GLOBAL MANUFACTURING RISK INDEX

2021

ASSESSING COSTS, RISKS AND CONDITIONS IMPACTING MANUFACTURING

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CUSHMAN & WAKEFIELD

INTRODUCTION

As the COVID-19 pandemic continues to underscore the manufacturing sector's reliance on global production lines and supply chains, qualified location decisions remain vital for manufacturers seeking to safeguard output and maintain growth.

In response to this, Cushman & Wakefield's 2021 Global Manufacturing Risk Index assesses the most advantageous locations for global manufacturing among 47 countries in Europe, the Americas and Asia Pacific.

Within the following report, countries are assessed based on four key areas:

1. **Bounce Back**: Projected ability to restart manufacturing operations as vaccines are rolled out and business begins to return to normal
2. **Conditions**: Business environment, including the availability of talent/labor and access to markets
3. **Costs**: Operating costs including labor, electricity and real estate
4. **Risks**: Political, economic and environmental

GLOBAL MANUFACTURING TRENDS

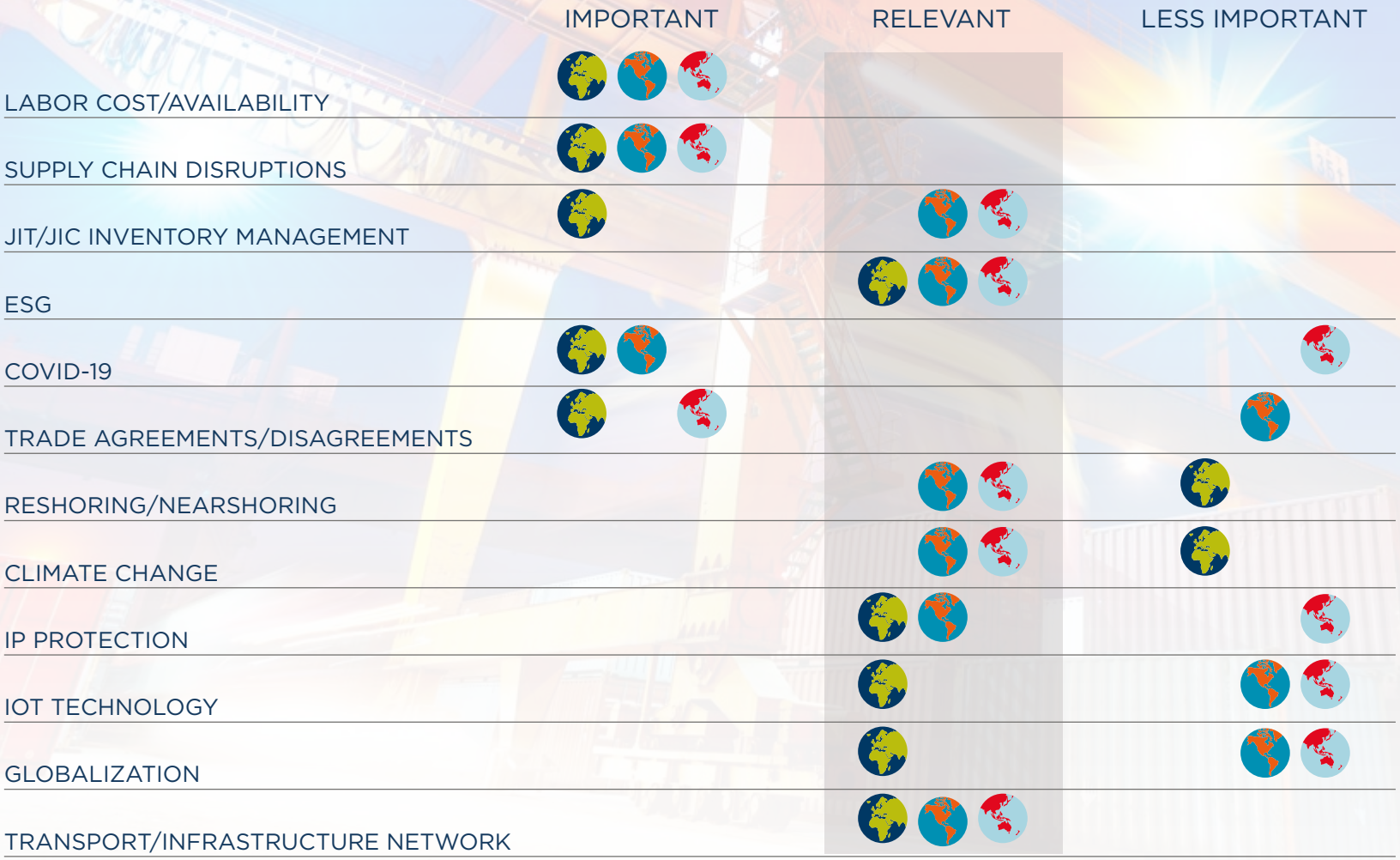
TRENDS IMPACTING MANUFACTURING SITE SELECTION

Supply chain disruptions, labor costs and labor availability are the top factors when it comes to manufacturing location decision making. But breakdowns in production lines caused by COVID-19 lockdowns and an imposed decrease in on-site workforce wreaked havoc in factories across the globe, hindering the manufacturing sector.

