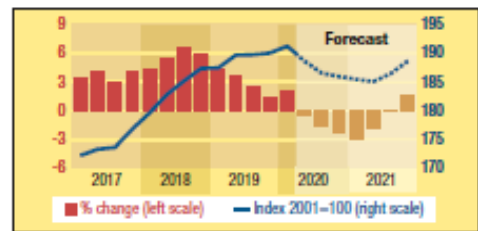
- Everything cross-border shippers need to know about the new USMCA-CUSMA-TMEC agreement – **copy attached**.
- In 1994, The United States, Canada and Mexico signed into effect the most efficient trade agreement in the world, NAFTA. It came about as the U.S. and Canada saw an enormous opportunity to trade with Mexico. The original intent of NAFTA was to promote freer trade to bring stronger, steadier economic growth to Mexico.
- And while NAFTA was great- it wasn't perfect. NAFTA 2.0, or more properly named USMCA-CUSMA-TMEC, set out to address and update these issues.
- So, in 2018, a new agreement was born- USMCA-CUSMA-TMEC. and it came into effect on July 1, 2020.



% CHANGE VS:	1 month ago	6 mos. ago	1 yr. ago
General freight - local	-11.1	-11.0	-10.3
TL	-2.2	-6.7	-5.7
LTL	-0.6	-1.1	-1.3
Tanker & other specialized freight	-0.5	-2.5	-3.2



% CHANGE VS:	1 month ago	6 mos. ago	1 yr. ago
Air freight on scheduled flights	0.3	0.5	-0.1
Air freight on chartered flights	2.6	-3.2	-0.6
Domestic air courier	-1.2	-1.0	-1.5
International air courier	-1.1	-2.0	-2.7



% CHANGE VS:	1 month ago	6 mos. ago	1 yr. ago
Rail freight	-1.2	-1.4	-1.3
Intermodal	-2.0	-6.6	-7.4
Carload	-1.0	0.0	0.2

TRUCKING

You know this recession is unlike any other when truckers park their rigs in Washington, D.C., to protest low rates. Indeed, government surveys confirm the coronavirus-driven price collapse. In order of severity, compared to May 2019, transaction prices dropped 10.3% for local trucking; 5.7% for truckload; 3.2% for tanker and other specialized trucking; and 1.3% for LTL services. Looking at the entire industry, average prices declined an extraordinary 4.4%. It will take a V-shaped economic recovery before most truckers enjoy a more comfortable rate trend. Alas, if a second virus wave shuts down consumer spending and industrial production, we'll see no V to rescue truckers.

AIR

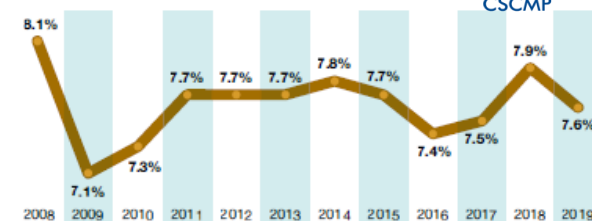
Prices charged by U.S.-owned airliners plummeted 11% in May and 19% in April compared to year-ago levels. Luckily for air cargo companies, passenger prices were in total control of flying this crash. Air cargo prices for scheduled flights fell by a mere 0.1% in May after price increases in the previous four months. With so many planes grounded, a shortage in belly capacity likely will force prices upward in coming months. Meanwhile, tags for cargo on chartered planes did a bit worse, but not too bad, registering a 0.6% price cut in May and a 4.4% drop in April. Airliners will be desperate for price hikes ahead as profits have been beaten down even worse than in the 2008 financial crisis.

RAIL

You know things are bad when an executive goes on record to say it is no longer sustainable to continue operations, yet this was heard in the rail industry recently. Rail demand has dropped by double digits. Both intermodal and carload companies are stuck on the tracks with no power to negotiate price relief. Alas, surveys of transaction prices confirm the story. In the most recent month, intermodal prices fell 2% from a year ago, the fifth consecutive decline. Carload prices also dropped, albeit more gently, down 1%. Looking at the entire U.S. rail industry, the 12-month-moving-average for prices sits at 1.7%, lingering almost as low as August 2017.

Logistics
MANAGEMENT

In 2019, USBLC represented 7.6% of GDP—a return to normal for the industry



Notes: USBLC is United States business logistics costs. Revised or updated data sources may result in figures that differ from previous reports; see Appendix for details.

Sources: A.T. Kearney analysis

Transportation costs fell in 2019, but were still above the five-year CAGR

U.S. business logistics costs (\$ billion)

	2019	YoY 19/18	5 year CAGR
TRANSPORTATION COSTS			
Full truckload	306.7	1.4%	2.1%
Less-than-truckload	65.4	1.3%	1.9%
Private or dedicated	308.2	5.0%	3.5%
Motor carriers	680.4	3.0%	2.7%
Parcel	114.4	8.5%	8.8%
Carload	61.4	-0.2%	-2.3%
Intermodal	22.5	-4.3%	3.7%
Rail	83.9	-1.4%	-0.9%
Air freight (includes domestic, import, export, cargo, and express)	75.2	-9.7%	2.8%
Water (includes domestic, import, and export)	47.9	3.1%	1.3%
Pipeline	57.4	9.5%	11.4%
SUBTOTAL	1,059.1	2.5%	3.2%
INVENTORY CARRY COSTS			
Storage	149.6	5.6%	5.2%
Financial cost (WACC x total business inventory)	168.6	-12.7%	2.6%
Other (obsolescence, shrinkage, insurance, handling, other)	136.4	-4.6%	3.8%
SUBTOTAL	454.6	-4.6%	3.8%
OTHER COSTS			
Carriers' support activities	59.7	1.9%	5.0%
Shippers' administrative costs	56.4	8.5%	5.7%
SUBTOTAL	116.1	5.0%	5.3%
TOTAL U.S. BUSINESS LOGISTICS COSTS	1,629.77	0.6%	3.5%

Note: YoY is year-on-year. WACC is weighted average cost of capital.

