



REGIONAL PERSPECTIVES REPORT ON THE INDO-PACIFIC

STRATEGIC FORESIGHT ANALYSIS





I am pleased to present the Strategic Foresight Perspectives Report on the Indo-Pacific. It is designed to inform strategic discussions within the Alliance on the region and to support Allied Command Transformation's future work. This report arrives at a critical juncture, as the Indo-Pacific becomes increasingly important for the security and defence policy of many Alliance nations, particularly as our security environment undergoes decisive changes in the shadow of the war in Ukraine.

The rise of China has consequences far beyond the Indo-Pacific region, including for the security of Allies and our Partners. The NATO Strategic Concept adopted by Heads of States and Governments at the Madrid Summit in June 2022 takes into account China in its description of the strategic environment. In particular, the Strategic Concept expresses that "The People's Republic of China's (PRC) stated ambitions and coercive policies challenge our interests, security and values". The challenges posed by China

to Euro-Atlantic security will remain a matter of attention for Allies and Partners going forward.

At the same time, the Indo-Pacific region is much more than just China. Emerging trends throughout political, human, technological, economic and environmental themes, as well as their military implications, will continue to shape the present and the future of this vast area. The entire region is likely to become an increasingly competitive space in terms of sovereign territory claims, resource exploitation, infrastructure development and unfettered access. Hence, the Alliance needs to improve its understanding of the entire region in terms of China's strategic and economic influence therein, and the various dynamics at play. Emerging challenges, such as cyber and hybrid threats, emerging and disruptive technologies, and the security implications of climate change, also demand adaptation and will require even greater transatlantic cooperation.

This is where ACT's Strategic Foresight line of work seeks to add most value by informing the Alliance's future considerations on the long-term security environment. Therefore, this Perspectives Report supports the need for NATO to increase its awareness of the region, consider the Indo-Pacific within the Warfare Development Agenda, and include it as a topic of interest in the Chiefs of Defence Conversations.

Besides covering the five political, human, technological, economic and environment themes within the Indo-Pacific region, this Perspectives Report examines three theoretical scenarios to stimulate our reflection. It also contains an executive summary and a table of trends and implications to enable a rapid review of the main ideas.

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"The rise of China has consequences far beyond the Indo-Pacific region, including for the security of Allies and our Partners."



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NATO UNCLASSIFIED - PUBLICLY DISCLOSED

1. The Indo-Pacific has been emerging for decades firstly through its population, secondly its economy and currently due to its military and geopolitical ambitions. The concept of Indo-Pacific, born in the early 2000s, refers to commonality in interests and issues between the two oceans and their associated countries. Even if the definition differs from one country to another, it comprises the most sensitive region in the world where its stability or instability will affect the Western countries, becoming an area of significant strategic interest for NATO.

2. Politically, the Indo-Pacific landscape is likely to convert into a predominant Chinese attempt to federate or potentially constrain split countries through economic, diplomatic, cultural and military levers putting at risk the rule of law, international order, democratic values, maritime freedom, sovereignty and territorial integrity. Several regional organizations directly or indirectly led or supported by the US could stand firm to counter Chinese soft and hard power, shaping multiple scenarios of geopolitical tension(s), and even direct confrontation(s). In the meantime, revisionist countries aim to increase their regional influence by supporting low-income nations. Added to these Eastern “rimland” evolutions, deep “heartland” dynamics will also put at risk the regional stability: frozen border conflicts; resource access; minorities’ issues in Pakistan, India, China; all of which that could severely disturb the area and

indirectly the Western countries, as supply roads, among them the Belt and Road Initiative, across Central Asia countries. The multiplication of institutional and non-governmental organizations, multilateral agreements and partnerships will shape a complex political landscape. In this context, the possible invasion of Taiwan and the positioning of an emerging India can be identified as main game changers.

3. Concerning demography, considerable evolutions will occur. On one hand, wealthier countries, including China, will continue to grow older while reaching a plateau or even begin a slow decrease in its population. On the other hand, developing countries will continue to see their populations grow. As a result, migration phenomena are likely to amplify with the two great dominant religions (Hinduism and Islam). Terrorism, conventional confrontations, increasing minorities’ persecutions and displacements could become increasingly possible. The slow, but substantial, improvement of health systems and education in the poorest countries will create new opportunities for economic development that could increase the Chinese grip. Finally, food security and energy supplies will be at stake as the region will represent more than one third of the global population. Young countries versus old countries raise the question of army conscripts, especially for China with a specific gender imbalance. Pakistan appears as one of the most sensitive countries,

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as it combines most of all aspects of these new demographic trends (youth, increase, religion).

4. Economic figures speak by themselves, two thirds of the global wealth will be concentrated in the Indo-Pacific region within the next decades, which means that Western interests will dramatically increase. Maritime freedom and supply chain security will continue to be the main considerations of Asian and Western countries. Except in case of global strategic shocks, China is likely to extend its economic domination in the area and further abroad. Relying on its partnership with Russia, this economic domination could include the development of exchanges in Renminbi, trying to challenge the Dollar. In terms of energy supply, a Russian shift to the East will dramatically reset supply roads. Depending on its penetration in various Western firms and universities, China may continue to fill its technological gap and increase its competitiveness, with the support of its internal and regional markets. Despite its internal fragilities, no credible scenario can put into question Chinese economic domination in the area. However, the Indo-Pacific holds opportunities for future multilateral cooperation as well. The growing economic interdependence will offer more pathways every day for cooperation on issues such as commercialization and technological progress. Thus, the economic importance of regional players will provide an opportunity to facilitate dialogue across traditional regional influences from Australia, Singapore and Japan. Taken together, this confluence of emerging actors is generating a new economic and political trajectory, while creating uncertain complexity as states, international and multilateral organizations fuel both regional and global competition.

5. More than any other region, the Indo-Pacific Area will be shaped by technological innovations and Emerging and Disruptive Technologies for both civil and military purposes. Concerning civil use robots, 5G, space, quantum will constantly develop creating increased investment opportunities but significant risk of fierce competition. The issue of compatibility of Networks between a hyper-connected region and the rest of the world could be at stake if any technological gap should appear. Technological innovations could also serve military purposes with on one hand dual technologies (Quantum, nanotech, Cyber, etc.) and on the other hand specific military capabilities (hypersonic missiles, nuclear). Space may become the most contested (deregulated) domain, as China and India invest significantly, with the growing support of the Russian expertise. Its dual use and the appearing of the private actors will challenge Western capabilities. More generally, the needs for energy will require more and more nuclear power plants while microchips trade will also increase dramatically, confirming Taiwan as a strategic territory.

6. The increasing militarization of the area is

obviously the main concern for the Alliance, because it makes direct confrontation with dramatic economic and geopolitical consequences possible. Maritime capabilities are likely to continue to grow, especially for China, putting at risk freedom of navigation. The militarization of disputed islands, nuclear proliferation (India, Pakistan, DPRK, China and multiple countries likely to break through the nuclear threshold), the use of Cyber, Space and cognitive warfare will create increased possibilities for tension, escalation, and even direct or indirect conflict. Before that, the increasing number of defense partnerships and the constant rising of defense budget will convert the Indo-Pacific into the most militarized area of the world.

7. Finally, more than other regions, the Indo-Pacific will face environment and resource challenges. On one hand, the growing population, concentrating on urban areas and on the coastline will be increasingly vulnerable to natural or human catastrophes. These will range from tsunamis to industrial accidents, from massive earthquakes to severe droughts and major flooding events. On the other hand, human pollution and global warming will compromise resources, fishing, and crops, at unprecedented stress levels and could create further tensions. In this context, supporting urban resilience in the region will become vital.

8. All these likely trends will shape a very contested and sensitive area in which any unilateral transgressions of the rules based international order and other unexpected events will have dramatic domino effects all over the world. For the Alliance, military implications could be to:

- Keep the cognitive superiority by following, analyzing, and anticipating any acceleration or changing of trends;
- Keep the technological gap developing innovative and disruptive capabilities;
- Take into consideration any territory and interests of Allied Nations, possibly vulnerable to non-friendly actions (cyber, cultural penetration and intellectual resources plundering) in and abroad the region;
- Develop crisis management capabilities to help the area facing natural or human disasters, terrorism or any humanitarian crises, especially on urban areas, in cooperation with the UN, including China;
- Develop and strengthen partnerships based on shared values and like-mindedness with Indo-Pacific countries (e.g. military training and equipment).



GLOSSARY OF INDO-PACIFIC ABBREVIATIONS

3GPP	3rd Generation Partnership Project
A2/AD	Anti-Access/Area Denial
ADIZ	Air Defense Identification Zone
AI	Artificial Intelligence
ASAT	Anti-Satellite
ASEAN	Association of Southeast Asian Nations
AUKUS	Australia, UK, US
BRI	Belt and Road Initiative
BRICS	Brasil, Russia, India, China and South Africa
CCP	Chinese Communist Party
CFE	Conventional Forces in Europe Treaty
COP26	The 26th UN Climate Change Conference in Glasgow
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
DSR	Digital Silk Road
EDT	Emerging Disruptive Technologies
EEZ	Economic Exclusion Zone
FOIP	Free and Open Indo-Pacific
GDP	Gross Domestic Product
HADR	Humanitarian Assistance and Disaster Response
ICRC	International Committee of the Red Cross
INF	Intermediate-Range Nuclear Forces Treaty
IPCC	UN Intergovernmental Panel on Climate Change
IPEF	Indo-Pacific Economic Framework
IPP	Indo-Pacific Partnership
ISRU	In-Situ Resource Utilization
LAWS	Lethal Autonomous Weapons Systems
LEO	Low-Earth Orbit
LOAC	Laws of Armed Conflict

MOU	Memorandum of Understanding
MSR	Maritime Silk Road
NDS	U.S. National Defense Strategy
NGO	Non-Governmental Organization
NPT	Nuclear Non-Proliferation Treaty
NWCC	NATO Warfighting Capstone Concept
OIC	Organization of Islamic Cooperation
OPEC	Organization of the Petroleum Exporting Countries
PAP	People's Armed Police (PRC)
PEACE	Pakistan East Africa Cable Express
PLA	People's Liberation Army (PRC)
PSR	Polar Silk Road
QIS	Quantum Information Science
QUAD	Quadrilateral Security Dialogue
R&D	Research and Development
RAN	Radio Access Network
RCEP	Regional Comprehensive Economic Partnership
RPR	Regional Perspectives Report
SCO	Shanghai Cooperation Organization
SCS	South China Sea
SFA	Strategic Foresight Analysis
SIPRI	Stockholm International Peace Research Institute
SLOC	Sea Lines of Communication
SME	Subject Matter Expert
SSC	South-South Cooperation
TPP	Trans-Pacific Partnership
USMCA	USA, Mexico, Canada

INTRODUCTION

“China’s ambitions to revise this international order, paired with the experience of the COVID-19 pandemic, increasing use of power politics, emerging changes within economics, and the climate-related security implications mark a shift in the Rules Based International Order.”

AIM

1. The aim of the Strategic Foresight (SF) Regional Perspectives Report (RPR) on the ‘Indo-Pacific’ is to identify regional trends and implications for the Alliance and provide possible scenarios out to 2040 and beyond. This report supports decision-making by providing a common starting point from which to examine the consequences of change in the Indo-Pacific for Allied policies and future Alliance operations, in terms of both challenges and opportunities. This RPR will also inform the next NATO Warfighting Capstone Concept (NWCC), as well as SF cycle and other studies/reports that require a long-term perspective of the future security environment of the Indo-Pacific region.

BACKGROUND

2. The SF cycle provides the Alliance with a long-term shared analysis of the future through a global 20-year horizon lens. Similar to previous SF RPR on North Africa and Sahel, Russia, and the Arctic, the SF RPR on the Indo-Pacific will be a focused foresight analysis of this particular region. SF RPR does not attempt to predict the future, for the future is neither predictable nor predetermined, but provides an insight of what the future security environment might look like to inform defence planners and decision makers.

3. Over the past decade, the geostrategic landscape in the region has evolved with tests

of the Rules Based International Order. China’s ambitions to revise this international order, paired with the experience of the COVID-19 pandemic, increasing use of power politics, emerging changes within economics, and the climate-related security implications mark a shift in the Rules Based International Order. These dynamics may well accelerate because of Russia’s ongoing war of aggression against Ukraine. Such drivers call for a future-oriented security analysis in the political, human, technology, economics/resources, and environment spheres, in the spirit of the Washington Treaty,¹ which precipitated that “Allies can provide any form of assistance they deem necessary to respond to a situation.” Foresight is required to develop a shared understanding of the future, and SF work serves an instrument to inform NATO members and partners to enhance their situational awareness in a collaborate effort.

4. Trend analysis and the resultant defence and security implications allow NATO to determine how the Alliance could accomplish several key objectives. The collective effort aims to provide a unifying vision for different plausible futures so that the Alliance may adapt and transform to fulfil its core tasks dictated in its new Strategic Concept (Deterrence and Defence, Crisis Prevention and Management, and Cooperative Security)², address a full range of security challenges, and advance a conceptual framework for forces and abilities required to be successful beyond the mid-term planning horizon. These actions will also allow NATO to address a recognized set of

security challenges and provide the means to deter and defend, and serve to protect common values. The approach to developing this SF RPR consisted of a series of engagements analysing subject matter experts' themes through webinar participation with over 100 attendees.

SCOPE

5. The SF RPR on the Indo-Pacific utilizes a similar structure to previous SF RPRs, analysing trends and implications in the framework of five themes: Political, Human, Technology, Economics/Resources, and Environment, while also addressing military implications within all themes. The definitions of these themes are as follows:

a. Political. Trends and implications related to governance, the relationships between governments and the people they govern, political stability, the roles and functions of governments, the impact of ideologies on politics and governance, and the roles of key political actors at national and regional levels.

b. Human. Trends and implications related to societies, their interactions, relevant norms, patterns, values, and demographic dynamics.

c. Technology. Trends and implications related to technological advancements, accessibility, emerging impacts, and the key role of relevant actors in the region.

d. Economics/Resources. Trends and implications related to the significant aspects of national and regional economies including economic growth, employment, poverty, the role of formal versus informal economies, the engines of economic growth, the key players, and the major natural and/or human resources that fuel national and/or regional economies.

e. Environment. Trends and implications related to significant aspects of the local and regional climates, weather patterns, and the impacts of climate change.

6. In addition to these five themes, three plausible scenarios were explored to help envision possible futures of the region.

TERMINOLOGY

7. This SF RPR is an integrated part of the previous Strategic Foresight Analysis (SFA) process. It will use the same SFA terminology, with the only difference being in the definition of "implication."

8. For the purpose of this study, themes, trends, and implications are defined as:

a. Theme. A collection of similar or related trends.

b. Trend. A discernible pattern or a specified direction of change. Within this document, each chapter is broken down into identified trends.

c. Implication. The impact of one or more trends on the trajectory of Indo-Pacific nations, the bearing on sovereignty and security, the influence and the interests of non-Indo-Pacific states, and how these may affect the governance and security of the increasingly contested SCS. In turn, this SF RPR examines second and third order effects to inform NATO of the potential future security implications.

THE INDO-PACIFIC REGION

Divergent Geographical Interpretations

9. The geographical scope of the Indo-Pacific region depicted in the figure presented on the next page provides evidence for divergent interpretations, which may not be representative of every nation's perspective. This representation of the region and any related maps or illustrations provided within this report are for the sole purpose of serving as a visual aid for the reader.

10. This report does not focus on all possible countries, nor does it discuss in detail bilateral relations between nations. Such particular areas require separate and more in-depth analysis. This RPR strives to cover the most influential actors in the region, critical to a sustainable security architecture. Yet it will look at challenges emanating from relevant regional areas that could affect international policies and thus future concerns of the Alliance members and partners.

