

THE NEXT NORMAL OF MANUFACTURING BUSINESS CONTINUITY AND RECOVERY PLAN



Dr. Sampan Silapanad

Vice President, Western Digital - Thailand

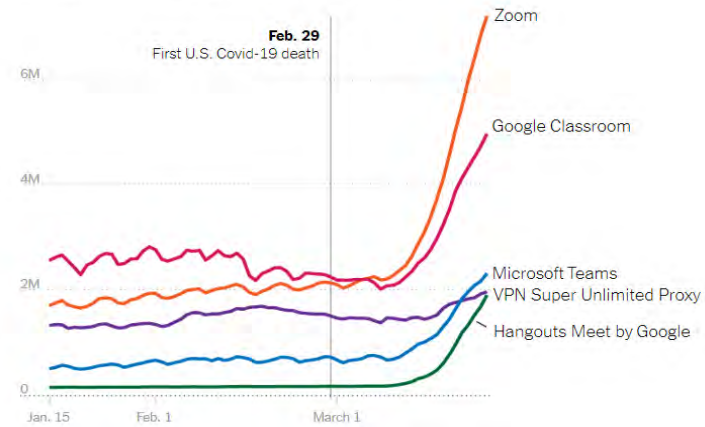
Co-chairman of The World Association for Cooperative Education

President of Thai Electronic & Computer Employers' Association

THE USAGE OF INTERNET AND DIGITAL CONTENT INCREASED

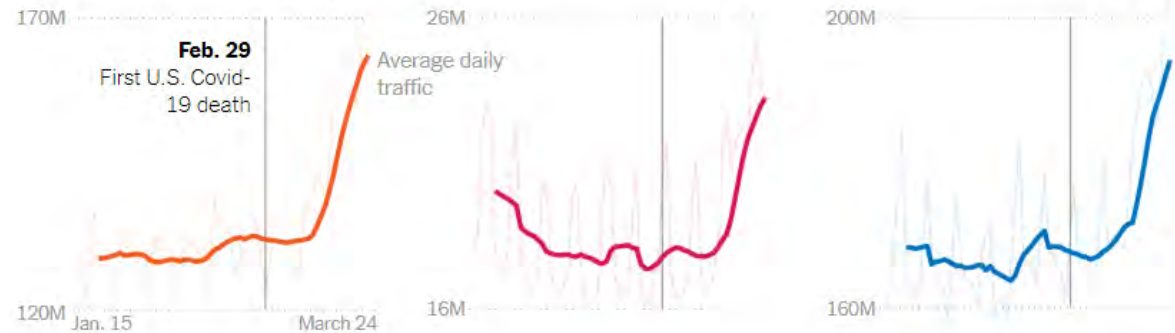
We have suddenly become reliant on services that allow us to work and learn from home

Daily app sessions for popular remote work apps



Websites

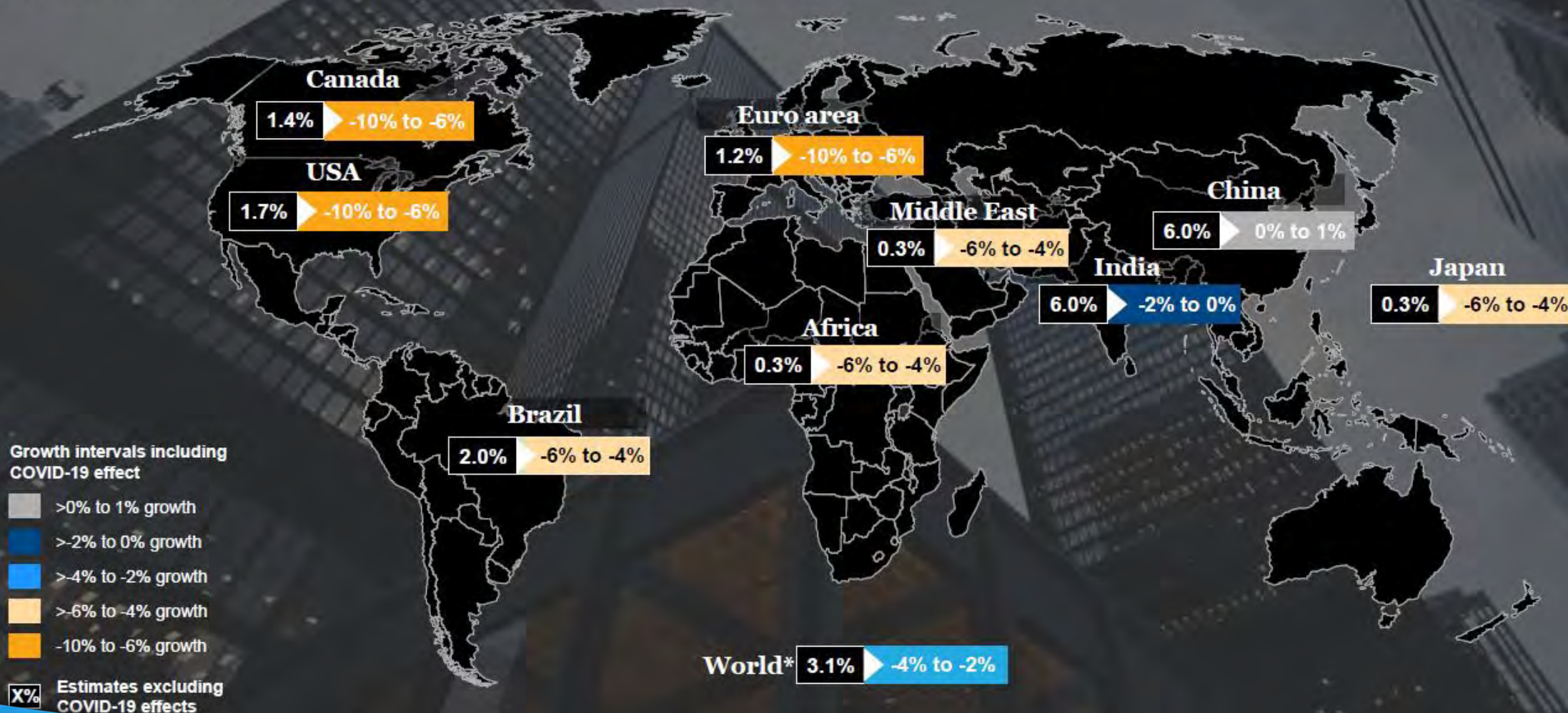
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The economic effects on the world, especially Americas and Europe are severe