While the pandemic highlighted production line and supply chain vulnerabilities, climate change, weather-related issues, and geopolitical instabilities also contributed to increased delays and other impediments to global freight shipping. The negative impacts to manufacturers' margins have been so severe that over the course of just one year, companies have gone from planning procedures for safeguarding their supply chains and production lines to actually implementing them. As anticipated in the 2020 Manufacturing Risk Index report, manufacturers did reduce reliance on just-in-time (JIT) by holding more inventory closer to factories. While it is more expensive to hold and store more inventory, especially finished goods at destinations close to consumption markets, moving away from a 100% JIT model makes it easier for businesses to adjust goods and material flows further down supply chains.

Typically, there is robust demand across industrial markets covering manufacturing and logistics sectors. In the Americas, demand has once again outpaced supply, absorbing over 200 million square feet (msf) of industrial inventory in the first half of 2021 alone. Though the majority of this space is due to warehouse demand from the acceleration of e-commerce, the global manufacturing sector produces the products that fill these spaces to keep up with consumer demand. Record leasing levels were recorded across European markets over the last twelve months leading up to Q1 2021, totaling 377 msf—a 30% increase over the previous period during which lockdowns were partially to blame for impeding transaction activity. The manufacturing sector typically accounts for a steady one third or more of demand for warehouse space in Europe.

GLOBAL MANUFACTURING TRENDS



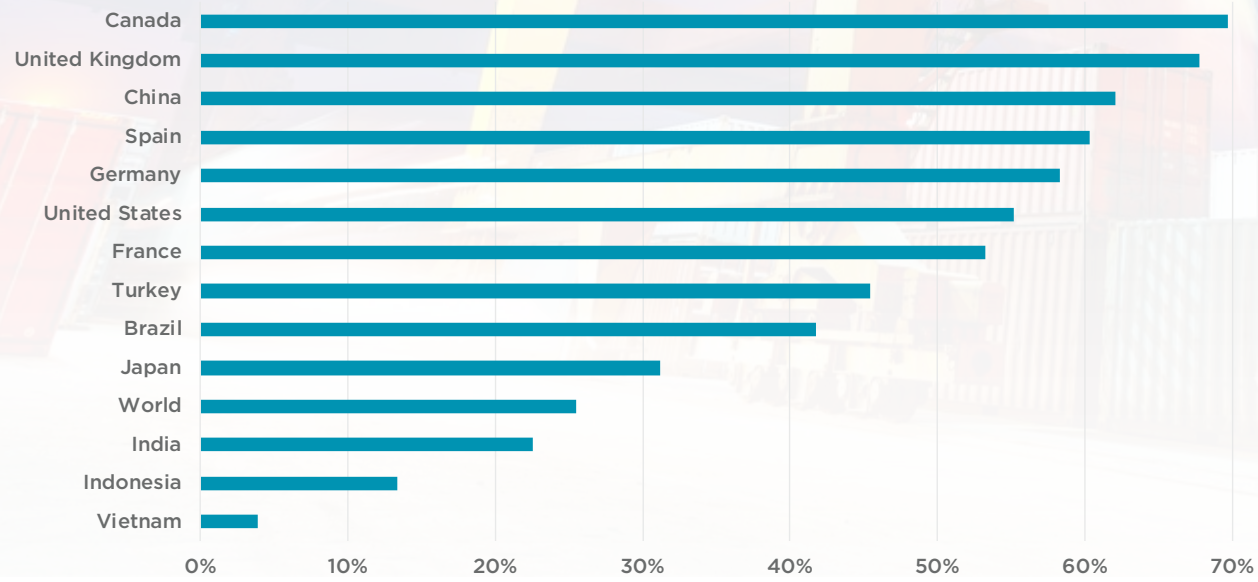
MEASURING THE BOUNCE BACK

COVID-19 has had a significant impact on global manufacturing and predicting the recovery of the sector relies on the ability to control the spread of the virus in key manufacturing locations. We revised our bounce back ranking to capture short- and medium-term impacts on global manufacturing, ranking countries based on their ability to restart or recover their manufacturing sectors. As business conditions continue to improve and with vaccinations underway, economic growth forecasts are generally being revised upwards. Therefore, an assessment of conditions necessary to bring manufacturing back into full swing points to two key variables:

1. **IMF's GDP growth forecast**, which is a reliable indication of how quickly an economy is expected to recover; and
2. **Percent of population vaccinated**[1] by country, which is a reliable indicator of where each country is relative to protecting its population from future waves and lockdowns.

