

UNITED ARAB EMIRATES
MINISTRY OF ECONOMY



الإمارات العربية المتحدة
وزارة الاقتصاد

Trade 2050: A Private Sector Perspective



Contents

Foreword	3
His Excellency Dr Thani bin Ahmed Al Zeyoudi, UAE Minister of State for Foreign Trade	
Badr Jafar, CEO, Crescent Enterprises	
Executive Summary	6
Introduction	9
2050 Foresight	10
Our Approach	11
Certainties	12
Shifting Power and Influence	
The Impact of Data, Automation and AI	
The Climate and Biodiversity Crises	
Challenges	22
Cost of Re-Industrialisation	
Sharing Data	
Limiting the Impact of Trade Wars	
Opportunities	29
Better Trade for All	
Less Waste	
Off-Planet	
Early Conclusions	36
Questions to Consider	38
Furthering the Conversation	39
References	40
Acknowledgements	41



Foreword

FOREWORD



His Excellency Dr Thani bin Ahmed Al Zeyoudi, UAE Minister of State for Foreign Trade

Trade has been a consistent force for economic and social advancement, playing a role in unprecedented global economic growth, elevating living standards, creating jobs, and accelerating development. Over the last 30 years, the global community has worked to shape an international trading system that promotes the predictable and free flow of commerce, ensuring that every nation is able to benefit from trade's stimulative impact.

It's clear, however, that we are confronting a period of profound transition. The very essence of international trade is being reshaped and even redefined by a range of factors including the global emphasis on sustainability, the revolutionary role that technology is taking, and the rising importance of emerging economies in global trade. All these factors and more are transforming global supply chains and the overall trajectory of global trade.

The direction of travel is still unclear but it's obvious we need to be adaptable to whatever path global trade takes. As we navigate the complex challenges of today, we must prepare ourselves for the evolving landscape of the future.

In the unfolding narrative of future trade, it is evident that the focal point of discussions must transcend traditional concerns. Rather, the spotlight should be directed towards broader and forward-looking issues encompassing but not limited to technology,

sustainability, and inclusivity. Part of that preparation is seeking the input, insight and experience of those in the private sector engaged in international trade on a daily basis – the exporters, the manufacturers, logistics and finance professionals who collectively keep goods moving around the world. This report, Trade 2050: A Private Sector Perspective, is a product of this outreach, and provides an important discussion document on the forces likely to impact the trading system over the next 25 years. This report serves as a testament to how UAE's gaze extends beyond current paradigms and our proactive role in shaping the discourse surrounding international trade.

We are not mere bystanders to the forces influencing the trade of tomorrow; we can, and should, be proactively engaged in determining its future course. But we can only anticipate forthcoming trends with a clear, unvarnished view of the situation today.

We hope this report makes an important contribution to that goal.



**UNITED ARAB EMIRATES
MINISTRY OF ECONOMY**



Badr Jafar CEO, Crescent Enterprises

The future of trade and the shape of the global economy in 2050 will largely depend on how we respond over the coming years to a range of technological, socio-economic, political and environmental changes that are taking place at great speed all around us.

In such a dynamic environment, where the need to react and adjust to current new realities can be all-consuming, it is easy to fall into the trap of taking a narrow and short term view. However, such an approach would fail to take into account the long-term impact of the decisions that we make each day, and the powerful multiplier effect that can be generated when business, government and civil society work together in pursuit of common goals.

When so much depends on the actions that we take in the coming years, forecasting the future of trade by 2050 is not an effort to make predictions with absolute certainty, but rather about fostering a deeper understanding of the potential changes that lie ahead, and how we might optimally navigate and influence them. Underpinned by its highly strategic location, world-class infrastructure and strong international relationships, the UAE is uniquely positioned to work constructively with other members of the international community to explore these important questions.

As always, the landscape is dotted with a combination of opportunities and challenges, including responding to shifting geopolitics, addressing climate change, controlling potential conflicts over scarce resources such as water, and finding ways to sustainably feed a projected 9.8 billion people by 2050. Despite the scale of these challenges, I remain optimistic about our collective ability to identify solutions and to take timely and coordinated action.

It is important to remember that we are not passive spectators to the future, nor are we lone actors. We are active and interdependent participants whose collective actions have the power to shape not just the future of trade, but also the lives of billions of people around the world.

It is our hope that the views of the private sector that are reflected in this paper will help stimulate further discussion and make a valuable contribution to the ongoing multi-stakeholder effort to chart a course to a more prosperous and sustainable future that leaves no one behind.





Executive Summary

Executive Summary



No one can predict the future but we can become more informed about it. This enables better decision-making and the placing of more intelligent bets.”¹

Trade 2050: A Private Sector Perspective provides a glimpse of the changes and challenges the world will be facing in 2050. Its purpose is to start a conversation and to provoke thinking with anyone involved in or responsible for shaping and creating the future of trade.

Over the past 30 years we have enjoyed a comparatively secure trade environment. However, the world is now undergoing a time of transition and it is clear that by 2050 the shape and nature of trade will be very different to that which we are experiencing today. We see three directional, interconnected and convergent certainties that will underpin and dictate its progress:

- Shifting Power and Influence
- The Impact of Data, Automation and Artificial Intelligence (AI)
- The Climate and Biodiversity Crises

A new East-South versus West-North dynamic is taking shape. It prioritises diversification and supply chain resilience and the emergence of non-aligned nations keen to benefit from the shifts in trade power. Coincidentally, the speed and scale of technology innovation is transforming how, what and where we trade. By 2050 powered by AI, advanced robotics, cognitive automation, synthetic biology, 3D and 4D printing will increasingly take on tasks that were once performed by people. This manufacturing reconfiguration will mean trade will become more service-oriented both in low-skilled customer service roles and in high-skilled knowledge occupations such as finance or education. Finally, the effects of the growing environmental and ecological crisis, although unevenly distributed, are likely to impact us all.

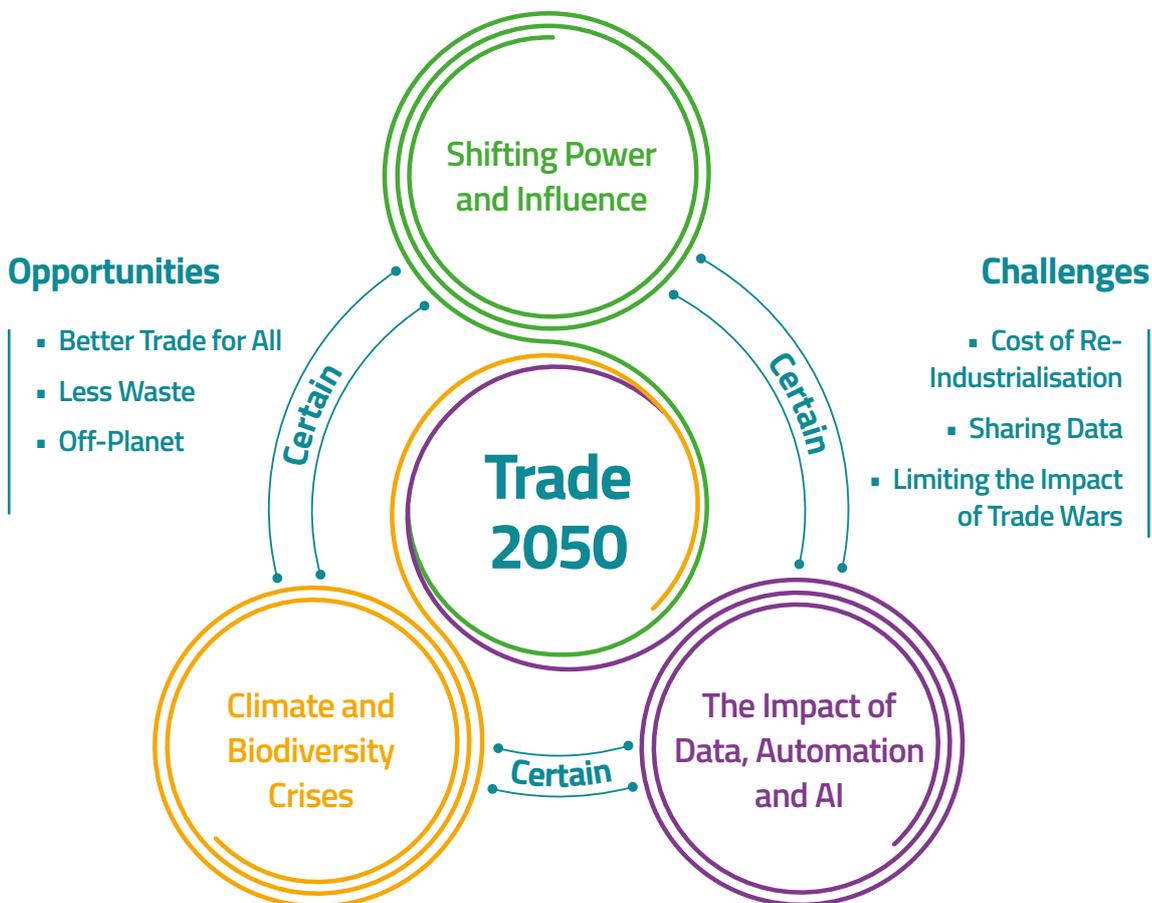
The convergence of these shifts presents considerable challenges. A great re-industrialisation is needed for some countries and companies to adjust their supply chains to become more resilient, to remain competitive and to increase their national security. The infrastructure for this will be expensive and will come at significant cost, particularly for those already struggling to cope with rising levels of debt; indeed the investment required may be difficult to reach or sustain.