COVID-19 ECONOMIC EFFECT PER MARKET

Real GDP estimated growth rates 2020 excluding and including Covid-19 effects





Forecast of Worldwide Device Shipments to Decline 14% in 2020 Due to Coronavirus Impact

Worldwide Shipments Forecast by Device Type (Millions of Units)

Device Type	2019	2020
Traditional PCs (Desk-Based and Notebook)	193.117	169.657
Ultramobiles (Premium)	69.597	65.528
Total PC Market	262.714	235.185
Ultramobiles (Basic and Utility)	143.958	133.258
Computing Device Market	406.672	368.443
Mobile Phones	1,753.911	1,498.549
Total Device Market	2,160.583	1,866.992

- Working from Home Trend Will Fuel More Versatile Laptops
- Phone Lifetimes to Extend to 2.7 Years in 2020
- 5G Phones Will Represent 11% of Total Mobile Phone Shipments in 2020



IT SPENDING WILL DROP 9.3%, SAYS GARTNER

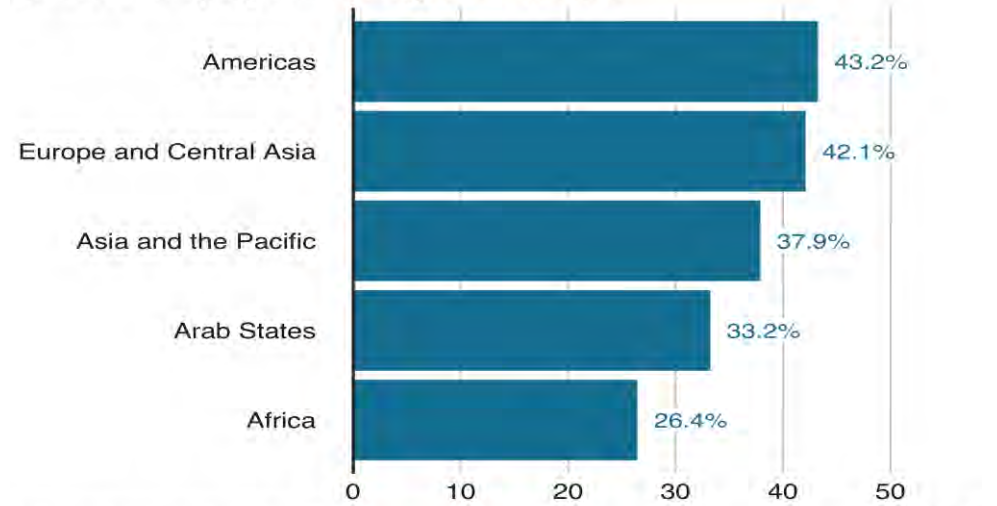
May 28, 2020 TECHNOLOGY

*IT spending in Thailand this year is projected to decline **9.3% or 649 billion baht**, lower than the projection made in early year at 752 billion baht by which devices (PCs, tablets, smartphone and data center) will be top losing group, according to Gartner Inc.*



