CBRE RESEARCH

SUMMER 2020

THE CHANGING FLOW OF INTERNATIONAL TRADE

Impact on Global Supply Chains & Industrial Real Estate

CBRE

EXECUTIVE SUMMARY

Global trade provides vital goods to consumers, supports millions of jobs worldwide and is the lifeblood of industrial real estate markets across North America, Europe and Asia Pacific.

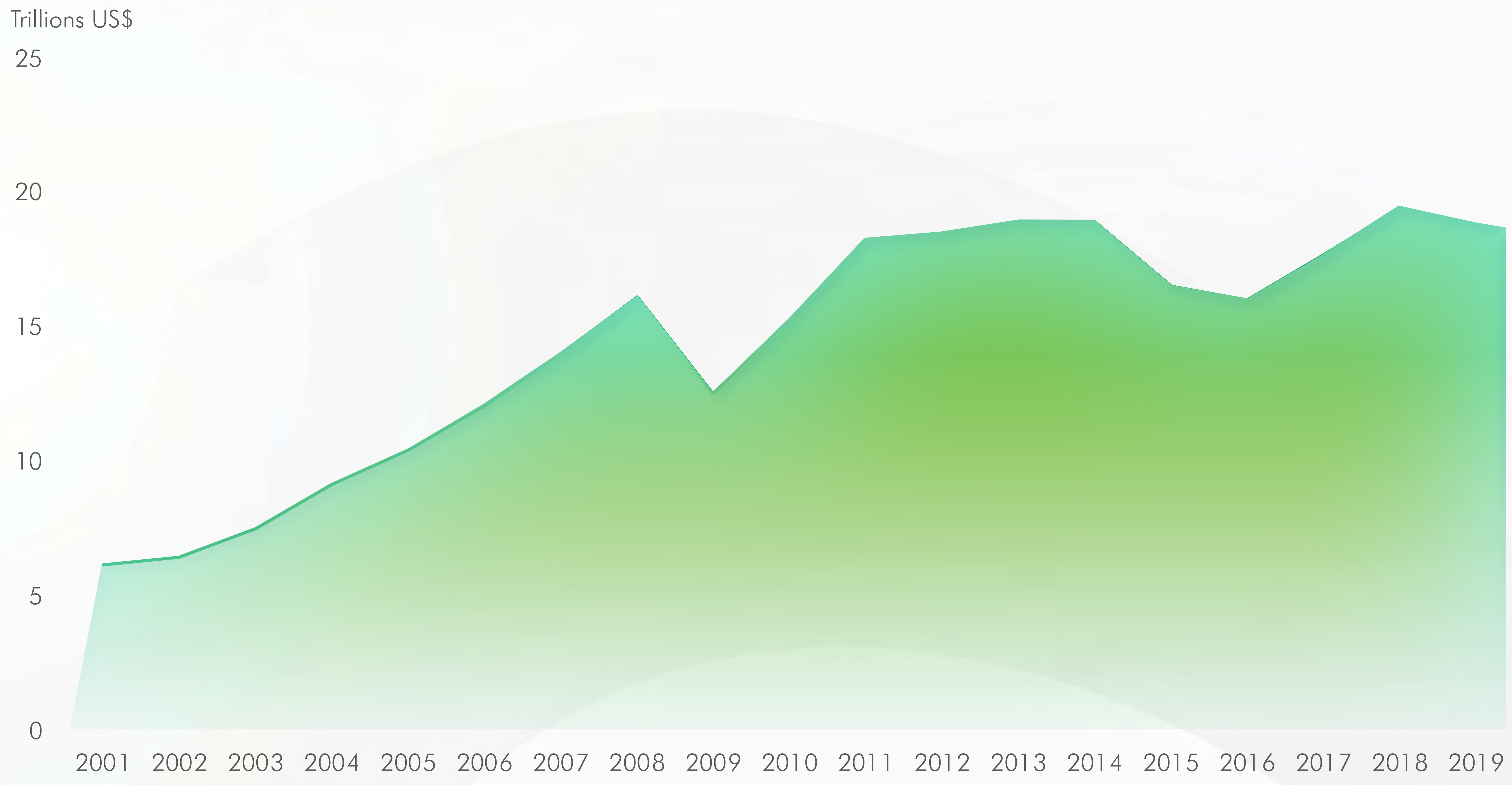
Over the past few years, trade and geopolitical tensions, technological advancements and rising transportation costs have led companies to diversify and regionalize their supply chains. This trend has accelerated with the onset of COVID-19.

Supply chains are going through immense change at a time when consumers are purchasing goods online at a record pace. E-commerce is forcing companies to keep larger and more diverse inventories in closer proximity to end users. Inventory-control failures in the first half of 2020—when many companies could not fill orders efficiently—have vividly illustrated the urgency of having more inventory on hand to support online sales. The combination of inventory controls, consumer habits, population growth and transportation strategies will benefit growing seaports throughout the world and will increase the importance of inland ground, rail and air freight hubs in every region.

These changes are leading to massive increases in infrastructure spending and modernization of existing logistics hubs, and will put emerging industrial real estate markets in the Southeast U.S. and Mexico, Mediterranean port markets in Europe and Vietnam in Asia on the radar of both occupiers and investors.

These regions will grow but will dwarf the global trade behemoths of the Western U.S., China and the North Sea ports of Europe. While COVID-19 revealed serious flaws in traditional supply chain strategies—particularly using these three regions as the single point of sourcing and importing of goods—they will remain the major players in global trade. Just like emerging regions, the global gateway powerhouses must modernize to keep up with rapidly evolving consumer, political and technological changes that will shape trade and industrial real estate in the coming years.

Figure 1
Total Merchandise Trade Worldwide, 2001-2019



Source: WTO, 2019.

KEY IMPACTS

This interactive report analyzes the impacts on industrial real estate in each of the world's three main regions from shifts in global trade and supply chains brought on by the following:

- COVID-19 lockdowns.
- Supply chain disruptions.
- Economic downturns.
- Trade policies.
- E-commerce demand.

THIS IS AN INTERACTIVE REPORT,
CLICK THE ICONS TO JUMP TO EACH SECTION

THE AMERICAS

EMEA

APAC

*Such as the United States-Mexico-Canada Agreement (USMCA), U.S.-China import tariffs and Brexit.

GEOPOLITICS SHIFTING AN INTERCONNECTED WORLD

Global supply chains and the free flow of goods recently have been challenged as some major countries consider reshoring manufacturing jobs. Despite this, the world's regions remain interconnected, making each more susceptible to health risks like the unfolding COVID-19 pandemic, which is creating significant disruption of global supply chains. Efforts to improve supply chain resilience, protect intellectual capital and cater to changes in consumer habits will continue to shift the global flow of goods. The need to control the cost of goods, however, means a permanent decline in global trade is unlikely. Figure 2 shows the impact of global trade on national GDP from country to country.