Equally costly AI, automation and self-learning machines and supply webs will require appropriate access to huge data. In order to benefit, nations will have to share datasets and agree on common protocols. In an increasingly polarising world, this may well be a stumbling block. If we get it right, the opportunity to create a global system which enables a better trading environment for all is within reach.

Some elements to achieve this objective may sound simple, dull even, but they are, in fact, complex. If adopted they will have a transformative effect; frictionless borders and automated end-to-end transparent processing is a good example. Other elements, such as off planet trading may seem, from today's perspective, a bit far fetched. Regardless, delivering the benefits optimally will require concerted collaboration, time and attention from many stakeholders.

All those we spoke to believe that the next 25 years can be transformational. However, rapid collective action is needed so we can better face the challenges ahead and capitalise on the opportunities available.

Figure 1: Trade 2050, Certainties, Opportunities and Challenges



Introduction



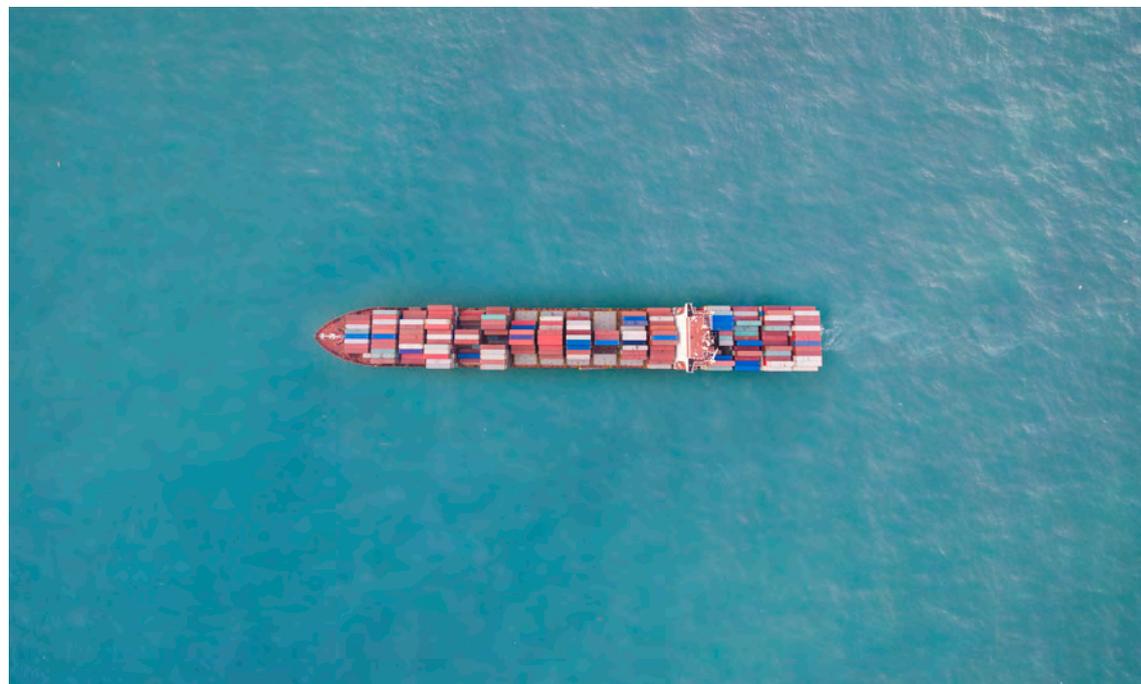
Trade is a force like water. Block its way and it will find a way. Water flows with gravity. In this case gravity is customer demand.”

The exchange of goods and services, anything from raw materials and food to financial services and education has increased wealth, provided opportunity and improved quality of life around the world. Until recently a relatively peaceful post second world war era has been shaped by globalisation and the free movement of people and goods.

But change is in the wind. The global economy is being buffeted by climate change, a constrained availability of natural resources and increasing geopolitical uncertainty. At the same time, we are experiencing extraordinary technological innovation that will impact almost all aspects of our lives.

Such is the impact of this that our assumptions around established boundaries, beliefs, institutions and processes are being put to the test.

It is clear that governments and companies must respond and consider whether the global ecosystems that currently underpin international trade and development are fit for the second half of the twenty-first century.

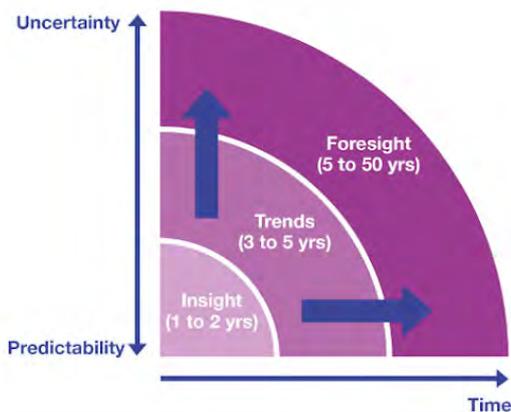


2050 Foresight



The purpose of looking at the future is to disturb the present.”²

Strategic Foresight³ is a set of tools that assist with longer term decision making, by helping us become better informed about the future and therefore better able to anticipate and respond to change. Put another way, we need to look outside and ahead as to how the external world may change over time, to inform the future structures and organisations we wish to create. For the avoidance of doubt, foresight is not about predicting the future.



Strategic foresight enables us to make decisions from the future-back as opposed to now-forward. Typically, when we start from today and look ahead, we can be anchored to the past or to the present; this presents a more narrow organisation or world view, and can limit us to only seeing the reasons why things may be difficult or may not be possible. If we stand in the future and look back, we have more freedom, see more opportunity and can see more clearly what must happen to succeed in the long-term. Doing so requires a perspective shift.

The challenge in looking too far ahead is that many of the changes that could take place may be significant departures from today’s reality and so not on our collective radar. As such our confidence in what those changes might be, let alone their impact, is often quite low. However, through collaboration and consultation it is possible to make some educated guesses.

Of course, so-called “Black Swan” events can and will happen. Outside of those and for the purpose of simplifying this Initial Perspective, we have chosen, as did many of our contributors, to deliberately set to one side two significant downside topics that were recognised as possible to occur over this time period. These were a significant escalation in global conflict and the breakdown of civil society and the rule of law.

During our research we often heard comments about the challenge of looking beyond a 10 - 15 year time horizon particularly given the speed of change we are currently experiencing: *“We are not anticipating these changes very well.”* We believe that collaboration is the key. Sharing knowledge across sectors, industries and continents can add real value, particularly as much needed innovation often occurs at the intersection of different disciplines.

By raising awareness of some of the major issues our aim is to make it easier for organisations to shape a strategy that will help them address the major challenges ahead and identify ways in which systems can function, consumers behave and governments can regulate.

Our Approach

Our work for this report comprised **24 interviews with a diverse set of private sector experts from around the world**, and was augmented by desk research.

All participants were asked what they see as the key challenges affecting global trade by 2050 and the drivers of change behind these. They were then asked what they consider to be the major shifts likely to take place, which of these is certain which therefore requires us to adapt and what is less assured and therefore needs to be addressed. Finally we asked which are the issues that should be considered a priority.

In order to have frank and open discussions we adopted the Chatham House Rule (i.e. no direct attribution of view) throughout and for this report.

This report, *Trade 2050: A Private Sector Perspective*, outlines some of the certainties, challenges, opportunities and emerging issues that are expected to affect the future of trade by the middle of the century. Its purpose is to provoke broader thinking, more robust debate around how and what we may trade, in order that, as a society, we can better anticipate and prepare for change.



Certainties

Certainties

Across our discussions, three directional, interconnected and convergent certainties became apparent:

Shifting Power and Influence

The Impact of Data, Automation and AI

The Climate and Biodiversity Crises

While the degree and extent of change in each, and the precise interplay between them cannot be determined yet, what is certain is that these three elements will dictate the shape of trade in 2050.



These dynamics are converging at once. [At some point] the change will be swift and disorienting.”

Figure 2: Global economic centre of gravity, 2000-2050

The World's economic centre of gravity will continue to shift eastward in the decades ahead



Source: IMF World Economic Outlook October 2022, UK Government Global Trade Outlook 2023

Shifting Power and Influence

By 2050, the global population is expected to be 9.7Bn.⁴ More than half of the projected increase will be concentrated in Asia and Africa, and Africa will have 3 of the top 10 by population (Nigeria, DRC, Ethiopia). By 2050, Asia will contribute half of the top 10 economies (China, India, Indonesia, South Korea and Japan).⁵

The consequence of this is that the centre of gravity of economic power is shifting southeastwards and the wealth gap between the traditionally rich West and the emerging economies in the East will gradually close. Despite the efforts of major powers to moderate the speed of this transition, the realities of population shifts and resource locations are immovable. Some of the emerging markets are already benefiting from the sort of dividend that changed Europe and America generations before. These countries have emulated – and will catch up with – the West in terms of income, family size, education and the formation of a middle class. By 2050, they will account for more than half the world economy and will expect a voice on the world stage that reflects this.