Workers at risk by region

Share of employment in high-risk sectors

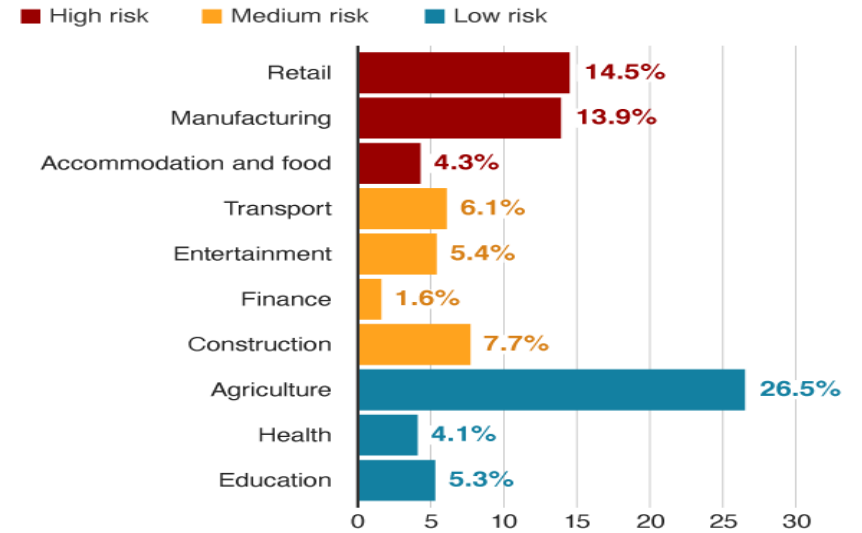


Source: International Labour Organization

BBC

Workers at risk by sector

Share in global employment by industry and risk level



Source: International Labour Organization

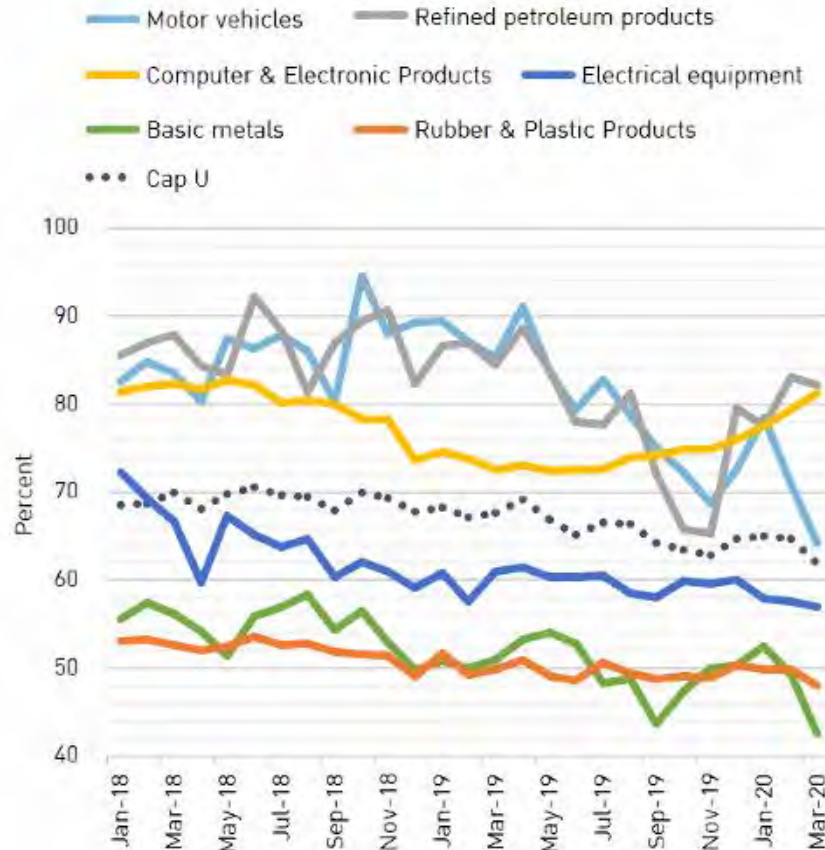
BBC

MSCI All Country Information Technology Index



WHAT DOES THESE MEAN FOR THAILAND ?

Capital utilization rate (Seasonally adjusted)