These two variables are weighed evenly as they are both predictive of the strength and timing of manufacturing sector recovery in a country. Countries are then ranked and grouped according to their ability to bounce back.

SHARE OF POPULATION WHO RECEIVED AT LEAST ONE DOSE OF COVID-19 VACCINE



Source: Our World Data, last updated July 28, 2021

MEASURING THE BOUNCE BACK

TOP GLOBAL MANUFACTURING DESTINATIONS

DESCRIPTION AND WEIGHTINGS

The Bounce Back rating measures a country's ability to restart its manufacturing sector. Those with economic conditions and infrastructure supportive of a faster recovery are at the top of the ranking, while those with more obstacles to achieving a full recovery are at the bottom.

TOP QUARTILE	SECOND QUARTILE	THIRD QUARTILE	FOURTH QUARTILE
China	United States	Greece	Sri Lanka
Ireland	Hungary	Brazil	Mexico
Netherlands	United Kingdom	South Korea	Vietnam
Canada	Switzerland	Slovakia	Indonesia
Denmark	Lithuania	Argentina	Bulgaria
Singapore	Portugal	Australia	India
Finland	Austria	Japan	Thailand
Norway	Italy	Romania	Tunisia
Belgium	Poland	Morocco	Peru
Sweden	Czech Republic	Malaysia	Philippines
Turkey	Spain	Russian Federation	Venezuela
Germany	France	Colombia	

REGIONAL MANUFACTURING TRENDS

EMEA

While the long-term trends of offshoring due to lower labor costs and scale of operation continue to impact Europe's manufacturing sector, factory shutdowns and a reduced workforce due to social distancing caused supply and demand shocks that set into motion actions to future-proof production lines. The impact of COVID-19 has been so severe that it muffled concerns over long border delays and trade details when Brexit went into effect on January 1, 2021. By exposing global and regional supply chain vulnerabilities, the pandemic put additional pressure on manufacturers to address already existing trends regarding reshoring/nearshoring, a narrowing wage gap between China and Central and Eastern European (CEE) countries; labor availability and cost; technology; environmental, social and corporate governance (ESG); and intellectual property (IP) protectionism.

Concerns over supply chain disruptions associated with a series of factory closures and reopenings with a reduced labor force, caused many manufacturers to push forward plans to reshore/nearshore parts of production and components sourcing. In the case of industries such as aerospace and automobile, with complicated global production lines, finding a cost-effective alternative could be difficult, making "right-shoring" or diversification between off and nearshoring more feasible. Certainly, the declining cost to invest in technology over the past few years has facilitated the integration of robotics, automation and 3D printing into production processes while simultaneously reducing reliance on labor, thereby making partial nearshoring a real option for many companies.

ACCORDING TO THE NOVEMBER 2020 EY UK ATTRACTIVENESS SURVEY, **32% OF MANUFACTURERS WERE CONSIDERING RESHORING ACTIVITY BACK TO THE UK**.

ACCORDING TO A DECEMBER 2020 ALLIANZ SURVEY OF 1,181 COMPANIES ACROSS SIX SECTORS (IT, TECH AND TELECOMS, MACHINERY AND EQUIPMENT, CHEMICALS, ENERGY AND UTILITIES, AUTOMOTIVE AND AGRIFOOD), 40% INDICATED THAT THEY WERE ALREADY **CHANGING SOME OVERSEAS SUPPLIERS AND MOVING PARTS OF THEIR PRODUCTION**. MORE THAN HALF OF THE RESPONDENTS ARE CONSIDERING LOOKING FOR NEW SUPPLIERS CLOSER TO HOME COUNTRIES IN THE NEXT SIX MONTHS.

FROM TEXTILES (E.G., LVMH)[2] TO THE AUTOMOTIVE (E.G., VOLKSWAGEN & FIAT) SECTOR, **MANUFACTURERS ADJUSTED AND ADOPTED PRODUCTION LINES** TO MEET MEDICAL NEEDS DURING THE FIRST WAVE OF COVID-19. DURING 2020, ADDITIVE MANUFACTURING, SUCH AS 3D PRINTING, HELPED REMEDY SHORTFALLS IN VENTILATOR VALVES, VENTILATOR PARTS, FACE MASKS AND PLASTIC SHIELDS.