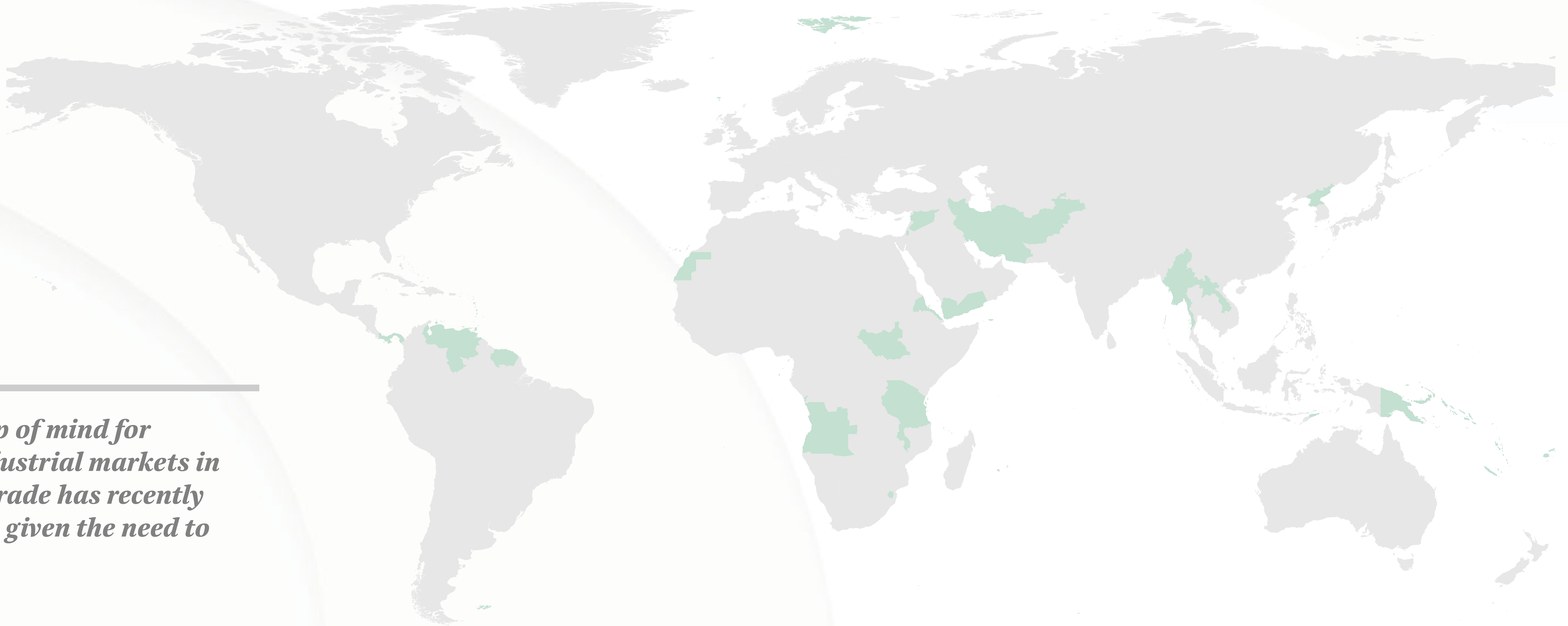
"Supply chain resilience has become top of mind for manufacturers and this will impact industrial markets in coming years. Although international trade has recently slowed, a permanent decline is unlikely given the need to control the cost of goods."

Richard Barkham, PhD
Global Chief Economist and Head of Research, CBRE

Figure 2
Economic Openness Index by Country (% Trade vs National GDP)

Click to filter results

ALL | >80% | 60%-79% | 40%-59% | 20%-39% | <20%



Source: CBRE Research with data from World Bank, 2020.

COVID-19, GLOBAL TRADE & SUPPLY CHAIN RESTRUCTURING

Rising labor costs in China and ongoing trade conflicts have prompted many global manufacturers to diversify supply chains throughout Asia in a multi-country strategy. As a result of the COVID-19 pandemic, global occupiers with an overdependence on one country or region may reassess their sourcing and manufacturing strategies. For some, this means diversifying their sourcing and manufacturing within each region (e.g., an Americas manufacturing hub). Nevertheless, a widespread exodus of manufacturing capacity from China is unlikely given the sophistication of the industry, the maturity of the supply chain and China's massive domestic consumer market. While there is no doubt that the number of small manufacturers in the Americas will grow significantly, the volume of goods produced in China and broader Asia likely will remain dominant.

EXPANDING NETWORK RESILIENCY

Across key industries such as automotive, electronics, technology and consumer goods, many supply chains begin in China—still the dominant global manufacturer. However, recent disruptions may prompt companies to institute a "China Plus One" strategy to reduce supply chain dependency on China alone.

One example of this shift away from centralized supply and toward greater diversification is Wistron, a major supplier to large tech companies, which expects 50% of its production capacity to be located outside China by 2021.[1]

While it is still too early to identify the beneficiaries of supply chain diversification, the growing focus on reorienting supply chains and diversifying manufacturing locations means those countries that are already investing in new infrastructure and are more open to attracting industry likely will receive the lion's share of relocations.

Vietnam has already emerged as a popular destination. Samsung has shifted much of its smartphone production to Vietnam over the past decade and now manufactures 50% of its phones there.[2] Other recent relocations to Vietnam include Taiwan's Pegatron, which recently announced plans to establish a US$150 million plant.[3] The north of the country is a keenly sought-after location because of its multi-modal shipping channels via Nôi Bài International Airport in Hanoi, Hai Phong Port and a road network linked to China.

Other potential destinations include Thailand, where the government is attempting to attract foreign investment in key manufacturing industries through tax incentives and other measures. Elsewhere, India offers low labor costs, improving infrastructure, Special Economic Zones (SEZs) offering duty-free exports and other policies that have helped secure significant investment in facilities by Taiwanese electronics manufacturer Foxconn and other companies.

COVID-19 IMPACT ON EUROPEAN TRADE & PORTS

European ports experienced different degrees of vulnerability to the economic effects of COVID-19. Among the leading European container ports, Rotterdam and Hamburg handle the most containers from China. Other major European ports like Antwerp, Valencia and Bremerhaven are less exposed to supply-side risks related to China. The first effects of the COVID-19 outbreak on maritime transport in Europe were felt when China reduced its trade of goods due to factory lockdowns and shortages of port workers, resulting in a 46% drop in China-to-EU trade volume in February.

Despite less volume, European port authorities took measures to support consumers by keeping their facilities fully operational. The World Trade Organization (WTO) expects trade volumes to recover in 2021, however a prolonged economic downturn could lower demand for goods by European consumers and businesses.

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[1] Winstron to have 50% of production outside China by 2021, 9to5, March 26, 2020.

[2] Samsung to shift some smartphone production to Vietnam due to coronavirus, Reuters, March 6, 2020.

[3] Pegatron to set up plant in Vietnam this year, Taipei Times, February 18, 2020.

As in other regions, European companies have increased inventories to avoid future supply disruptions, leading to an increase in orders and frequency of shipments. This may lead to near-sourcing and diversification of suppliers closer to Europe or within Europe. Reshoring of manufacturing plants for some industries in Europe is highly plausible considering sovereignty concerns over key industries like pharmaceuticals and medical device manufacturing.

Central and Eastern Europe (CEE) has strong potential to attract manufacturers looking to diversify their exposure from Asia. Incentives could include cost structures, supply of certain skill sets, supplier ecosystems, public infrastructure development, land availability and lower business costs and taxes.