China is currently leading the pack. It is already the world's largest trading nation and its economy is expected to overtake that of the US sometime in the next ten years reaching US\$93 trillion by 2050. However, its population is ageing at an unprecedented rate. This, together with the impact of multiple-technologies, will impact and reduce its ability to lead with cheap labour manufacturing alone. India's growth will also be stellar; it is expected to be the world's third-largest market, over three times the size of Germany and the UK (in fourth and fifth place, respectively). Catch-up by Indonesia, Vietnam and possibly Bangladesh will also be notable; Mexico and Brazil are also developing at pace. Finally, with a landmass bigger than India, China, the US and Europe combined and a third of the planet's mineral resources, by the middle of the century, Africa may well become one of the world's primary growth markets. ***“To me the hot zone right now is around Rwanda, Uganda, Kenya. These are the economies that are innovating the most.”***

All this indicates that after centuries of growth, Europe's days in the economic sunshine are in relative decline particularly given the pressures resulting from its ageing population. While most emerging economies in Asia are set to grow by 2-3% per year in 2021-50, the pace of growth is forecast to



When it comes to economic integration, although it is not perfect, we are sorting out where we need to go. I think there's a concerted cohesiveness in the ASEAN region that is quite unique.”

average just 0.5-1% in the US, the UK, France and Germany. By 2050, each of the US and EU's global share of GDP is expected to have fallen by around a quarter, to ~20% and 15%, respectively.

Those we spoke to believe this will lead to a profound rebalancing of the global trade system that will affect everything from the environment to commerce and consumption. Like it or not the existing order will be forced to adapt, establishing new trade blocs and questioning the current norms around the rule of law and the global organisations that established them. ***“Emerging markets are taking control. Countries like Turkey, China and India have already amassed wealth and are not falling into line with the Western ideology.”***

This realignment is expected to allow a wider allocation of wealth at a national level. However, while income inequality between countries may fall, there was agreement that likely, inequality internally may continue to rise. ***“There's a big divide between progressive nations who have the means and resources to invest and other nations who don't so arguably new technologies such as AI will actually exacerbate the digital divide.”***

Politically speaking, although consumers may benefit overall from lower costs and a wider range of products there is a question about the future of work for many. The lack of jobs for low-skilled workers has already caused major hardship and contributed to the rise of populist, protectionist manifestos.

A Bumpy Ride

The souring relations between China and the US is indicative of a growing decline in trust between trading blocs. It is the primary catalyst for an expected fragmentation that likely will affect the current rules of law supporting global trade.

If trust between nations continues to decline expect the number of tariffs, rules and subsidies to increase with more extreme avoidance or insurance measures such as the China Plus One policy likely.



The carry forward will only be in terms of a baseline (e.g. rules for supply chains in specific products, systems for invoicing and payments). What won't be retained is the world view on global trade which emerged post GATT."

That said, although major global companies, particularly in electronics, have already expanded into Southeast Asian countries such as Vietnam and Indonesia to avoid US sanctions, the reality is that few we spoke to expect that this will reduce trade with China overall - just make it more complicated and expensive to do business. Ultimately it will be the end customer who will pay for this.

For some countries receiving Chinese investment and intermediate goods and exporting the finished products to America and Europe is a source of jobs and prosperity. ***"The ASEAN region has been the net beneficiary of the bifurcation that's taken place and clearly the ASEAN Plus One strategy has worked in our favour. We have actually seen a phenomenal rise in FDI into our region for example, not just trade, but FDI. That itself is a big signal."***

Irrespective of where the final product comes from, it is likely that western appetites will continue to boost demands for Chinese intermediate inputs, and will act as incentives for Chinese firms to operate and export

from alternative locations. Apple, for example, has moved production outside China but it still relies on Chinese companies. The tech giant lists 25 producers in Vietnam on its official suppliers list. Nine are from mainland China. Similarly Indonesia is receiving Chinese investment and intermediate goods, and then exporting finished products to America and other western nations. Some we spoke to believe that this pragmatic approach to trade and investment has already had an unintended consequence for the US in allowing more nations to forge stronger relations with China despite political fracas and posturing.

Competition for access to minerals, and indeed markets, will intensify with pressure being applied in many ways, from direct investment for infrastructure development to the more sinister protection packages for regimes⁶.

More Service Less Stuff

Trade in services has grown more than 60 percent faster than goods trade over the past decade. Looking ahead, the share of services in total trade was around 22% and US\$7 trillion in value in 2022 and is expected to reach 28% and US\$12 trillion in value over the coming decade. ***"This means almost half of all new, incremental, trade will be in services and the main driver of this is expected to be the digitally delivered services. This creates a huge opportunity and at the same time requires change in business models."***

We heard, ***"Over time physical trade will be augmented by digital trade. We will experience a shift from digitally ordered trade to digitally delivered trade. A good example of this is education, people will no longer travel to learn."*** McKinsey⁷ places a particular focus on financial, IT and legal services which can boost productivity elsewhere, including in industry. Richard Baldwin⁸ points out that one reason for the divergence between the growth of services versus goods is because digital technology opened the door to trade in intermediate services. High-income countries have few or no barriers to these sorts of exports. This explains why India, for instance, performed its service-export miracle without signing a single trade agreement. It's worth noting the service sector is not just in intermediary or administrative products. ***"We've got strong, increasingly wealthy cultures that will be exported in the form of media and entertainment. Those elements of trade are as important as physical movements"***.

Besides the direct trade in services, the distinction between goods and services is likely to blur as manufacturers increasingly introduce new types of leasing, subscription and other "as-a-service" business models.

De Risking

It seems likely that concerns about geopolitical risk will cast a long shadow over global trade. We heard that over the next two decades, *“Trade will increasingly be driven by politics and ideology, and not by economics”* and *“We are going to see a less globalised market, a trade battle is emerging.”*

Governments and some companies are increasingly uncomfortable with what they see as the inherent risks of a globalised marketplace. They think that reducing the length and complexity of the supply chain will offer greater protection against market vicissitudes, climate or security concerns. *“As the world moves towards trading blocs it will impact where investments flow. As the emerging countries strengthen this will increase the ‘threat’ to the West. Inevitably there will be more blocs, more security alliances and more restrictions.”*



I believe that an integrated world is a much safer world than a decoupled world. It’s going to be hard for WTO to do what it needs to do, and get everybody on board.”



We are worried because the rhetoric is not capturing the true situation and how globally integrated the whole global supply chain is.”

De-risking from China, which has more than 50% global market share in about 20 industries, including communication equipment and optical instruments is an enormous task. On current trends, for example, it will take Australia 35 years to pull out just half of the total Foreign Direct Investment (FDI) that it has in China. Other nations face similar challenges. Even if it can be achieved, those we spoke to felt there was little financial upside in the short to medium term. We heard, *“The object is to secure access in a ‘friendly’ place. This will certainly increase cost as we will no longer optimise for the cheapest option.”*

Supply chain unbundling could be seriously undermined by radical advances in customisation and increasingly sophisticated 3D printing. This looks set to take on tasks that were once performed by people. *“The transmission of data will act as a substitute for the transportation of goods.”*



The Impact of Data, Automation and AI

Uber connectivity

We are soon approaching a time when everything that can benefit from a connection will be connected. Real time data has already **“collapsed time and geography”** allowing visibility of goods as they travel the world. Increased operational control over re-routing decisions or the sourcing of alternative suppliers can be made at the touch of a button. This has not only mitigated many of the security risks of far flung supply chains but greater transparency has shone a light on environmental and human rights abuses. This connectivity will not be entirely risk free. As companies become increasingly data and technology dependent the associated chances and impact of cyberattacks will rise.

AI everywhere

In the short term, the sheer cost of new technologies such as AI may delay their wider adoption by the poorest nations and by small businesses. It won't take long however for the price to come down and for access to become more widely available, probably, in the first place at least, by default as part of new improved features added to cloud services and other software. Once established, AI has the potential to transform global value chains exponentially. At factory level, for example, it will offer predictive machines and self maintenance, end-to-end communication with companies along the supply chain and the ability to manufacture according to customer specification.

Enhanced automation

By 2050, end-to-end trade supply chain efficiency will be dramatically improved. Data and AI powered and self learning automation, advanced robotics, synthetic biology, 3D and 4D printing, transport and management systems will be commonplace. Indeed the shift is already happening in places you might not expect. For example, we were told of a plantation in Malaysia that no longer needs cheap agricultural labour. **“We're using drones and autonomous vehicles. Soon we will be hiring data scientists to do the harvesting. And all this will be controlled in a room 510 kilometres away”.**

Another benefit to be further unlocked over the next 25 years is the impact that new technologies have had on small or new businesses. **“Digital platforms in some ways can be very neutral and you can eliminate some of the bias or some of the problems that are inherent in a more traditional market or shop where you can see exactly who the seller is.”** The internet and the platforms that operate on it have therefore opened up an entrepreneurial opportunity and shop front for everyone, irrespective of gender, race or age.

Looking ahead digital entrepreneurship is expected to be a powerful avenue for women's inclusion in the digital economy with new business opportunities, efficiency gains and better access to markets and global value chains.



There are millions of women entrepreneurs, many of whom use or have established themselves digitally. For example I know of a Caribbean hairdresser who does tutorials on how to do African hair, and makes additional money by selling them to women that are from the UK to Africa.”

What about the workers?

How will new technologies impact workers? Alongside its effect on the growing levels of economic inequality and political polarisation, there are concerns about the broader impact of new technologies on skills, wages, and the nature of work itself.