REGIONAL MANUFACTURING TRENDS

Considering the negative impact on margins associated with global logistics bottlenecks, the attractiveness of Eastern European countries for nearshoring outsourced parts of production is increasing amongst European manufacturers. With ample pools of skilled engineers, countries such as Ukraine, Lithuania, Latvia and Estonia are able to respond to regional concerns over skilled and affordable labor availability in addition to offering other advantages like existing industrial bases, qualified resources, and a simplified supply chain compared to Asia.

The real estate challenge in Europe for manufacturers considering reshoring parts of their production is supply constraints. So strong is demand from all occupier segments that a number of core markets are reporting record low vacancy rates between 2-4%. In the CEE region, vacancy rates are extremely low in Prague and Budapest (4% and 2% respectively) and speculative construction is not keeping up with demand causing manufacturers to pursue build to suit schemes in secondary markets.

THE PRODUCTION OF SEMICONDUCTORS HAS BEEN INCREASINGLY OFFSHORED TO ASIA FOR DECADES. ASIA HAD ABOUT 70% OF GLOBAL MANUFACTURING WAFER (I.E., SEMICONDUCTORS) CAPACITY IN 2017, WITH **NORTH AMERICA AND EUROPE TRAILING BEHIND AT 13% AND 6% RESPECTIVELY**. IN RECENT YEARS, THE MAJORITY OF REVENUE HAS BEEN GENERATED BY CHINA (30% MARKET SHARE IN RECENT YEARS) FOLLOWED BY OTHER ASIAN COUNTRIES AT 20%, WITH THE AMERICAS, EUROPE AND JAPAN RECORDING MARKET SHARES OF 20%, 10% AND 9% RESPECTIVELY.[3]

THE EU-28 SEMICONDUCTOR INDUSTRY HAS GENERATED AROUND $30 BILLION IN SALES ANNUALLY OVER THE LAST DECADE, **DIRECTLY SUPPORTING 200,000 JOBS AND, INDIRECTLY, UP TO ONE MILLION** THROUGH ITS APPLICATIONS AND SERVICES. SINCE MUCH OF THE WAFER FABRICATION EQUIPMENT FROM PREVIOUS GENERATIONS OF SEMICONDUCTORS PRODUCED IN THE EU CAN STILL BE USED AND WITH DEMAND FOR 37% OF SEMICONDUCTORS PRODUCED IN THE EU GENERATED BY THE EUROPEAN AUTOMOBILE INDUSTRY, THE SEMICONDUCTOR SECTOR IS AT THE TOP OF THE LIST FOR RESHORING FROM ASIA.

REGIONAL MANUFACTURING TRENDS

APAC

Similar to other regions around the world, COVID-19 has had a significant impact on Asia Pacific's manufacturing sector over the last 18 months. The preferred approach for many governments within the region was to swiftly close international borders to people, while still allowing for the international movement of goods. However, initial lockdowns within countries from January to April hampered production output as many employees were restricted from in-person work, resulting in total industrial output falling by around 7% in the first half of 2020 before recovering to pre-pandemic levels in Q3 2020.

As the virus is brought under control, Asia Pacific's largest manufacturing centers have surged, driven by global demand for key products. In reflection of this, China has been able to fill the void left by U.S. and European manufacturers, who were enduring their own lockdowns, to capture a larger share of global exports from approximately 13% in 2019 to 15% in 2020[4]. Furthermore, exports from China in Q1 2021 were about 27% higher than Q2 2019, or the equivalent of USD 150 billion.

> THE EUROPEAN CHAMBER OF COMMERCE'S BUSINESS CONFIDENCE SURVEY IN JUNE 2021 SHOWED THAT **ONE IN SIX RESPONDENTS ARE CONSIDERING EXPANDING THEIR CURRENT CHINA OPERATIONS IN 2021**, AN EIGHT PERCENTAGE-POINT INCREASE YEAR OVER YEAR. 65% OF MEMBERS STILL RANK CHINA AMONG THEIR TOP THREE DESTINATIONS FOR NEW INVESTMENT.

Other markets have also capitalized on heightened demand for key products such as micro-processors, computer chips and pharmaceuticals. South Korea, in particular, has benefited from the soaring value of semiconductors, stemming from strong demand and a global shortage of product with Information and Communication Technology (ICT) manufacturing up 16.8% year over year in January 2021. The resurgence in manufacturing production has not been universal. Apparel producers around the region continue to struggle with low levels of demand impacting markets such as India and Indonesia, which have also been managing significant second and third waves of the virus.