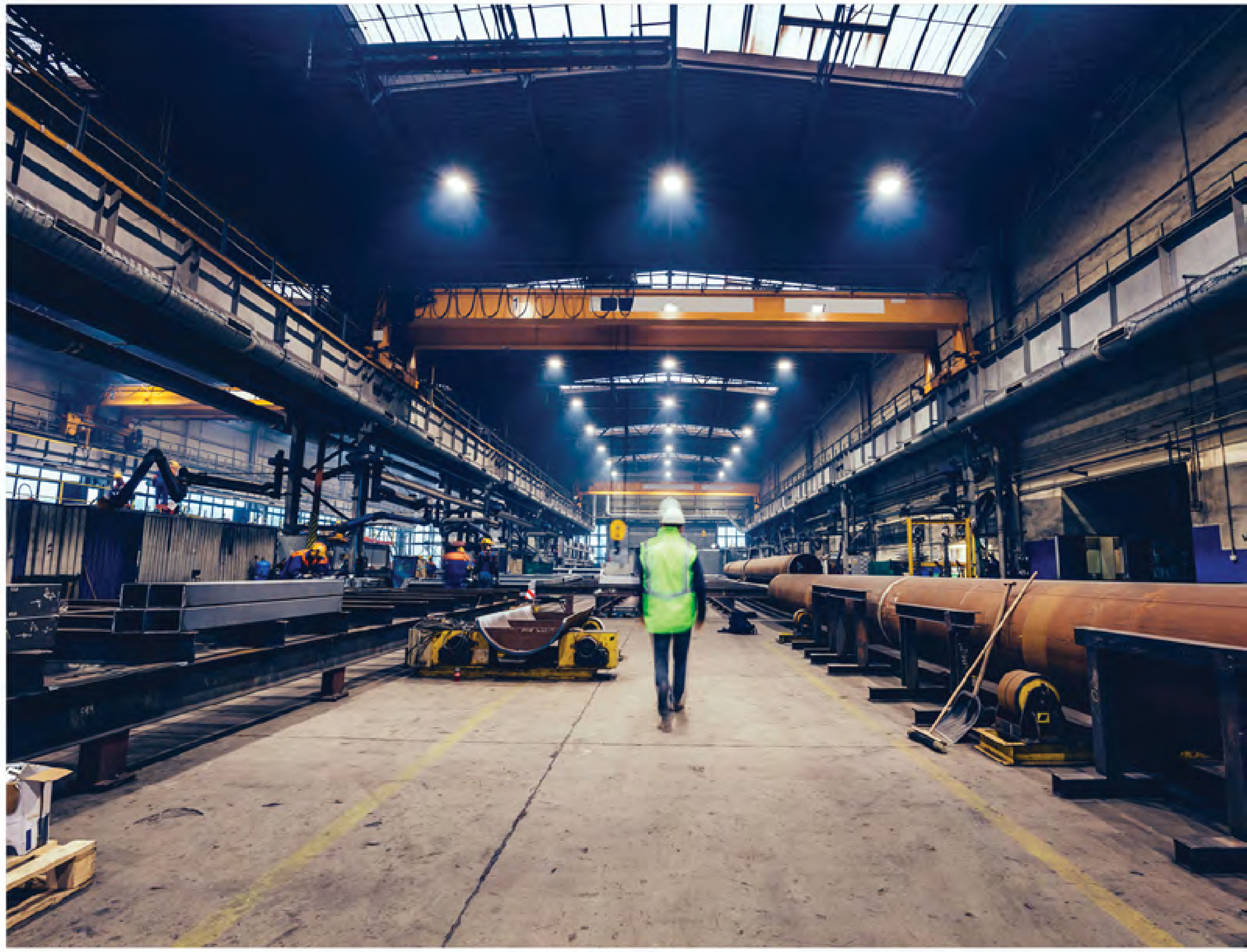
DISTRIBUTION HUBS MAY BENEFIT FROM RESTRUCTURING

As the global economy restarts, adjustments to supply chains will increase demand for warehouse space.[4] Retailers and wholesalers will store months' rather than weeks' worth of inventory, particularly essentials, closer to population centers and service locations. Markets with convenient access to seaports may offer very limited space options in the U.S., Europe and Asia Pacific. This likely will benefit inland hub markets, especially those with available land to develop additional warehouse facilities. Nevertheless, investors and developers should be cautious about this trend, as there are some doubts about its long-term sustainability given competitive pressures to keep costs down for consumers.

The COVID-19 crisis has underscored the fragility of just-in-time (JIT) production networks and the long-established practice of maintaining lean inventory levels. These JIT systems are now susceptible to closed manufacturing facilities, ports and borders due to COVID-19. A March survey by the Institute for Supply Management found that nearly 75% of business respondents have experienced supply chain disruptions and more than 80% believe they will in the future. As a result, many businesses are planning major restructuring of their supply chains. Part of this restructuring will handle increased online and grocery sales, creating robust warehouse demand worldwide—particularly if consumers continue social distancing after economies reopen. Established e-commerce hubs at major transportation centers will post strong fundamentals as occupiers recalibrate supply chains and build automation and efficiencies into distribution networks.

[4] U.S. Industrial MarketFlash: Distribution Hubs Will Benefit from Increased Business Inventories & Supply Chain Restructuring, CBRE Americas Research, May 14, 2020.

FOR MORE INFORMATION ON THE ASIAN SUPPLY CHAIN, SEE CBRE'S "VIEWPOINT: REFOCUSING SUPPLY CHAINS IN THE COVID-19 ERA".



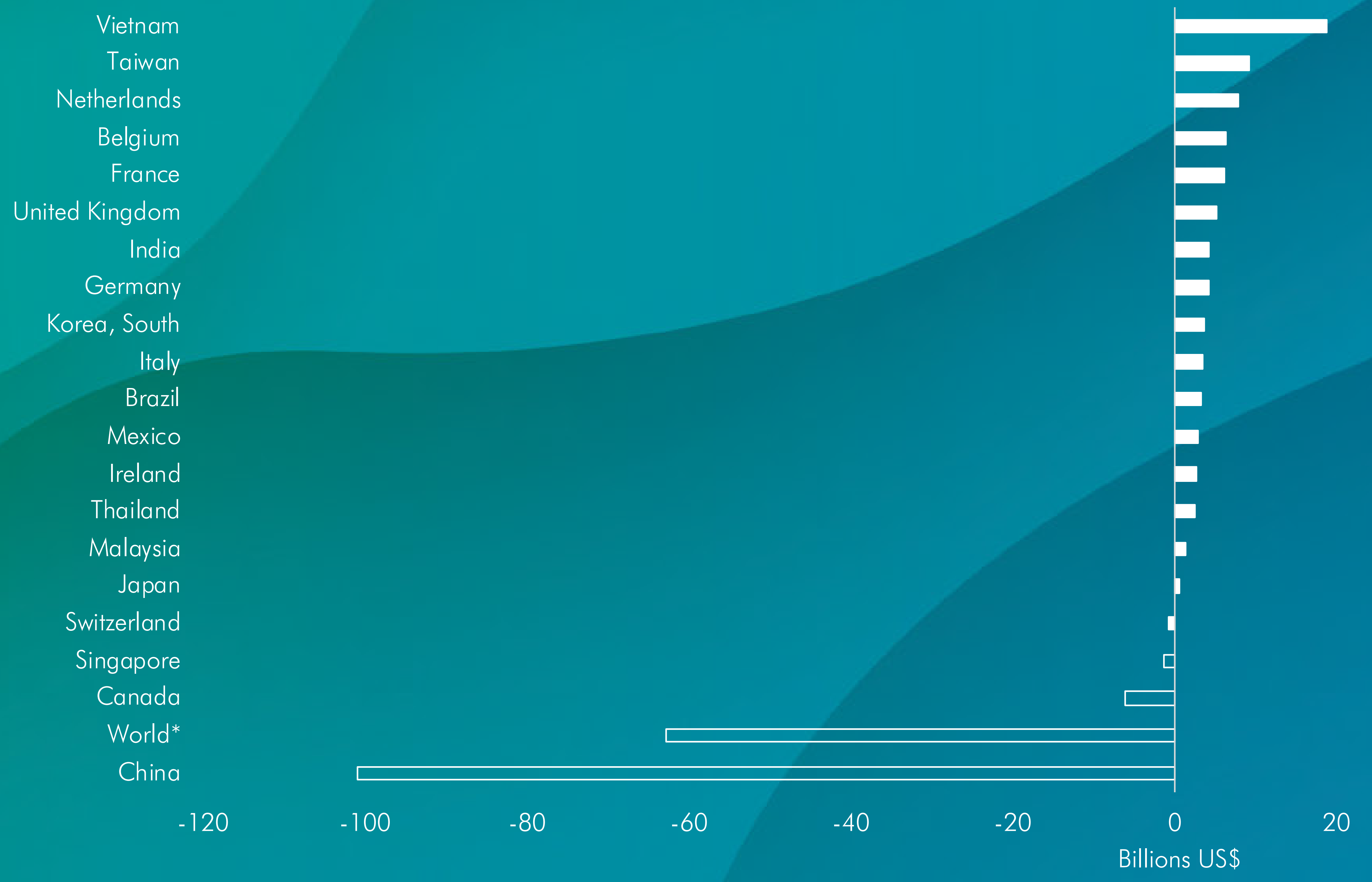
THE AMERICAS

Global trade has a significant impact on North American economies, accounting for 26% of GDP for the U.S., 65% for Canada and 78% for Mexico.[5]

U.S. trade with the world totaled $4.14 trillion in 2019, led by Mexico, Canada and China. However, the U.S.'s fastest-growing trade partners from 2018 to 2019 included Vietnam, Taiwan, the Netherlands and Belgium. This shift is largely attributable not only to the U.S.-China trade conflict but an on-going restructuring of supply chains.

China has recently regained its status as the U.S.'s top trade partner as a result of the phase-one trade pact between the two countries, in which China agreed to increase imports of agricultural products and other goods from the U.S.