History shows that rather than destroy jobs, technology is likely to reshape them. But, the transition is likely to be uneven. By 2050 there may well be increased investment in higher productivity and economic growth and the creation of new jobs in yet-to-exist industries. However, short-term, with jobless claims rising at record rates and the world economy shrinking, we heard concern about the impact any shift towards greater automation may have on workers, particularly for those on lower pay. By 2030, as many as 20 million additional manufacturing jobs worldwide could be displaced⁹. This at a time when the World Economic Forum has forecasted we need to create another 600 million jobs to sustain current living standards.



AI, tech, there's a big divide between progressive nations who have the means and resources to invest and other nations who don't. Arguably AI could actually exacerbate the digital divide."



Humans' role will be much different. I think we will be much more into our creativity, performing arts, sports, things that humans do because we want to remind each other of our relevance to one another."

It is not just low-skilled roles that will be changed. Characteristic of the new technologies is their capacity to augment and replace tasks within clerical and professional jobs. Intelligent systems will vastly improve the productivity of a range of office-based activities. For some this will reduce the boredom involved in menial and repetitive tasks and enable the use of new 'soft' skills, but others could find themselves in a precarious position as increasing parts of their role profiles are performed by algorithms and robots. The nature of work will require different skills.

The optimistic amongst us consider the prospect of a gentler, more relaxing future. The more pessimistic view was that alongside the lack of work technological innovations in other sectors, health care for example, could drive a further wedge between the haves and the have nots.

An alternative is that the impact of new technology on jobs has been overstated, and that since the global financial crash, any gains in productivity have been achieved largely as a result of intensified or flexibilised labour regimes and a significant growth in the service sector rather than technical investment. By 2050 this may not change.

The Climate and Biodiversity Crises



With environmental volatility will come more geopolitical volatility and this will create disruptive effects for trade.”

By 2050 climate change and biodiversity loss will certainly have impacted trade. Extreme weather will disrupt supply chains, and damage transport infrastructure. Rising sea levels and changes in the availability of fresh water will re-define where humans can live and where food can be grown. Biodiversity loss and the resultant reduction in ecosystem services will also have widespread impact¹⁰. Beyond further accelerating climate change, they will reduce the availability of freshwater, reduce and shift food production, change the availability of natural raw materials and further impact where humans can live (e.g. as a result of reduced flood defence, air quality, health and wellbeing).

These factors, together with the transition to a decarbonised economy, will shift the comparative advantage of nations and provide opportunity. For example, those most able to access and securely provide abundant and cheap nuclear and renewable energy are more likely to be the industrial hubs and transport nodes of the future. The same is true for those with access to the critical minerals required for no- or low-carbon energy and transport systems.

A race apart?

The degree and extent of climate change and the response to it by 2050 will ultimately be a political decision. The pace of change¹¹ by individual companies, sectors, cities, countries, regions and

trading blocs will likely differ. For example the EU is accelerating, laying out plans to cut greenhouse emissions by 90% by 2040; whereas China is aiming to reach net zero by 2060 and India by 2070.

The differences in timeline and approach will likely increase friction and divergence. Perhaps most obviously we were reminded that, *“there is distrust between the emerging and developed world, with the emerging world not willing to pay the price for the problem that had been created elsewhere.”* It is unclear whether or when a satisfactory agreement for reparations for ‘loss and damage’ will be achieved.

Trade policy will also impact significantly. *“Green Standards are emerging to protect consumers and also to prevent export of emissions or damage overseas. This could lead to fragmentation”.* Another made clear how this may also shift trade. *“The energy transition is going to drive the need to move to new fuels to reduce emissions. Some are imposing carbon taxes, and carbon emission indices may push some trade movement to less expensive jurisdictions, so we might find that businesses also relocate to different cheaper markets.”*

The result by 2050 may be a bifurcation of trade systems, a ‘green trade’ system supporting faster adaptation and mitigation from those who could afford it and a ‘red trade’ system for those unable to adapt or who choose to look the other way. Change cannot happen over night. In the meantime, *“New ships will go to where there is more stringent regulation and older ships will be left for where there is less legislation.”*



The current generation of vessels have a life span of 25 years, so unless you can modify them, the transition will take time.”

Risky business



A big challenge is climate induced mass migration.”

As many as 1.2 billion¹² people could be displaced by climate change by 2050. Mass migration will challenge trade as both borders and transport routes face being overwhelmed or disrupted by increasingly desperate migrants. Trade route security will require dramatic improvement. *“Climate change is a huge factor. In Bangladesh we will lose 17% of land by 2050¹³, creating huge internal displacement (an estimated 1 in 7 of the population) and economic uncertainty.”*

A consequence of this is that trading will become harder and more costly to insure, given the rise of both direct (e.g. hurricanes) and indirect threats (e.g. theft, war). Increasing volumes of trade may become uninsurable. Delivery dates may also become less predictable. *“The risk goes up, the level of insurance goes down. This has an impact on business and the growing economy.”*

Climate change will also impact the nature of what is traded, most obviously with hydrocarbons and their derivative products reducing and new trades in replacement materials (e.g. plant-based) and essential goods (e.g. water) increasing. It is very likely more food will be grown or produced closer to the point of consumption.

Adaptation and opportunity

“We can’t reverse, we can adapt - we need to find more sustainable ways of production, supply chains, transport, manufacturing.” At the very least existing trade infrastructure will need to be upgraded or replaced. For example, the world’s coasts host 15 of the world’s 20 megacities (population of >10m) and as a result 37%¹⁴ of the world’s population lives within 100km of a coastline. We were told that there

would be a *“Huge impact on both the sourcing of materials and the risk to facilities.”* As sea levels rise, ports and trade-hubs will be threatened and may have to be re-sited. Some are already taking pre-emptive action, such as Saudi Arabia’s Neom Oxagon¹⁵, a floating advanced manufacturing industrial centre which includes Port Neom¹⁶.

“Adaptation is key. In Bangladesh there will be more salinity on the land which makes farming impossible. So we will need more R&D, more salt tolerant seeds, more climate smart regenerative agriculture. New farming methods will need to be taught to farmers. The key will be learning to solve problems and acquire new skills.”

For some, climate change represents a potential opportunity. The ASEAN region is well placed to take advantage of this, *“We are sitting on around 35% of the global carbon sink.”* As a small group of nations it can implement policy faster than other trade blocs. ASEAN have already adopted a roadmap to ensure the region’s rich biological resources are sustainably managed using the ASEAN Comprehensive Recovery Framework (ACRF) and circularity as a part of the ASEAN Trade in Goods Agreement (ATIGA).

New trade routes may also emerge. Although old routes such as the existing Panama canal will potentially become untenable, the Northern Sea Route¹⁷, linking the US to Asia is, notwithstanding a prolonged military contest, expected to open. We will also see the development of new markets, for example ecosystem services.



In 2050, Brazil could export carbon as a service from Amazon forests. The implication here is that natural endowments may become a game changer.”

Dynamic response

In summary, climate change was viewed as certain, somewhat unpredictable and likely to add significant volatility to trade for decades to come.



“I think that we will be dealing with more environmental volatility, and therefore there will be continuous readjustment in transport modes and supply chain flows. We see bits and pieces of that today with the Panama Canal and so forth. But I would imagine that those kinds of volatilities will escalate quite significantly. Given this, one tends to believe that there’ll be more geopolitical volatility and that will represent disruptive effects that traders need to continuously adapt to. So I envisage an environment of dynamic adaptation and that the ability to navigate that dynamic adaptation will be a critical success factor.”



Challenges

Challenges

Across our varied discussions there were a number of issues that were often seen as common challenges. While the specific nuance may vary between different countries, they are all viewed as obstacles that need to be overcome to ensure a safe and secure trading environment.

Cost of Re-Industrialisation

As some countries and companies adjust their supply chains to become more resilient and to increase their national security, a great re-industrialisation will need to replace the lost manufacturing and other industries that were previously 'outsourced' to lower cost regions of the world. In part this is about building Industry 4.0.

However, the level of capital investment required is staggering. For example, according to McKinsey,¹⁹ in order to hit net zero for just energy and land use systems, the average annual spend until 2050 would be US\$9 trillion per annum, a 50% uplift on 2020 levels. This alone represents ~8% of GDP and would cumulatively total US\$275 trillion.



The next phase in the digitisation of the manufacturing sector will be driven by disruptive trends including the rise of data and connectivity, analytics, human-machine interaction, and improvements in robotics.”¹⁸

For wealthy countries (e.g UAE, Saudi Arabia) that are well positioned to grow a significant industrial base, this represents opportunity. For others, often already struggling to cope with significant levels of debt, the investment required may be difficult to reach or sustain. For those that do choose to re-industrialise, expect more incentives to increase protectionism and protect national interest by buying locally. As one president said, **“Made in X should be our motto”** as “we need to take back control of our supply chains, energy and innovation”.²⁰

Not everyone benefits

Globally there will be the additional cost of, in part, replicating the cumulative investment by firms already operating. Without an efficient global market it is expected that this will lead to raised prices. This potentially hurts the poor the most.²¹

Beyond increased prices there will also be loss of work in the places that arguably need it the most.



We are in the 4th industrial revolution. There will be more automation and this will impact countries like Bangladesh. The work previously outsourced to unskilled and semi-skilled workers will go away.”