11. Of all the regions of our globe, the Indo-Pacific region is the most populated and has the potential to become the world's richest and most developed area in the next 20 years.

12. The global political and economic axis has been moving from the West to the East towards the Indo-Pacific region over the last four decades. While the term Indo-Pacific as a meta geographical concept is perceived in different context by different actors,³ the region has been recognized as the world's 'centre of gravity.'^{4,5} Nine of the world's busiest seaports are in the region, and 60 percent of global maritime trade transits through Asia, with roughly one-third of global shipping passing through the SCS alone.⁶ Additionally, this region is the home to China, a great power that continues to grow. Policy decisions by Beijing will be key factors in shaping the security perspectives of the region. However, China is not the hegemon of the region. It is only one very important part of the complex and interrelated web of factors, which are forming the future of this region and eventually, that of the Globe.



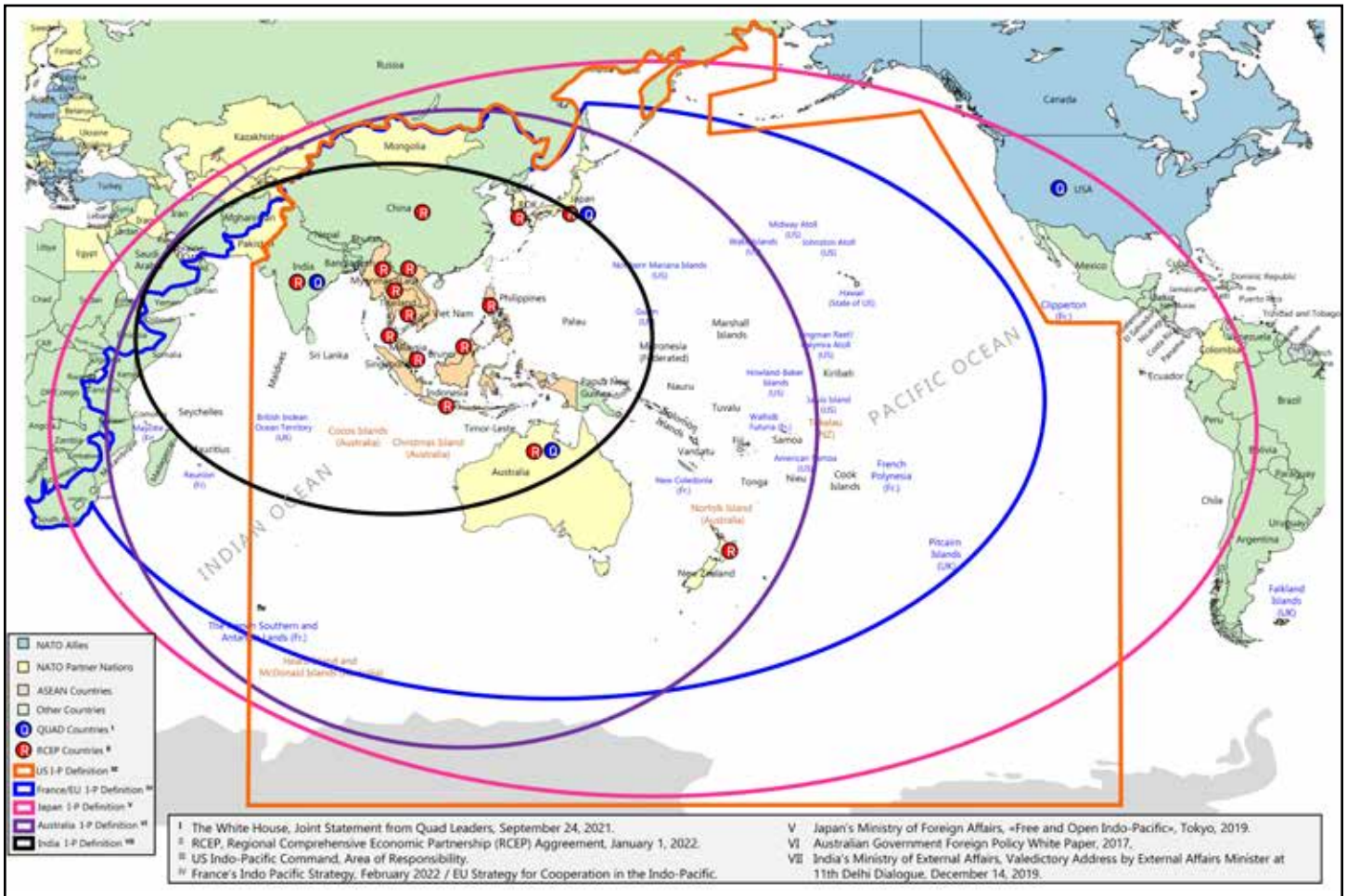


Figure 1:

Divergent Interpretations of the Indo-Pacific Region

[Created by NATO HQ SACT Strategic Foresight Branch, May 14, 2022]

“Of all the regions of our globe, the Indo-Pacific has a potential to become the world’s most populous, richest and most developed area in the next 20 years.”



THE INDO-PACIFIC: BETWEEN CHINA'S HISTORICAL LEGACIES AND GEOPOLITICAL AMBIGUITY

1. The Indo-Pacific, identified as a geographic space that connects the Indian Ocean and the Pacific Ocean, is working as a strategic trading hub linked by the Strait of Malacca. Former Japanese Prime Minister Shinzo Abe coined the term 'confluence of two seas',⁷ encapsulating a vision of the region whose spirit goes beyond its geographic connotation to embrace a wider emphasis on the Indo-Pacific as a crucial sea route for energy demands, infrastructure and global commons.⁸ It is accurate to describe the region as the epicentre of the global maritime trade, with an estimated 60 percent of the global commons sailing through this area.

2. The term Indo-Pacific as a geostrategic construct was adopted in response to the rapid rise of China and India being viewed as a strategic balancer. There are also political and security consequences between contesting definitions of this geostrategic area: 'Asia-Pacific' or 'Indo-Pacific.' The former gained popularity in the second half of the 1980s in the era of globalization and the rapid expansion of free trade agreements at the regional level and beyond. However, it does not include the rise of India as a substantial economic and military power with interests beyond South Asia, as well as the increased connection between the economic powerhouses in East Asia and the Indian Ocean region including India and Pakistan.

Thus, 'Asia-Pacific' refers mainly to an economic construct while 'Indo-Pacific' refers to a more geopolitical and security context.⁹ While not all the states using the 'Indo-Pacific' terminology would agree, the main aim of using the 'Indo-Pacific' term is to resist or contain China by including India within the definition.¹⁰

3. These two competing views, geopolitical and security versus economic dynamics of the region, are aligned with the regional power transition that reflects a dual hierarchy: security is dominated by the US while the economic predominance has become Chinese. Thus, the dual hierarchy of the region has an inherent friction. This multifaceted relationship will bring complex trade-offs amongst regional countries as well as other stakeholders from the rest of the world.¹¹ These trade-offs will not only see an increase in China's regional power, but will also challenge regional stability and stimulate competition between the US and China, which will increase the potential for conflict and have global political, economic and security consequences.

4. As a multipolar region that matters profoundly not only in economic terms but also strategic significance, the Indo-Pacific is arguably the new centre of geopolitical and economic power. Indeed, the presence of China as a dominant power has reshaped the economic and military balance of the region during the last decades and this trend is anticipated to continue. Chinese perception of the century of humiliation is a central feature of the recent Chinese history. The CCP describes the years between 1839 and 1949 as

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a struggle against a humiliation caused by foreign imperialism, the Opium Wars (1839-1842, 1856-1860), and the Japanese invasion in the 1930s.¹² Since then, nationalism has become a central tenet of Chinese strategic thinking. On October 1, 1949, the founding of the People's Republic of China (PRC), formally proclaimed by Mao Zedong, Chairman of the CCP, inherited the legacy of this nationalistic spirit. It was only with the consolidation of Deng Xiaoping's regime in 1978 that the heart of China's new strategy became South-East Asia, while economic growth generated growing national-confidence. By the turn of the century, China had acquired membership in the World Trade Organization (WTO), and the comfort it acquired in its position in the region made Beijing confident it would not be subordinate to any other country. China succeeded in the manner of Deng Xiaoping in making itself increasingly pivotal to the economic future of its region.¹³

5. The 'community of destiny' has evolved under current President Xi Jinping's administration into a grand strategy pursuing the great revitalization to construct a society of shared human destiny.¹⁴ In contrast to his predecessor, Xi's broader vision encompasses security, politics, economics, and culture.¹⁵ Xi's new products, such as the institution of the Asian Investment Bank, the Belt and Road Initiative (BRI) and the construction of artificial islands (Spratly Islands) represent a more assertive China under the new CCP leadership. His objective is that of 'rejuvenating' China to resume its status as the world's most advanced state, and assure that Asia manages its own problems autonomously without outsiders' interferences. This vision has been developed together with an increasing advancement of PLA military capabilities, which is at the core of the new Chinese strategic thinking: in order to reduce the so-called 'perception gap' among China, India, the US, and Japan; China would act to guarantee that a major economic and military interconnectivity in the Indo-Pacific area will be safeguarded and boosted.

6. President Xi's restraint in the Indo-Pacific is to combine China's manifest assertiveness in the military domain with the CCP's project for an Asian security architecture based on win-win economic cooperation. When speaking of Asian security in 2012, Xi spoke of maritime challenges as a primary concern for China. From then on, Beijing has initiated aggressive actions to defend its position in the South and East China Seas, and has tremendously increased its military presence in the Western Pacific, while at the same time establishing bilateral security dialogue with Australia, Thailand, Vietnam, Mongolia, Japan,

ROK, Pakistan and India.¹⁶ Continued Chinese military exercises and presence in the SCS, as well as aggressive manoeuvres over Taiwan, have generated mistrust among the country's neighbours and will bear on NATO Allies' freedom to operate and navigate in those waters.

7. Nevertheless, in the contemporary context, the balance of power in the region has been shifting in Beijing's favour in important areas, such as the military capabilities over the Taiwan Strait and the struggle over increasing market share in global telecommunication networks, albeit the Chinese economy is slowing down and international backlash is growing against increasing assertiveness.¹⁷ Taiwan has been declared as one of China's core interests along with Tibet and Xinjiang, which are considered as part of territorial integrity in Beijing's view. China sees self-ruled Taiwan as a breakaway province that will eventually be 'reunified' with the mainland. However, Taiwan sees itself as an independent country, with its own constitution and democratically elected leaders.¹⁸ While China has adopted an approach of a 'One China' policy and adhered to pursue a 'peaceful reunification' approach until recently, there have been signals that might change to seeking use of force to unify Taiwan to the mainland.¹⁹

THE CONTEMPORARY CONTEXT: WHY THE INDO-PACIFIC MATTERS FOR NATO

8. The contemporary relations in the Indo-Pacific are dynamic and subject to constant changes, and NATO's new Strategic Concept recognizes the complexity of these interconnected challenges. Demographic trends, technology advancements, climate change transitions towards a green sustainable economy, safety and security issues, and commercial interests all call for an increased Alliance awareness in the Indo-Pacific. The shift of geostrategic power to the East and South is likely to continue by the growing economic and political weight of emerging players in the Indo-Pacific region.

9. As identified in the new NATO Strategic Concept, the Indo-Pacific is important for the North Atlantic Alliance, given that developments in that region can directly affect Euro Atlantic security.²⁰ Therefore, the evolution of the international security system will require the Alliance to adopt a global outlook and approach. In this region, it would mean that NATO might be challenged to define its own common view for the region.

10. The manifestation of NATO's interest on China and the Indo-Pacific has been reflected in official documents and statements: China

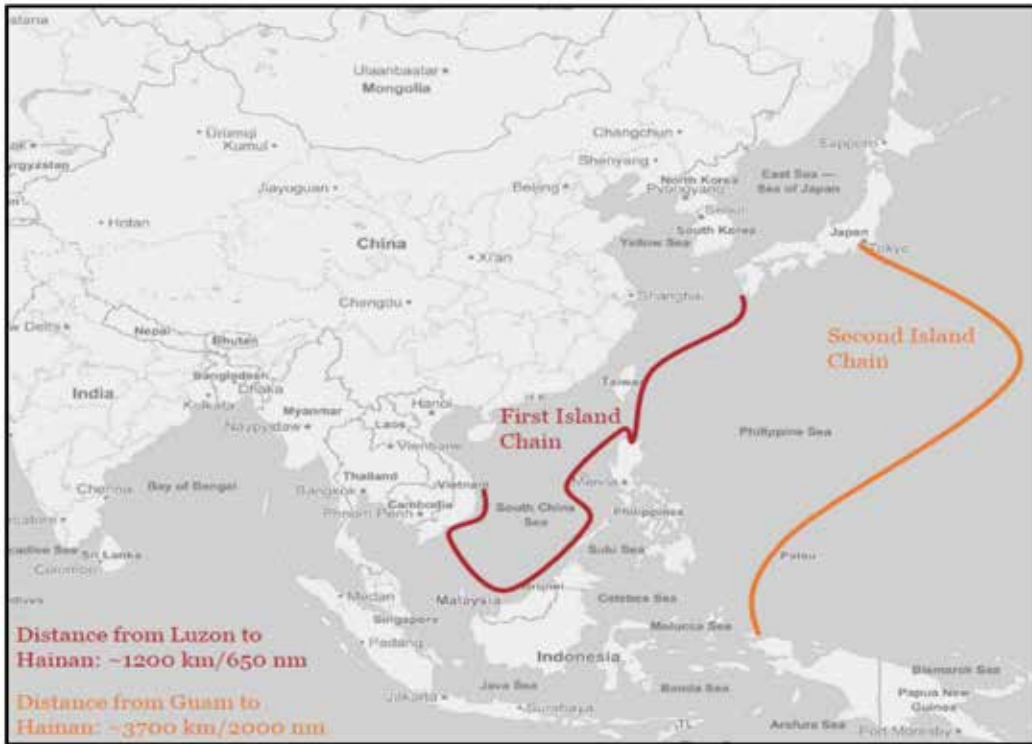


Figure 2:
The First and Second Island Chains

(Mastro, Oriana Skylar. "The Taiwan Temptation", *Foreign Affairs*, July 01, 2021)

was first mentioned in the declaration of the London Summit in December 2019 and again at the Brussels summits in June 2021 and March 2022. Some Asia-Pacific partners in the so-called NAC+4 (Australia, ROK, Japan, and New Zealand) were invited to ministerial meetings in 2020, 2021 and 2022. The NATO 2030 report also addresses China's new role in NATO's renovated strategic calculus and recommends the Alliance's urgency to leverage its partnerships, not only at its neighbourhood but further afield in the Indo-Pacific, by strengthening information-sharing, creating regularized dialogues on technological cooperation and pooling of research and development (R&D) in select fields.²¹

11. NATO does not have a policy for the Indo-Pacific, yet its political and diplomatic interests in the region are broad. Apart from the US, more recently other NATO countries have reoriented their maritime policy in defence of a Free and Open Indo-Pacific (FOIP). At the Shangri-La Dialogue in 2018, French and British Defence Ministers declared their intention to sail warships through the SCS to challenge China's military expansion.²² In addition, the United Kingdom (UK) conducted its first joint exercise with the US in the SCS in 2019. In 2020, the German government released policy guidelines for the Indo-Pacific region, and Germany has thereupon expanded the engagement in the region already.²³ In

November 2020, the Netherlands released its first Indo-Pacific strategy.²⁴ It should also be noted that the European Union (EU) has released its official Indo-Pacific Strategy in September 2021. Focused on an inclusive and broad-based approach, it recommits the EU political and maritime role to the region and enhances its capacity in expanding security and defence dialogue to include more partners in the region and the potential for enhanced NATO-EU cooperation.²⁵

12. NATO has formalized strong relations with countries in the region, including Australia, Japan, Mongolia, New Zealand, Pakistan, and ROK, and it sees the value of strengthening further partnerships and cooperation with other countries in the Indo-Pacific who share democratic values and face similar security challenges. Certain NATO member states also have partnerships with countries in the Indo-Pacific through mechanisms, such as the Five Eyes, the 'Five Power Defense Agreement', the QUAD, and more recently through the AUKUS. NATO partners and other Indo-Pacific nations such as Malaysia, Singapore and Tonga contributed troops to NATO's International Security Assistance Force operations in Afghanistan from 2001 to 2014.²⁶ Furthermore, NATO and Pakistan have started strengthening dialogue and cooperation following NATO assistance to the country in the wake of a massive earthquake in 2005, and the two parts are now engaged in





selected training and education courses that the North Atlantic Alliance offers to Pakistani officers.²⁷

13. Overall, the region remains a geopolitical hemisphere crucial to the stability and prosperity of the territories of NATO. Some European Allies depend on the flow of energy supplies from the Persian Gulf to the Mediterranean, while both European and North American countries have substantial trade interests with China. At the same time, the presence of NATO in the Western Indian Ocean, primarily in the Horn of Africa and the Arabian Peninsula, extends the Alliance's concerns over a possible security vacuum through that sea. Several NATO Allies, the US, the UK, France, the Netherlands and to a certain extent Germany, have a presence there, and they have developed and strengthened their strategies when it comes to the Indo-Pacific region.