Figure 3
Top 20 U.S. Trade Partners, Annual Change in Total Goods Trade, 2019



Source: U.S. Census Bureau, CBRE Research, Q4 2019.
*Seasonally adjusted.

NAFTA 2.0: What does the USMCA Mean for Industrial Real Estate?

The U.S.-Mexico- Canada Agreement of 2018 (USMCA) facilitates more than $1.2 trillion worth of trade among the three nations and is expected to benefit North American industrial real estate markets.

Products assembled in various locations throughout North America often contain parts sourced from other countries in the trading bloc. Complex supply chains have been established with parts moving back and forth across borders and value added several times before being completed. Under the new agreement, this interconnectedness will be preserved in various ways.

In terms of manufacturing, U.S. automakers will benefit from a provision mandating a higher percentage of North American-sourced materials in the assembly of autos (a greater challenge for foreign manufacturers with assembly lines in North America). Consequently, some real estate markets may see near-term demand bolstered as supply chains are adjusted and more parts are sourced from North America to meet new requirements. Additionally, greater access for agricultural products and higher thresholds for duty-free shipments will support warehouse distribution demand.

Considering trade represents most of Mexico's GDP, USMCA creates an opportunity for the country to increase productivity and invest in infrastructure. Furthermore, the agreement offers viable options for foreign investment in Mexico, especially for industrial real estate.

For Canada, the new agreement results in increased purchasing power and likely higher volumes of cross-border online shopping. The industrial sector stands to see disproportionate benefits relative to other sectors. Canada's domestic retail industry, however, could suffer if Canadians do more cross-border shopping online.

[5] Sum of exports and imports of goods and services as a % of GDP, Oxford Economics, 2019.

SUPPLY CHAIN DIVERSIFICATION & RESHORING

Phase one of a trade agreement between the U.S. and China in January addressed many disputes in the trade relationship. As a result, industrial markets where trade with China accounts for a substantial amount of demand, such as Los Angeles and Northern New Jersey, will dodge a major headwind. Increased Chinese demand for agriculture and manufactured goods—including machinery, electrical equipment, pharmaceuticals, aircraft, vehicles, medical instruments, raw minerals and other goods—should boost industrial demand.

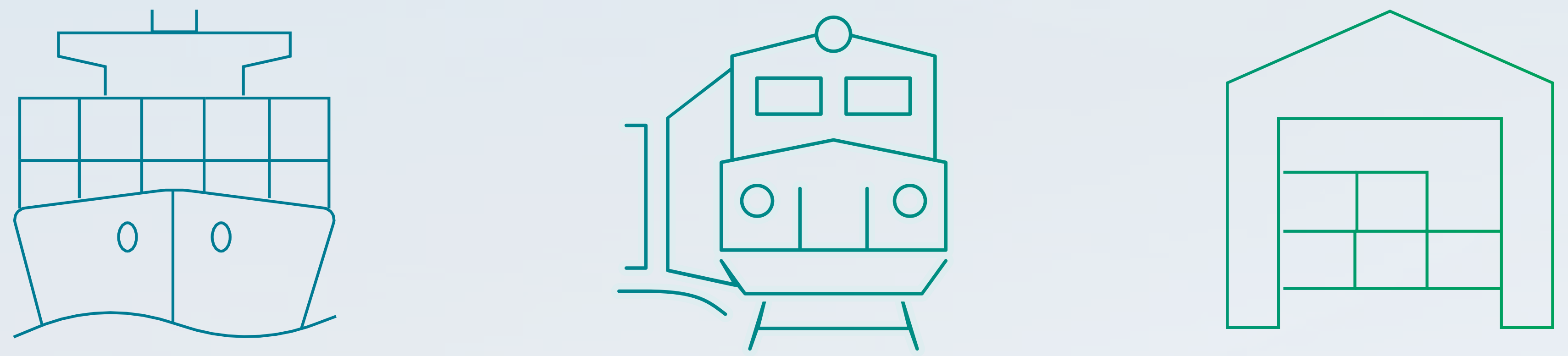
> ***"Stay-at-home mandates have changed U.S. consumer behavior to buy more online, whether direct-to-consumer, pickup-in-store or curbside pick-up. This will continue post-COVID-19 and therefore lead to more rapid adoption of warehouse automation."***
>
> ***Joe Dunlap, Head of Supply Chain Advisory, CBRE***

TRADE EFFECTS ON U.S. INDUSTRIAL REAL ESTATE

Markets near seaports continue to post the lowest industrial vacancy rates in the U.S. Combined, these markets finished Q1 2020 with an overall industrial vacancy rate of just 3.9%—60 basis points (bps) lower than the national average—and strong absorption of nearly 14 million sq. ft. While West Coast port market fundamentals should remain sound because of a projected 4.8% increase in population over the next five years, the top industrial growth markets in the U.S. are along the Southeast Coast. This is attributable to significant logistics capacity, available land for industrial and manufacturing development, lower asking rents and access to the largest population concentration in the country.

Established e-commerce hubs near major transportation centers should see strong fundamentals in the long run, as many occupiers recalibrate their supply chains and build automation and efficiencies into their distribution networks. Super-regional distribution markets, such as Chicago and Dallas/Ft. Worth, appear particularly well-positioned because of their central location to efficiently handle goods traveling from all directions. Markets with convenient access to seaports may offer very limited space options in years ahead, and this likely will benefit inland hub markets such as the Inland Empire, Atlanta, Pennsylvania I-78/81 Corridor, Memphis, FL I-4 Corridor, Greenville and Central Valley, CA.

Figure 4
U.S. Seaport, Inland Port & Non-Port Comparison (click to reveal)



SEAPORT MARKETS | INLAND PORT MARKETS | NON-PORT MARKETS

Source: CBRE Research, Q1 2020.

U.S. SOUTHEAST & GULF COASTS TO BENEFIT FROM SHIFTS IN TRADE

U.S. ports have undergone significant changes over the past few years as the global shipping industry rapidly evolved. To get products to consumers more quickly and more efficiently, ship sizes have grown at a faster rate than ever before. These shifts have put ports in catch-up mode, with capital improvement projects underway or recently completed at nearly all locations to better service larger vessels. While West Coast ports are naturally better suited for this trend because they have deeper harbors, the expansion of the Panama Canal and diversification of product origins have created opportunities for more cargo to flow to the East and Gulf coasts.

The Southeast region is best positioned for more industrial space demand from import shifts to other parts of Asia, which can reach the East Coast faster through the Suez Canal. This region is also a primary importer of goods from Europe. As for the Gulf Coast, Houston is a growing port of entry to supply the Southcentral U.S., which is projected to increase in population by 7.1% over the next five years.

Charleston, SC and Savannah are among the four fastest growing seaports in the country, with twenty-foot equivalent units (TEUs) growing by an average of 6.1% in 2019.[6] While imports are down in 2020 because of COVID-19, these markets are well-positioned for a solid comeback when the economy improves and as companies implement diversification and reshoring strategies.

Moreover, the Southeast region offers a multitude of inland ports and air hubs in strategic markets, including Greenville, Atlanta, Memphis, the I-4 Corridor in Florida and the Shenandoah Valley in Virginia. The region is also home to major UPS and FedEx air hubs.

The Southeast region finished Q1 2020 with the top three industrial real estate growth markets in the country (net absorption as a % of existing inventory)—Savannah, Greenville and Charleston.[7] It is particularly impressive that Greenville and Savannah are in the top 10 nationally for overall net absorption because both markets have 200 million sq. ft. or less of total inventory, yet they absorbed more space than much larger markets. This is a direct result of increased demand for products in the Southeast—the largest populated region of the country at 85.5 million and, with projected population growth of 4.8% over the next five years.