REGIONAL MANUFACTURING TRENDS

SOUTH KOREA UNVEILED PLANS TO **INVEST $451 BILLION** INTO SEMICONDUCTOR RESEARCH AND PRODUCTION UP THROUGH 2030. SAMSUNG ELECTRONICS AND SK HYNIX INC WILL LEAD THE PROGRAM WITH CENTRAL, STATE AND LOCAL GOVERNMENT SUPPORT. INVESTMENT WILL BE FOCUSED ON THE NEWLY NAMED "K-SEMICONDUCTOR BELT" LOCATED TO THE SOUTH OF SEOUL.

Supply chain disruptions, which remain ongoing, have given rise to the potential for manufacturers to reassess opportunities for reshoring or nearshoring activities, not least as Asia (excluding Oceania) accounts for 65% of global container freight traffic[5] and nine out of ten of the world's busiest ports.[6] Currently, there is little evidence that manufacturers are actively relocating activities either within or outside of the region in response to COVID-19-induced difficulties. However, given their complexity, any large-scale transformation of supply chains is only likely to occur over the medium- to longer-term especially as companies ramp up business continuity planning. Furthermore, rather than "nearshoring" being universally applied, "right-shoring" is likely to become more commonplace, which involves a more extensive consideration of where manufactured products should be sourced.[7]

Rather than a complete redesign of supply chains, COVID-19 is likely to have accelerated geographical changes that were already in motion prior to the pandemic—in response to labor shortages and/or increasing costs. Within mainland China, two clear trends have been underway: (i) manufacturers moving up the value chain following large-scale investment into robotics, artificial intelligence and blockchain; and (ii) moving the manufacturing of lower order goods outside of the country, predominantly into Southeast Asia. There has been a 5% increase in Jakarta's industrial stock in the last year alone which also coincided with an 11% decline in rents in local currency terms. Alongside this, there has been increasing interest in India, especially given the country's proven success in meeting outsourcing requirements. Currently, supply and demand of stock are comparatively balanced, which has translated into little rental movement over the past year.

More widely, ESG due diligence for suppliers has become an increasingly important part of a manufacturers' risk management. In addition to protecting manufacturers from any losses incurred due to natural disasters, growing consumer consciousness about the impact of certain sourcing practices on the environment is feeding into decision making. In Europe, green consumerism is growing fast with nearly 800,000 products now displaying the EU's Ecolabel logo. For this reason, Asia Pacific will need to follow Europe's lead to help maintain the attractiveness of the region and help counter potential decision making to reshore or nearshore manufacturing out of the region.

IN RECENT YEARS, **VIETNAM HAS BECOME AN INCREASING FOCUS FOR MANUFACTURERS** DUE TO ITS REGIONAL CENTRALITY, SUBLIME MARKET INTEGRATION, AND FAVORABLE PRODUCTION COSTS—WITH SAMSUNG, APPLE, NINTENDO, LG, PANASONIC AND INTEL ALL LOCATING IN THE COUNTRY. THE COUNTRY IS MOVING UP THE VALUE CHAIN, POSITIONING ITSELF AS VERY ATTRACTIVE FOR MID-TECH WITH ITS ELECTRONICS SECTOR ESPECIALLY THRIVING OVER THE PAST DECADE.

REGIONAL MANUFACTURING TRENDS

AMERICAS

As was the case in 2020, the COVID-19 pandemic is still having significant impacts on U.S. manufacturing. One of the main concerns for the sector in the U.S. is labor shortages. From December 2020 to February 2021, The Manufacturing Institute and Deloitte surveyed over 800 U.S. manufacturers and asked them about hiring. They found manufacturers are having trouble filling 46% of open positions due to a mismatch in skills—a 12% increase over the 2018 survey. Despite high unemployment rates brought on by the pandemic, manufacturers are still having trouble filling the entry-level roles. This is believed to be caused by competition in the warehouse/distribution sector and by automation. Manufacturers would benefit by looking to tech and automation as a means to not just replace workers, but to create new jobs and programs that are better suited for workers, as well as higher paying. U.S. manufacturers need to prioritize retraining, access to STEM education, and vocational/trade skills training if they want to attract labor to their businesses.