Sources: CSCMP's 30th Annual State of Logistics Report; A.T. Kearney analysis



Supply Chain Update

18

WEEKLY FUEL REPORT

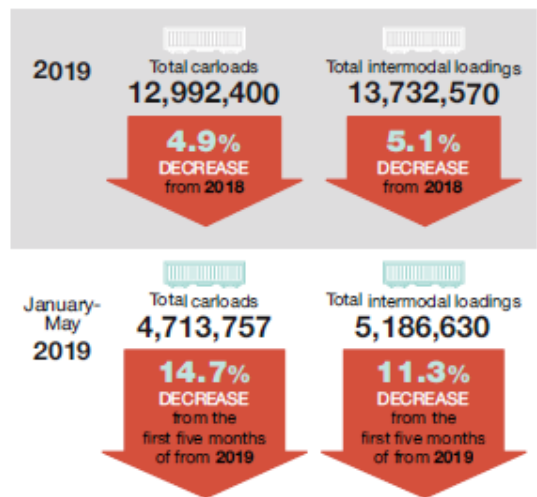
22 JUN 2020

* These figures do not include taxes or transportation costs.

USA	05/25/20	06/01/20	06/08/20	06/15/20	06/22/20
DOE AVERAGE	2.390	2.386	2.396	2.403	2.425
RETAIL TO WHOLESALE FUEL SPREAD*	1.259	1.240	1.089	1.120	1.014
RACK PRICE*	1.061	1.075	1.226	1.202	1.318
DIESEL TRUCK STOP ACTUAL PRICE PER GALLON	2.320	2.315	2.315	2.322	2.331

Want more? SONAR users get exclusive access to the detailed breakdown and insights.
Learn more at: SONAR.FreightWaves.com

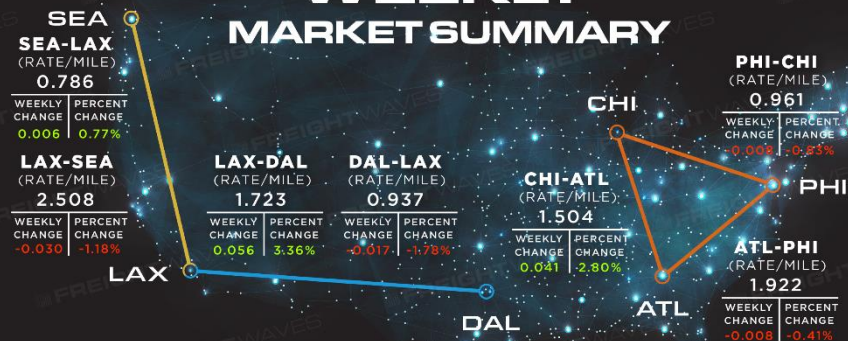
U.S. rail cargo volumes



Sources: Association of American Railroads (AAR)

TRUCKING FREIGHT FUTURES || JUNE 19th, 2020

WEEKLY MARKET SUMMARY



VAN LINE	RATE (PER MILE)	WEEKLY CHANGE
NATIONAL LONG HAUL	1.480	0.006 (0.41%)
EAST LONG HAUL VAN	1.462	0.008 (0.55%)
WEST LONG HAUL VAN	1.647	-0.012 (-0.72%)
SOUTH LONG HAUL VAN	1.330	0.019 (1.45%)

FREIGHTWAVES.COM/FREIGHTFUTURES

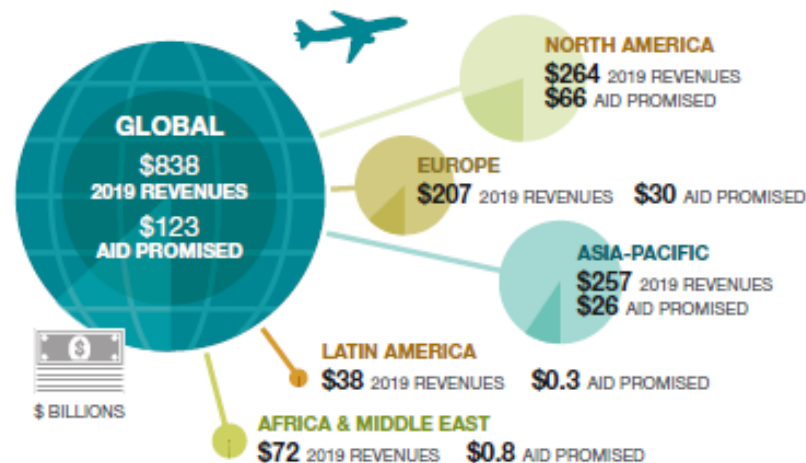
FREIGHTWAVES

Thinking Differently – Executing Quickly

ACC

State of logistics: Air freight regional variations

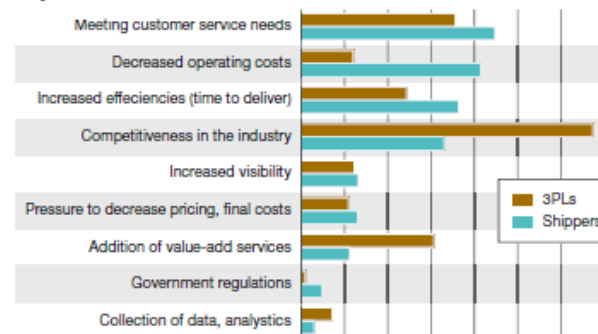
The **\$123 billion** in government financial aid is equal to **14%** of 2019's total airline revenues (**\$838 billion**). The regional variations of the aid dispersion indicate that there are gaps that will need to be filled.



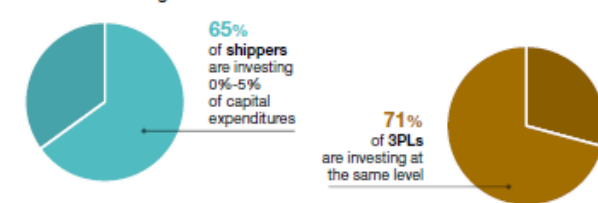
Source: International Air Transport Association

Investing in digitization and automation

Why invest?