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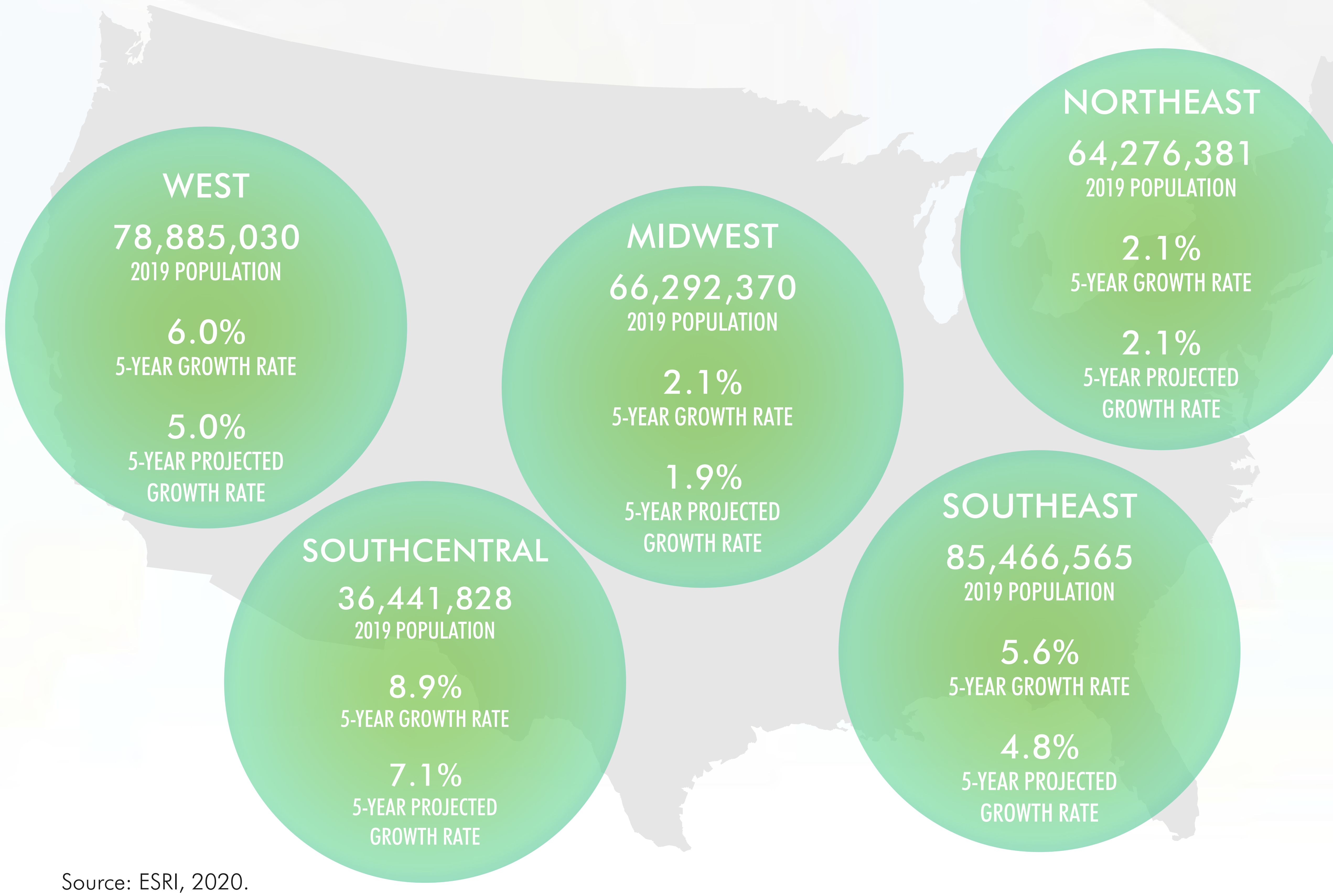
[6] Average loaded monthly imports, according to the respective port authorities, 2019.

[7] Q1 2020 U.S. Industrial & Logistics Figures, CBRE Americas Research.

Figure 5
U.S. Regional Population Statistics



Source: ESRI, 2020.

MEXICO: OPPORTUNITIES & RISKS

Mexico has more warehouse supply than all other Latin American countries combined due to its economy's heavy reliance on exports. Vacancy rates of the country's major industrial markets range from a very healthy 4.0% to 7.5%. Nearshoring or the relocation of production operations to Mexico represents a viable opportunity, driven by the disruption of the Asian supply chain (especially China) and companies seeking to reduce their costs. Companies likely will expand their distribution hubs in the primary Mexican industrial markets. In the short term, export- and e-commerce-related industries will grow, such as medical equipment, logistics & distribution, packaging and agriculture. In the medium term, growth in the technology, data center and heavy manufacturing sectors is expected.

U.S. import tariffs on certain Chinese goods have caused an increase in Mexico's share of U.S. trade, mainly in electronic components and food products (Figure 6). This opens an even larger export market for Mexico's agricultural industry, which grew by 8.6% last year and ranks 10th worldwide, according to the World Trade Organization.

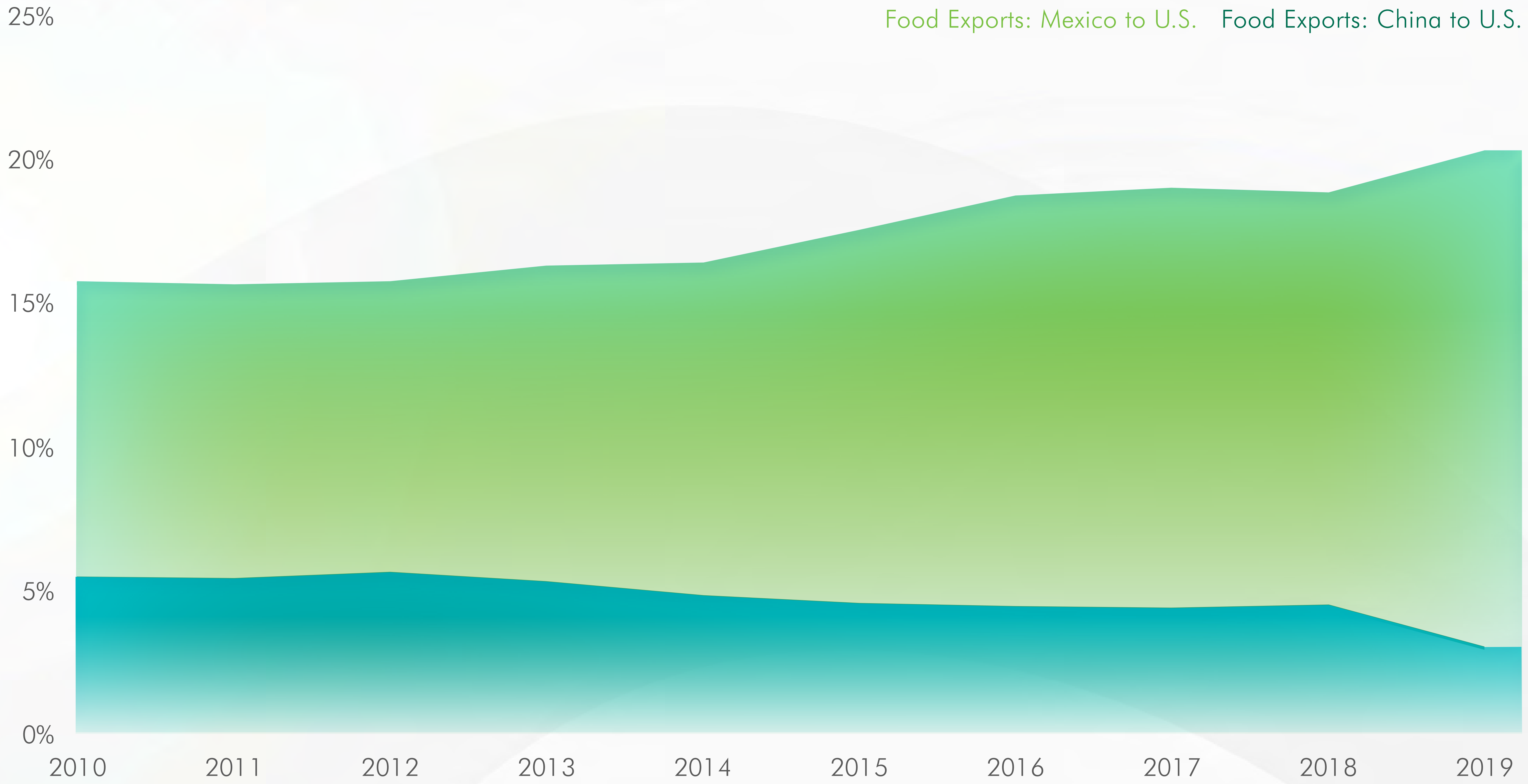
There are some clear risks for Mexico's export market, however. The automotive sector, which accounts for 33% of industrial real estate demand in Mexico, is expected to have a downturn in 2020. Also, the volatile dollar-peso exchange rate is causing unease for industrial occupiers and developers in the center of the country, with over half of the lease agreements signed last year being done in dollars. Renegotiation of these agreements could occur.