14. NATO's maritime strategy is subject to increased challenges in the Indo-Pacific. China's actions in the East and South China Sea, with the potential consequences they might have on the established international norms and rules of free navigation, pose an increasing threat to maritime security and to accessing global sea trade and commons, as regulated by the Free and Open Indo-Pacific strategy promoted by Japan and the US. A serious fight over global governance and the rule of law in the SCS will have far reaching consequences beyond Southeast Asia and the Alliance might be called to embrace a multilateral effort to maintain the RBIO. In addition, since the establishment of a collective security architecture involving all major powers in the Indo-Pacific seems a remote objective for this decade, a serious Sino-US crisis over Taiwan represents the main reason why the Indo-Pacific could have security implications for NATO. Taiwan is arguably the biggest strain in Sino-US relations: a serious confrontation over this island between Beijing vis-à-vis Washington could escalate into military conflict with nefarious consequences not only on the region but also on the Euro-Atlantic area.

15. Since the last decade, the Indo-Pacific has also housed a tremendous arms race that cannot be left unnoticed. Regional competition amongst states is becoming more intense as Indo-Pacific nations are increasingly pressured to choose between different systems. The defence budgets of Southeast Asian nations have increased by 1/3 over the past 20 years, and China's push out of the First Island Chain can be seen as an attempt to gain strategic space so as not to repeat the dynamics of the Century of Humiliation.

16. Technological implications will also affect the equilibrium of the Indo-Pacific. China will continue promoting a global reach, to achieve and then

maintain the technological advantage through an innovation process based on a series of structural reforms aimed at strengthening the role of the state and, at the same time, at restructuring the economy with the aim of generating greater domestic consumption and reducing dependence on foreign markets and suppliers, thus creating favourable conditions for becoming a leading power in the technology sector.

17. Lastly, the environmental issue is reason for concern: the Indo-Pacific remains the most disaster-prone region in the world. It contains 75% of the globe's volcanoes, while 90% of the world's earthquakes occur in the Pacific Basin. Many countries across the region lack sufficient capability and capacity to manage natural and human-sourced disasters. The NATO's Climate Change and Security Action Plan sets out the framework for NATO's contribution to climate change and security, not least by strengthening awareness and adaptation with partner nations, as well as with international organizations.³⁰ Climate change is much more than an environmental crisis; it is a global systemic one with disruptions that will transform the geopolitical landscape,³⁴ thus Allies could be motivated at identifying how the Indo-Pacific, as the most exposed region in the world to climate hazards, will affect their security interests. Allies and partners might also be ready to promote a shared understanding of the capabilities and activities of the Indo-Pacific actors in crisis management and emergency environmental response, when needed and appropriate.³²

18. To conclude, the Indo-Pacific region's strategic landscape is transforming and will continue to evolve. Political, human, technology, economics/resources and environment factors will drive the realignment of great powers and policy changes in the years ahead. The China-US competition could make the region a litmus test for future world order or for a future war.

19. The new Strategic Concept underscores that "The Indo-Pacific is important for NATO, given that developments in that region can directly affect Euro Atlantic security. We will strengthen dialogue and cooperation with new and existing partners in the Indo-Pacific to tackle cross-regional challenges and shared security interests."³³ Therefore, NATO, as the Euro-Atlantic alliance responsible to protect its members, will be challenged to respond with a global approach, as China grows increasingly assertive and the transatlantic landscape is impacted and infected by the opportunities as well as by the challenges emanating from this complex and strategic region.





POLITICAL THEME

1. The Indo-Pacific region is dominated by the systemic competition between the US and China, which is increasingly global in nature, spanning from Asia to South America and from the Arctic to Antarctica. The current state of US-China relations is the product of a long, complex and contested history. Various economic, geostrategic, and multilateral pillars of this initially robust and dynamic relationship first cracked, and then collapsed, turning into a competitive rivalry.^{34,35} The US '2018 National Defense Strategy (NDS)' highlighted China's attempts to reorder the Indo-Pacific region to its advantage and to establish regional hegemony in the near-term to displace the US. The NDS reiterated American commitment to the FOIP, which aims to bring the QUAD countries of Australia, India, Japan and the US together under the Indo-Pacific Partnership (IPP).

2. China's 'peaceful rise' rhetoric is now contested by many states.³⁷ As a result, great power competition is increasingly becoming a new norm, which involves a wide variety of countries both within and beyond the region, including members of NATO and the EU. Associated with the polarization and increasing security concerns, a significant military build-up has occurred, including by China, with the Indo-Pacific's share of global military spending increasing from 20% of the world total in 2009 to 28% in 2019.³⁸ Increasing Chinese assertiveness has been explained by its desire to protect China's core interests and territorial integrity. China's leaders have always been concerned with maintaining domestic stability as a top priority. Since the Tiananmen Square incident,

the Chinese leadership has consistently responded to increased unrest with repression, censorship and occasionally limited accommodation. Thus, growing assertiveness is connected to the 'core security interests' that are inseparably linked with China's territorial integrity, domestic stability and sovereignty: Taiwan, Tibet and Xinjiang.³⁹

3. The Indo-Pacific regional order is under major internal and external pressures, compounded by the effects of the pandemic that have accelerated many regional and global trends, bringing both challenges and opportunities. China has been using its economic relations and asymmetric interdependence to advance its geostrategic interests.⁴⁰ In the meantime, Chinese actions in the contested territories and maritime zones of the region have intensified tensions and amplified the potential for conflict or miscalculation.⁴¹ In response to the rapid rise of China, regional countries, Australia, India and Japan, as well as the US and France, have adopted the term 'Indo-Pacific' as a geostrategic construct, albeit there are differences on how this region is demarcated. These challenges are exacerbated with the global economic fallout of the COVID-19 pandemic, with the final impacts yet to be seen.⁴²

4. As one of the largest economic and military powers of the region, China has developed its own ideas and concepts of the regional order and subsequently launched its own strategic plans, such as the 'Belt and Road Initiative' (BRI), the 'Maritime Silk Road' (MSR) and the 'Polar Silk Road' (PSR),⁴³ which are driven by Beijing's

“Growing assertiveness is connected to the ‘core security interests’ that are inseparably linked with China’s territorial integrity, domestic stability and sovereignty: Taiwan, Tibet and Xinjiang.”



increasing claims to shape or reshape the regional and global order in accordance with its own interests.⁴⁴ Consistent with the Chinese strategic culture, Beijing's strategy emphasizes deception and surprise, and an indirect approach — 'winning without fighting'.⁴⁵

5. Military implications resulting from unilateral actions or miscalculation would be dire in the region. The Indo-Pacific hosts seven of the ten largest standing armies in the world, with six countries in or near the region possessing nuclear weapons: the US, Russia, China, India, Pakistan and the Democratic People's Republic of Korea (DPRK). DPRK's nuclear weapon development and intercontinental ballistic missile programme continue to present a security challenge for the regional countries and global security. DPRK also poses a conventional security threat to the ROK and Japan.⁴⁶ The United Nations (UN) and the US have imposed extensive economic and commercial sanctions on DPRK to take steps to denuclearize. In the West, armed clashes between two nuclear-armed states, India and Pakistan, over Kashmir⁴⁷ and clashes along the Line of Actual Control on the border of India-China have increased concerns. These developments, especially DPRK's missile tests, have highlighted the importance of the US-extended deterrence and the nuclear umbrella for its allies, in particular for ROK and Japan. The Association of Southeast Asian Nations (ASEAN) countries, including Indonesia, Malaysia, and Singapore, steadfastly promote non-proliferation ideals to serve the national interests of the bloc's member states.

1.1. THE REDISTRIBUTION OF GEOSTRATEGIC AND MILITARY POWER FROM THE WEST TO THE INDO-PACIFIC

6. In terms of economic power and influence, the region views China as much more influential than the US, and this gap is expected to grow in the

next 10 years, while Japan's economic influence is expected to wane over time.⁴⁸ A 2019 survey of Southeast Asian countries, including Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam, suggests that China is seen as holding slightly more political power and influence than the US in the region today and will hold considerably more power relative to the US by 2030. The findings also suggest that other major players, Japan, India, Pakistan, and Indonesia, will shape power dynamics in the region. Figure 3 depicts that as of 2020, the ASEAN Countries Spectrum of Relations with the US and China.⁴⁹ Although each nation's position on this figure is evaluative and relies on political views, which are subject to change, depending on national elections outcomes. Indo-Pacific countries may have an alternative position, in between China and the US, which this figure does not show.

7. The gap between the US and China's instruments of power has narrowed, with the balance of power tilting towards China.⁵⁰ The current trajectory cannot be taken for granted for the next two decades. However, recent reports suggest that China could overtake the US as the world's largest economy as early as 2024⁵¹ in nominal Gross Domestic Product (GDP) terms, while other estimates suggest this will happen by the end of the decade. Even if China someday passes the US in total economic size, that is not the only measure of geopolitical power. Economic power is just part of the equation. China is well behind the US on military and soft power with US military expenditure remaining several times higher than that of China.⁵²

8. China has also invested heavily in soft power to increase its ability to receive preferred outcomes through attraction rather than coercion or payment. Cultural exchanges and the BRI aid projects can enhance China's attractiveness, while economic success strengthens its soft power. China will continue to face two major limitations:

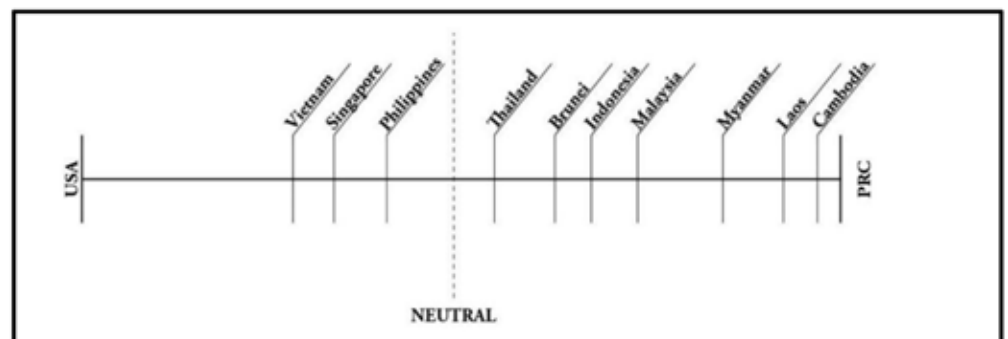


Figure 3:

ASEAN Countries Spectrum of Relations with the United States and China
 (Shambaugh, David. "Where Great Powers Meet?", Oxford University Press, December 11, 2020, Preface and 243)

first, territorial conflicts with neighbours such as Japan, India, and Vietnam that make it difficult to appear attractive while contesting rival claims; and second, tight CCP control deprives China of the benefits of civil society and reduces its appeal.⁵³

9. China's soft power moves in Africa are also worth attention. Amidst an evolving foreign aid budget and amidst criticism of exploitation from the West, China's efforts in Africa are paying off to hit the targeted objectives of their political, economic and security core interests. In 2009, China surpassed the US to become Africa's largest trading partner.⁵⁴ Since 2013, China has provided 27 percent of sub-Saharan Africa's weapons, while the US supplied only 11 percent. In the last decade, China has taken over the lead with its weapons sales to sub-Saharan Africa, spiking by 55 percent.⁵⁵ Out of 54 African states today, 53 have broken diplomatic ties with Taiwan to side with China, snubbing the US which offers them free aid.

10. China's foreign policy has increasingly focused on the developing countries of Africa, Latin America and the Middle East. This trend accelerated after the 2007/2008 global financial crisis when China's own sense of identity and place in the world was evolving.⁵⁶ Besides competing for resources, both the US and China need African, Latin American and Middle Eastern nations to support their geopolitical agendas. These nations as non-permanent members of the United Nations Security Council (UNSC) could support China's veto power and indirectly its ambitions. China's role in the South-South Cooperation (SSC) provides a further indication of how Beijing can utilize economic expansion in the global South, such as Indonesia and India, to influence the international political system. This conducted approach by China might influence ASEAN countries leveraging partnerships, such as the multi-lateral development bank established by Brazil, Russia, India, China and South Africa (BRICS) to further geopolitical ambition.

11. The Indo-Pacific arms race continues including concerns over nuclear proliferation. The global military expenditure continued to increase in 2021, passing \$2 trillion for the first time (\$2113 billion), showing that military spending growth has continued to increase in recent years. In 2021, the 0.7% growth in world military spending came in a year when the global economic recovery was underway and countries had given priority to address the economic impacts of the COVID-19 pandemic. Even amid the economic fallout of the pandemic, world military spending hit record levels.⁵⁷ US military spending amounted to \$801 billion in 2021, a drop of 1.4 percent from 2020;

funding for military R&D rose by 24 percent between 2012 and 2021, while arms procurement funding fell by 6.4 percent over the same period. Russia increased its military expenditure by 2.9 percent in 2021, to \$65.9 billion, at a time when it was building up its forces along the Ukrainian border. This was the third consecutive year of growth, and although the impacts of Russia-Ukraine War have yet to be fully understood, Russia's military spending reached 4.1 percent of its GDP in 2021.

12. 2021 Defence spending in the Asia and Oceania region was 3.5% higher than in 2020, continuing an uninterrupted upward trend dating back to at least 1989. The increase in 2021 was due primarily to growth in Chinese and Indian military spending. Together, the two countries accounted for 63% of total military expenditure in the region. China, the world's second largest spender, allocated an estimated \$293 billion to its military in 2021, an increase of 4.7% compared with 2020. China's military spending has been growing for 27 consecutive years. Amid ongoing tensions and border disputes with China and Pakistan that occasionally spill over into armed clashes, India has prioritized the modernization of its armed forces and self-reliance in arms production. India's military spending of \$76.6 billion ranked third highest in the world, an increase by 0.9% from 2020 and by 33% from 2012.⁵⁸ The Japanese spending rose by 7.3%, to \$54.1 billion in 2021, the highest annual increase since 1972. Australian military spending also increased by 4.0%, to reach \$31.8 billion.⁵⁹ The ROK (\$50.2 billion) was also one of the largest military spenders in the Asia and Oceania region.

13. While Chinese military capabilities have been increasing in recent years and pose new challenges to Allied nations' presence in the region, China is not yet a global peer in the military dimension. Nor will it be able to exclude the US from the Western Pacific, providing the US can maintain multilateral relationships and capable military presence in the region.⁶⁰ At the same time, current and prospective Chinese capabilities suggest that military capabilities would suffice to significantly raising the cost of any major maritime actions in the region.