WALMART HAS COMMITTED TO **INCREASING ITS U.S. PURCHASES BY $50 BILLION** ANNUALLY BY JANUARY 2023. HARRY MOSER, FOUNDER AND PRESIDENT OF THE RESHORING INITIATIVE ESTIMATES THAT WALMART'S INCREASED PURCHASES WILL ADD 300,000 U.S. MANUFACTURING JOBS THROUGH THEIR "MADE IN AMERICA" PROGRAM. THE NEW PROGRAM PROVIDES DIRECT, PERSONAL ACCESS TO 35 MANUFACTURING TRADE ASSOCIATIONS, COMPANIES, BANKS, U.S. COMMERCE DEPARTMENT OFFICES AND OTHER GROUPS. EACH GROUP HAS ASSIGNED DEDICATED RESOURCES TO HELP COMPANIES DEVELOP AND IMPLEMENT PLANS TO PRODUCE OR SOURCE MORE DOMESTICALLY PRODUCED GOODS.

The Biden administration is looking to create one million new jobs in the American auto industry, domestic auto supply chains, and auto infrastructure. Production of parts, materials and electric vehicle charging stations would successfully position American auto workers and manufacturers for the 21st century. The administration plans to invest in U.S. auto workers, ensuring jobs are good-quality and include the option to join a union.[8]

THE INSTITUTE FOR SUPPLY MANAGEMENT'S (ISM) SEMI-ANNUAL ECONOMIC FORECAST **PREDICTS U.S. MANUFACTURERS WILL RECORD A HEALTHY NET INCREASE IN REVENUES** TOTALING 6.9% IN 2021, COMPARED TO A 1.3% DECLINE DURING THE TURBULENCE OF 2020. OF THE 18 INDUSTRY SECTORS TRACKED BY ISM, 15 ARE EXPECTED TO RECORD INCREASES, INCLUDING THE COMPUTER AND ELECTRONIC PRODUCTS SEGMENT.

REGIONAL MANUFACTURING TRENDS

The ongoing supply chain disruptions caused by the pandemic will likely have manufacturers move toward longer-lasting reconfigurations of supply chains to build resilience. This is already underway as some U.S. companies diversify Asia operating models in response to shifting trade policies. Resiliency can also be improved by implementing supply chain visibility tools. By improving visibility into supply chains, global manufacturers can get a more complete profile of where components are coming from, and how long they will take to arrive at their destination. The importance of having functional, well-located real estate as part of supply chain models will be key. In an industrial market where vacancy tied for a record low at 4.5% at mid-year 2021, it is more important than ever to be thoughtful about real estate needs for each occupier and how to best optimize supply chains. Reshoring has been a hot topic in the U.S. as both a way to create new jobs in the U.S. and to help prevent some of the supply chain issues brought to the forefront with the pandemic. Reshoring, however, is a difficult task as there are many steps to implement in order to prevent further disruptions, making it unlikely to happen in the immediate future.

There is a strong possibility that some manufacturers in the U.S. will shift to more localized production. Due to ongoing trade disputes and implemented tariffs creating headwinds for global supply chains, manufacturers may be encouraged to move production activity closer to the customer. In the future, manufacturers will want to build where they sell for several reasons, including faster time to market, lower working capital, government policies, and increased resiliency. Again, this won't be an easy or overnight shift, especially for the larger global and well-established manufacturers. Nearshoring by moving to Mexico or South America could be a strong solution for those who aren't ready or able to move business back to the U.S. Additionally, with land constraints and low vacancy seen in the U.S., choosing to move to another market like Mexico or South America for proximity is an appealing option on the real estate front for some manufacturers.

Another consideration for the future of manufacturing in the U.S. is sustainability and environmental impacts. As manufacturing is one of the most noteworthy contributors to environmental pollution, the current administration is putting forth efforts to make manufacturing more sustainable by improving factory efficiencies, creating green jobs and cutting back on the industry's high volume of waste.

ACCORDING TO KEARNEY'S ANNUAL RESHORING INDEX REPORT, U.S. DEMAND FOR NEAR-SHORE MANUFACTURING SEEMS LIKELY TO INCREASE. COMPANIES SEEKING TO DIVERSIFY SUPPLY CHAINS AND INCREASE RESILIENCY ALREADY SEE **MEXICO AS A VIABLE OPTION**, PARTICULARLY FOR INDUSTRIES SUCH AS AUTOMOTIVE, AEROSPACE, AND ELECTRICAL COMPONENTS, WHERE MEXICO HAS ESTABLISHED INFRASTRUCTURE AND A TRAINED LABOR FORCE. NEARSHORING WILL BE FURTHER **ENCOURAGED BY IMPLEMENTATION OF THE UNITED STATES-MEXICO-CANADA AGREEMENT** (USMCA), WHICH WAS CREATED TO SUPPORT MUTUALLY BENEFICIAL TRADE, FREER MARKETS, AND ROBUST ECONOMIC GROWTH WHILE BRINGING MORE OFF-SHORE PRODUCTION CLOSER TO THE US. HOWEVER, FOR MEXICO TO MAKE THE MOST OF ITS OPPORTUNITIES, THE COUNTRY WILL NEED TO ADDRESS INVESTOR CONCERNS OVER ITS POLITICAL CLIMATE AND ECONOMIC STABILITY.