"International trade is vital not only to North American seaport markets but also inland hubs with significant population centers. Established hubs at major transportation confluences should see strong fundamentals as occupiers recalibrate their supply chains."

John Morris,
Americas Industrial & Logistics and Retail Leader, CBRE

Figure 6

Mexico & China Share of Total Food Exports to the U.S., 2010-19



Source: CBRE Research with data from Census Bureau, 2020.

THE U.S.-CANADA RELATIONSHIP

The U.S. and Canada share the world's longest international border, and their bilateral trade relationship is one of the world's closest and most extensive.[8] The two countries traded $721 billion worth of goods and services in 2018—almost $2 billion per day. Additionally, they have a robust cross-border investment relationship, particularly for industrial real estate. At the height of foreign investment in U.S. industrial assets in 2018, Canada made $5.6 billion worth of industrial real estate acquisitions, accounting for 39% of total inbound capital to the U.S.

Trucking is the primary mode of transport for trade between Canada and the U.S., accounting for 57.8% of total exports and imports in 2018. Other modes of transport include rail (17.6%), air (5.5%), marine (5.1%) and other (14.0%). The "other" category largely is Canadian oil exports via pipelines.

Toronto is Canada's largest trade hub, accounting for 30% of all international merchandise trade in 2018, followed by Calgary (10.8%) and Montreal (10.5%). Combined, these three markets handle more than half of the country's total trade volume. As Canada's most populous city, Toronto is the country's main import/export gateway for the warehouse trade and manufacturing industries. Calgary's trade volume is largely tied to the energy sector because of its proximity to the oil sands. In Montreal, the region's strong manufacturing sector drives most of the city's trade. Trade volume growth in Toronto and Montreal over the past five years has outpaced the national average by 24.3%, while Calgary's trade volume has remained relatively stable despite weak oil prices.

Canada's emerging trade markets have recorded the highest growth in trade volumes over the past five years, including Moncton (+48.9%), Winnipeg (+42.1%) and Montreal (+39.7%).

[8] U.S. Relations with Canada, U.S. Department of State, July 8, 2019.

EMEA

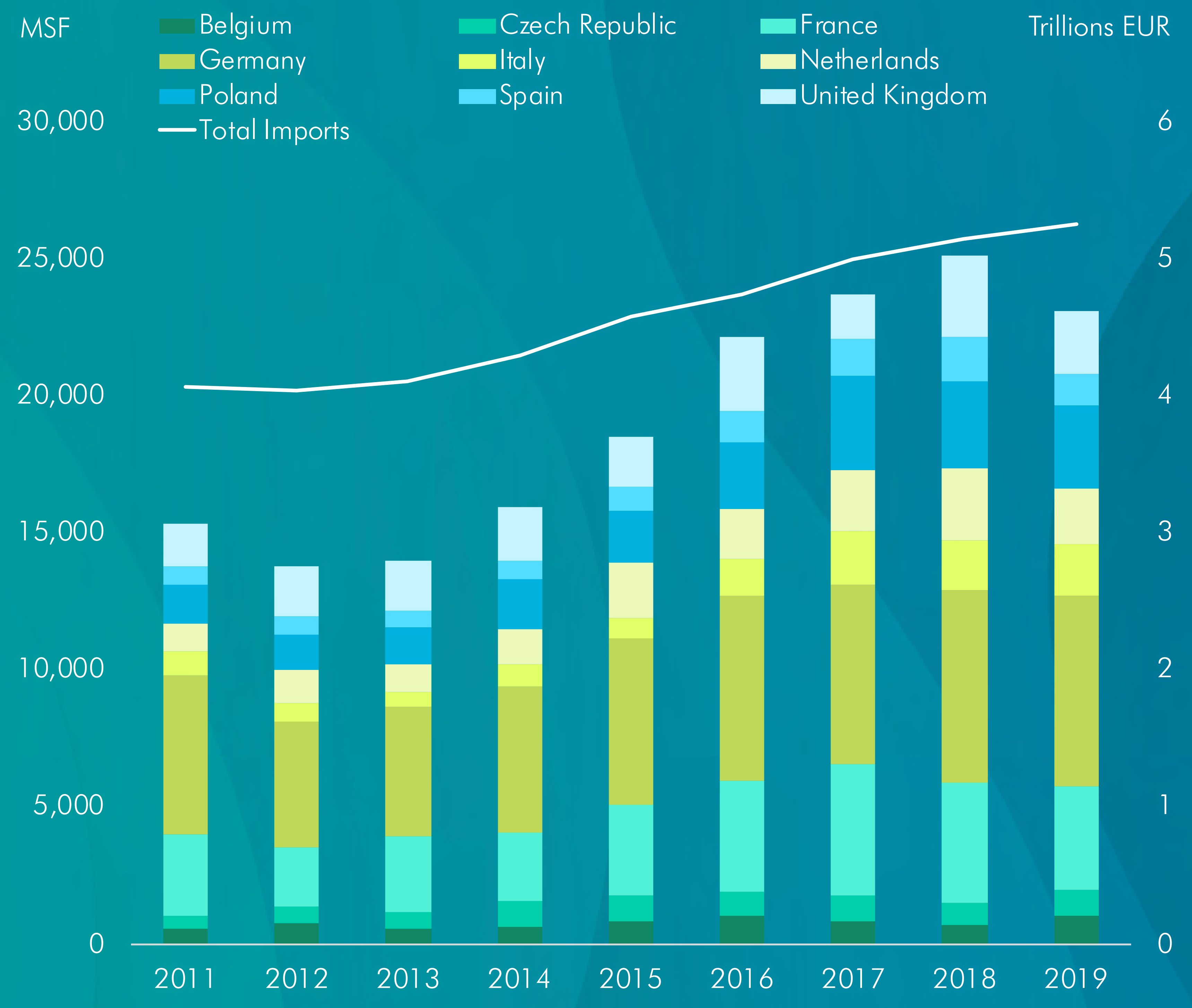
The European Union accounts for more than 20% of global GDP.

A significant portion of this is due to its open economy and trade with the world. Maritime shipping moves approximately 75% of the EU's global trade and 30% of intra-EU trade, supporting complex supply chains of food, energy, raw materials, manufactured goods/components and medical supplies.

The EU's main trading partners by merchandise value are the U.S., China, U.K. and Switzerland—accounting for 48% of its total global trade.[9] Trade has a significant economic impact on the major European countries, driving demand for logistics real estate in hub markets of the Netherlands, Belgium, Czech Republic, France, Germany, Italy, Poland, Spain and the U.K.

Logistics real estate supply in European countries with critical ports has increased considerably during the last cycle due to growth in merchandise trade. However, little availability of developable land around European ports has put upward pressure on rents, particularly in markets like Rotterdam and Barcelona. Consequently, there is robust demand for more cubic space in these land-constrained areas, which may lead to more development of multi-story and multi-level facilities to maximize throughput.

Figure 7
Take Up vs. Imports, Major European Industrial Markets, 2009-2019



Source: CBRE Research, Q4 2019.

[9] Client and Supplier Countries of the EU 27 in Merchandise Trade, European Commission Directorate General for Trade, 2019.

The EU & Brexit

Free trade is one of the European Union's founding principles, allowing for the unrestricted movement of people, goods, services and capital (the "four freedoms") between its 27-member nations. EU-based companies receive easier access to new and expanding markets and sources of finance and technology, while EU consumers have access to a larger variety of cheaper goods. In densely populated cities like Paris and Madrid, demand for logistics space is rising as companies seek greater proximity to large concentrations of consumers.