14. Increasing military capabilities are designed to support the following three key objectives. First, to shift the military balance between the US and China in Beijing's favour by developing Anti-Access/Area Denial (A2/AD) capabilities through a combination of ballistic and cruise missiles, associated with ocean surveillance systems, thereby isolating Taiwan. In parallel, developing cyber weapons and submarines would render US allies in the region, such as Japan and ROK,

“China's role in the South-South Cooperation provides a further indication of how Beijing can utilize economic expansion in the global South, such as Indonesia and India, to influence the international political system.”



vulnerable to coercion from Beijing. Second, to deny the US and its allies access to the global commons (space, cyberspace, the air, the sea, and undersea) through the aggressive development of ASAT weapons, increasing cyber operations, and an expanding submarine fleet. Third, to deter the US by holding their population and economy at risk of severe disruption by either the use of nuclear forces or cyber-attacks.

15. The arms control architectures established during the Cold War require re-evaluation based on recent violations of international agreements, norms and treaties, including the Strategic Arms Reduction Treaty (START). The US and the Russian Federation have agreed to extend the New START treaty through February 4, 2026.⁶¹ However, China has not been part of the agreement albeit the US urged both Russia and China to reduce the nuclear stockpiles.⁶² While arms control architecture continues to weaken, Russia and China increasingly have become more assertive in their influence, both regionally and globally.⁶³ This trajectory is expected to continue and will shape the Alliance's relations with Russia and China, as well as with other emerging powers and countries that have aspirations to acquire/develop nuclear weapons and delivery systems, such as Iran and DPRK.

16. In the area, regional countries such as ROK, Australia and Japan are internationally identified as non-nuclear weapon states, with no nuclear nor suspected threshold capabilities.⁶⁴ The ability to deliver nuclear attacks from ground, sea and air increases the survivability of a country's nuclear forces and enhances its ability to execute a retaliatory strike. Locally, only the US and Russia possess full, credible nuclear triads. China and India, however, are close to attaining triad status.^{65,66} Within the proximity of China, India and DPRK, as well as neighbouring Pakistan, non-nuclear weapon states are increasingly concerned over the development of nuclear weapon and delivery systems. DPRK's nuclear tests and missile launches demonstrate an unprecedented, grave and imminent threat, and challenge the international nuclear disarmament and non-proliferation regime centre on the Non-Proliferation Treaty (NPT).⁶⁷ In addressing the erratic behaviour of DPRK, the US and its Allies have been working with other regional powers, including China.

17. While ASEAN–DPRK relations have been for the most part friendly and economic links stable, Pyongyang cannot depend on the former as a counterweight to nuclear and missile non-proliferation pressure exerted by the US and its Allies, as ASEAN steadfastly promotes non-proliferation ideals to serve the national interests

of the bloc's member states. Instead of siding with the DPRK, ASEAN members may exert economic and political influence to move the Kim regime towards nuclear munitions and missile abnegation. While ASEAN might align with the US and its Allies' position, it is unlikely that DPRK voluntarily relinquishes nuclear weapons. Finally, the US will deliver nuclear-powered submarines to Australia as part of AUKUS, a new trilateral security partnership involving Australia, the UK, and the US. Its first project will be to deliver a nuclear-powered submarine fleet for Australia. The delivery of nuclear submarines has been contested from China and some other local powers as it challenges the NPT's core principle of not transferring nuclear capabilities to non-nuclear states.

IMPLICATIONS

a. Maintaining strategic awareness of China's economic instrument of power. The Alliance's relation with the Indo-Pacific countries will continue to be influenced by Chinese ambitions through BRI projects and other SSC economic and infrastructure activities. Furthermore, China will support and where possible lead the establishment of shadow governance structures that aim to reduce the effectiveness and reach of the Bretton Woods system. The economic effects of the COVID-19 pandemic have not ended the continuous upward trend in world military expenditure since 2015⁶⁸ and it is expected to continue to grow based on a perceived return to great power competition. While NATO remains as the benchmark security organization of the Euro-Atlantic region, economic challenges will affect fiscal stability and could reduce support for defence spending.

b. Increasing arms race in the region. Well before Russia's invasion of Ukraine, concerns were growing in Asia about the weakening of the American-led international world order and US commitment for the Indo-Pacific regional stability. China's aggressive military capability development and assertive conduct in the South and East China Seas, the Taiwan Strait, and along the Himalayas increased the security dilemma, resulting in continued increases in defence spending. Additionally, Chinese activities in cyberspace and potential securitization of space in the Indo-Pacific might be utilized for military purposes, considering China's strategic calculus aimed at developing a 360-degree approach to the region. The increasing potential for nuclear proliferation is indeed the more concerning aspect of the arms race in the Indo-Pacific. DPRK's continued focus on nuclear weapons and delivery systems have been causing serious regional and global

concerns. Both ROK and Japan perceive DPRK's nuclear weapon systems as a serious national security threat. While Japan has the ability to enrich uranium and reprocess plutonium, it relies on US extended (nuclear) deterrence, albeit not allowing the US to deploy nuclear weapons on its territory.⁶⁹ The potential for Japan and ROK to seek nuclear weapons might create further backlash to international non-proliferation efforts. However, China's efforts to improve its nuclear arsenal and the development of hypersonic systems to become a nuclear triad have amplified concerns over regional nuclear proliferation. Therefore, the reliability of the US-extended nuclear deterrence continues to be a key aspect of global security.

c. Challenges to assured access to global commons. Increased military spending, especially in the areas of A2/AD, Anti-Satellite Weapons (ASAT), and hypersonic, space, and cyberspace capabilities, presents a direct threat to the US and its Allies' ability to project power and to conduct freedom of navigation operations. These capabilities also present a clear risk for the commercial sea lines of communication and free flow of goods. Assured access to the global commons is also essential to the NATO members' ability to preserve access to vital resources and the global supply chain that supports Western economies, and to preserve our individual or collective interests (both for NATO Nations or security partners). Thus, assured access to the global commons is critical to the ability to project power to defend and reassure allies and security partners.

1.2. POWER POLITICS ACCELERATING COMPETITION

18. The Sino-American competition for power and status in the Indo-Pacific region comprises several dimensions with implications at the global level. Furthermore, China's pernicious espionage, intellectual property theft, and illicit influence activities⁷⁰ are expected to continue in order to gain supremacy. Increasingly, therefore, technology development and its use, as well as infrastructure, are considered elements of the competition between the US and China. The Indo-Pacific competition is thus in many respects closely linked to various aspects of the Sino-American rivalry.

19. China will also leverage economic and business ties, banks and financial institutions, in most cases using infrastructure development and technology companies as well as state-owned enterprises to exert political influence and harness the information space in its dealings around the world. In Europe, China leverages economic ties

as an instrument of power; however, in the Indo-Pacific region, Beijing is focusing on the use of all instruments of power, including aspects of hard power.

20. Over the last two decades, the competition arena has changed, including not only aspects of hard power, but also soft power, such as economics, information, diplomacy, and particularly in technology norm/standard setting. China's ability to shape international technological standards and thus give its domestic market more global reach is also being influenced through China's position on significant International Standards regulatory bodies. China's economic success story enhances its soft power. Moreover, China's authoritarian politics and mercantilist practices make its economic power readily usable by the government. China will gain economic power from the sheer size of its global market as well as its overseas investments and development assistance. Of the seven giant global companies in the age of AI, nearly half are Chinese (Baidu, Alibaba, and Tencent). With its large and diverse population and consequent internet community, Chinese information power relative to the US is likely to increase. China's objectives to achieve 'Made in China – 2025', an initiative to comprehensively update Chinese industry, and to become the global lead in technology, especially in Emerging Disruptive Technologies (EDTs), present the most significant challenge to the Alliance's objective to maintain its technological edge.

21. Before the Russia-Ukraine war dominated the global agenda, some other clashes between major powers in the Middle East and in South Asia took place in 2019/2020: missile strikes, proxy attacks and challenges to freedom of navigation in the Persian Gulf in mid-2019 raised the possibility of Iran going to war with Saudi Arabia and other regional powers, and potentially with the US. Armed clashes also escalated between two nuclear-armed states, India and Pakistan, over Kashmir⁷¹ and the India-China border clashes along the Line of Actual Control. These developments/events indicate how power will continue to be used to achieve political outcomes in the international affairs, including the Indo-China region. In addition, Chinese assertiveness in the region is expected to remain as a source of instability. The increasing pace of competition in the region may also create instability and a vacuum in which terrorism, in all its forms and manifestations, can flourish.⁷²

IMPLICATIONS

a. Regional alignment adapting to the accelerating competition. China uses economic and financial incentives, technology

“Chinese activities in cyberspace and potential securitization of space in the Indo-Pacific might be utilized for military purposes, considering China’s strategic calculus aimed at developing a 360-degree approach to the region.”



and infrastructure projects, and most recently military cooperation to expand its influence within and beyond the Indo-Pacific region. The recent activities, such as China's acquisition of the Sri Lanka port in its southern coast that faces the Indian Ocean⁷³ and China-Solomon security cooperation have increased concerns for the future expansion of China's influence and use of soft power over the Indo-Pacific region using different means.⁷⁴ These developments illustrate how the deterrence calculus in the region is continuing to evolve; consequently, military instruments of power are gaining prominence in the face of accelerating competition.

b. 360-degree approach to security and greater outreach to global partners. The changing competition space and return of great power competition will increase complexity and lead to uncertainties that will demand NATO adapt in a world of competing powers seeking to advance their agendas.⁷⁵ This is especially true with China's attempts to gain the lead in technology, which present both economic and military challenges for Alliance security. Under these circumstances, deterrence and defence remain a core element of NATO's overall strategy. While China does not pose a direct military threat, NATO needs to

engage China with defending the security interests of the Alliance in mind.⁷⁶ This includes obtaining an edge in advanced and EDTs. Terrorist access to some tools using one part of EDTs has been a growing concern. Thus, a 360-degree approach will be increasingly important, including enhanced cooperation with global partners.

1.3. CONFLICTING TERRITORIAL CLAIMS

22. China shares a border with more countries than any other state in the world. Since 1949, it has had border disputes with every one of its 20 neighbours. Yet China has also resolved its border disputes with many of them, including Myanmar (1960), Nepal (1961), DPRK (1962), Mongolia (1962), Pakistan (1963) and Laos (1991). It has even managed to reach territorial settlements with former enemies, notably Vietnam (1999) and Russia (1991-94). In some cases, these disputes were settled according to international norms through 'peaceful and concessionary diplomatic approaches based on mutual understanding'. In others, such as with Russia and Vietnam, resolution only occurred following armed conflict.⁷⁷ From 1982 to 2010, security and socio-economic development has influenced an evolving



Figure 4:

China's Territorial Disputes with Regional Countries

[Hyer, Eric. "The Pragmatic Dragon, China's Grand Strategy and Boundary Settlements", January 2015. <https://chinaboundaries.com/> (last accessed 24.06.2022)]

population distribution in China's border regions and may have implications related to sub-regional cooperation. China has one of the longest borders with its surrounding land-based neighbours, containing multi-ethnic settlements and special geographic locations. Land territories under actual Chinese jurisdiction border fourteen countries, including Russia and India.⁷⁸ Figure 4 shows China's territorial disputes. While none is expected to evolve into hot border conflicts over the next few years, India and China have had some recent low-level military clashes over the borderlines. China's hinterland, along these borders, is important for its core interests, territorial integrity and national sovereignty. Additionally, the South and East China Seas have witnessed increased military activities from exercises to Freedom of Navigation Operations involving European powers and Russia. Similarly, there is a tense Line of Control through Kashmir between Indian occupying forces and Pakistani armed forces that has continued through three wars and the Kargil clash.

23. China's unilateral actions in militarizing islands and islets in the Parcel and Spratly Islands of the SCS and claiming disputed maritime jurisdiction areas well beyond the legal limits set by the Law of the Sea Treaty, even though it is

one of the signatories of the treaty, is a major international concern. China has sought to assert questionable claims over international commons, for example, in declaring an Air Defense Identification Zone (ADIZ) over the East China Sea, contesting freedom of navigation or introducing itself as a 'Near-Arctic Nation.' China has up until now refrained from direct confrontation albeit there have been some military brinkmanship attempts.⁷⁹ The Philippines took the case to the International Tribunal, which ruled against China's claims. The following map and notes illustrate Chinese arguments and Tribunal decisions.

24. In other areas, such as the introduction of the national security law for Hong Kong, the dispute flare-up between India and China over the line of actual control, and the relationship deterioration over Australia's request for an investigation into the origins of the pandemic,⁸⁰ indicate that China will use its military and/or economic power to defend its core interests, such as any potential changes to Taiwan's status. At different times by different leaders/officials, the following areas have been considered to be among China's core interests: Taiwan, Tibet and Xinjiang. However, ambiguity remains over China's position to declare the SCS as a core

“South and East China Seas have witnessed increased military activities from exercises to Freedom of Navigation Operations involving European powers and Russia.”

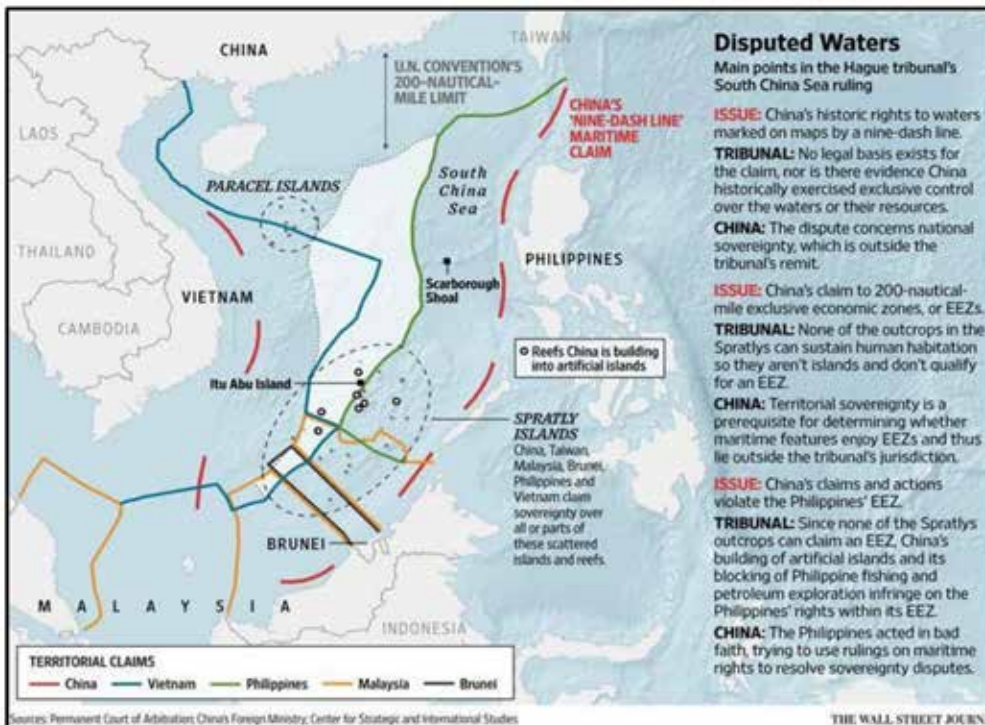


Figure 5:
South China Sea International Tribunal Ruling

[Page, Jeremy and Moss, Trefor, "South China Sea Ruling Puts Beijing in a Corner", July 12, 2016. <https://www.wsj.com/articles/south-china-sea-ruling-puts-beijing-in-a-corner-1468365807> (last accessed 24.06.2022)]

“In addition to China’s territorial claims and related disputes in the South China and East China Seas, China has disputed territories with India. After China’s 1962 war with India, the border remains largely undefined and bitterly contested.”