BASELINE

TOP GLOBAL MANUFACTURING DESTINATIONS

BASELINE | COST | RISK

DESCRIPTION AND WEIGHTINGS

The Baseline scenario gives equal importance to a country's operating conditions and cost competitiveness.

TOP QUARTILE	SECOND QUARTILE	THIRD QUARTILE	FOURTH QUARTILE
China	Colombia	Japan	Tunisia
India	Romania	Slovakia	Greece
United States	Portugal	Australia	Germany
Canada	Hungary	Philippines	Austria
Czech Republic	Singapore	Argentina	Italy
Indonesia	Bulgaria	Finland	Denmark
Lithuania	Turkey	United Kingdom	Ireland
Thailand	South Korea	Brazil	Belgium
Malaysia	Mexico	Morocco	Norway
Poland	Sri Lanka	Sweden	Switzerland
Vietnam	Russian Federation	Netherlands	Venezuela
Spain	Peru	France	

BASELINE SCENARIO

China retains the top position on our baseline scenario ranking. Even with concerns about the Biden administration's continued strong position on trade, China continues to diversify its manufacturing base, moving up the value chain in order to focus on telecom, high-tech (40% of robots produced globally are made in China), and computers. Key manufacturing regions in China include Guangdong and Jiangsu, which focus on electronic components and automotive, while Zhejiang and Liaoning focus on chemicals and natural resources.

On this year's baseline ranking, India and the U.S. switched places (second and third respectively). India could benefit from plant relocations from China to other parts of Asia due to its already established base in pharmaceuticals, chemicals and engineering, sectors that continue to be the focus of U.S.-China trade tensions. However, reforms to both land and labor laws are critical to India's success as a global manufacturing location.

The U.S. offers a large consumer market and incentives at both the federal and state level, as well as an established infrastructure network (though less modern than China). With the rapid adoption of technology and The American Rescue Plan, the U.S. and its higher cost workforce could become better aligned to compete with China for manufacturing production and jobs.

Switching places with the Czech Republic, Canada moved up to fourth place on our baseline ranking from sixth place last year. Leading the CEE regional ranking, the Czech Republic retained fifth place in this year's baseline scenario. While supply chain disruptions during the pandemic put pressure on many manufacturers to consider locations further East, significant wage inflation in the region hampered reshoring plans to Central Europe. Among the highest increases in the 47 countries we track, labor costs have risen in Poland and Hungary by 17% and 23% respectively since 2016.

By contrast, significant improvements in economic and political stability, amendments to intellectual property rights laws, and lower labor costs helped move Spain up our baseline list from 29th last year to 12th place. With its younger population, relative to the rest of Western Europe, Spain is well-positioned to replenish its more ample labor pool in the coming years.

COST

TOP GLOBAL MANUFACTURING DESTINATIONS

BASELINE | COST | RISK

DESCRIPTION AND WEIGHTINGS

The Cost scenario places greater emphasis on cost reduction to give a higher score to countries where operating costs, including labor, are lower.

TOP QUARTILE	SECOND QUARTILE	THIRD QUARTILE	FOURTH QUARTILE
China	Turkey	Slovakia	Netherlands
Indonesia	Romania	Brazil	France
India	Czech Republic	United States	Italy
Vietnam	Philippines	Spain	Sweden
Thailand	Mexico	South Korea	Austria
Malaysia	Argentina	Singapore	Ireland
Sri Lanka	Poland	Greece	Germany
Colombia	Morocco	Australia	Denmark
Lithuania	Tunisia	Japan	Belgium
Russian Federation	Hungary	United Kingdom	Norway
Peru	Canada	Venezuela	Switzerland
Bulgaria	Portugal	Finland	

COST SCENARIO

While China retains its lead position, Vietnam and India were overtaken by Indonesia which moved up to second from fifth place, not least in part due to the decline in rents in Jakarta seen over the past year. India also swapped places with Vietnam to rank third and fourth respectively. While wage costs in Vietnam remain cheaper than China, it is facing increasing competition from lower cost locations and therefore will need to clearly demonstrate its strengths in other areas of the manufacturing process such as its geographical connectivity. Like Indonesia, Thailand's cost profile improved this year helping it move to fifth place from eighth and ahead of Malaysia, which has seen ongoing wage increases.