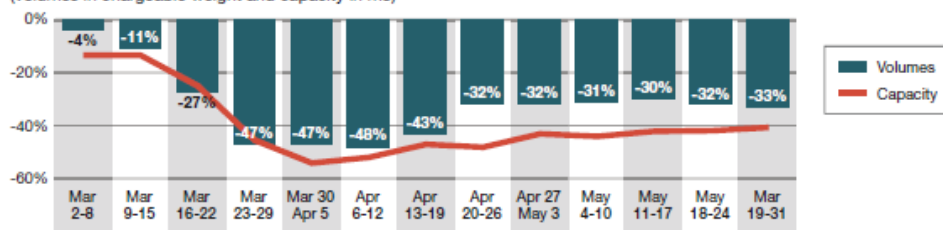
How much is being invested?



Source: Penn State Smeal College of Business

May was not as bad as April- but the most recent signals are not too promising...

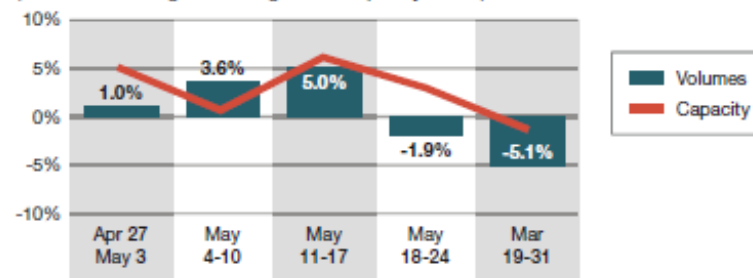
Global air cargo volumes and capacity; year-over-year growth (volumes in chargeable weight and capacity in m3)



Source: CLIVE Data Services

...as volumes reduced in the last two weeks of May, versus the first two weeks

Global air cargo volumes and capacity; week-over-week growth (volumes in chargeable weight and capacity in m3)



Source: CLIVE Data Services



Logistics Index Shows Highest Growth Since 2018 SUPPLYCHAINBRAIN

- The logistics industry is reporting growth levels not seen since late 2018, according to a June analysis from Logistics Managers' Index (LMI).
- The highest reading since February 2019, last month's LMI score of 61.7 jumped more than 10 points from April's all-time low. The score is calculated using industry growth metrics including inventory levels and costs; warehousing capacity, utilization and prices; and transportation capacity, utilization and prices.

India contemplates National Logistics Law to boost logistics sector



With a view to promoting the growth of the logistics sector in India, the commerce ministry is considering replacing the multimodal transportation of goods act with a full-fledged national logistics law.

Gartner Gives First-Place Supply Chain Management Ranking to University of Arkansas



- The supply chain management undergraduate program in the Sam M. Walton College of Business at the University of Arkansas has been ranked No. 1 in North America by the leading global research firm Gartner.
- The rest of the top 10 in the Gartner rankings were: Rutgers University, Penn State University, the University of Texas at Austin, University of South Carolina, University of Tennessee, Auburn University, Northeastern University, Michigan State University and Georgia Tech.



Port of Long Beach Cargo Volumes Fall 11% in June gCaptain

- The coronavirus pandemic continues to hammer U.S. west coast ports.
- The Port of Long Beach on Friday reported that 602,180 TEUs moved across its docks in June, making for an 11.1% decline compared to June 2019. Imports shrank 9.3% to 300,714 TEUs, exports dropped 12.2% to 117,538 TEUs, and empty containers shipped overseas to Asia were down 13.1% to 183,928 TEUs.

CMA CGM Drops APL brand in transpacific trade LAUFER GROUP INTERNATIONAL

- Since CMA CGM acquired Neptune Orient Lines (NOL) in 2016, along with NOL's carrier arm APL, both CMA CGM and APL have continued to operate their respective transpacific services.
- In the latest announcement, CMA CGM said that from 1 October 2020, it will become the sole commercial carrier of the group operating in the transpacific, as a "simplification of its container trade offering."
- APL will move on to focus exclusively on servicing the US government and continue its service on the Guam-Pacific trade.

Keel laid for Ports of Auckland's fully electric tug NAVINGO

- On 7 July, Vietnam-based Damen Song Cam Shipyard, together with joint venture partner Song Cam Shipyard, hosted a keel-laying ceremony for the fully electric tug that Damen is building for the Ports of Auckland, NZ.
- Scheduled for delivery in 2021, the newbuild is said to be the world's first full-size, fully electric tugboat.

Shell's shipping study confirms LNG as transition fuel OFFSHORE ENERGY

- A Shell study released on Tuesday exploring how the shipping industry is working to slash its emissions has confirmed LNG as one of the main transition fuels.
- The report prioritizes five out of twelve solutions to be implemented over the next two to three years that could speed up progress. These include creating scale in customer demand for zero-emission shipping through charterer's commitments but also leveling the playing field by aligning decarbonization targets between the IMO and major local regulatory bodies.



Key Countries Agree to Help Bring Home Seafarers Stuck on Ships gCaptain

More than a dozen countries with crucial global shipping hubs agreed to ease port and border restrictions for seafarers to help the more than 200,000 workers still stranded on vessels return home.

HHLA container terminals use machine learning technology to boost productivity



- Germany's Hamburger Hafen und Logistik AG (HHLA) is one of the first ports worldwide to develop solutions for its Hamburg container terminals that use machine learning (ML) to predict the dwell time of a container at the terminal.
- The first two projects have now been successfully integrated and implemented into the IT landscape at Container Terminals Altenwerder (CTA) and Burchardkai (CTB).
- The productivity of automated block storage at CTA will be increased by means of an ML-based forecast. The goal is to predict the precise pickup time of a container. Processes are substantially optimized when a steel box does not need to be unnecessarily restacked during its dwell time in the yard.
- When a container is stored in the yard, its pickup time is frequently still unknown. In the future, the computer will calculate the probable container dwell time. It uses an algorithm based on historic data which continually optimizes itself using machine learning methods.