interest. While Taiwan, Tibet and Xinjiang clearly identified as ‘core interests’ due to their link to territorial integrity and sovereignty, in accordance with China’s perception, Chinese officials have refrained from describing the SCS in such formal terms in a public setting.⁸¹ However, the latest Chinese official document ‘China’s National Defense in the New Era’ clearly states that the SCS islands and Diaoyu Islands are inalienable parts of the Chinese territory.⁸²

25. To counter Chinese claims in these contested maritime zones, nations in the region have increased their military presence. The increasing footprint includes joint exercises with QUAD countries and Freedom of Navigation Operations, as well as sharing military technology and large-scale arms sales, such as the AUKUS. While these interactions have also created differences, the European Union and a number of European members of the Alliance have supported a FOIP approach and advocated increasing multilateralism by promoting interactions with the ASEAN countries, which do not want to be prisoners of this binary choice between China and the US.⁸³

26. In addition to China’s territorial claims and related disputes in the South China and East China Seas, China has disputed territories with India. After China’s 1962 war with India, the border remains largely undefined and bitterly contested. The basic problem is twofold. In the undefined northern part of the frontier, India claims an area the size of Switzerland, occupied by China, for its region of Ladakh. In the eastern part, China claims an Indian-occupied area three times bigger, including most of Arunachal. This 890 km stretch of frontier was settled and named the McMahon Line in 1914 by the governments of Britain and Tibet, which was then in effect independent. For China, which was afforded mere observer status at the negotiations preceding the agreement, the McMahon Line represents a dire humiliation. China also particularly resents being deprived of Tawang, which although south of the McMahon Line, was occupied by Indian troops only in 1951, shortly after China’s new Communist rulers dispatched troops to Tibet. Making matters worse, the McMahon Line was drawn with a fat nib, establishing a ten-kilometre margin of error, and it has never been demarcated.⁸⁴ However, China and India’s border dispute turned deadly for the first time in more than four decades in June 2020.⁸⁵

27. One of the most serious of all these issues is the competing claims between India and Pakistan over the Kashmir region. With continued violence in the area, tensions and concerns over a serious military confrontation between nuclear-armed neighbours, India and Pakistan, remain

high. Territorial disputes over the Kashmir region sparked two of the three major Indo-Pakistani wars in 1947 and 1965, and a limited war in 1999. Although both countries have maintained a fragile cease-fire since 2003, they regularly exchange fire across the contested border, known as the Line of Control. Both sides accuse the other of violating the cease-fire and claim to be shooting in response to attacks. An increase in the number of border skirmishes began in late 2016 and continued into 2018, killing dozens and displacing thousands of civilians on both sides of the Line of Control. There are three disputed areas along the 450-mile Line of Control.

IMPLICATIONS

a. Increased potential for conflict. The Indo-Pacific region has been undergoing significant changes over the last decades, fuelled by economic growth and military spending driven by China, Japan, ROK and the ASEAN countries. The race over geopolitically significant technologies will continue over the next two decades. Rising nationalism and growing assertiveness in economic, political and military domains, especially over sensitive areas beyond national borders and contested areas, might result in intentional or accidental conflict. Those areas with contested territorial claims of the region, from India-Pakistan in the West to China-Japan in the East will continue to present hot spots that might range from border skirmishes. In turn, this could trigger a larger scale conflict involving NATO Allies and Partner nations who have vested in the region. Furthermore, presence of illicit border activity, such as the trafficking in persons, drugs and other materials, can increase regional instability and affect the rule of law.

b. Increasing Western presence in the region. Unfavourable opinions of China will continue to be driven by trade relations, assertive actions in the South and East China Seas and rising tensions with neighbouring countries. While China has been increasingly taking an assertive stance in the Maritime disputed territories in the South and East China Seas, they have yet to be declared as China’s core security interests.

1.4. DIVERGING IDEOLOGICAL AND SECURITY ARCHITECTURE

28. The growing economic and political weight of emerging players, in particular China and India, reinforce the shift of global power from the West towards the East. At the same time, a technology-driven shift of power away from states to international/multilateral organizations and transnational non-state actors is taking place, bringing a new and unfamiliar complexity, in which

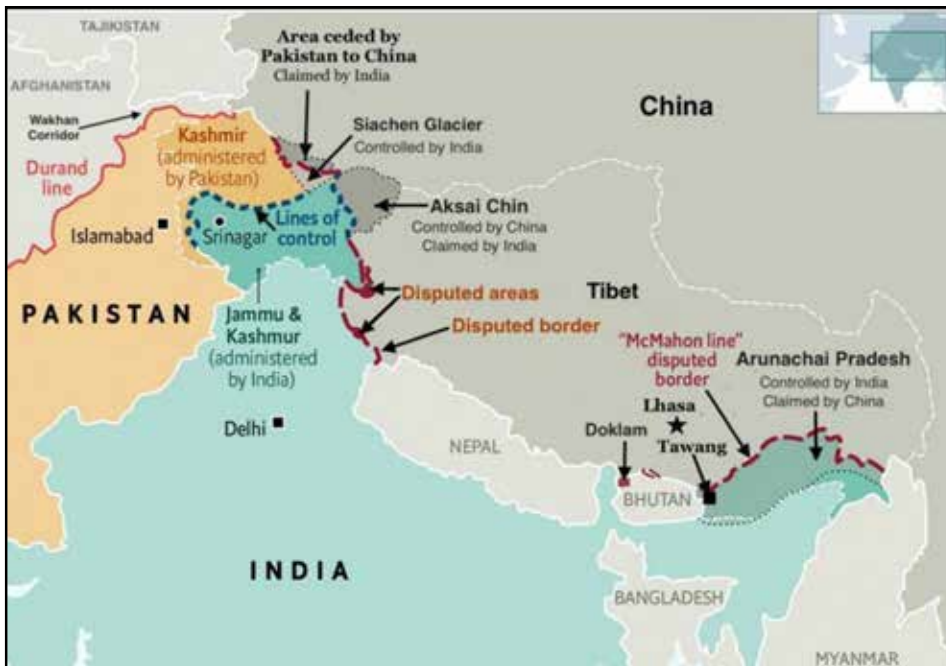


Figure 6:

India-China-Pakistan Border Regions and Current Border Disputes (2020)

[Economist, Council on Foreign Relations, Conflict Tracker, "Conflict Between India and Pakistan", <https://www.cfr.org/global-conflict-tracker/conflict/conflict-between-india-and-pakistan> (last accessed 24.06.2022)]

companies in civilian space will have to care about their own security architecture. This change is elevating a number of subjects – including financial stability, transnational environmental politics and climate change, terrorism in all its forms and manifestations, cybercrime, and pandemics – on the global agenda. At the same time these transnational matters tend to weaken the ability of governments to respond to several key issues due to continued gridlock in regional/global competition.⁸⁹

29. In this context, China pursues its ambitions to regain centrality in the international system and over global governance institutions, based on the Sino-centric worldview that suggests China is the cultural, political, and economic centre of the world. At the same time, the effectiveness and legitimacy of Sino-based international and multilateral organizations could undermine the foundation of multilateralism and Rules Based International Order. China is attempting to lead the reform of the global governance system, transforming institutions and norms in ways that will reflect Beijing's values and priorities.⁹⁰ China has also been attempting to lead an establishment of shadow multilateral governance structures to support its economic, trade and security ambitions. Recently, another important and emerging issue in the Pacific region is China's attempts to set up economic and military relations (including both naval base construction and conducting

exercises) with some of the Pacific islands, such as the Solomon.

30. While Indo-Pacific was given the focus of attention, Russia's full-scale invasion of Ukraine shifted global focus to Europe. While the Russia-Ukraine war is in Europe, it has global consequences for other parts of the world, including the Indo-Pacific region. Russia-China relations may be elevating to a new level since the beginning of the war. Thus, Russia's interest and accordingly, its influence in the Indo-Pacific region, is expected to increase through national outreach and potential change in strategic direction to the East.⁹¹ The most recent China-Russia joint declaration called the 'New World Order' suggests that the partnership between the two states is 'without any limitations.'⁹²

31. With this declaration, President Xi and Putin back each other on Taiwan and NATO enlargement, and approve an assertive manifesto divided into four main ideas: the new world order, the Grand Eurasian Partnership, the US aggression, and the cooperation against US aggression.⁹³ Furthermore, the Russia-China declaration also highlights that there are 'no forbidden areas' in their cooperation. This is of particular concern in the space and cyberspace domains, where Moscow and Beijing share capabilities and common interests.

32. Accordingly, Russia-China relations have

“The growing economic and political weight of emerging players, in particular China and India, reinforce the shift of global power from the West towards the East.”



grown in strategic dimension due to the increased convergence of their views of the international liberal world order and global priorities that has been reinforced during the Russia-Ukraine War.⁹⁴ This relationship, however, is not lacking inherent weaknesses, such as reminiscence of Chinese territories conquered by Russia, demographic issues in the Russian Far East and Moscow's uneasiness with China's ambitions in the Arctic. This relationship, in any event, will continue to carry strategic importance and will be shaped by each country's interactions with the West, in particular with the US.

IMPLICATIONS

a. Increasing challenges to the rules based international order. Emerging players will seek to increase their weight in the international system. Russia's unprovoked and illegal war in Ukraine will continue to increase complexity that will further the divergence of national interests of Indo-Pacific countries. While China may continue to support Russia in global governance institutions, other regional countries, such as India, Pakistan and Indonesia, will also have diverging views and interests contradicting the Western value-based system. Furthermore, China continues to aim to decrease the Indo-Pacific countries' cooperation with democratic nations, affect fiscal stability and undermine support for defence spending.⁹⁵ Besides, widespread use of violence against civilian populations and the threat to human security are reoccurring challenges that are visible in Russia's invasion of Ukraine and Chinese discrimination on Uyghur minorities, as well as in

other strategies to increase their power through international influence and presence.

b. Russia and China offer a new regional alternative. Increasing fear of containment by the West and its regional Allies will continue to drive China to a new level of partnership with Russia. The Russia-Ukraine War and the unprecedented level of sanctions will also force Russia to seek China's assistance for economic and political survival. Xi Jinping and Vladimir Putin are attempting to challenge a free and open ideology by putting economics at the centre of their strategic partnership. Their intent is to draw small-medium sized regional powers, which currently hold a neutral position, towards choosing an alternative, by offering economic cooperation and trade.^{96,97} Economic sanctions and political pressures will continue to move Beijing and Moscow into greater alignment as they respond to the West. However, at some stage China might be forced to select between its strategic partner Russia and Western markets that are essential for economic stability. Both China and Russia's perceived fear of containment is expected to grow as developments in the European and Indo-Pacific regions turn against them.⁹⁸ This will lead to increased militarization of relationships in the Indo-Pacific region that may further defence expenditures and increase the dangers of an accidental conflict. Indeed, China and Western militaries have had several close counters and incidents during exercises and Freedom of Navigation Operations in the Taiwan Strait or in the South and East China Seas.

HUMAN THEME

1. Throughout history, the Indo-Pacific region has been a homeland for many nations, religions, and ethnic groups. The indigenous ethnic majorities have integrated with other nations and populations due to invasions of Central Asian nations and colonization activities of Western countries. Currently, the region hosts many Asian populations, Southeastern inhabitants, Anglo-Saxon societies, indigenous cohorts of Pacific and Indian Ocean islands, and overseas islanders of NATO Allies, France, the UK and the US. In addition to these numerous societies, the region creates a suitable habitat for divine, non-divine groups and unbeliever communities. Furthermore, overseas and religious minorities have a vital role within the region.

2. As described in the following sections of this chapter, within two decades, the human theme features of the Indo-Pacific region will transform dramatically by some trends, such as demographic instability, uneven regional growth, inequalities, gross human rights violations, and heterogeneous/inharmonious countries. Ageing societies, decreasing fertility rates and uneven levels of populations fit to military service will cause demographic instability in the region. Because of this instability and economic power diversity among nations, the Indo-Pacific region will experience an uneven growth in urbanization, education, health, and poverty levels. Disproportionate impacts to regional inequalities are a heavier burden for the populations in vulnerable situations, such as displaced persons and refugees, women, children, the disabled and other groups that encounter

religious, ethnic and/or racial discrimination. In addition to these trends, some factors such as the harassment and violence against minority communities, the exploitation of overseas minorities, and the implications of technological advancements, will further unbalance pre-existing inequalities and the overall demographic posture of the region.

3. When demographic instability is considered, increasing and ageing populations will become main problems of the region. In the beginning of the 21st Century, Southeast Asia's populations boosted throughout the region. The 'UN Population Prospects-2019' presents that Bangladesh, China, India, Japan, Pakistan, the Philippines, and Indonesia are the regional countries that have passed the 100 million people barrier.⁹⁹ In contrast, the areal smallness of the Pacific Islands has hindered the growth of indigenous populations. Similarly, the Continent of Australia's geographic conditions have only allowed littoral settlements, which lead to a large oceanfront population.

4. Fortunately, technological development and economic prosperity in this century have enhanced life conditions and health services globally. The Indo-Pacific region has benefited from these developments, which, in turn, increased median ages. In addition, owing to high population rates, the Indo-Pacific countries have had the advantage of exploiting huge human sources to support their armies.

5. Additionally, the imbalanced urbanization and prosperity levels in the region have caused uneven

“Currently, the region hosts many Asian populations, Southeastern inhabitants, Anglo-Saxon societies, indigenous cohorts of Pacific and Indian Ocean islands, and overseas islanders of NATO Allies, France, the UK and the US.”



regional growth. Actually, ancient Indo-Pacific nations, such as China, India, and Southeastern Asia countries, have played significant roles in human history. Particularly, China affected the global culture in science and arts with its advanced civilization. However, the colonization implemented by Western countries, suppressed the aforementioned prosperity level of the Indo-Pacific countries. Notably, the economic ambitions of Western Countries on regional resources caused the Indo-Pacific countries to turn into a revenue centre. Due to the exploitation of its inhabitants and natural resources during the 20th century, Indo-Pacific countries have had to adjust to rural lifestyles and such hardships. Because of such exploitation, during the 20th century, Indo-Pacific countries have had to prefer to live a rural life.

6. By the 21st century, the globalization and rapid regional economic improvements encouraged the societies of some countries, such as China, Japan, ROK, and Singapore, to live in cities. However, this instant transformation has been accompanied with imbalanced urbanization. Due to factors such as inadequate infrastructure and improper planning, this trend has affected regional education, equal opportunities, poverty and health levels, which are disproportionately affecting vulnerable populations. While urbanization can provide an overall benefit to women, they often encounter unequal access to work, housing, health, education and representation in urban governance compared to men. Furthermore, two-thirds of those in poverty are women and girls, where access to social services like healthcare and justice services are limited, and they often suffer from gender-based violence. Currently, educational levels of rural societies are inadequate to fulfil the needs of the economic improvement of Indo-Pacific nations. Conversely, the economic advancement has opened the door to the countries in the region to strengthen their health conditions and to diminish poverty imbalance.

7. In addition, the effects of harassment and violence against religious and ethnic minorities, women, overseas populations and information warfare have formed heterogenous and inharmonious countries. Due to having a long history, the Indo-Pacific region has hosted many different religions, including divine ones, such as Islam and Christianity, and undivine ones, such as Buddhism, Hinduism, Taoism, and Chinese Folklore. This structure has affected social peace throughout the region. Politicians and clergy have preferred to exploit differences among religions and sects. This inharmonious condition has led to social unrest, fragile human security, and disarray.

8. Along with this negative trend, some ambitious regional countries, such as China, have been aiming to increase their influence by exploiting their overseas populations. These overseas minorities have transformed into a soft power instrument against regional nations. In addition, owing to the technological advancements, the information environment has become a new soft power tool for these revisionist countries to import their ideologies to the regional countries.