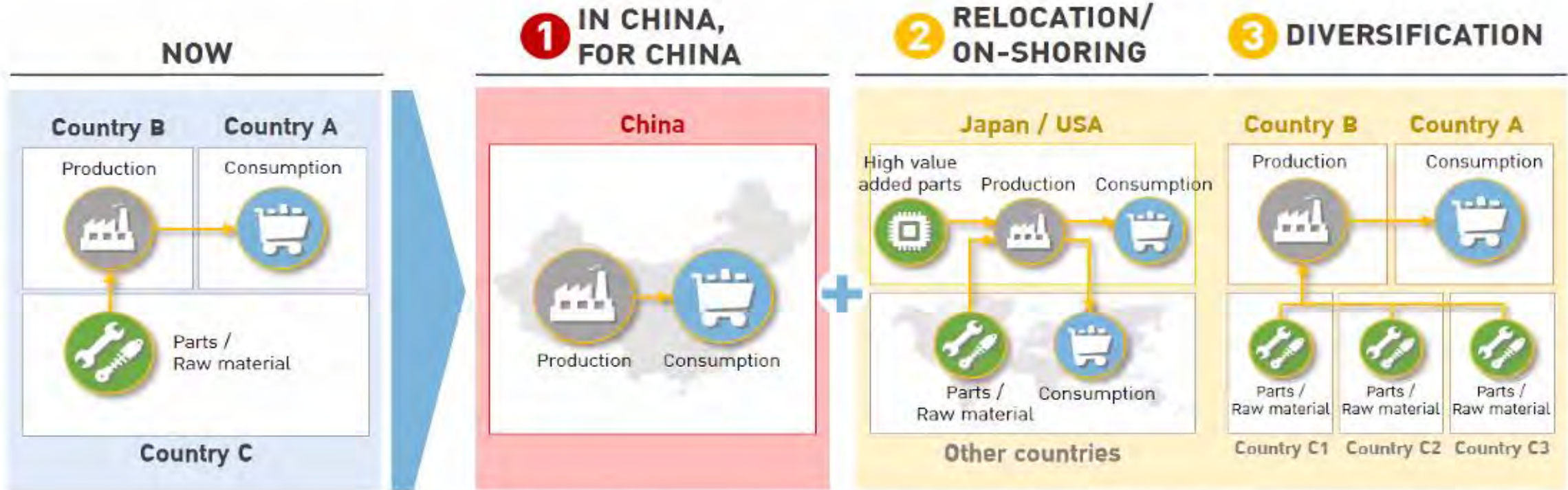


Source: Office of Industrial Economics.

Opportunities:

- Manufacturing: Diversification and relocation from China e.g. electronics
- 5G will be adopted faster than previously anticipated, as there is now greater demand for high-speed connection.

3 MODELS OF POST-COVID : GLOBAL SUPPLY CHAIN ARRANGEMENT



- Production that serves the Chinese market will remain in China

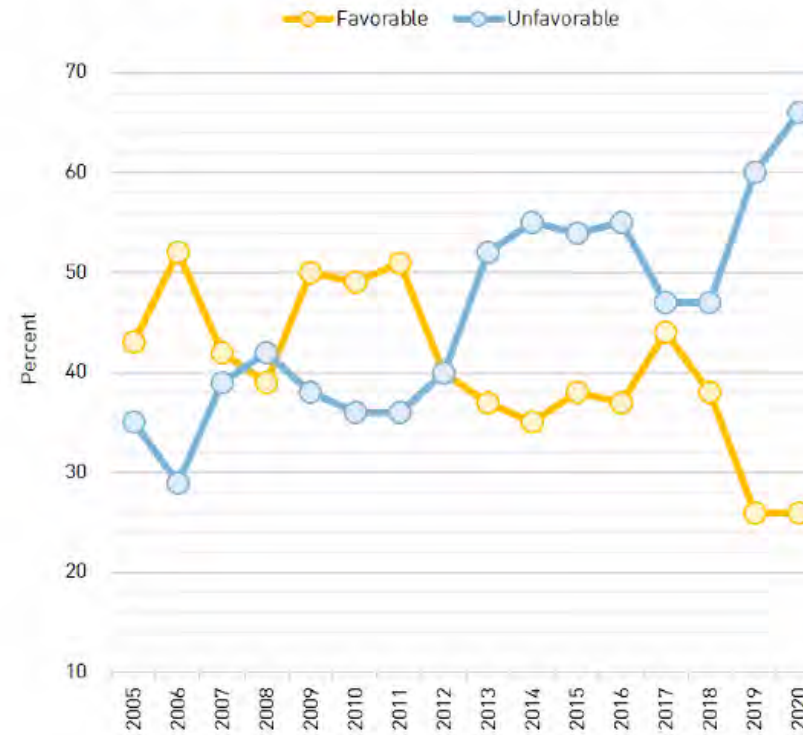
- Production of high value-added and high-technology products will be relocated back to Japan or US.
- Production of lower value-added products will diversify out of China.
- Will take at least 5 years for costs to be on par with China.
- Protection of the industries is needed to keep them on-shore

- Production base does not shift but sourcing of raw materials and parts are diversified away from China.
- 5-10% more expensive than sourcing from China but lowers risks of supply disruption.

The Next Issue : US-China Trade Wars

Coronavirus is accelerating a 'capital war' between China and the US

Negative views of China continue to grow in US



Source: PEW Research Center

- Trump will face a re-election in November, right at the time when the country is expected to reach Great Depression's level of unemployment.
- The Trump administration has already been placing blames on China for man-made Covid-19 virus from a Wuhan lab and economic hardship caused by the pandemic; a bill has been introduced in the Senate to allow Americans to sue the Chinese Government, while Missouri has actually filed such a lawsuit against China.
- 2/3 of the Americans have "Unfavourable" attitude towards China, hence trade war with China is likely to be supported and will dampen global trade and demand.