Demand spike and blank sailings make US importers scramble for capacity



- Waterborne US imports from Asia in June were 9.5% higher than in May, led by traffic from China, which climbed nearly 14% over May. The port of Oakland reported an unexpected rise of 1.2% in imports for June, despite reduced schedules. Ships that have arrived in US ports recently have been very full, leading to delays in unloading.
- Several factors have brought about the boost in US imports. As more states relaxed restrictions imposed to curb the spread of Covid-19, economic activity picked up, with stores and restaurants opening again.
- This point has been linked to the relative strength of flows to the US west coast, where capacity has reportedly been particularly tight. Recent traffic appears to have halted the migration of imports from Asia to east coast gateways.
- To the frustration of importers, carrier capacity has not kept up with the rising demand, and it has been affected by blanked sailings and carrier alliances



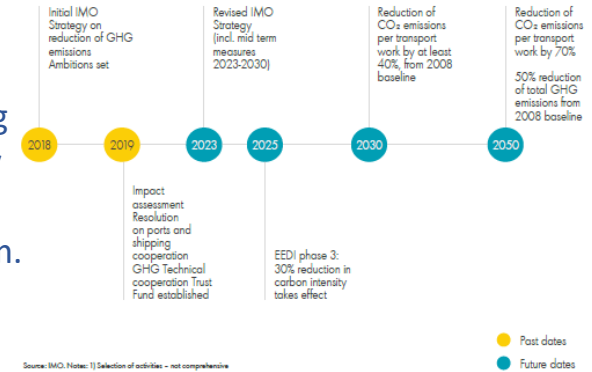
Shell Deloitte Study on shipping decarbonization



- The scale of global development seen over the last century would not have been possible without shipping playing a key role. However, as the global economy grows, so too will carbon emissions from shipping.
- The 2015 Paris Agreement defined a bold ambition to limit global warming to well below 2°C and pursue efforts to limit it to 1.5°C. In response, many countries, industries and individual organizations have set targets to limit their carbon emissions and started developing plans on how to reach them.
- The industry currently accounts for around 2.7% of global CO₂ emissions, but emissions are geographically concentrated across East-West trade routes and a relatively small set of vessel types.

Study attached

04 IMO Timetable to Reduce GHG Emissions¹



Fragmented demand portends rambling US freight recovery JOC.com

With COVID-19 flare-ups endangering re-openings across the country, the road to recovery for US shippers and transportation providers will likely look more like a mountain switchback than a sharp incline.

Port of Oakland volume uptick pleasant surprise American Shipper

- The Port of Oakland this week reported June loaded import volume grew 1.9% year-over-year. “The gain was unexpected given that shipping lines canceled 10% of their scheduled Oakland visits due to the trade-related impact of the coronavirus,” the port said.
- The port attributed the uptick in imports to retailers accelerating shipments to the United States because of capacity restrictions as shipping lines continue to cancel sailings, as well as to an anticipated hike in freight rates.
- Oakland’s overall volume — imports, exports and empty containers — did decline 2.3% in June from the same month last year. The port handled 199,011 twenty-foot equivalent units (TEUs) in June compared to 203,730 TEUs a year ago. The port said the overall decrease resulted from a “pandemic that continues to dampen global trade.”



California governor urged to reverse ports' receding market share **American Shipper**

- California Gov. Gavin Newsom got a letter Monday asking that the state take action to reverse the loss of market share at West Coast container ports.
- The Pacific Merchant Shipping Association (PMSA), the first signatory, was joined by such organizations as the California Trucking Association, Harbor Trucking Association, California Railroad Association, Future Ports, Pacific Maritime Association, National Retail Federation, Agriculture Transportation Coalition, and Pacific Coast Customs Brokers and Freight Forwarders.
- In all, 52 trade associations, industry organizations and businesses signed the letter pleading with Newsom and the California Legislature to do something about what they identified as a 19.4% drop in West Coast ports' market share.
- The letter, dated Monday, said action needs to be taken "before California permanently loses jobs and direly needed state revenue." The letter cited analysis prepared for the PMSA by economist Jock O'Connell in June that found West Coast ports' market share has declined 19.4% since 2006.

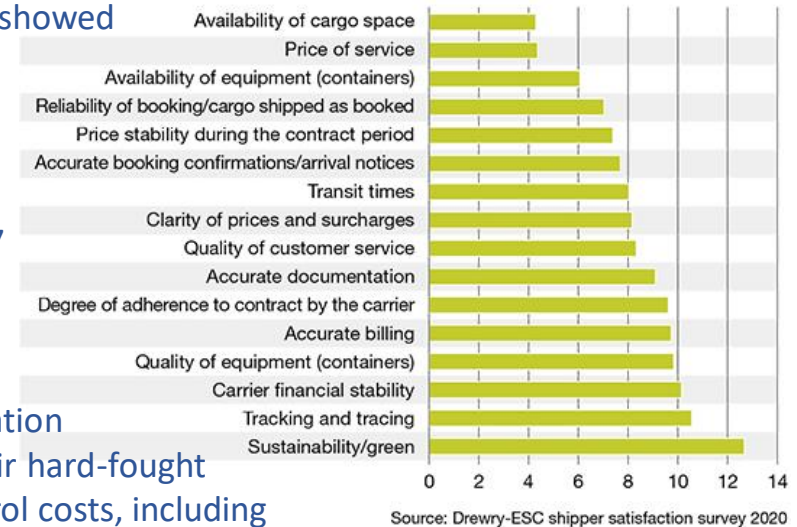
Copy of letter attached





2020 State of Logistics: Ocean Cargo

- Container shipping lines' ability to provide cargo space as needed showed a marginal improvement at the start of 2020, but this gain will have been dramatically reversed by the end of the first half of this year, according to the fourth annual shipper satisfaction survey of Drewry and the European Shippers' Council (ESC).
- The survey, run jointly by the ESC and Drewry, reveals that the 227 shippers and forwarders who took part rated the service of container shipping lines with an average score of 3.2 on a scale of 1 (very dissatisfied) to 5 (very satisfied).
- According to Esben Christensen, global co-leader of the transportation and infrastructure practice at AlixPartners: "Carriers could see their hard-fought financial gains of recent years totally evaporate if they fail to control costs, including how they manage fuel costs and customer expectations around fuel costs."