9. In addition to these trends, since the first case was reported in late 2019,¹⁰⁰ the COVID-19 pandemic has triggered many challenges to the region as to the rest of the world. Although the regional death count caused by COVID-19 is nearly 1/3 that of the global average (i.e. 25.2 versus 79.9 deaths per 100,000), the region has struggled with the pandemic's negative effects, such as a slowing economy, interrupted education, countering structural inequalities, domestic violence, and overtaxed health systems. The need for sex-disaggregated data was critical to understand the visible and hidden impacts of this pandemic against women. However, the effects varied throughout the region; for example, the death count of Malaysia (109.7 per 100,000) and Fiji (96.2 per 100,000) has been much bigger than the global average. While ASEAN countries have lost nearly 350,000 souls in total due to this disease, this number has been over 1 million for the whole region. The highest COVID-19 based death count in the region has belonged to India, with nearly 525,000 deaths. Though China was the main source of the pandemic and the initial country to spread the disease, by strict quarantine measures, the death count in this country has only reached 15,100. Some Pacific Island countries, such as the Marshall Islands, Micronesia (Fd.), Nauru, and Tuvalu, have not lost any souls due to this calamity. Similarly, owing to its lack of global connectivity, the DPRK reported its first casualty from the disease in May 2022, 3.5 years after the first case in the world.¹⁰¹

2.1. DEMOGRAPHIC INSTABILITY¹⁰²

10. More than half of the Earth's population lives in the Indo-Pacific region. China, India, Bangladesh, Pakistan, and Indonesia are five of the 10 most populated countries in the world. The overall population of the region is projected to reach nearly 5 billion people by 2050 with an 11.6% rise. However, this rate is not as high as the world's overall population rising rate (21.64%). ASEAN countries (except Thailand), and some of the currently crowded countries, such as Australia, Bangladesh, Bhutan, DPRK, India, Nepal, New Zealand, Pakistan, and Papua New Guinea,¹⁰³ will be more populated by 2050. Conversely, some

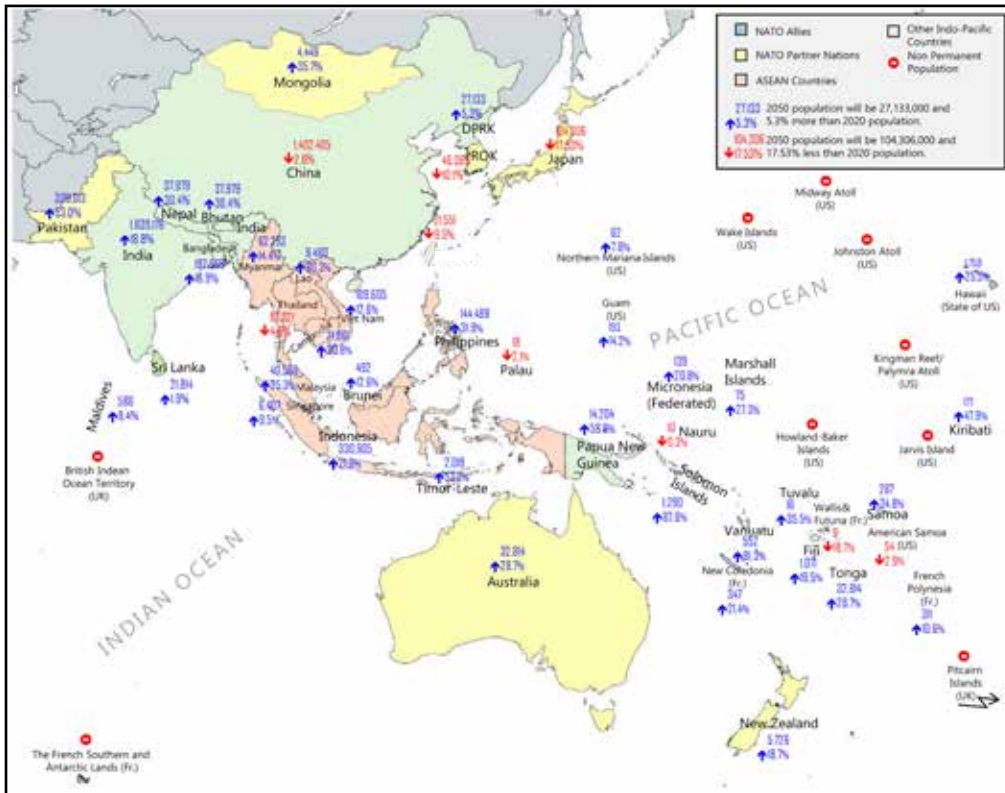


Figure 7:
The Indo-Pacific Region Population Prospects (2020-2050)
[Created by NATO HQ SACT Strategic Foresight Branch, May 14, 2022]

countries and provinces, such as China, Japan, ROK, Taiwan, and Thailand will be confronted with a population decrease.¹⁰⁴

11. One of the reasons for population growth stagnation in the region is the decline in fertility rates, particularly more so in certain religious and ethnic groups. By 2050, the regional fertility rate (currently 2.01 per woman) will downgrade to 1.83, which is below the 2.1 replacement rate needed to maintain the population. According to UN data and projections, ROK, Taiwan, and Singapore will continue to be in the list of the 10 lowest global fertility rates. In addition, factors such as prenatal sex-selection and undocumented births may skew results and disproportionately impact women and girls.

12. The vast majority of the Indo-Pacific's densely populated states have already passed through their most demographically turbulent phase of the age-structural transition. In the next two decades, the median age in the region is expected to rise from 30 to 39. It is obvious that the Indo-Pacific region's population will become older and population age structures in Taiwan, ROK and Japan will reach unprecedented levels of post-maturity (median ages from 55 to 57 years) by 2050. Projections suggest that these countries will transform into super-aged societies,

with 43-46% of their population being over 60. Congruently, China also will have an older society with 48 years as the median age.

13. Due to low fertility rates and ageing populations, by 2050, some regional countries and provinces will have challenges to support their armies. DPRK, China, Japan, ROK, Taiwan, and Bangladesh will lose 11%, 24%, 31%, 41%, 36%, and 1% respectively, of their population fit to military service. Conversely, this index for ASEAN nations, Australia, New Zealand, Mongolia, Pakistan, India, Nepal, and other Island Countries will increase.

IMPLICATIONS

a. Ageing populations will strain resources and cause labour shortage. In the next two decades, the population aged higher than 65 in the Indo-Pacific region will increase by 500 million and the portion of this 'grey population' to overall population will be 19%, more than the World rate (16%). Australia, Brunei, China, DPRK, Indo-Pacific islands of France, Japan, Maldives, New Zealand, ROK, Singapore, Sri Lanka, Taiwan, Thailand, and Viet Nam will have to tackle overaged population problems. Those countries will be forced to find resources for the aged people, who will need pension support and

“One of the reasons for population growth stagnation in the region is the decline in fertility rates, particularly more so in certain religious and ethnic groups.”

“Economically powerful countries such as China, Australia, Japan, New Zealand, and ROK could invite a young work force from other countries, which will result in labour migration among/towards the Indo-Pacific region.”

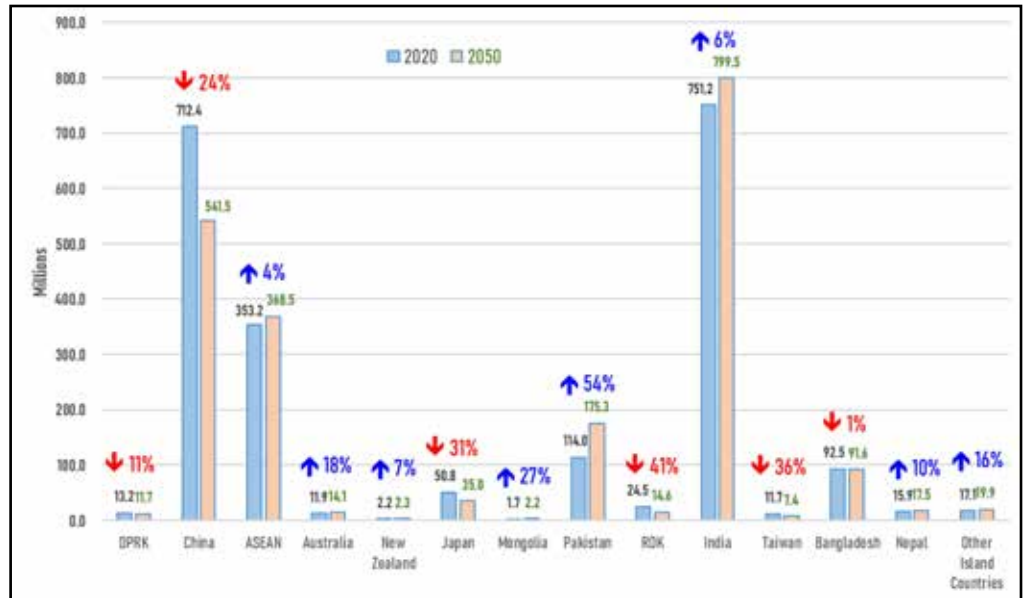


Figure 8:

Population Fit to Military Service in the Indo-Pacific Region

(Created by NATO HQ SACT Strategic Foresight Branch from UN Population Prospects-2019)

medical care, and these countries will need to cope with a labour shortage. This imbalance will affect economic growth of the region, as well.¹⁰⁵ Economically powerful countries such as China, Australia, Japan, New Zealand, and ROK could invite a young work force from other countries, which will result in labour migration among/towards the Indo-Pacific region. However, some societies in East Asia would react to the foreign migration conservatively.¹⁰⁶ In addition, there are some efforts to pursue automation in some industries to meet the growing need for a strong work-age population.¹⁰⁷

b. Rejuvenated countries will have to tackle various problems. While ‘greying’ countries have challenges caused by ageing populations, some regional states such as Bangladesh, Bhutan, Cambodia, India, Nepal, Pakistan, Papua New Guinea, and Timor-Leste, will have to struggle with an instability-prone youthful phase. Among these states, the on-going growth of young adults continues to open gaps in services, infrastructure, and employment.¹⁰⁸ Besides, differential growth could drive politically significant shifts in local ethnic proportions in some countries that retain enclaves of more youthful minorities, like Indonesia’s Papuans,¹⁰⁹ and the Philippines’ Moros.

c. Gender imbalance and inequalities will continue to lead to social unrest. Currently, the Indo-Pacific population has 92 million more men than women. China and India are the main source countries of this gender imbalance. Stagnant lives, desperate efforts to attain a bride, women’s migration and trafficking, and the need to take a stand against harassment are some negative effects of this disequilibrium.¹¹⁰ However,

these impacts should lessen with the integration of gender perspectives in public programmes, policy and governance models. By 2050, the gap between genders will decrease to 65 million. Nonetheless, current effects of this imbalance will continue to worsen demographic decline and to affect social stability. These single males would be a source for terrorism in all its forms and manifestations, and piracy. In addition, in China, with the negative impact of women labour shortage due to the decline in childcare support and evolving family structure, this imbalance will decelerate the growth of the economy.¹¹¹

d. Change in population fit to military service will affect defence capabilities. Although Japan and ROK will suffer from the decrease of this index, owing to Australia, Mongolia, and New Zealand, NATO Partner Countries in the region will have a total 18.75% rise in population of those fit to military service. Conversely, China, DPRK, and Taiwan will lose 24%, 11,25% and 36% of its armed forces’ staffing population, respectively, by 2050. Considering NATO’s support to partner nations,¹¹² capability will become more significant than capacity for Australia, Mongolia, New Zealand, and Pakistan. However, in addition to the capability support, strengthening of Japan’s and ROK’s armies with capacity would be essential.¹¹³ To that end, these countries are trying to strengthen their armies with robotic systems to mitigate the effects of this implication.¹¹⁴

2.2.UNEVEN REGIONAL GROWTH

14. By 2050, the urbanization rate in the Indo-Pacific region will increase from 49.93% to 65.38% with a yearly 0.5% rise. Currently,

Australia, Brunei, Malaysia, Nauru, New Zealand, Palau, ROK, Singapore, and Taiwan have already become urbanized areas with a more than 70% urbanization rate, including France's French Polynesia, and the US' American Samoa, Guam, and Northern Mariana Islands. In the next two decades, it is projected that Indonesia, China, DPRK, Kiribati, and the Marshall Islands will join this group. Particularly, nearly 217 million more Chinese will start to live in cities by 2050. Even though the urbanization rate of Pakistan and India will be 47.4% and 53.5% lower than regional average (65.38%), respectively, 83 million Pakistani and 394 million Hindustani will inhabit urban areas.¹¹⁵ Due to insufficient rural infrastructure, and rural economic stagnation in low to middle-income countries, migration from rural to urban regions will be faster.¹¹⁶ This will result in slum housing, which lacks basic services and infrastructure.¹¹⁷

15. Within two decades, along with coal/oil power plants, nuclear power and renewable systems are expected to be other energy resources that power up cities in the Indo-Pacific region.^{118, 119} In addition, 'water' will become a critical and vulnerable element of urban resilience. Coastal cities will have the advantage of synthesizing potable water from seawater. Hence, urban resilience will be a sensitive point for the region. Factors such as community vulnerability, environmental quality access to resource and its usage, quality of infrastructure, municipal capacity in governance, healthcare systems, emergency response, average life expectancy, and deaths due to natural disasters will be crucial topics, which will need to be analysed through a gender lens due to the known disproportionate impacts of these issues on women.

16. Currently, the average literacy and government expenditure on education rates in the region are 85.8% and 3.8%, respectively.¹²⁰ In the Indo-Pacific region, the overall number of pupils to teacher is 25 to 1, higher than world average (24 to 1). However, the regional education index¹²¹ is lower than the world average (0.637) at 0.611. Evaluations of this criteria show that Bangladesh, Bhutan, Cambodia, Lao, Myanmar, Nepal, Papua New Guinea, the Solomon Islands, and Timor-Leste have medium human development. Besides, Pakistan is assessed as a low human development country with 0.402 education index. The COVID-19 pandemic has worsened these numbers. Another problem in educational levels in the region is the gender inequality for schooling. The mean year of schooling is lower for women than for men (6.9 years to 8.5). For example, Bangladesh, Bhutan, India, Nepal, Pakistan, Papua New Guinea, ROK, and Timor-Leste

provide fewer educational opportunities to females than to males.¹²²

17. There are some regional and global attempts to increase these low education levels. Allies, such as France¹²³, Germany¹²⁴, Italy¹²⁵, Türkiye¹²⁶, the UK¹²⁷, the US¹²⁸, partner nations, such as Australia¹²⁹, Japan¹³⁰, and ROK¹³¹, and organizations such as QUAD, UN, UNESCO and EU¹³² are working on support programs for low educated nations. Similarly, China is trying to transform its society from a nation with large human resources to a nation with strong human resources by some education methods such as 'gao kao'.¹³³ In addition, China is trying to affect regional countries, especially ASEAN members, by education support activities, such as the 2021 China-ASEAN Education Cooperation Week¹³⁴ and by soft power tools, such as Confucius Institutes, Chinese Cultural Centres, training programs, and student exchanges.¹³⁵ Despite these efforts and some regional initiatives, like the 5th Asia-Pacific Meeting on Education 2030 (APMED2030), it is estimated that the educational level in the region would not catch that of the highly developed countries in the next two decades.¹³⁶

18. Considering health criteria, it is seen that among ASEAN countries, Cambodia, Indonesia, Lao, Myanmar, Philippines, and some other undeveloped Indo-Pacific countries, such as Bangladesh, Bhutan, Fiji, DPRK, India, Kiribati, Micronesia, Nepal, Pakistan, Papua New Guinea, the Solomon Islands, Timor-Leste, and Tonga, will continue to have inadequate health services.¹³⁷ The current life expectancy at birth¹³⁸ in the region is 74.07 (world 73.16), and owing to economic growth in some countries, like China, it will increase to 79.71 (world 76.77) by 2050.¹³⁹

19. However, health spending per person in 2020 in the region was \$458, lower than the world average (\$1,075). Bangladesh, Bhutan, Cambodia, Fiji, India, Indonesia, Kiribati, Myanmar, Nepal, Pakistan, Papua New Guinea, the Solomon Islands, Sri Lanka, Timor-Leste, and Viet Nam are the countries that are spending lower than \$200 per person on health services.¹⁴⁰ This trend will continue unless an outside aid is provided. Conversely, this trend will not affect China. Despite this country's huge population, China's economic growth prevents health system problems. With 8.1% of its Gross Domestic Product (GDP), China is able to provide \$532 per person for health needs.¹⁴¹ The combination of continued economic growth and depopulation will allow this trend to continue through the next two decades.