One option might be for some economies, to bypass manufacturing and jump from traditional agricultural production to offering services instead. *“Now it is hard to shift from agriculture to manufacturing because the competition from China is so fierce. So, it’s possible that less developed countries will skip manufacturing and move straight to services.”* Not everyone was optimistic that this approach would work. *“Factories will go back to the West as there will no longer be a cost advantage to exporting that work.”*

Regardless, to succeed, governments must make long term commitments to education. The growing emphasis on knowledge and intangibles will favour countries with highly skilled labour forces, strong innovation capabilities, and robust intellectual property protections. Established economies are likely to hold an advantage here.

Even with education, not everyone will be able to change or change fast enough. *“I think there’ll be a lot of animosity towards industry as they rush to this automation that will displace people because some people will not have the upskilling time that they’ll need to be relevant.”*

Those who do choose to re-industrialise will find themselves in a very competitive space. As a result the pace of deployment, speed to scale, and cultural shifts required to be truly competitive will matter. As one ‘would be winner’ provocatively challenged: *What will China do if no one buys its goods?*

Going alone or together?

The US, with its Inflation Reduction Act, and China including through its belt and road initiative, are already set on a twin track of supply-chain security coupled with industrialisation. The White House is unabashed in its intent: *“To make the nation more resilient to growing threats... and to drive critical economic investments to historically underserved communities”*.²² Some contend there is an alternative or in part parallel path, forging new strategic alliances. This is where China has strength, especially in its relationships with Africa, Latin America and some near-neighbours.

Re-industrialisation and re-globalisation could go hand in hand. As one protagonist²³ puts it “We see a mix of on-shoring, near-shoring and complete reshuffling of supply chains and manufacturing capacity across the globe occurring at breakneck speed. For many of the world’s superpowers, this era of re-globalisation offers the first real opportunity of the last few decades to re-capture economic value, build sovereign production bases, and make meaningful capital investments for 2050 and beyond.”

All this will require more than money. For example policies to mobilise entrepreneurs, private and public markets and, as previously mentioned, the upskilling and reskilling of the workforce.

Benefits ahead

Proponents are clear on the benefits of re-industrialisation and embracing Industry 4.0. These span improvements to productivity, agility, sustainability, speed to market and customisation.

Others are already seeing the emergence of new substitute products, which inevitably will also shift trade flows.



There will likely be viable alternatives (e.g. fermentation or [food] oil that is produced in a lab and digitally printed.)

“Data’s liberalisation to a degree ran ahead of the public policy making and now the policy making machines are catching up. There are more restrictions on international transfer data, not just based on privacy, but also on national security reasons.” Countries with large populations data sets, China, India and the US for example, may not be overly affected by this but nations with small populations or shallow pockets may find their access to large data sets affected.

“The key players will be the data rich, not the richest. The amount and availability of data rather than the size of the country will define multinational treaties and data sovereignty for years to come”.

By 2050 it is hoped that the current disquiet about data ownership will have been resolved. In the short term, a concern about what some see as western determination to dominate the market place raised more questions than answers.



Dominant western companies, built by western engineers, reflecting western values and built on western data will be seen as either imperialist interlopers, irrelevant or inappropriate.”

Sharing data

AI and self learning systems will require huge data sets. Quantity matters here because machine learning needs to incorporate into future predictions as many possible past outcomes and data points as possible. This means that access to the long tails of data, less usual and irregular data, is key. Importantly, the development and use of AI builds on other digital technologies, such as cloud computing, big data, and the internet-of-things. Getting access will require organisations to share data across the supply chain. This perhaps will be the stumbling block. *“Technology innovation doesn’t mean that the data will flow. Trade barriers can have an effect”.*

Data localisation measures that restrict global data transfers will hit AI directly, by sharing less relevant data, and indirectly, by undercutting the building blocks on which AI is built. *“If data cannot cross borders, the digital economy cannot cross borders, and we will be poorer for it.”*

Limiting the Impact of Trade Wars

The escalating trade wars between the US and China have changed the global commercial landscape, disrupted supply chains - most noticeably, perhaps, in the technology sector, and caused significant economic uncertainty. This has hurt business and was universally a cause of concern amongst those we interviewed. *“The possibility of countries coming together to partner globally is reducing. Global trade will not be market determined. It will become “managed trade”, trade driven not by efficiency or specialisation but more by national security.”* And, *“The implications are for shorter movement of goods (e.g. smaller ships, more by road and rail), that the increased economic costs will be passed onto the consumer (which will slow GDP growth), less interaction of people and societies and global engagement; a multi polar world.”*

Perhaps the most significant consequence of this is the potential for a longer-term decoupling of China and the US, and the emergence of two (or four with India and the EU) rival and separate spheres of influence, in both trade and technology. Certainly no one we spoke to had any confidence that there would be a rapprochement any time soon. The conversations we heard therefore focused on how

to adapt to the new normal rather than to expect a return to the globalised economy of the 1980s. The challenge, even for 2050, is how to limit the impact of the current and future crises.

Possible solutions

Trade blocs and friendshoring

Establishing new trade blocs and friendshoring were seen as one option, *“Trading blocs will try to co-exist, but it will be in a random and ad hoc manner.”*



The more politics and trade go hand in hand the more trading blocs will emerge. Trade will be used as a weapon and trading blocs will try to co-exist, but it will be in a random and ad hoc manner.”



There’s a lot more deglobalization. A very strong focus on bifurcation of trade flows centred on very strong political positioning by some of the major global powers on how they think global trade and global supply chains should look like.”

Few believed that either China or the US would turn to established organisations to help find and co-ordinate solutions. *“What I don’t see being retained is the worldview of global trade. There was the belief that there needs to be a global body to help sort out the challenges. That conviction isn’t there any more. It’s simply much better to trade with friends rather than enemies. That is where you will see the world of sanctions becoming more punitive. The language of regulation will become more camouflaged but sanctions will be there.”*

Trade wars aside, few believed that the crisis would stem the flow of trade completely. *“If there are too many blocs there is a problem - but established blocs are manageable. We will just have more regional platforms. I see much more stability in Southeast Asia.”*

Technological innovation

Some felt that new technologies will soon reduce the impact of geopolitical manoeuvres. They hope that AI will come to the rescue, certainly for the logistics of future trading.

“

In a world 40 years from now, AI will have produced a model where we can get a factory in a box. Restructuring with nanotechnology could create a new unique scenario where we can take carbon and produce many types of materials that today we need to source from iron or metals or concrete. And I think communities will want to do that.”

Defending a liberal economy

Some we spoke to felt that business leaders have been lapse in their defence of global trade *“The power of the private sector to promote free trade is something that we need to reflect on, we need to ensure the institutional framework for world trade is keeping up with the times.”*

The primary concern for the smooth running of trade is the rule of law.

“

“You know you can build ports and infrastructure and all those other things, but you’re not going to build it unless you can guarantee that your investment is going to be protected.”

Others identified that resisting involvement in trade wars would be difficult for countries that don’t have a sufficiently robust domestic market, such as Indonesia. They also pointed to the effectiveness of Chinese trade strategy *“In Asia [smaller] countries are leaning more to China. China has provided investment, building roads, airports etc. China is helping with training and resources to manage [non trade] issues.....China can easily influence where the trade is going. There is a growing market there. One day they might say, “I have helped sort out your various issues, please send your produce to me and not Europe.”*

We have seen an unprecedented reduction in overall poverty over the last 50 years. This was due to a world wide shift towards a belief in market liberalisation and open borders. Although this has not come without cost, particularly to the climate, those we spoke to believed that it, it would be a mistake to change path. By 2050 new technologies combined with greater awareness and understating of the environmental challenge have the potential to transform the future of trade. *“The prospect of a wealthier, more equitable society is still within our grasp.”* It should galvanise the private sector and policy makers to protect the successes of the past and the open liberal philosophy which supported it.

Dealing with the polycrisis

It may well be that every generation feels bombarded by multiple challenges. It is certainly the case that those we interviewed felt under pressure. The “*existential threat*” of climate change, war, rising costs and complications due to trade barriers, growing inequality, resource constraints, not to mention the sheer speed (and cost) of technological change and its impact on the workforce are threatening to overwhelm business and policy makers alike. Individually they are reshaping how we do business. Collectively they look set to redefine what, where, how and with who we will trade with. Those we talked to expect a radical transformation of existing practises. If workable solutions are to be found it is clear that businesses and governments must collaborate. We do not have long to adapt.





Opportunities

Opportunities

Given the technological advances that many are expecting by 2050, those we spoke to were able to identify opportunity areas. We have highlighted three that have both broad impact and where collaborative work could be expected to be highly beneficial to all.

Better Trade for All

By 2050, we could have a more efficient, secure and effective trading environment. Dull as this sounds, it can be made possible by effective deployment of technology and enhanced collaboration around shared objectives. This has the potential to transform trade and therefore people's lives for the better.



Getting a favourable outcome for global trade will require closer collaboration among public, private sector and all involved in the trade ecosystem. Standardisation and digitisation are achievable outcomes if strong partnerships are built among all actors in the trade space, including policymakers.”

Anything, anywhere, all at once

“AI and robots will have more functions and strength than humans. Material sciences will allow you to create things out of new materials. You don't necessarily need to trade minerals and metals and things like that. And then you have things like new additive manufacturing, like 3D printing and so forth. If you integrate all that and in 25 years time we will be able to produce anything anywhere at any time at a very, very low cost.”