Couche-Tard Reportedly Positioning to Acquire Speedway

- Couche-Tard began the process of selling 1,250 of its sites located near Speedway stores. The move would put Couche-Tard ahead of any competitive concerns that may be raised by the Federal Trade Commission (FTC).
- With the divestiture of those 1,250 c-stores, the company wants to raise roughly \$4 billion. Any sale would likely be contingent on an acquisition agreement with Marathon Petroleum Corp. for all 3,800 Speedway locations.

Canadian labeling, potency lawsuit includes CBD products

A CBD maker in Canada is part of a labeling lawsuit against more than a dozen Canadian cannabis companies. The lawsuit, filed in Alberta by consumer Lisa Marie Langevin, accuses the companies and their subsidiaries of selling products “with THC or CBD content levels that were drastically different” from what was advertised.

Convenience Store Snapshot

ABOUT THE C-STORE CHANNEL

MARKET OPPORTUNITY



**\$661.4
Billion**

ANNUAL SALES



153,237

RETAIL LOCATIONS

THE CONVENIENCE STORE CHANNEL A Star In The Retail Universe



Total sales including fuel rose 7.3% to **\$661.4 billion**, while in-store merchandise and foodservice sales increased 2.2% per store.

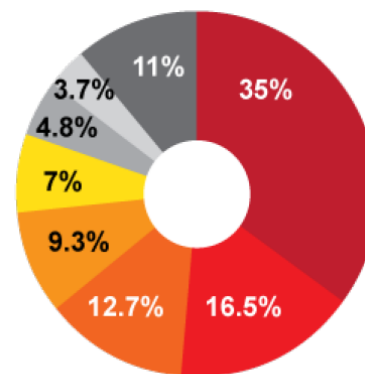


The c-store channel is still a bright spot in the retail universe, **gross profits up 4.9% to \$106.71 billion**.

Despite the trend toward retailer consolidation, the **top ten chains** still account for only **27%** of the c-store industry store count – **41,804 stores**. Approximately **70 retail chains** operating between **65 and 299 stores** account for **8,492 stores**, and single store owners represent **62.3%** of all industry stores.

Sales Snapshot

IN-STORE SALES SHARE



Source: Convenience Store News Market Research, 2019

- Tobacco**
(cigarettes and OTP)
- Foodservice**
(prepared food; hot, cold and frozen dispensed beverages)
- Packages beverages**
(CSDs, energy drinks, sport drinks, water, juice and RFD toasts)
- Beer**
(12.7% for store selling beer)
- Candy & Snacks**
(salty, alternative, packaged sweets and snacks)
- Edible Grocery**
(types of products not mentioned)
- General Merchandise**
- Other**



Analysts say big restaurant chains are recovering faster

Small chain restaurants and independent eateries are taking longer than large chains to recover from the COVID-19 pandemic. A Bank of America study found that spending has fallen 25% at small-chain and independent restaurants which tend to be casual dining and fast-casual establishments. The closure of dining rooms and the shift to social distancing has hit those segments harder.

Burger King pairs with a nonalcoholic beer

- In Denmark and Sweden, fast food chain Burger King is adding nonalcoholic beer to their menu. They are teaming up with Danish craft brewer Mikkeller.
- "The King's Cup" hit menus in Sweden and Denmark in late June. The brew was described by Burger King in a statement as a "fresh, full-bodied, and non-alcoholic summer beer," made to pair well with burgers.
- "Non-alcoholic beer is a fast-growing trend in Denmark, and we want to help spread the message that non-alcoholic beer actually can taste like 'real' beer – even really good beer," Burger King added.



Convenience Stores Ask for Exact Change as Coin Shortage Continues

Convenience retailers are urging customers to bring their coin purse when they shop as stores across the country deal with a short supply of change. Some c-stores have been able to get less than half of their usual amount of coins from banks, forcing them to decrease the number of coins they give out while also trying to increase their supply in other ways — like counting their own change.

How Many US Restaurants Will Survive The Pandemic?

Government shutdown orders have closed eateries for months, forced them to only offer takeout, reduced their dining-room occupancy levels or some combination of all three. Experts say that's enough to force many restaurants to shutter for good. "They're going to stay closed, because they ran out of money and landlords are evicting them. It's really a tough time," Wolfgang Puck told CNBC. He believes some 25% of small U.S. restaurants will never reopen.



FDA to resume inspections



The U.S. Food and Drug Administration (FDA) had put a hold on most inspections due to the COVID-19 pandemic. However, the agency just announced that it plans to resume on-site domestic inspections beginning the week of July 20, 2020. As a safety measure, FDA will pre-announce all inspections, save for retail tobacco inspections, for the foreseeable future.



Hackers Hike Attacks On Hospitals Amid Pandemic PYMNTS.com

- A national survey has found more than 80% of medical practices have been the victims of cyberattacks, USA Today reported.
- More than half of the hospital and medical facilities reported patient safety concerns from the data breaches, and 20% said that their business had been interrupted for more than five hours, the survey said, according to USA Today.
- “That can be the difference between life and death,” Wendi Whitmore, vice president of IBM X-Force, a New York-based commercial security research team, told the newspaper.
- IBM reported there was a 6,000% increase in spam attacks on IT systems from March through April as the pandemic unfolded, many of them at healthcare facilities.
- For example, the amount of attempted hacking doubled in March at Seattle Children’s Hospital. The attacks came in the form of phishing emails, seeking a staffer who would click on a malicious link and allow malware into the health system’s network, Gary Gooden, chief information security officer at the Washington-based health system said.
- In 2014, the FBI reported a stolen credit card or a Social Security number was worth just \$1 on the black market, while an electronic health record would fetch up to \$1,000 if it belonged to a well-known person.
- Once in a cybercriminal’s hands, health records can be used to file fraudulent insurance claims and obtain prescription drugs, the FBI said, according to USA Today.
- Earlier this year, a hacking group tried to breach the World Health Organization (WHO). The hack was discovered by Alexander Urbelis, a cybersecurity expert and lawyer who looks for suspicious internet activity. He discovered the activity when hackers introduced a fake, malicious site that pretended to be the WHO’s email system.
- “Criminals are disguising themselves as WHO to steal money or sensitive information,” the WHO said in a statement. “If you are contacted by a person or organization that appears to be from WHO, verify their authenticity before responding.”
- In February, a cyberattack at NRC Health, a Nebraska-based company that collects healthcare consumer data, prompted questions about the security of its data and overall patient privacy.
- The attack hit the publicly traded company, which works with 75 percent of the 200 largest U.S. hospital chains.