Brexit likely will not have a significant impact on logistics real estate, although important issues regarding trade and migration still must be resolved. Trade access likely will be restricted, though only to extent that migration controls are tighter.

Key Real Estate Impacts of Brexit:

- Economy: Post-Brexit uncertainty will continue to dampen confidence and growth. Currency-induced inflation has not yet fully dissipated, slowing consumer spending. Nevertheless, the weak British pound has attracted international real estate investors and tourists to the U.K. and boosted domestic exports, increasing demand for industrial space.
- Labor Market: Net migration may fall and companies may pause on hiring; after 2021, new controls could produce shortages in construction, retail, health care and hospitality, raising occupier and developer costs.
- Trade Access: Trade can happen without any agreement in many areas, but costs would rise; the most exposed occupiers are in highly regulated sectors that cannot trade without licenses. Companies may need to reorganize supply chains and warehousing operations.
- Regulation: The British government is examining whether EU-derived planning and environmental law can be adjusted after the U.K. has left. In the short term, the need to get Brexit legislation through Parliament means there is little likelihood of major real estate legislation (for example, planning law or infrastructure projects).

Assuming the EU will not compromise on its "four freedoms," the U.K.'s access to free trade will be proportional to whatever is agreed on free migration. However, the U.K.'s intention to curtail migration could leave real estate occupiers that are dependent on lower-skill workers with staff shortages and wage increases. This might lead to further inflation and lower growth that the U.K. is already experiencing under Brexit.

Whatever the effects of new migration policies, meaningful new EU migration controls will not start until 2021 at the earliest. The proposed requirement for registration of EU migrants from January 2020 onwards is not having much practical effect.

For more info on Brexit, see CBRE's Brexit Hub here.

EUROPEAN PORTS & LOGISTICS MARKETS

Large North Sea ports such as Rotterdam, Antwerp, Hamburg and Bremerhaven in the so-called Hamburg-Le Havre range (HLH), which count among the largest ports in the world, dominate Europe's shipping and together handle half of all containers in Europe's top 20 ports. The hinterland of the HLH ports stretches east and south into the European continent and its transport and distribution boundary with the Mediterranean ports' hinterland is generally marked by the Alps. Logistics property markets around the HLH range are well established and have strong demand fundamentals, with land shortages and planning restrictions limiting new supply.

The expansion of the Suez Canal provides Mediterranean ports such as Valencia, Barcelona, Marseille and Genoa with new prospects for growth, as more and larger vessels can now transit the canal to and from Asia. Most Mediterranean ports are in or near the main shipping lanes with the shortest route from the Suez Canal to the Strait of Gibraltar. They are points of entry or exit for continental markets, and they are preferably well-connected to large industrial and population centers.

There's been an uptick in retailers (Decathlon, for example) positioning mega-distribution hubs near Mediterranean ports to serve southern Europe instead of centralizing Asian imports in the northern ports as some did before. Consequently, Barcelona, Valencia and Marseille have seen a boost in demand for logistics space. Tight market conditions in these markets have led to strong property fundamentals. Furthermore, China's Belt and Road Initiative (BRI), which covers 60% of the global population and one-third of global GDP, is responsible for the expansion of logistics hubs around Piraeus, Greece and Venice, Italy.[10] These ports have recorded high growth in container capacity over the past few years, leading to an increase in demand for logistics space.

"Although the COVID-19 pandemic presents risks, strong industrial and logistics investment continues in European hubs. Just as the flow of goods continues into the continent, so does the flow of foreign capital as market fundamentals remain solid."

Jack Cox,
Executive Director, EMEA Industrial & Logistics, CBRE

ROAD & RAIL NETWORK

Cities in the Hamburg-Le Havre range have a very high-quality rail and road network. The long-delayed Mediterranean Corridor project to connect major industrial sites in Catalonia, Spain, with southern France, northern Italy and northern Europe should be completed in 2021. The corridor primarily consists of road and rail, alongside a network of canals. It crosses six EU countries (Spain, France, Italy, Slovenia, Croatia and Hungary) for

more than 6,000 km and will provide a multimodal link for western Mediterranean ports with central Europe, further strengthening their position as logistics hubs.

EUROPEAN 'SMART PORTS'

Port authorities around the world are introducing remote-control cranes, self-driving vehicles and other innovative systems to speed up loading and unloading time. For example, the port of Rotterdam has introduced or is planning various innovations, such as unmanned trucks and automated vessels. The port is working with IBM and Cisco to create a new digital dashboard that will replace traditional radio and radar communications between captains, harbor pilots and terminal operators. The goal of the new system is to reduce vessel waiting time.

The ports of Le Havre and Hamburg have also introduced IT applications that offer real-time information on ships' locations, itineraries, arrivals, departures and dimensions. European ports could increase their capacity and the demand for logistics space through better software, automation and inventory controls. Instead of relying solely on size, ports will need to implement cutting-edge technology for optimal growth.

PIRAEUS EMERGES AS TOP PORT

Piraeus is now the No. 1 port in the Mediterranean under the direction of Chinese state-owned company Cosco, surpassing Spain's Valencia for most container volume last year (5.65 million TEUs vs. 5.44 million). Despite the global slowdown caused by COVID-19, expansion at the port continues, and containers arriving from Asia are reloaded for distribution to other Mediterranean ports or transported by rail across the Balkans to central and eastern Europe.

The increase in container capacity has led to a surge in demand for logistics space in Piraeus. For example, in the adjacent logistics hub of Athens, prime rents have increased by 10.8% annually since 2017. Prime yields have compressed by 175 bps over the same time.

[10] Belt and Road Initiative, The World Bank, March 29, 2018.

ASIA PACIFIC

China is the world's largest export economy by value, with US$2.5 trillion worth of goods exported globally last year. This represents a 9.9% surge since 2015 and a modest 0.2% year-over-year increase in 2019.

China plays a vital role in supplying manufactured goods to the world, particularly electrical machinery, electronics, furniture, plastics and vehicles. The U.S., Hong Kong SAR and Japan are Mainland China's top trade partners, accounting for a combined 33.7% of its total exports. However, exports to the U.S. and Hong Kong SAR declined by 12.7% and 7.7%, respectively, last year. This is undoubtedly due to the U.S.-China trade conflict and the social unrest and economic downturn in Hong Kong SAR.

Parallel Trends: Deglobalization & Regional Cooperation

Rising geopolitical tension in 2019 has caused a shift toward deglobalization in the Asia Pacific region. China's phase-one trade deal with the U.S. in January 2020 signifies a temporary truce between the two countries. However, issues such as intellectual property protection, forced technology transfer and national security remain unresolved.

While increased protectionism lessens the demand for global trade, there have been several key regional trade deals recently that could boost certain economies. One is the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), an offshoot of the broader failed Trans-Pacific Partnership, involving 11 countries (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam). Meanwhile, 15 Asia Pacific countries including China are currently negotiating the Regional Comprehensive Economic Partnership (RCEP), which would be the world's largest free-trade agreement.

Asia Pacific's Changing Workforce

The long-term outlook for the regional economy is affected by demographic shifts, with low birth rates and aging populations dragging on employment growth and economic expansion. Asian markets are expected to be particularly affected, with the working population in Japan, Korea and China already shrinking. CBRE expects competition for young workers—especially in Tier I cities—to intensify in the coming years. More governments may consider raising the retirement age.

The war for talent will also prompt changes to business strategy. A greater proportion of production capacity will shift to markets with more cost-effective and available labor pools. Companies also will invest more in technology, especially automation, to enhance productivity and lower reliance on labor. CBRE expects the adoption of automation will accelerate in the post-COVID-19 environment, helping manufacturers become more resilient.

"The months-long global supply chain disruption caused by COVID-19 has uncovered serious flaws in supply chain organizations and raised questions about the viability of long-accepted supply chain practices. This has prompted companies to take a hard look at their supply chain models as they seek to recover from the current phase of the crisis and to mitigate future risk."