Frictionless borders and trading

There is no technical reason why secure and trusted end-to-end supply chain transparency, appropriate data sharing, enhanced security surveillance and digital taxes and payments cannot be in place by 2050. If this were true, many of the frustrations and frictions of today could be left in the past as goods and services flow more easily. Importantly, the nature of the trade agreements in place can be digitised therefore need not impact the rate of flow.

Initiatives such as TRACES²⁴ and organisations such as Flexport are already demonstrating the potential for cost reduction and efficiency improvement.



We will be able to digitise and remove every single piece of paper and reduce the timeline between the way trade is processed. While that may sound dull, if you look at the history of trade, that really is quite impressive.”

This has all sorts of implications. *“AI, distributed ledgers will mean there will be faster document clearance at borders, faster processing, creating a more trustworthy system for trade across borders.”* There are also benefits for governments. *“When we talk about tax we’ll be able to get pretty sophisticated assessments that can be done in real time based upon the actual compositional elements of objects and the distance that they travelled and the mode of transport and the carbon footprint of that transport.”*

Not everyone we spoke to believes full transparency and a fully frictionless supply chain process will be ready by 2050. It will certainly take time and effort. *“The global trade ecosystem has not yet standardised and unified the way traditional trade is executed digitally, despite many years of investment. Doing so will require a concerted effort of the whole ecosystem: buyers, sellers, carriers, financiers, insurers, and governments.”*

Edge-manufacturing

The ability to produce locally things that are today made a long way away can benefit local communities and reduce global harms. The old adage that ‘there is no need to send a biscuit from A to B, just a need to share the recipe’ will become increasingly real. Already 3D printing, IP-as-a-service, AI and robotics mean that far more can be created locally as required. In the same way as edge-computing has changed our notion of networks and devices, placing processing closer to the user, some wondered whether edge-manufacturing could grow in many instances to significantly replace current hub and spoke supply chains or supply webs.

Advanced manufacturing will also impact significantly. As Richard Baldwin²⁵ puts it *“3D-printing may or may not dominate the future of manufacturing. There is no doubt, however, that advanced manufacturing is reducing the number of intermediate parts. The reason is simple. Each machine in the factory can perform more tasks than before. That means that more tasks are bundled inside each factory. This reduces the shipments of intermediate goods among factories. Defragmentation, in other words, is a natural side-effect of automation.”*

Safer trade

There is a dark side to some of today’s trade. People die and workers are abused. The introduction over time of autonomous transport (on ocean, over land or in the air), robotics, better routing, risk management and enhanced security from distance can enable both safer and cheaper trade.

Taken together, the potential for reduced cost, increased efficiency, enhanced local livelihoods, less, and less damaging trade, including on the environment, is obvious. What may hamper the reality is the cost of implementation and the requirement for a very different, collaborative and collective mindset.

Less Waste

As both the global population and their average wealth increases, it is expected that we will consume more. Living on a finite planet, something has to give and so many foresee that waste will increasingly become a dirty word. This creates both challenge and opportunity, including for trade.

Waste not, want not - urban mining and the circular economy

Many we spoke to mentioned the increasing battle to access essential raw materials in general and in particular to access those that would become most critical for supporting an ever more technology hungry planet. Rare earth minerals, many of which are fundamental to both the energy transition and the digital economy are expected to be the most scarce. Securing supply, both in terms of access and strategic stockpiling will be important to both private sector companies and countries. As a result, by 2050, there will be many more urban mines.²⁶



“We will move to a more circular economy which will be a more local and more distributed economy. More things will get repaired and reused.”

Of course urban mining is only one example of the development by 2050 of many more closed loop or circular economy supply chains. In general terms these will help reduce dependency and increase local resilience. Expect expertise and capacity to show up strongly in strategic global and regional trade hubs, but over time to be distributed ever more locally.

Repurposing infrastructure

The repurposing of existing infrastructure presents another opportunity to avoid waste. For example by 2050, gas and oil pipelines will be used extensively for hydrogen and water transportation. In one estimate for hydrogen²⁷, the cost to repurpose gas pipelines

was expected to be just 10-35% of new construction costs. If successfully adopted this approach would mean that more than 50% of hydrogen pipelines globally will come from repurposed stock. In addition, 75%²⁸ of hydrogen is expected to be produced closer to its point of use with only 25% being traded internationally and of that only about half being shipped as ammonia. Saudi Arabia and the UAE are well positioned for this export market, serving both Europe and India²⁹.

Time

Many we spoke to recognised another area of waste that provided significant opportunity for progress, time. *“We need to realise that the scarce thing is time. We need to act.”*

In particular, emphasis was given to what would be critical global challenges. *“When it come down to fundamental challenges e.g. climate, digitalisation and regulating AI, there could be an agreement between major countries around major world issues.”*

Practically, and perhaps pragmatically too, the private sector was keen to move beyond existing mechanics and constraints. *“World trade must realise that too much time is taken in consultation. We must find the points where action is needed and then act, for example on climate and water.”* Or as another put it, *“There are some countries that can afford to wait until we arrive at consensus - there are others that can’t.”*

For a number, faster progress lay in identifying those opportunities where work across trading blocs was possible. *“Blocs will work together, but only on specific issues”.*

‘You can’t eat steel’

While not a new opportunity, some we spoke to saw that in a less hospitable planet there would be *“heightened awareness about food security and food waste with respect to trade.”*

The implication here is that what we eat and where it comes from will evolve significantly over time. One example is illustrative of both the opportunity and the potential impact on global trade. Locally produced protein from insect meal, both for human and animal consumption, shows the potential to not only increase resilience, reduce supply chain waste, but also to reduce cost, climate impact and biodiversity loss³⁰. Other insect ‘products’, such as insect lipids and insect residue, can be used as base ingredients for cosmetics, detergents and fertilisers.

Off-Planet

While humans have made use of the sun for thousands of years and satellites since 1958, our use of and interdependence with off-planet resources and services remain in their infancy.

New frontier, new alliances

The space economy is forecasted to reach c. US\$3 trillion by 2050³¹ a c.6-fold increase on 2022. This will be driven in particular by an expected 95% reduction in launch costs by 2040³² and desire for increased resilience in an uncertain world. As one interviewee told us: *“People are increasingly realising that 98% of the world’s internet traffic flows over submarine cables. There’s threats to those in the Red Sea right now. Low earth orbit infrastructure represents a resilience tool set.”*

As terrestrially, space will become a battleground for both strategic and trade power, with old orthodoxies being challenged. The old space powers (the US, Russia and China) will face increasing competition from wealthy and fast growing players such as France, India, the UAE, South Korea and Brazil. Alliances will inevitably form along familiar lines, such as today’s European Space Agency or NASA’s ties with Australia and Brazil. What is less clear is how these alliances will morph over time to reflect and interact with the emergence of a new geopolitics.



There’s this whole new environment of digital capability, which which will exist in orbit, which is under uncertain jurisdictional management today.”

The reality of a ‘cis-lunar’ econosphere

By 2050, the private sector will be a critically important part of the space ecosystem. This is expected to increase ‘convergence between the space economy and all other sectors of the wider economy, forging new links and interdependencies between industries and potentially, over the long-term, enabling the emergence of a fully integrated ‘cis-lunar (on this side of the moon) econosphere.’³³ Major use case clusters have been identified by RAND and include many that will directly or indirectly impact future trade (see Figure 3).

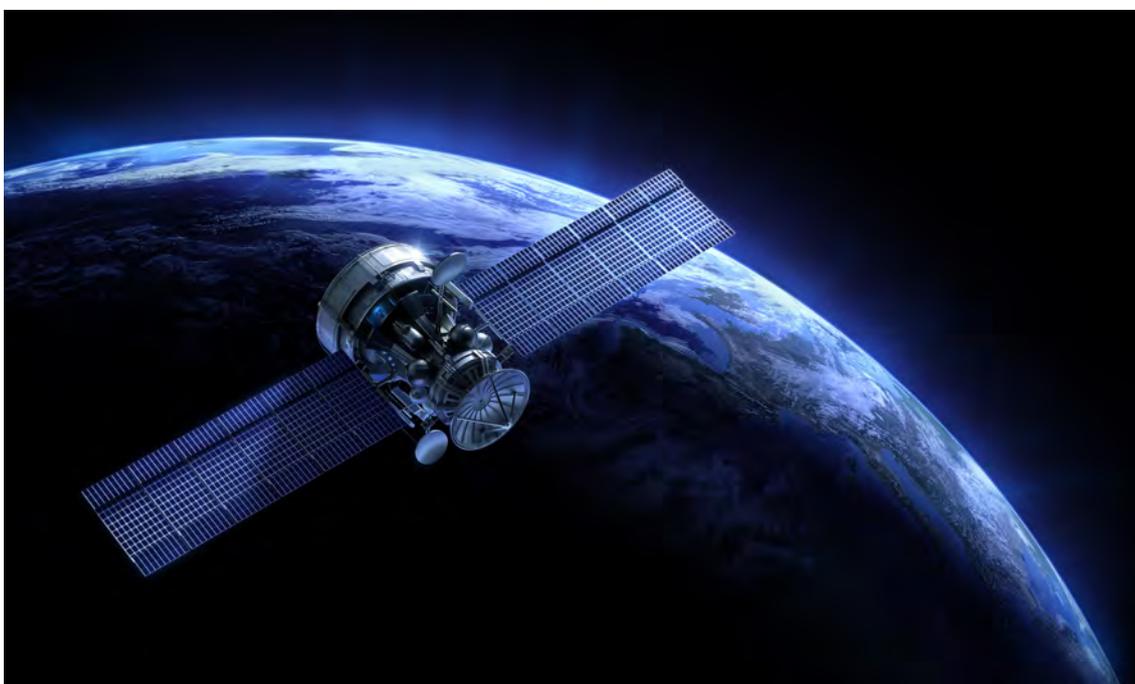


Figure 3: Summary of space use case clusters



Space trade

Beyond existing communications and aside from defence, two areas of space trade for 2050 stood out to those we interviewed.