A Digital ID Fix To Closing The Telehealth Security And Patient Confidence Gap

- Surging COVID-19 infection rates and Centers for Disease Control and Prevention (CDC) advice to avoid all non-essential hospital visits have driven an uptick in the demand for digital healthcare services.
- Telehealth services, in particular, are growing more common, with one New York state hospital reporting that 85% of its outpatient visits are being conducted via telehealth systems. All the while, other technologies, from contact tracing apps to digital immunity passports, are working their way into the dialog surrounding healthcare.
- As digital health services expand, so too is the demand for digital identity authentication systems to ensure fast, safe and seamless transfers of healthcare information they collect. Digital Identity Tracker® examines how healthcare providers, FinTechs, universities and governments are rising to the challenge and collaborating to deliver accessible healthcare services amid a global crisis. *(See previous slide).*

1.3M

Number of telehealth sessions for **seniors on Medicare** conducted per week since the pandemic began

Hospitals Are Counting Beds Again With Virus Cases Rising

- As several U.S. states see a rising swell of COVID-19 patients, hospitals are trying to avoid a scenario where they face more sick patients than they have beds to hold them.
- With all states reopened to some degree, cases and hospitalizations are rising. Arizona, California and Texas all set records for new cases on Tuesday. The question now is whether hospitals will be able to handle it, and what will happen if they can't.

Why retailers are racing to build out their own healthcare clinics

- As retailers seek to make greater inroads into healthcare, many of them have unveiled aggressive plans to launch dozens — if not hundreds — of their own primary care clinics over the coming years.
- Last week, Walgreens announced that it will invest \$1 billion in debt and equity over the next three years into VillageMD, which operates a chain of primary care clinics. As part of the deal, VillageMD will open 500 to primary care clinics in Walgreens stores over the next five years.
- Walgreens' announcement follows Walmart and CVS announcement of late.



- 5G is the next generation of wireless technology. It's not intended to replace 4G, but rather, to enable a whole new set of possibilities. It was designed to usher in the "connected everything" era. **1G brought analog voice to the world, 2G brought digital voice and text messaging capabilities, 3G put our mobile devices on the web, 4G offered video streaming possibilities on the mobile device** and it enabled new business models such as food delivery apps, and 5G was designed with the premise of delivering unprecedented evolution and transformation beyond our imagination.
- With global mobile data traffic expected to grow eight times by the end of 2023, we need more efficient technology, higher data rates and spectrum utilization. With the speed and performance of 5G, you have a powerful, game-changing platform for innovation. From throughput to reliability, 5G can bring endless new opportunities for people, society and business. There are eight performance attributes, or currencies, to be considered when evaluating whether a 5G network can deliver on its full potential;



1 Throughput

5G has the potential to deliver speeds many times faster than today's 4G, powering uses such as intelligent video, remote diagnostics and mobile command centers for live audio and video.

5G networks will one day offer peak data rates of up to 10 Gbps. So far, Verizon 5G Home has seen typical download speeds around 300 Mbps and, depending on location, max speeds up to 1 Gbps*. (Sacramento max speeds up to 940 Mbps*)¹

2 Service deployment

Network virtualization (i.e., using software to perform network functions) enables service and application deployment without having to install additional hardware. This should lead to a reduction in typical service deployment time from six months to 90 minutes. Faster deployment times means we can roll out new features and security improvements quickly.

3 Mobility

5G technology is designed to enable devices that are traveling up to 500 kph (310 mph) to stay connected to the network.² Verizon has tested 5G network handoff techniques to enable passengers in fast-moving vehicles and trains to stay connected while they are moving.

4 Connected devices

The number of connected devices is expected to be more than three times the global population by 2022.³ 5G will be capable of supporting up to 1 M devices in a square kilometer.⁴ Verizon 5G Ultra-Wideband will eventually handle 10 to 100 times more connected devices per square kilometer than 4G. This will allow

cities to tap into the power of 5G for things like smart streetlights, remote security monitoring, intelligent rail and smart parking solutions.

5 Energy efficiency

Sustainability is one of Verizon's core values. 5G will have lower energy requirements for network operations (10 percent of current device consumption).

Also with 5G, complex functions could happen within the network, near the end user.⁵ That means the end user's device will not need as much processing capability and will consume less energy.

6 Data volume

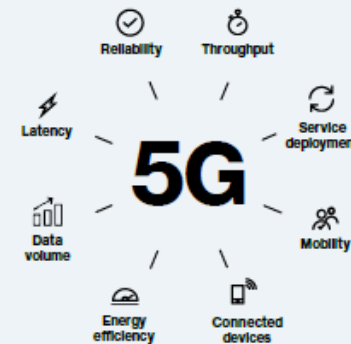
The 5G standard is designed to support up to 10 TB/s/km2.⁶ This means that a 5G network can carry a massive amount of data for a large number of simultaneous users. So, users in high-density areas—like airports, stadiums and urban areas—will all experience the fast speeds and low latency of 5G service.

7 Latency

5G's rapid end-to-end latency (the time it takes for data to travel from the user, over the network to the central processor and back again) will bring data transit speed to many times less than the blink of an eye.