20. Currently, 531 million people, 12.8% of the Indo-Pacific region, are living under their national





poverty line. Bangladesh, India, and Pakistan are source countries for this negative index. In addition, more than 10% of the population of Bhutan, Cambodia, Lao, Myanmar, Pakistan, Papua New Guinea, and Timor-Leste have a deprivation score higher than 50%.¹⁴² There is also a gender imbalance for poverty in the overall region.¹⁴³ Recently, the COVID-19 pandemic has caused widespread unemployment, worsened inequality, and increased poverty levels, especially among women, younger workers, and older populations in under-developed Indo-Pacific nations. With accelerating economic growth and rising vaccination rates, the negative effects of the pandemic will diminish soon.¹⁴⁴ However, in the next two decades, due to income inequality, the need to support low-income societies in the region will continue.¹⁴⁵

IMPLICATIONS

a. Supporting urban resilience in the region will become vital. Security of power plants, nuclear energy systems, renewable energy facilities, desalination factories and urban infrastructures will continue to be crucial. To protect these capabilities in the Indo-Pacific region, the Alliance needs to share perspectives on urban resilience with developing regional countries, such as Brunei, India, Indonesia, Kiribati, Malaysia, the Marshall Islands, Nauru, Pakistan, Palau, Singapore, and Taiwan. This encouragement will also reduce the problems originating from demographic instability and internal irregular migration in the region.

b. Future regional armies will have to fight in urban areas. One of the lessons learned from recent conflicts, like the Russia-Ukraine War of 2022, is that military objectives and operative manoeuvres will focus to control urban areas rather than fields in the future. Current/Future NATO partner nations in the region will have to adapt their armies to this trend and to the impact that conflicts and military operations may have on the civilian population, especially in urban areas. Those armies should be equipped and trained regarding urban warfare concepts.

c. The support to regional armies will vary throughout the region due to different education levels. Considering today's conflicts, future armies are expected to depend on capability rather than capacity. Countries cannot transform uneducated youth into future warriors and combat leaders without long training programs. Within two decades, the education levels will continue to diverge throughout the Indo-Pacific region due to asymmetrical economic developments, uneven education programs, cultural barriers, institutionalized discrimination, and unequal foreign assistance to education.¹⁴⁶ Therefore, the

ability of supporting future regional armies with educated human resources will differentiate from country to country. Particularly, some regional countries, such as Australia, China, Japan, Malaysia, New Zealand, Philippines, ROK, and Singapore, will be able to satisfy the special educational needs of their armies. Conversely, some low-income countries, such as Bangladesh, Cambodia, Indonesia, Lao, Myanmar, Nepal, Pakistan, Papua New Guinea, Sri Lanka, Thailand, and Vietnam, will have difficulties to support their armies in educational means.

d. Revisionist countries would aim to increase their regional influence by supporting low-income nations. Similar to utilization of 'vaccine diplomacy' during the COVID-19 pandemic, some revisionist countries, such as China and Russia, would exploit educational insufficiency, health inadequacy, and poverty conditions of low-income states to increase their efficacy in the region. Such developing and low-income states would be willing to accept assistance from any nation regardless of democratic or autocratic orientation while they face severe problems. Hence, for preventing exploitation by these revisionist countries, low-income regional countries need to be supported by Western countries to achieve Sustainable Development Goals (SDGs).¹⁴⁷

2.3. HETEROGENEOUS AND INHARMONIOUS COUNTRIES

21. Due to being an ancient settlement, the Indo-Pacific region covers many different religions, the main ones being Hinduism (28.1%), Islam (19.7), Buddhism (12.7%), Taoism (11.08), and Christianity (8.2%). The most crowded religious group, Hinduism, has 1.16 billion supporters in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. In addition, ASEAN countries accommodate 6.6 million Hindus. With their Islamic majorities, Pakistan, Indonesia, and Bangladesh are the countries that have the highest Islamic population in the world. In addition to Indonesia, other ASEAN countries host 33 million Muslims as well, and China, India, Nepal, and Sri Lanka have sizeable Muslim minorities. Buddhism is another significant religion in the region with 527 million believers. ASEAN countries, China, India, Japan, ROK, Sri Lanka, and Taiwan have a huge Buddhist population. Besides, nearly one third of the Chinese population follow Taoism. With 338 million believers, Christianity has an important place in the overall Indo-Pacific region, particularly in Australia, China, India, New Zealand, ROK, and Papua New Guinea. Currently, members of other religions and non-believers account for 20.12% of the regional population.¹⁴⁸

22. By 2050, due to fertility rates, age structure, religious switching, and migration, the largest religious groups in the Indo-Pacific region are expected to distribute as follows: 31.0% Hindus, 24.1% Muslims, 10.4% Buddhists, 9.2% Taoists, and 8.99% Christians. The ratio of other religions' members and non-believers to the entire population will decrease from 20.12% to 16.19%. While the number of Hindus is expected to grow to 1.55 billion with a 34% rise in the next two decades, the number of Muslims is also projected to increase by 48% to 1.2 billion. Conversely, Buddhism will probably lose 1% of its followers.¹⁴⁹

23. Han Chinese, who make up 94% of China's population, follow religions of Buddhism, Chinese folklore, and Taoism, including agnostics. However, while Tibet province embraces Tibetan Buddhism, the northwest autonomous province of Xinjiang has a sizeable number of Uyghurs, a Turkic Muslim minority ethnic group, who constitute the majority of the region's population.¹⁵⁰ To control internal dissent, the Chinese government has built over 400 internment camps in this region as part of their 're-education' system ranging from low security camps to fortified prisons. This 'Sinification' effort is expected to continue in conjunction with Chinese ambitions.¹⁵¹

24. Correspondingly, some groups in India aim to incite Hindus to violence against the Indian Muslim population. Although the Indian government, unlike the Chinese CCP, have focused to stop such incidents, these nationalist attempts show us that India has a potential to transform into a civil war arena between Hindus and Muslims.¹⁵²

25. In addition, Indonesia had encountered another form of discrimination. Between 1998 and 2005, the Sunni majority escalated violence against Ahmadiyya and Shia minorities. Although democratization efforts¹⁵³ (Reformasi movement) between 1998 and 2019 calmed down this disorder, the potential of the violence's revitalization in Indonesia will continue, unless the Sunni majority will recognize those minority groups as Indonesians.¹⁵⁴

26. Likewise, discrimination tendencies against religious minorities would also create social unrest in Pakistan. Although 96.47% of Pakistanis are Muslim, Pakistan contains 3.8 million Hindus and 2.8 million Christians. Additionally, the Muslim community has some sects rather than Sunni majority, such as Shias, Ismailis and Ahmadiyah. While Shias form 20% of the Muslim community, Ismail and Ahmadiyah sects have approximately half a million members. Pakistan's current 'blasphemy laws' have been utilized as an instrument to suppress and control other religious groups. In addition to blasphemy laws,

radicalization of the Sunni Muslim community is another driver that could trigger a disorder within the overall Pakistani population. However, it is projected that improving the basic level of education, particularly for the next generation, and hosting activities such as '2021 International Day of Peace' would increase the harmonization in the country.¹⁵⁵

27. Bangladesh also has difficulties balancing religious concerns. Disputes between the Muslim majority and Hindu minority have a potential to transform into a civil war. Unless the Bangladeshi government enforces instruments such as regulatory laws or necessary measures against this disorder, a future conflict due to religion may create disgruntled crowds, who choose to immigrate to other countries or regions.¹⁵⁶

28. Along with religious heterogeneity in the region, some countries, like China, have an advantage to increase their influence on other nations by using their overseas population. More than 75% of the global Chinese diaspora has been settled in the Indo-Pacific region. Thirty-four million Chinese live mainly in Indonesia, Thailand, Malaysia, Singapore, Viet Nam, Australia, India, and Japan. Chinese diaspora forms 53% of Singapore's, 23% of Malaysia's, 13% of Brunei's, and 12% of Thailand's population.¹⁵⁷

29. In addition to an overseas population advantage, China has started to use its information warfare assets to canalize regional nations for future Sino ambitions.¹⁵⁸ Furthermore, this country has begun to employ media warfare and strategic psychological warfare internally and externally, including the 'Great Firewall' censorship platforms and social media terror tools to undermine academic freedom, censor foreign media and businesses, and curb civil society on a global basis. Currently, Western countries produce or manage the main global social media platforms and internet systems. However, owing to its user surplus and its overall technological advantage, China has gained the advantage to affect not only its own population, but also Indo-Pacific countries, particularly India, Pakistan and ASEAN members. Moreover, the upcoming 'Web 3.0 system' will accelerate this trend's effects. It is obvious that this system will transform current Web 2.0, a digital system controlled by companies, to a new kind digital world, which will cause an 'Info-Globalization' effect.¹⁵⁹ In this new system, independent connection apps will bypass the West driven social media companies, like Twitter, Facebook, Instagram, etc. In such a new environment, China will have many opportunities to increase its current 'soft power' effects on other Indo-Pacific countries.

“In the next two decades, due to income inequality, the need to support low-income societies in the region will continue.”

“China has started to use its information warfare assets to canalize regional nations for future Sino ambitions.”

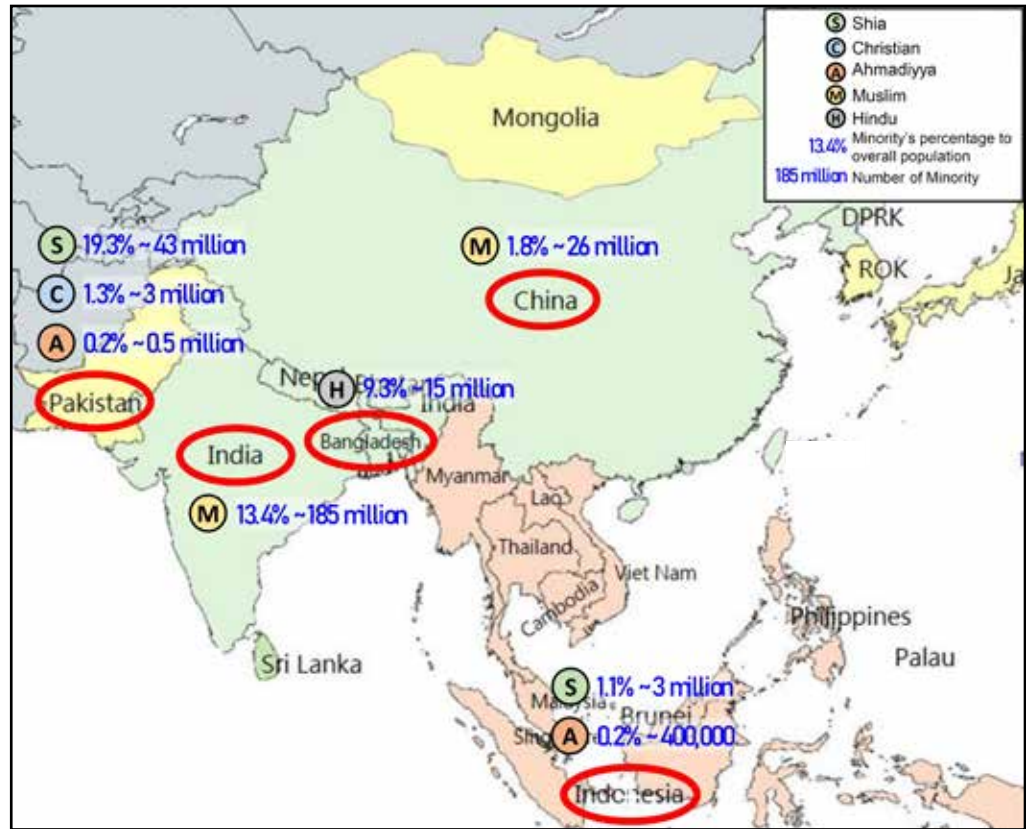


Figure 9:

Harassed Religious Minorities in the Indo-Pacific
 [Created by NATO HQ SACT Strategic Foresight Branch, May 14, 2022]


IMPLICATIONS

a. Discrimination of religious minorities would trigger a new migration wave towards Europe. Suppressed religious communities in China, India, Indonesia, Pakistan, and Bangladesh constitute a population of nearly 280 million in total. This number is higher than the Syrian, Iraqi, Afghani, and Ukrainian migrants, who are forced to flee to Europe in order to escape from disputes, wars and invasions. Similar to the reasons for these movements, the continuous majority groups’ harassments in the Indo-Pacific nations may cause civil wars, social unrests or bloody conflicts. Therefore, although first choice of these unhappy societies is to migrate to neighbour countries in the region, such an unstable situation could lead to waves of migration to Europe, which would initiate security concerns more serious than those produced by current irregular migrations.

b. Harassed minorities and overseas populations may become a foundation for terrorism, in all its forms and manifestations, and piracy. In the last decade, the unsettled political situation in Iraq, Afghanistan, and Syria provided living space for the foundation of terrorist organizations, such as Al Qaeda, PKK and ISIS/