The first was the further development of digital capacity and capability in space. Organisations such as Lonestar Data and Intuitive Machines already intend to bring secure data storage and edge compute processing services to the Moon.

The second was the potential for access to minerals through lunar, meteorite and comet mining. Activity such as this will require new trade hubs to be established, such as that envisioned by Ethos who will deliver lunar fuel and ground services for the starship economy.

Regulating space

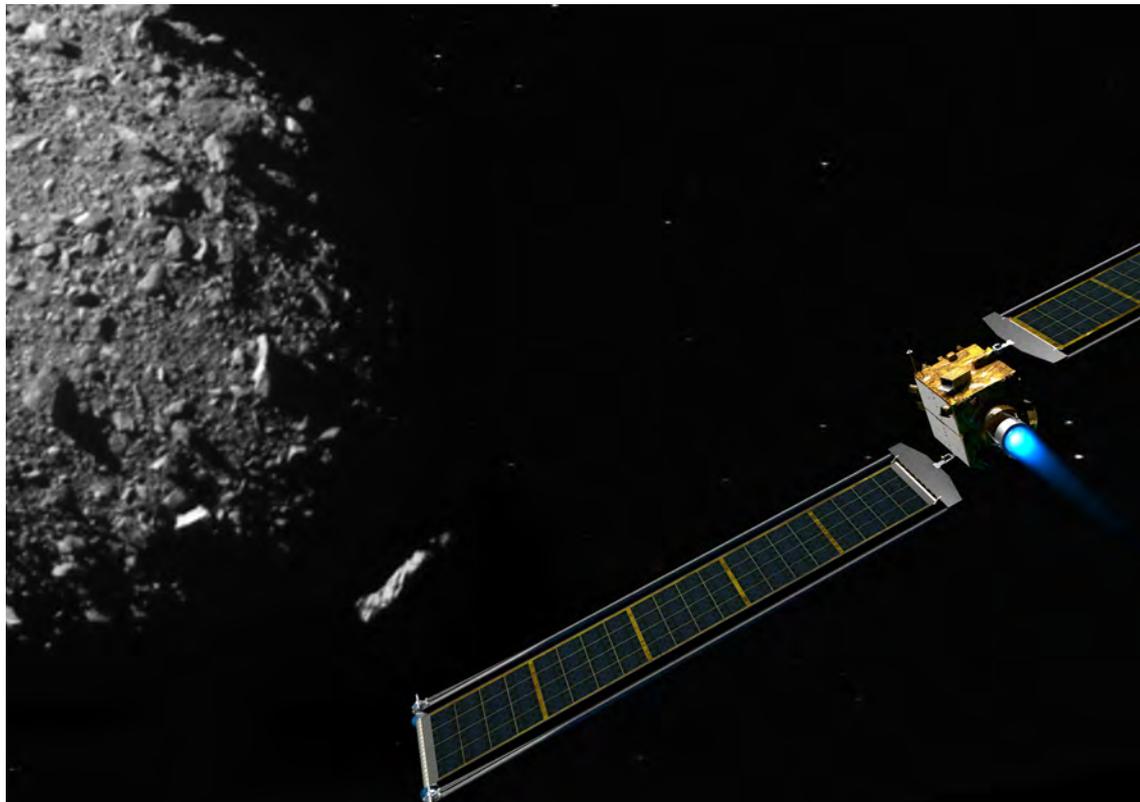
Given these developments and while there already exists a significant body of 'Space Law'³⁴, a number of those we spoke to were clear that significant progress would need to be made by 2050 on both the jurisdiction of space and the need for further regulation of activity and trade.

"What you've seen is low Earth orbit satellites, Starlink and so forth, which will only increase in density. So the amount of communication and compute capability that we have in orbits is going to dramatically accelerate. And what's fascinating is that's sitting in a non jurisdictional zone."

"I don't think that the corporate interests are going to give up control too easily. I think it'll become a sort of transnational corporate battle zone."

“

People are looking at the moon, as the base from which obviously to do large Mars exploration and so on, but less spoken about is utilising the moon as a base for asteroid mining."





Early Conclusions

Early Conclusions

Given these expected changes, who will be the relative ‘winners’ and ‘losers’? Almost all of those we interviewed were unequivocal that the major winners would be those larger emerging markets, India, Indonesia/ASEAN and Brazil - and most likely regional winners in Africa (e.g. Nigeria, Kenya, Rwanda, Uganda).

These were viewed as counties that would benefit from their younger demographic advantage, development potential, rate of GDP growth, mineral assets and their relative importance to trade bloc(s). One other group was cited, those with deep pockets today who are already building toward a longer term view of national economic growth and competitiveness. These include the US, with its re-industrialisation, and the UAE, Saudi Arabia and Singapore who are well positioned to benefit as ‘bridge countries’ as well as quickly create attractive ecosystems for investment. The ASEAN region expect to benefit not only from its youthful population but also from its ‘carbon sink’. For the Middle East a further benefit was mentioned, the ability to access abundant renewable energy and therefore further benefit from newly built and leading edge manufacturing and distribution.

“In terms of demography the ASEAN region has a young population and by 2050 we are aiming to be upper income economies. We are hoping that we will not just be export driven economies but also consumption economies.”



There’s a big divide between progressive nations who have the means and resources to invest and modernise the infrastructure and other nations who don’t, that are really left behind. AI could further exacerbate the divide.”

Turning to relative losers, Europe as a trading bloc was seen by many to be in long-term relative decline by 2050. The primary reasons for this were threefold: a struggle to identify a consensus forward direction; an ageing population; and, coping with the challenges of climate induced mass-migration from Africa.

Disappointingly, the poorest, either as nations or in society, and those with least access to technology were expected to fall further behind.

“The headline is, it could be a world of the haves and have-nots.”

Whilst opinion was divided, a number of contributors were clear that the US Dollar’s position as the global reserve currency would wane, driven both by a relative decline in the US share of global trade and the rising importance of regional trading blocs and uni- or multi-lateral deals. While the dollar was not expected to be replaced by 2050, many thought we would be living in a multi-polar reserve world, with potential alternatives including the Renminbi if freely convertible or a ‘new’ multi-central bank supported digital currency.

Questions to Consider

We have suggested some questions that may be useful to initiate further debate.

For Governments and Regulators:

- What is the nature and construct of the institutions and underpinning legal and regulatory frameworks required to assist with the pace of change and extent of transition that will take place over the next 25 years to ensure efficient and effective trade both on and off-planet?
- When is it necessary for data to flow across national boundaries? What different rules should be applied to different types of data (eg personal, non personal) and different circumstances and use cases?
- How best to include and balance the perspectives of non-Governmental stakeholders, including those that otherwise risk being left behind, in the evolution of trade over the coming decades?
- How, and on what, might we seek to ensure that trading blocs collaborate to maximise the benefits and efficiencies of trade for all (e.g. common border protocols, space) including on the critical global issues of our time (e.g. climate change)?

For Businesses and Society

- How can businesses, Governments and society best work together to develop more resilient and efficient trade?
- Where should businesses be allowed to collaborate and where should they compete?
- As the balance of trade continues to move from tangible to intangible, how might we ensure the benefits are shared and the creators get rewarded? (e.g. knowledge, education, entertainment, creativity)