8 Reliability

Verizon offers the most reliable network in the nation; we've been #1 in overall network performance, network reliability, data performance, and call performance in the U.S. by RootMetrics 13 times in a row.⁷ And we are bringing that same expertise and focus as we architect and build our 5G network.



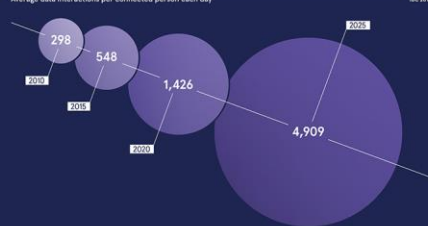


THE GROWING DATASPHERE

As the world becomes ever-more connected and our lives are transformed by smart devices and the ability to instantaneously access images, videos and information, the demand for cloud storage has soared. And, as evidenced by businesses' increased use of cloud computing over recent months to communicate and access work remotely, the reliance on public cloud datacentres will continue to grow

DAILY CONNECTED INTERACTIONS

Average data interactions per connected person each day



5.3bn

estimated number of internet users worldwide by 2023, up from 4.2 billion in 2019

49%

of the world's stored data will reside in public cloud environments by 2025

175ZB

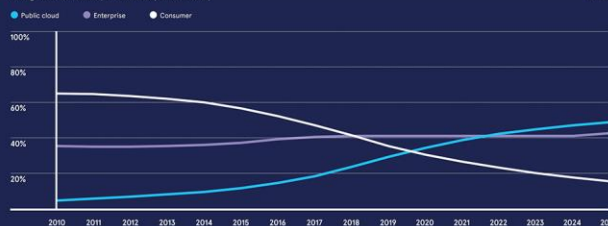
estimated size of the global datasphere in 2025, up from 33 zettabytes in 2018

47%

expected increase in public cloud spend by organisations in 2020

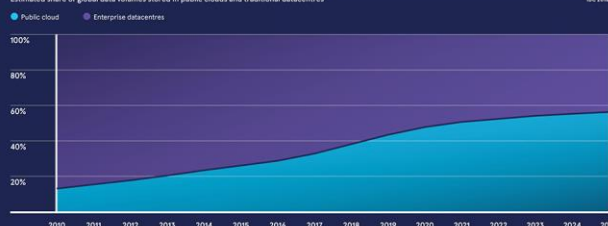
WHERE DATA IS STORED

Average data interactions per connected person each day



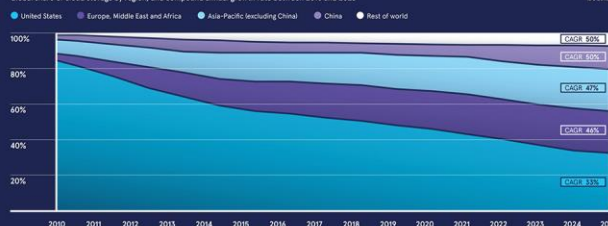
THE PRIVATE-TO-PUBLIC SHIFT

Estimated share of global data volumes stored in public clouds and traditional datacentres



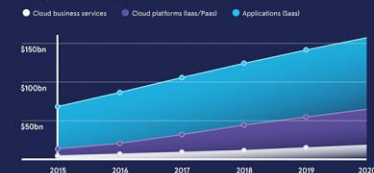
WHO NEEDS THE CLOUD THE MOST?

Global share of cloud storage by region, and compound annual growth rate between 2018 and 2025



WHERE PUBLIC CLOUD BUDGETS GO

Global public cloud services revenue (\$bn)



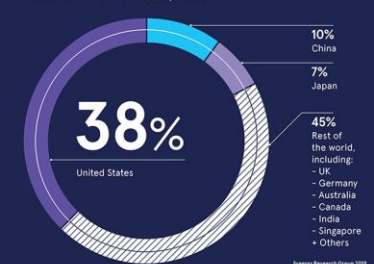
SUPPLY AND DEMAND FOR DATACENTRES

Global footprint of multi-tenant datacentres (million square footage)



WHERE THE HYPERSCALE DATACENTRES ARE LOCATE

Hyperscale plants are large-scale datacentres owned and operated by a mega cloud provider, such as Amazon or Microsoft; these figures were based on an analysis of the datacentre footprint of 20 of the world's major cloud and internet service firms in the third quarter of 2019



RACONTEUR





There are many social and economic risks that we can come to expect as the global population continues to age:

1. **The Squeezed Middle:** With more people claiming pension benefits but less people paying income taxes, the shrinking workforce may be forced to pay higher taxes.
2. **Rising Healthcare Costs:** Longer lives do not necessarily mean healthier lives, with those over 65 more likely to have at least one chronic disease and require expensive, long-term care.
3. **Economic Slowdown:** Changing workforces may lead capital to flow away from rapidly aging countries to younger countries, shifting the global distribution of economic power.

The strain on pension systems is perhaps the most evident sign of a drastically aging population. Although the average retirement age is gradually increasing in many countries, people are saving insufficiently for their increased life span—resulting in an estimated \$400 trillion deficit by 2050.



Pensions Under Pressure

A pension is promised, but not necessarily guaranteed. Any changes made to existing government programs can alter the lives of future retirees entirely—but effective pension reforms that lessen the growing deficit are required urgently.

Towards a Better System. Certain countries are making great strides towards more sustainable pension systems, and the Global Pension Index suggests initiatives that governments can take into consideration, such as:

1. Continuing to increase the age of retirement
2. Increasing the level of savings—both inside and outside pension funds
3. Increasing the coverage of private pensions across the labor force, including self-employed and contract employees, to provide improved integration between various pillars
4. Preserving retirement funds by limiting the access to benefits before the retirement age
5. Increasing the trust and confidence of all stakeholders by improving transparency of pension plans
6. Although 59% of employees are expecting to continue earning well into their retirement years, providing people with better incentives and options to make working at an older age easier could be crucial for ensuring continued economic growth.