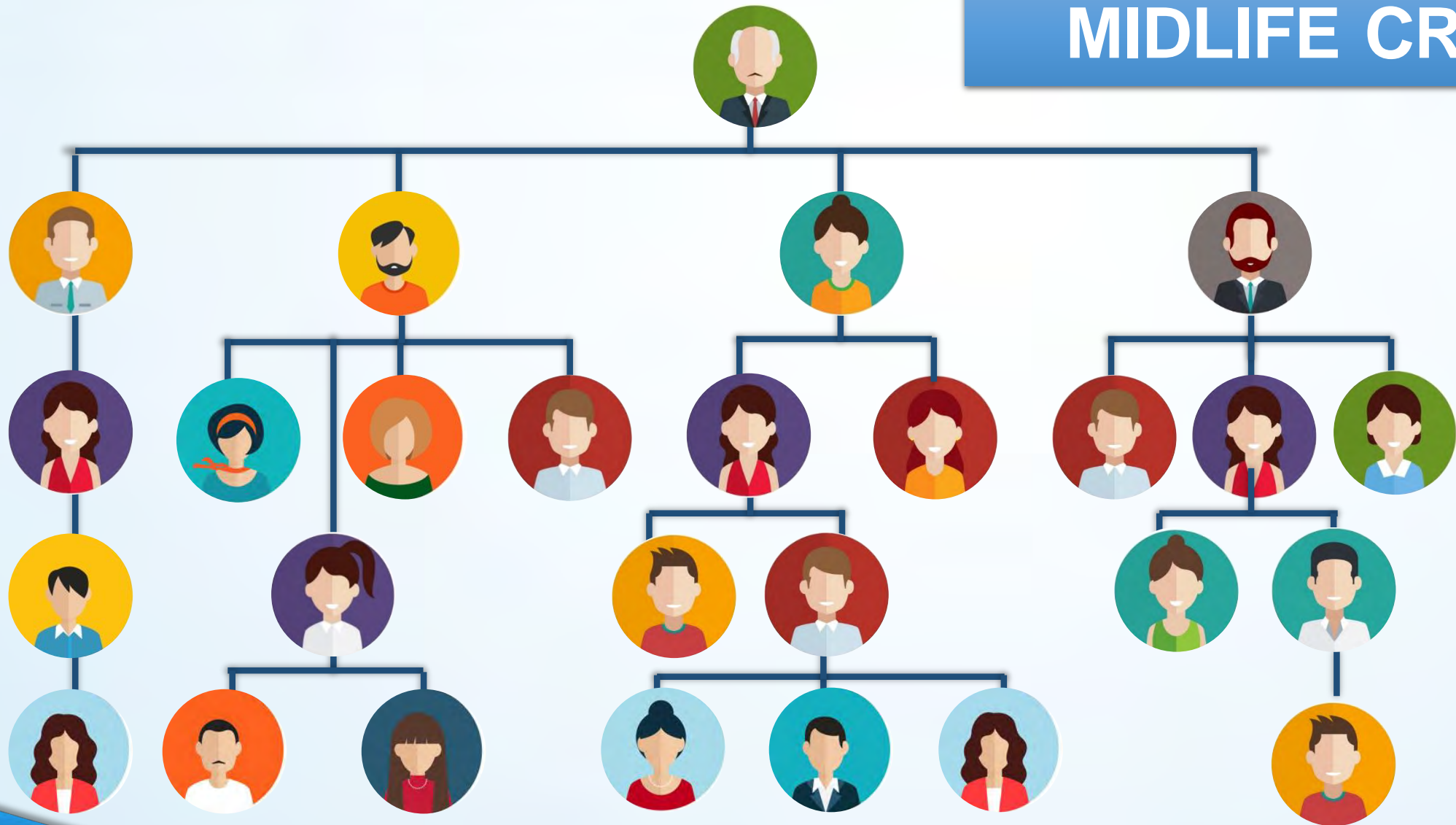
SHORT TERM

Delayed from excess of workforce and production capacity

MID TERM

Speed up for remote production as a BCP of Work from Home

MIDLIFE CRISIS



*Thank
you*

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Manufacturing Forum Webinar 2020