Troy Shortell,
Head of Supply Chain Advisory
CBRE Asia

SURGING DEMAND FOR BONDED WAREHOUSES

Bonded warehouses, which enable storage of goods without payment of duty, are increasingly popular amid rising consumer demand for imported products. Total cross-border e-commerce sales in Asia Pacific are expected to grow to US$389.5 billion in 2023 from US$181.4 billion in 2018.[11] Bonded warehouses will benefit from this trend, as they facilitate faster delivery than does direct shipping from the country of origin. CBRE expects a rise in leasing demand for these warehouses, especially in large consumer markets such as China and India, and in cities with major ports and airports, such as Hangzhou, Shenzhen, Shanghai, Mumbai and Chennai.

INFRASTRUCTURE IMPROVEMENTS BOOST ASIA PACIFIC TRADE

Infrastructure will play a huge role in facilitating the movement of goods and driving demand for logistics space over the long term. Most APAC countries are making substantial infrastructure investments, including metroways, airports, ports, railways, roads, power grids and water supplies. The region's total infrastructure investment is expected to reach US$23 trillion by 2040.

In emerging economies, infrastructure investment will support increasing manufacturing demand and accommodate the shift in supply chains with basic utilities, laborer transportation and logistics facilities. The Association of Southeast Asian Nations (ASEAN) requires US$2.76 trillion in infrastructure spending by 2030, according to the Asia Development Bank.[12]

In developed markets, infrastructure development is focused on connecting adjacent cities and upgrading logistics facilities. These improvements will further elevate the importance of major Asia trading hubs, such as coastal city clusters in China and Southeast Asian gateways.

In Australia, the government is making infrastructure improvements to boost trade. For example, a key initiative is an expansion of deep-water capacity in East Coast ports—particularly Sydney and Melbourne—to accommodate larger container ships (e.g., more than 14,000 TEUs).

[11] Forrester Analytics: Online Cross-Border Retail Forecast, 2018 to 2023 (Global), April 2019.
[12] As ASEAN Enters an Infrastructure Boom, Geopolitical and Economic Risks Abound, BRINK, October 22, 2019.

Figure 8
APAC Infrastructure Investment Projects

AIRPORTS	PORTS	RAILWAYS	ROADS
US$1.0 TRILLION	US$1.0 TRILLION	US$6.5 TRILLION	US$14.4 TRILLION
MARKETS THAT WILL EACH INVEST MORE THAN US$200 BILLION IN TRANSPORT INFRASTRUCTURE FROM 2016-2040			
CHINA	CHINA	CHINA INDIA JAPAN	CHINA JAPAN INDONESIA INDIA AUSTRALIA KOREA

Source: CBRE Research, May 2019.

VIETNAM EMERGES AS NEXT MANUFACTURING HUB

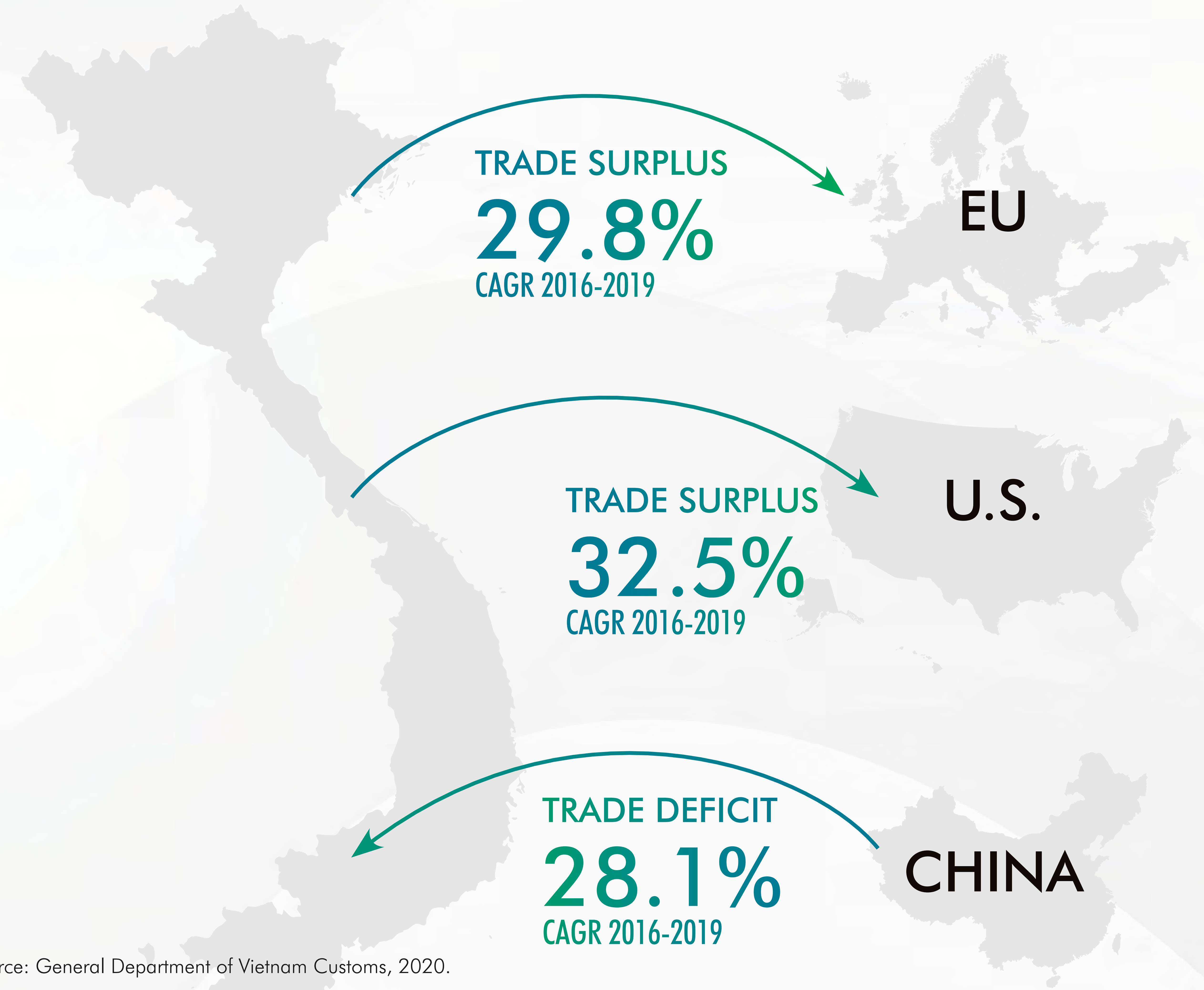
Despite rising trade protectionism worldwide, Vietnam continues to set new export records. After suffering a sharp decline due to the Global Financial Crisis in 2008, exports increased by an average of 16.8% per annum between 2010 and 2019. The country's trade surplus last year totaled US$9.9 billion. Vietman had trade surpluses of 32.5% with the U.S. and 29.8% with the EU over the past three years, but a 28.1% trade deficit with China.

The U.S-China trade conflict benefited Vietnam's industrial property market in 2019, as manufacturers began shifting production to alternative markets. Average asking rents for industrial land in Vietnam increased by as much as 10%, with some industrial parks reporting rent growth of up to 40% year-over-year. Land is the major focus of the country's industrial property market. While the typical entry route is leasing industrial land for a 50-year period via an upfront payment, the surge in demand from foreign manufacturers is generating requirements for ready-built properties. Developers are building ready-built factories and warehouses to maximize land efficiency and meet the spike in demand.

Despite Vietnam's attractive fundamentals, there are a number of barriers to entry, including a shortage of industrial land in prime locations and a lack of infrastructure in key areas. Notwithstanding, as long as trade with developed countries remains a key growth driver, Vietnam's manufacturing industry and industrial real estate market will benefit from the rapid changes in global trade and supply chains.[13]

FOR MORE INFORMATION ON VIETNAM'S INDUSTRIAL MARKET, SEE CBRE'S TIME FOR A CRITICAL MAKEOVER REPORT.

Figure 9
Vietnam's Trade Surplus/Deficit with the EU, U.S. & China, 2016-2019



Source: General Department of Vietnam Customs, 2020.

[13] Vietnam Industrial Market: Time for Critical Makeover, CBRE Research, May 2020.

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