Median Age by Global Region Since 1950

35

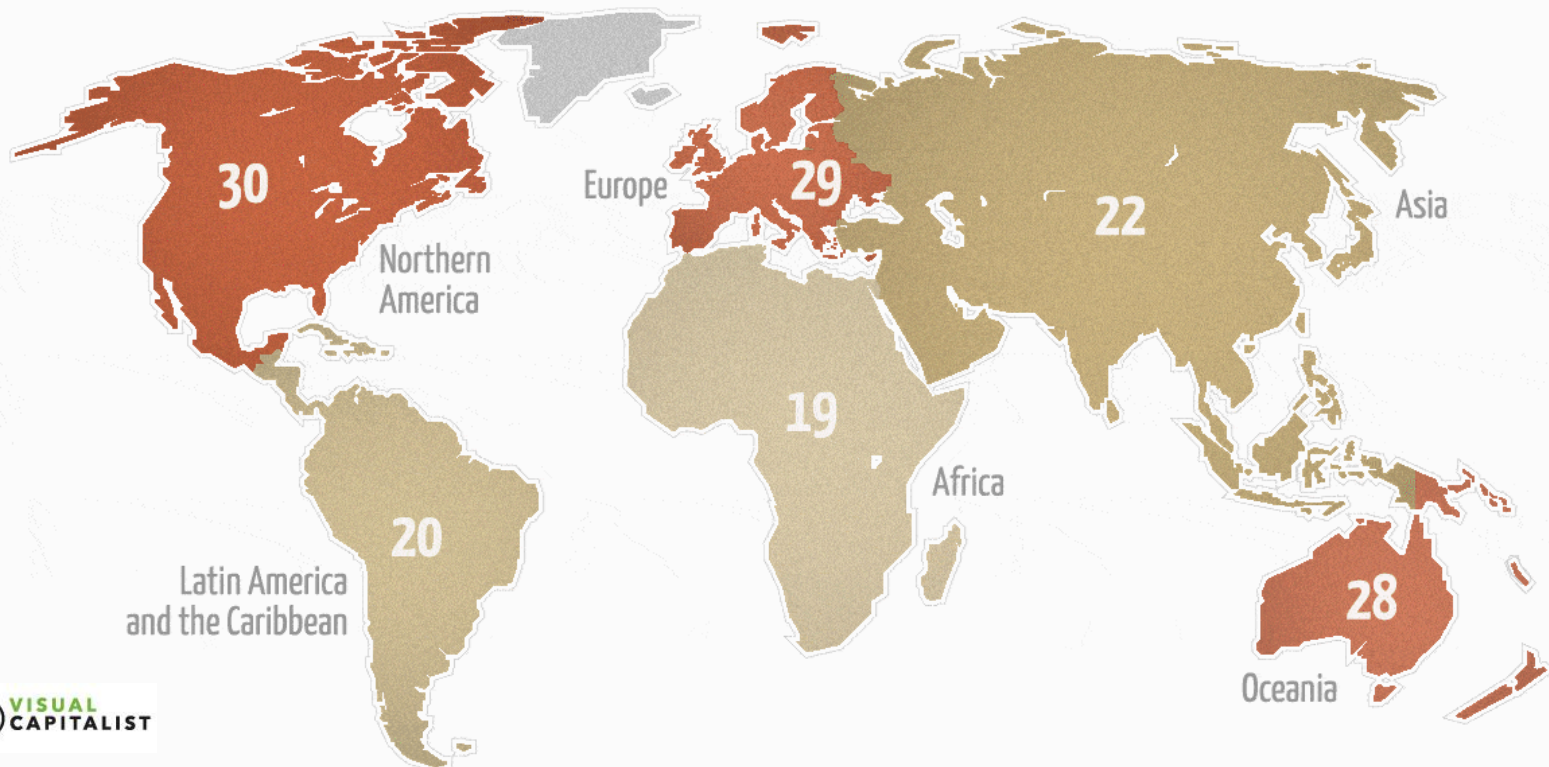
The global median age has increased from 25 years in 1950 to 33 years in 2020. Yet, despite this overall increase, not all regions are built equal.

Here's a look at their change over time.

Median Age



1950



Thinking Differently – Executing Quickly

ACC



- China is the largest digital market in the world, leading all countries in terms of ecommerce, mcommerce and social commerce. It's also home to many of the largest ecommerce conglomerates, including Alibaba and JD.com, who are generating sales at a scale that far exceeds that of companies in the US—including Amazon.
- According to our latest ecommerce estimates, companies in China continue to lead the pack in terms of online transactions. (Note that the figures alongside are for total in-market sales for each company in its home country, not its global sales.)
- For reference, we project that Amazon's total worldwide ecommerce sales will reach \$416.48 billion this year, which means that China's second-largest player, JD.com, transacts almost as much inside China as Amazon does globally. China's third-largest player, Pinduoduo (PDD), dwarfs every other American company besides Amazon. Each of these companies does a large majority of its ecommerce business in its home market, so the relative stature of each is representative of its global position.
- It's important to note that gross merchandise value (GMV)—as reflected in our data—is a very different metric from revenues or profit. To put that into perspective, Amazon makes money much more efficiently than Alibaba, JD.com or PDD, hence its ability to generate greater revenues and higher profit margins than its peers — despite its relatively lower transaction volumes.

Comment – Chinese internal sales circulate Chinese money generation within China, lessening foreign exchange earnings through sales in the U.S. and other foreign countries by selling around the globe. Strategically this may be why Alibaba and JD.com are pushing hard to establish viable commercial platforms in western countries.

China*

1. Alibaba

\$1,170.47

2. JD.com

\$357.74

3. Pinduoduo

\$218.54

4. Suning

\$36.35

5. vip.com

\$20.74

US**

1. Amazon

\$269.41

2. Walmart

\$41.01

3. eBay

\$31.65

4. Apple

\$24.83

5. The Home Depot

\$13.38

Note: includes products or services ordered using the internet (browser or app) via any device, regardless of the method of payment or fulfillment; excludes travel and event tickets; in-country sales only; *excludes Hong Kong; **gross value
Source: eMarketer, May 2020

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