The Next Normal of Manufacturing Business Continuity and Recovery Plan

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Thank You

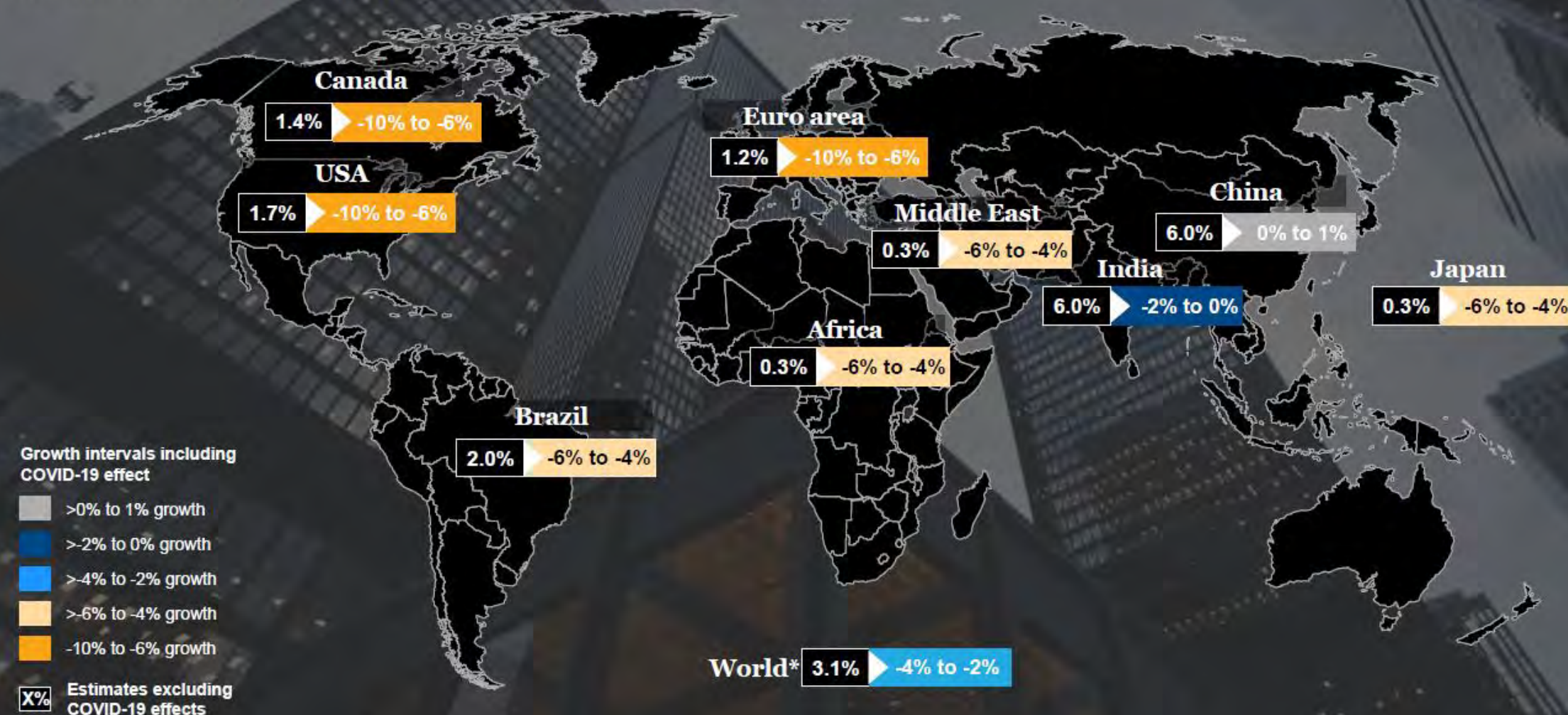


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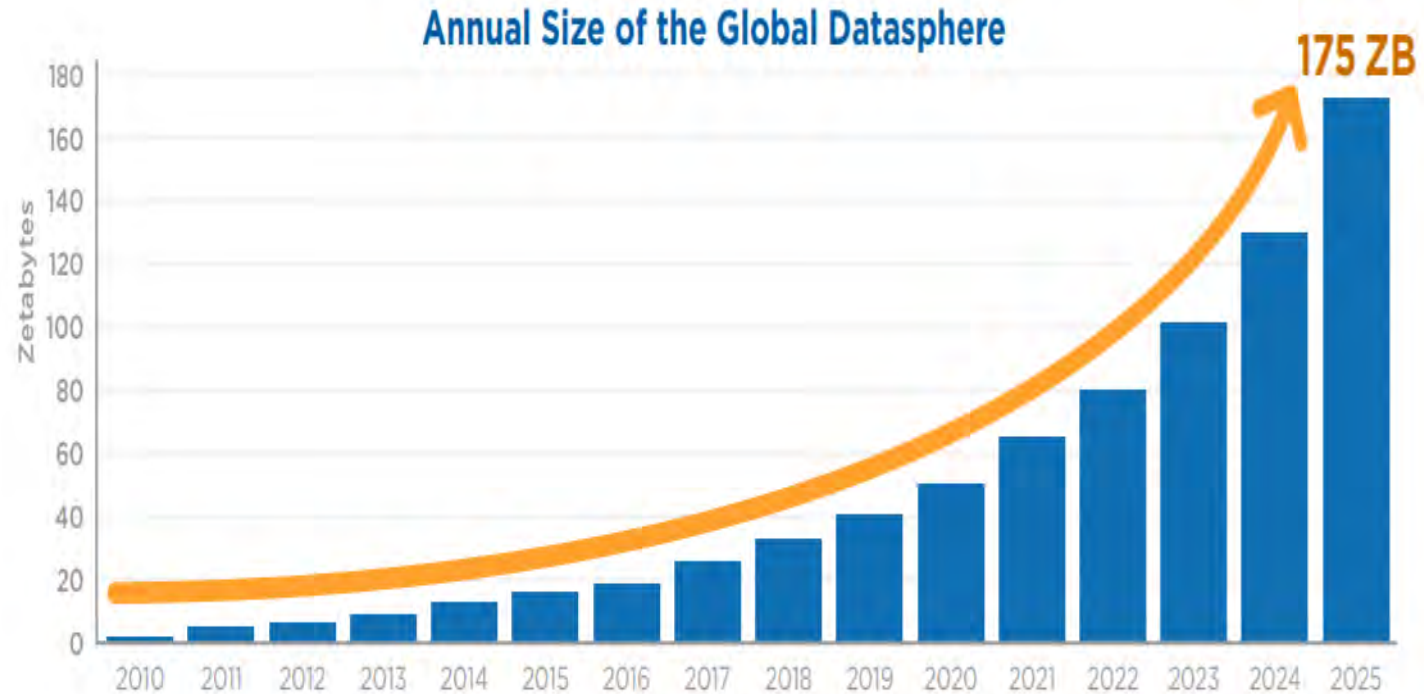
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Source: Business Sweden Analyst Team *Purchasing power adjusted GDP

Key Technologies enabling the post – Covid recovery



Source: Data Age 2025, sponsored by Seagate with data from IDC Global DataSphere, Nov 2018

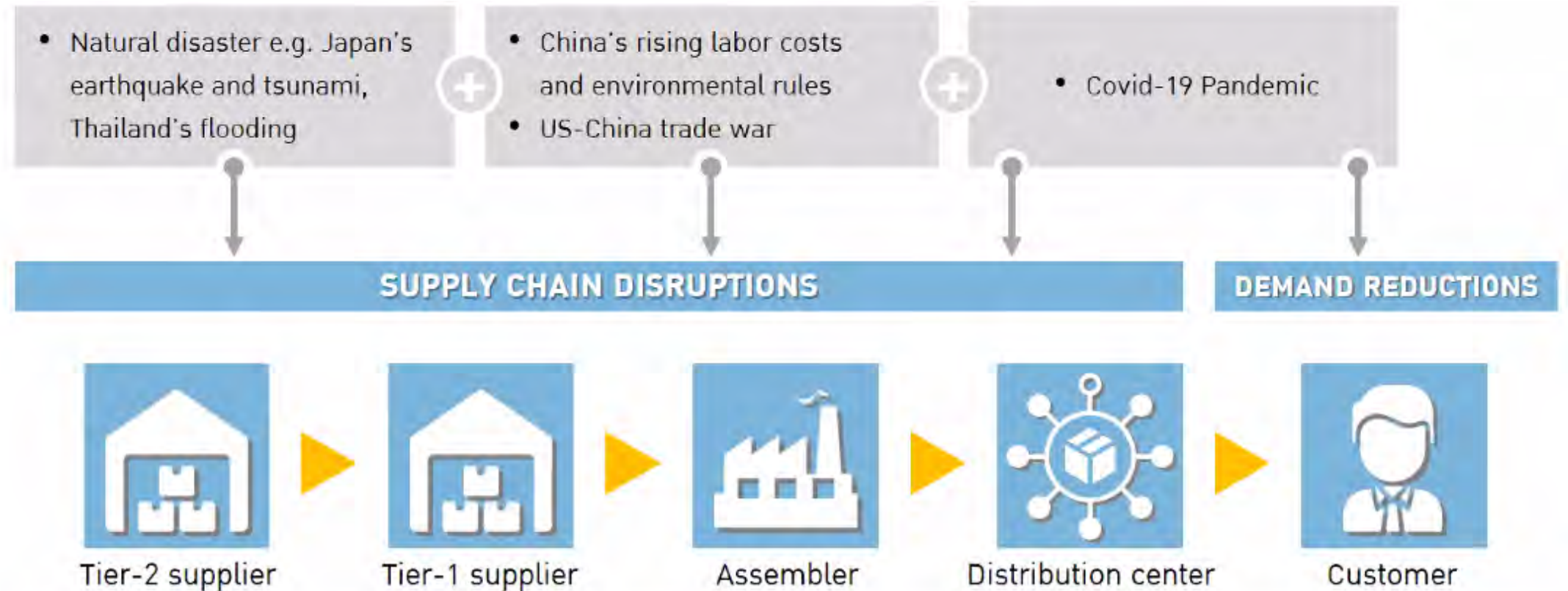
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Source : Bloomberg 12 Jun 2020