Furthering the Conversation

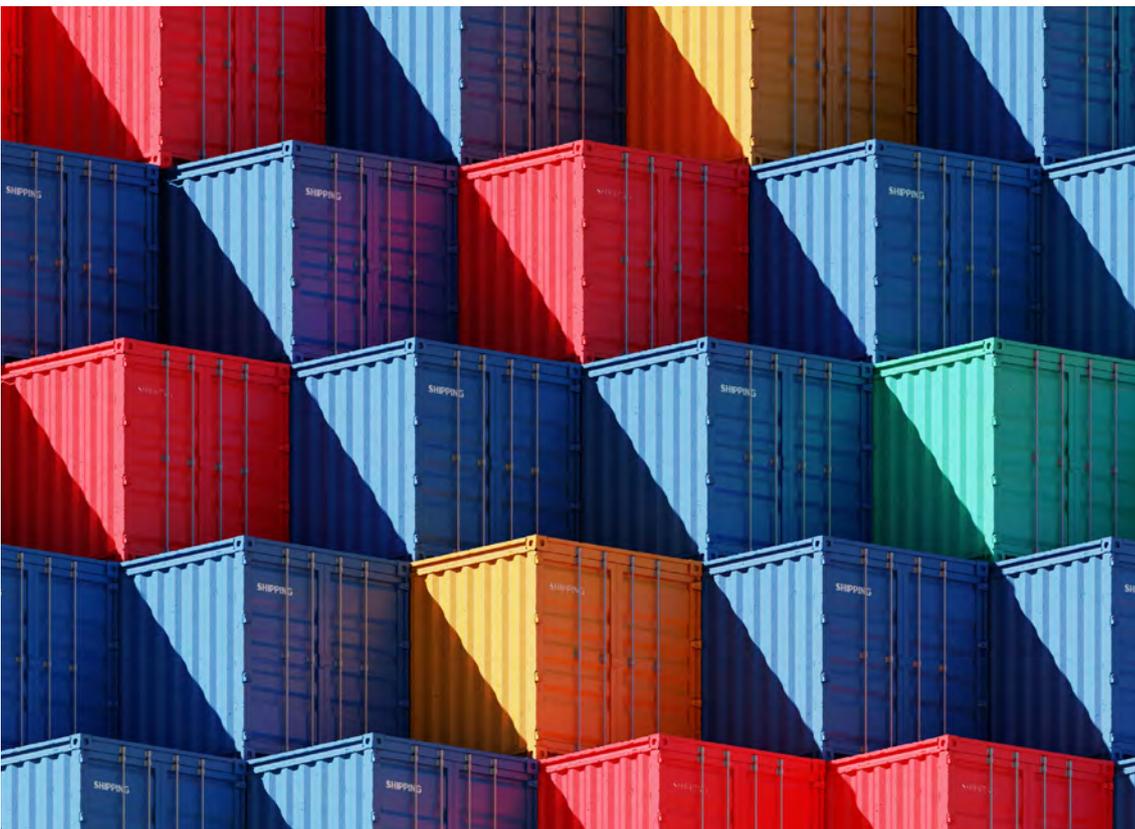
Our hope is that this short report, represents the start of a conversation.

It has been written as a perspective from the private sector. It is intended as a provocation both in terms of the content contained and, no doubt, in what you see as glaringly 'missing'. There is arguably a clear need to broaden and deepen this work. However, what is already abundantly clear is that the shape and nature of trade in 2050 will be markedly different to that today.

Identifying, exploring and understanding the likely shifts and their implications will help us all better anticipate and prepare for the future we will inhabit. Doing so is perhaps a critical first step in our responsibility to help shape and create the future of trade we desire.

If you are interested in furthering the conversation please contact:

barkha.shah@economy.ae



References

- 1 [Future Agenda](#)
- 2 [Gascon Berger](#)
- 3 [OECD, UK Government toolkit, Wikipedia](#)
- 4 [UN World Population Prospects 2022](#)
- 5 [Economist - Global Maritime Trends 2050, PWC - The World in 2050](#)
- 6 [BBC - Wagner in Africa](#)
- 7 [McKinsey - The future of trade and value chains](#)
- 8 [National Bureau of Economic Research: Globalisation and Automation of the Service Sector](#)
- 9 <https://www.futureagenda.org/the-future-of-work-employability-and-digital-skills/>
- 10 [The Guardian - A Biodiversity Catastrophe - how the world could look in 2050 unless we act now](#)
- 11 [Net Zero Stocktake 2023](#)
- 12 [World Economic Forum / IEP](#)
- 13 https://www.bcas.net/article-full-desc.php?article_id=11
- 14 [UNEP - Coastal Zone Management](#)
- 15 <https://www.neom.com/en-us/regions/oxagon>
- 16 [NGulf, 2023](#)
- 17 [The Harvard International Review: Russia's Northern Sea Route will have to await](#)
- 18 [McKinsey - What are industry 4.0 the fourth industrial revolution and 4ir?](#)
- 19 [McKinsey - The net zero transition, 2022](#)
- 20 [The Spectator](#)
- 21 [The Economist - The destructive new logic that threatens globalisation](#)
- 22 [Eurointelligence](#)
- 23 [Prince Ghosh, Forbes](#)
- 24 [The European Commission's Trade Control and Expert System](#)
- 25 [National Bureau of Economic Research: Globalisation and Automation of the Service Sector](#)
- 26 [Climate Foresight EU - from waste to Resource: the rise of urban mining](#)
- 27 [DNV - Repurposing onshore pipelines for hydrogen](#)
- 28 [International Renewable Energy Agency \(Irena\) - Global hydrogen trade outlook for 2050](#)
- 29 [DMCC - The Future of Trade - special energy edition](#)
- 30 [World Economic Forum - 5 reasons why eating insects could reduce climate change](#)
- 31 [The United Nations in the age of space entrepreneurship](#)
- 32 [Citi - Space, Dawn of a New Era](#)
- 33 [RAND - Future uses of space out to 2050](#)
- 34 [UN Office for Outer Space Affairs](#)

Acknowledgements

We would like to thank the following experts for generously giving their time, knowledge and intellect to assist in the preparation of this report. Together they are from 4 continents, 14 countries and 17 sectors. 60% of those spoken to are from the Global South.

Leila Afas - Director, Global Public Policy, Toyota

Dr Shariman Alwani - COO, Sime Darby Oils

Aonymous - Managing Director, Specialist metals and minerals trading company

Greg Bernstein - General Partner, Acequia Capital

Roy Cummins - CEO, RAK Ports

Tim Haas - COO, Transportation, Maritime and Logistics, Gulfainer

Ahmed Ismail - Group CEO, Majid Al Futtaim

Professor Beata Javorcik - Chief Economist, European Bank for Reconstruction and Development

Dato Sivakumar Krishnan - Founder, HTN Berhad

Wolfgang Lehmacher - Operating Partner, Anchor Group

Sam Lowe - Partner, Trade and Market Access, Flint Global

John Manners Bell - Founder & CEO, Foundation for Future Supply Chain

Stephen Moss - Group MD & Regional CEO MENA & Türkiye, HSBC

Niall Murphy - Entrepreneur; Advisory Board Member, Lonestar Data Holdings (Intuitive Machines mission)

Sami Naffakh - Chief Supply Chain Officer, Reckitt

Penny Nass - Ex-President, International Affairs and Sustainability, UPS

Professor Benedict Oramah - President and Chairman, African Export Import Bank

Dr Amitendu Palit - Lead for Trade & Economics, NUS, Institute of South Asian Studies

Asif Saleh - CEO, BRAC

Lisa Schroeter - Global Director of Trade & Investment Policy, Dow

Dato' TS. Dr. Shanmuganathan Palanisamy - CEO, Kontron Malaysia

Marcus Shingles - Founder, Exponential Destiny & CIO, MultiCORE International

H.E. Satvinder Singh - Deputy Secretary-General, ASEAN for ASEAN Economic Community

Dr Suraya Sulaiman - Innovation Provocateur, Alpha Catalyst

* Arranged alphabetically



About Crescent Enterprises



Crescent Enterprises is a leading multinational company, growing diversified global businesses that are sustainable, scalable, and profitable.

Headquartered in the United Arab Emirates, with business operations in 15 countries, it operates under four enterprise platforms:

- **CE-Operates**, an operating business platform, focusing on smart infrastructure as the main driver of economic development and growth.
- **CE-Invests**, a strategic investment platform investing in late-stage businesses and private equity funds.
- **CE-Ventures**, a corporate venture capital platform targeting early-stage technology-enabled high-growth businesses and venture capital funds globally.
- **CE-Creates**, an internal business incubator, building start-ups that are socially and environmentally conscious.

Crescent Enterprises operates with a value system and culture that embraces corporate governance, inclusive growth, and responsible business practices.

 <http://www.crescententerprises.com>

 [LinkedIn.com/company/crescent-enterprises](https://www.linkedin.com/company/crescent-enterprises)

 [Twitter.com/CrescentEnterp](https://twitter.com/CrescentEnterp)

About Gulftainer



Gulftainer is a leading operator of ports and terminals and a provider of customised supply chain and logistics solutions, headquartered in Sharjah, UAE.

Since its inception in 1976, the company was the first to operate a container terminal in the Middle East, which is Sharjah Container Terminal.

Over the past 50 years, it has taken great strides in expanding on its tailored trade solutions to customers by keeping them at the heart of its business and became a trusted supply chain enabler in niche markets.

Today, Gulftainer's portfolio encompasses managing container terminals in the UAE (Sharjah Container Terminal and Khorfakkan Container Terminal), KSA (Jubail Commercial Port and Jubail Industrial Port), Iraq (Iraq Container Terminal and Umm Qasr Logistics Centre) and USA (Canaveral Cargo Terminal), along with freight forwarding, supply chain operations and logistics through its subsidiaries, Momentum Logistics and Avalon Transport.

 <https://www.gulftainer.com/>

 [Linkedin.com/company/gulftainer/](https://www.linkedin.com/company/gulftainer/)

 [Twitter.com/Gulftainer](https://twitter.com/Gulftainer)



About Future Agenda

Future Agenda is an open source think tank and advisory firm. We help organisations, large and small, to explore emerging opportunities, identify new growth platforms and develop game-changing innovations. Founded in 2010, Future Agenda has pioneered an open foresight approach that brings together senior leaders across business, academia, NFP and government. The aim is to connect the informed and influential, to challenge assumptions and build a more comprehensive view about the future that will help deliver positive, lasting impact.

For more information and to have access to all our insights, please visit www.futureagenda.org

Contact:

Caroline Dewing

caroline.dewing@futureagenda.org

James Alexander

james.alexander@futureagenda.org