Colombia's continued rise on our cost scenario, reaching eighth place this year, suggests a competing region to Asia for manufacturers. Notwithstanding an improved geopolitical profile, Colombian labor costs are clearly competitive with those in Asia which explain its climb in ranking from 15th place in 2020.

RISK

TOP GLOBAL MANUFACTURING DESTINATIONS

BASELINE | COST | RISK

DESCRIPTION AND WEIGHTINGS

Taking into account rising geo-political risk, our Risk scenario favors countries presenting lower levels of economic and political risk.

TOP QUARTILE	SECOND QUARTILE	THIRD QUARTILE	FOURTH QUARTILE
China	Lithuania	Malaysia	Morocco
Canada	France	Belgium	Mexico
United States	Netherlands	Indonesia	Turkey
Finland	Spain	India	Sri Lanka
Czech Republic	Poland	Bulgaria	Brazil
Sweden	Japan	Romania	Russian Federation
South Korea	United Kingdom	Thailand	Philippines
Germany	Switzerland	Hungary	Argentina
Singapore	Portugal	Colombia	Tunisia
Denmark	Slovakia	Italy	Greece
Australia	Ireland	Peru	Venezuela
Austria	Norway	Vietnam	

RISK SCENARIO

Early and effective lockdowns to control the first wave of the pandemic helped China's manufacturing sector rebound after Q1 2020. Strong performance of its manufacturing sector during the rest of 2020 contributed to a "better-than-expected" first place ranking on our risk scenario. The U.S. and Canada were pushed back to second and third place respectively while China jumped up from fifth place last year.

The U.S. and Canada remain well positioned to fuel an acceleration in reshoring. Natural resources, ample labor pools, federal and state incentives, large consumer markets and infrastructure make these countries competitive, especially in a less predictable and less secure global environment.

A younger population helped boost the Finnish manufacturing sector last year, helping its performance on our risk scenario to move up to fourth place from ninth last year. While labor costs are among the highest globally, Scandinavian countries as a region have some of the world's lowest geopolitical risk profiles. The robust recovery of Finland's manufacturing during 2020 added to an already strong global position on our risk scenario.

MRI METHODOLOGY

The Manufacturing Risk Index (MRI) assesses the most suitable locations for global manufacturing among 47 countries in EMEA, the Americas and Asia-Pacific. Each country is scored against 20 tier-2/3 variables that make up the tier-1 variables (conditions, cost and risk), whose weightings vary in the three scenarios presented in this report. The data underpinning the MRI comes from a variety of reliable sources, including the World Economic Forum, Moody's Analytics and World Bank. A list of the tier-2 variables is available opposite.

The broad nature of the manufacturing sector means that the importance of these key parameters will inevitably vary on an individual basis. The results contained within our ranking do not provide a definitive answer for all manufacturing companies on where their facilities should be located. They are instead intended to act as a guide as to how locations can be ranked using a given set of parameters and weightings.

CONDITIONS

- TALENT/LABOR FORCE
- LOGISTICS/ACCESS TO MARKETS
- BUSINESS ENVIRONMENT
- SUSTAINABILITY/CORPORATE RESPONSIBILITY

RISKS

- NATURAL DISASTER RISK
- ECONOMIC RISK
- CORPORATE RISK
- ENERGY RISK

COSTS

- MANUFACTURING LABOR COSTS PER HOUR
- ELECTRICITY FOR INDUSTRIAL/ HEAVY USE (PRICE PER HOUR)
- CONSTRUCTION BUILDING COSTS
- REGISTERING PROPERTY COST (% OF INCOME PER CAPITA)

ENDNOTES

1 Our World's Data, data from June 28, 2021.
2 Wall Street Journal, March 19, 2020. "Post-COVID Value Chains", European Parliament, March 2021.
3 https://unctad.org/news/china-rise-trade-titan
4 https://unctad.org/system/files/official-document/rmt2020_en.pdf
5 DHL
6 https://www.kearney.com/operations-performance-transformation/us-reshoring-index?utm_source=PRNewswire&utm_medium=pr&utm_term=OPT&utm_campaign=ReshoringIndex&utm_content=
7 https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/

FOR MORE INFORMATION

Cushman & Wakefield's logistics and industrial professionals provide local market expertise around the globe. Our comprehensive menu of integrated real estate and facility services combines worldwide reach, coordinated local execution, and advanced data analytics to deliver the highest value service in the industry. For a more in-depth overview of the index rankings or to discuss your real estate strategy, please contact:

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