Global Supply Chain Will be Restructured



SHORT-RUN SUPPLY CHAIN ADJUSTMENTS

- Restructure workspace and arrange for work from home
- Change transport routes e.g. from road to rail or road to sea
- Diversify suppliers

MEDIUM TO LONG TERM ADJUSTMENTS

- Balance cost effectiveness with risk management
 - Diversify sources of raw material & parts from China
 - Relocate production capacity out of China
 - Maintain greater inventory along the value chain
 - Shorten supply chain of essential products (basic medicine



How employment has been affected worldwide

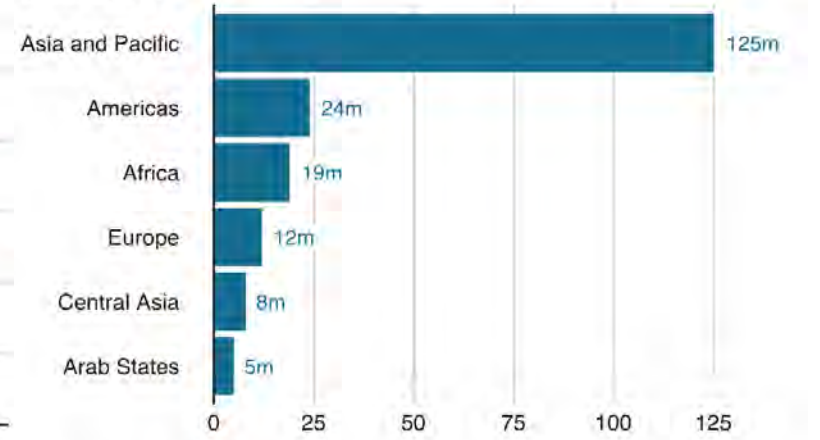
Share of global workforce living in countries with workplace restrictions



Source: International Labour Organization

Worldwide decline in working hours

6.7% of the global workforce - around 195m people - are working fewer hours

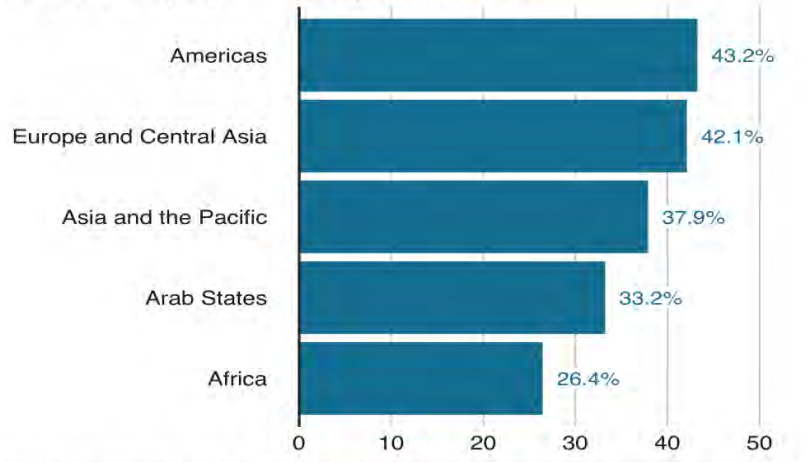


Full-time workers assuming a 48-hour working week

Source: International Labour Organization

Workers at risk by region

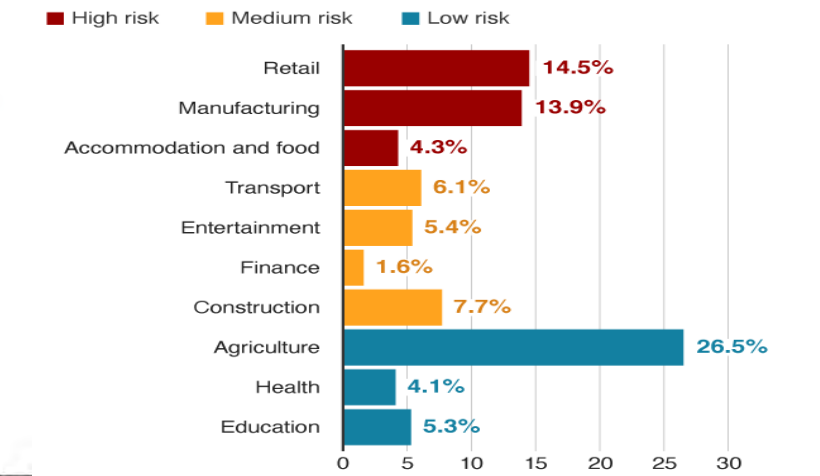
Share of employment in high-risk sectors



Source: International Labour Organization

Workers at risk by sector

Share in global employment by industry and risk level



Source: International Labour Organization

ORGANIZATION

NEW