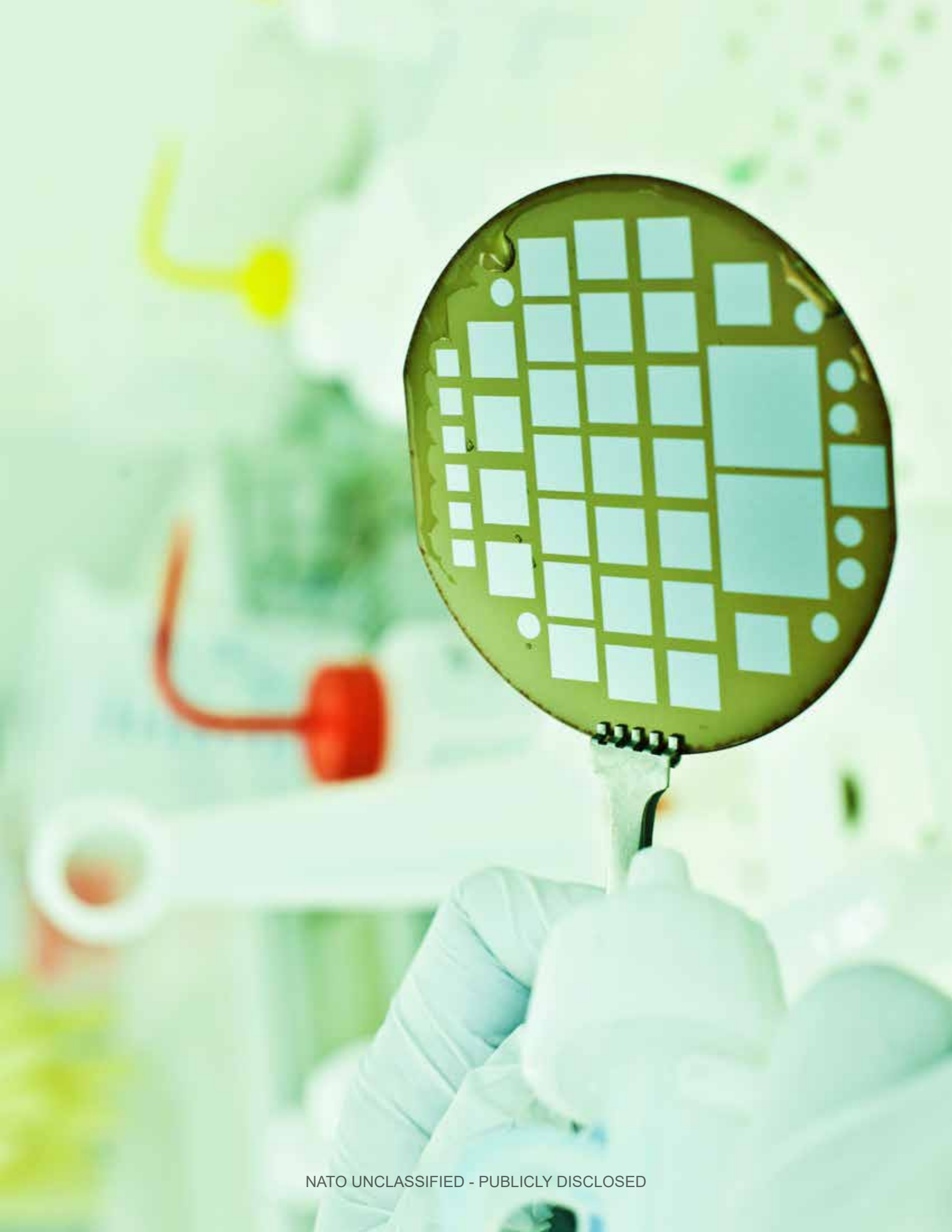
DAESH. Similarly, in the Indo-Pacific region, terrorist groups may benefit from harassed religious minorities and suppressed overseas populations as a human resource. These unhappy cohorts may settle into new terrorist or piracy groups in order to achieve their ambitions. These new terrorist organizations would find secure places, where they may escape from counter-terrorism operations. Additionally, like terrorism, piracy would revitalize and pose a threat to global trade on the maritime routes, such as the Strait of Malacca and the SCS.¹⁶⁰ To protect trade ships from these unlawful groups, the Western Navies would have to patrol the Indo-Pacific maritime routes.

c. China will continue to utilize Chinese diaspora as a soft power instrument to increase its influence in the region. Currently, China aims to affect overseas Chinese populations by using influential assets, such as media activities, religious institutes, think tanks and education programs in order to support its ‘rejuvenation’ project, which intends to transform its present status to a wealthy and powerful global power. Because some Chinese diaspora members do not have any bond with communist China, like the



Singaporean Chinese, China prefers to increase its influential pressure on overseas immigrants, whose number has already reached nearly 15 million. This stress would cause these immigrants to be caught in the middle between China and their residence governments, which has the potential for social unrest among these groups.¹⁶¹ The Alliance support to regional governments, particularly the ASEAN countries' administrative institutions, with domestic projects, might diminish Chinese influential propaganda on overseas populations.

d. In the independent atmosphere of Web 3.0, revisionist countries, such as China, could increase their current soft power effects. In the future, the 'info-globalization' wave, Web 3.0, will facilitate communication among populations by creating a more connected digital world. However, this new approach will cause some challenges as well. Owning or controlling social media platforms will not be adequate to affect this new system. Revisionist countries would benefit from this new uncontrolled platform in order to increase the effects of their present soft power tools.



TECHNOLOGY THEME

1. Technological advancement and the pace of innovation across the globe shows no signs of slowing. Though vulnerable to disruption, high-tech growth is likely to continue for the coming decades. This will impact a wide range of foresight themes, from everyday use to exploitation of Emerging and Disruptive Technologies (EDT), through medicine, improvements in quality of life, simplification of human tasks, and elevation of experiences. Notwithstanding major improvements in the quality of life of our humankind, new challenges will also emerge, when the race for technology and efforts to close technology gaps increase interstate tensions, shift commercial powers between various industries, alter political decision making and cost-calculus, and potentially give rise to new forms of security dilemmas.

2. The race for technological dominance is intricately entwined with evolving geopolitics in the Indo-Pacific as well as the ever-present US-China competition.¹⁶² This is clearly seen in the 2021 decision by Australia to pursue development of a nuclear submarine solution.¹⁶³ For a decade, Australia's white papers and various strategic assessment reports reflected a growing concern over the worsening security situation in the Indo-Pacific. Australia's decision to embrace the AUKUS partnership with the UK and the US for the development of nuclear-powered submarine capability was clearly driven by an aim to address the security concerns.¹⁶⁴

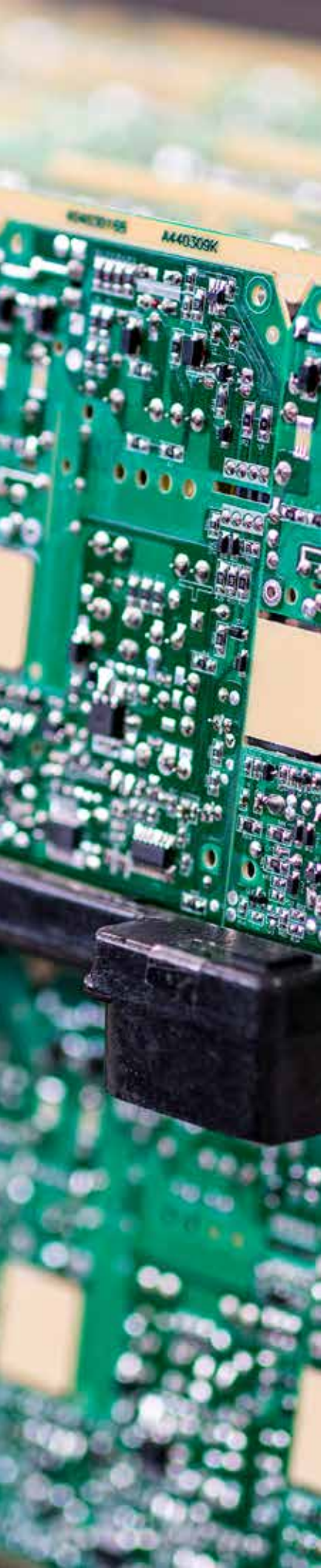
3. Australia pursuing nuclear submarine technology may not shift the balance of power away

from China, but it should alter Australia's position in the Indo-Pacific as a greater provider of defence and security deterrence. The AUKUS countries announced they would commence a collaborative effort on hypersonic missile technology and electronic warfare capability development within the AUKUS security partnership.¹⁶⁵ China's communicated rationale for its own expansive naval build-up¹⁶⁶ is the argument that Australia would promote 'intensifying an arms race'.

4. However, technological advancement in the Indo-Pacific is more than just a matter of military competition between the US and China. It is also the cornerstone of economic strength, future economic resilience and has bearing on much larger issues of governance, transparency, and an open trade system. Over the next two decades, technological competition and the innovation race will shape the economic, political, and norm-setting leadership agenda in the Indo-Pacific. ASEAN and QUAD countries play an important role in these fields of satellite technology, Pharma technology and green hydrogen. For example, Japan is experimenting with green hydrogen in transportation and South Korea is experimenting with it in electricity generation.¹⁶⁷

5. Of prime importance, the development and exploitation of digital space will be in the forefront of national strategies. China will continue to explore establishing its own, 'detachable' digital space and with that, the whole telecommunications ecosystem will become a tool of pursuing policy interests. Beijing's telecommunications network

“The race for technological dominance is intricately entwined with evolving geopolitics in the Indo-Pacific as well as the ever-present US-China competition.”



development and Digital Silk Road (DSR) investment could continue to increase surveillance and “accelerate a fracturing of the global internet, as some countries pursue these policies of internet control while others remain committed to internet freedoms.”¹⁶⁸ Meanwhile, the ‘Made in China 2025’ initiative demonstrates the government’s ambitious plans to invest in domestic strategic emerging industries, thus increasing control over critical supply chains. This will also inevitably reduce foreign economic influence within the Indo-Pacific region.¹⁶⁹

6. China, which follows a civil-military fusion doctrine, is very well aware of strategic advantages and vulnerabilities in the commercial technologies sector. The same is not necessarily the case in most of the West where the commercial sector, including private operators of critical infrastructure, work largely autonomously.¹⁷⁰

7. Due to its long-standing focus on technologies, Beijing has recently emerged as a rising leader in technical standards bodies and intergovernmental organizations (IGOs), thus, shaping the technology competition not only in the Indo-Pacific but globally. In a whole-of-government effort, Beijing attempted to influence the World Intellectual Property Organization in pursuit of its own interests. However, the effort was prevented through collaboration of like-minded governments. Decoupling from technological systems creates a strategic concern across the region, whether states join to increasingly decouple from China or decouple from the West.

8. Decoupling could reduce revenues to Indo-Pacific-based companies, such as the major semiconductor companies in Taiwan and ROK, or to Western markets as exemplified by the potential long-term costs of US export controls limiting sales of US semiconductors to Chinese companies. “Although the US still leads in chip design and semiconductor manufacturing inputs, its share of semiconductor fabrication has fallen from 37% in 1990 to 12% today. Meanwhile, China’s decades-long campaign to become a semiconductor powerhouse has yielded significant results in recent years.”¹⁷¹ Estimates suggest that, “over the next decade, China will become the world’s largest semiconductor producer in mature technology nodes and it will be able to do it all by themselves and achieve technological sovereignty in semiconductors.”¹⁷²

9. Further, it could contribute to a bifurcation of a global system of unified technology standards that in turn can reduce competition and innovation and drive up costs to organizations and consumers without an increase in benefits. An alternative to decoupling demands working within countries, regions, and globally for the long term – including over the next twenty years – is to promote broad collaboration, especially with China. It would have to include developing frameworks to provide an objective and transparent basis for knowing which products and services are worthy of trust, and to provide third-party oversight to ensure that technologies are only utilized consistent with non-adversarial uses. Because of the risks and

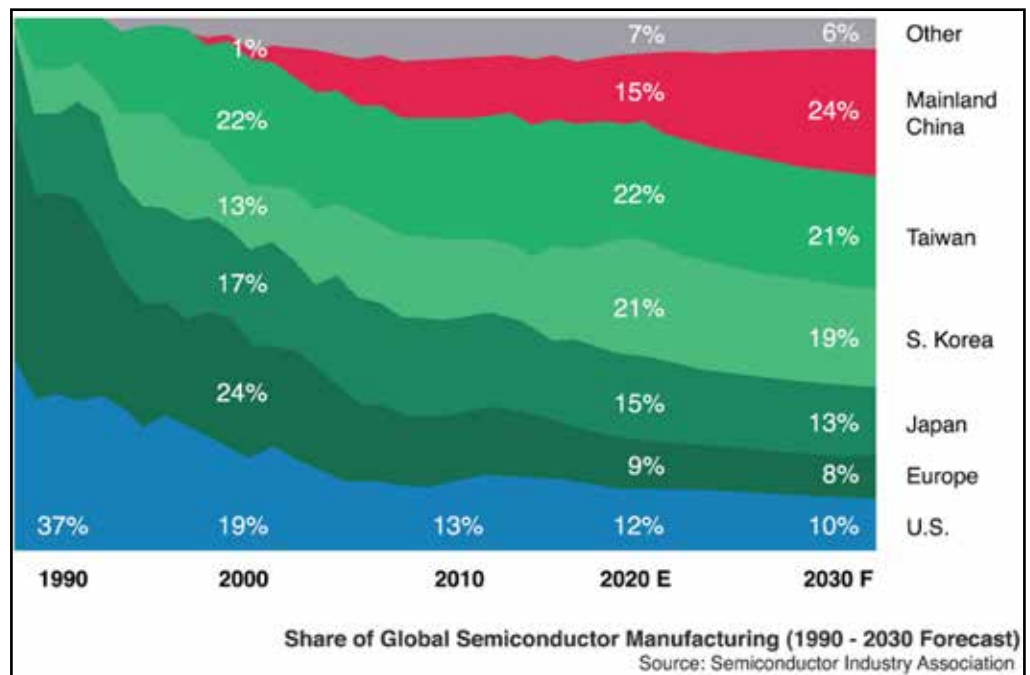


Figure 10:

China as the World’s Top Semiconductor Producer

(Alison, Graham, et al. “The Great Tech Rivalry: China vs the US”
Harvard Kennedy School, Belfer Centre, December 2021, 20)

benefits of bifurcation, the next decades will show where conglomerates evolve and where state governments step in to regulate.

10. The complexity and danger of differing priorities of national actors and of laws, rules, norms, verification, conformance and enforcement failing to keep step with innovation can be seen through the specific example of robotic soldiers and AI. The development of new forms of military technology including lethal autonomous weapons systems (LAWS) will demand a careful assessment of the changing character of warfare and the negotiation of new rules of the game, especially concerning nuclear, biological, or chemical aspects.

11. Future legal infrastructure must address questions about the applicability and adaptability of the Laws of Armed Conflict (LOAC) regarding new military technologies, particularly autonomous weapons systems. Envisioning robotic soldiers and the role of AI in military engagement necessitates decisions of the applicability of LOAC to robotic soldiers or possible bans on weapons that could be an instrument of unnecessary harm, and in particular when delivering nuclear, biological or chemical effects. In March 2021, the International Committee of the Red Cross (ICRC) called for an outright ban on fully autonomous weapons and appealed for a new international legal standard.¹⁷³ Since robots or technical machines are not human, they may be deemed a weapon rather than a lawful combatant under the LOAC. The mechanical soldier is a programmed machine; the code and the algorithms are the commander. With projected advances in AI, it might override a human commander's control and potentially even take actions outside the LOAC.

12. Calling China's domestic use of AI a "chilling precedent," the US National Security Commission

on Artificial Intelligence acknowledged the potential destructive capability and human consequences of AI-enabled weapons adding, "AI competition is also a values competition."¹⁷⁴ Without any rules, autocratic states, such as China or North Korea, would not be violating international law, and it could use its technical superiority to change the balance in the Indo-Pacific region dramatically.

13. With the use of robotic soldiers, conflicts could be extraordinarily destructive. The ICRC and Stockholm International Peace Research Institute (SIPRI) have called for new rules to limit how governments use autonomous weapons.¹⁷⁵ Noting there are "enduring disagreements on whether additional regulation is needed," their report noted, "there is emerging consensus among states that autonomy in weapon systems cannot be unlimited: humans must 'retain' and 'exercise' responsibility for the use of weapon systems and the use of force in armed conflict."¹⁷⁶ The ICRC/SIPRI report seeks restrictions on targets and effects, requirements for the use away from civilians and civilian objects, and controls for human-machine interaction. Automated conflict with robotic systems would have a significant bearing upon every actors' ability to determine the offence-defence calculus, how to balance controls and exploit opportunities.

14. Over the next two decades, changes in training, concepts, doctrine's, LOAC, rules and norms shaping technological developments and competition, combined with the ability to enforce those new guardrails, will be critical for achieving geo-cyber stability in an environment in which that is far from a given.

3.1. RISING COMPETITION IN THE TECHNOLOGICAL INDUSTRY

15. In 1999, the National Academies of Science, Engineering, and Medicine report suggested that

“Estimates suggest that, “over the next decade, China will become the world’s largest semiconductor producer in mature technology nodes and it will be able to do it all by themselves and achieve technological sovereignty in semiconductors.”



Figure 11:
Changes in Quantum Related Patents over the Last Decade
(Alison, Graham, et al. "The Great Tech Rivalry: China vs the US"
Harvard Kennedy School, Belfer Centre, December 2021, 14)



the US had been the primary engine of productivity growth in the 20th century and would likewise be the single largest determinant for the 21st century. China hardly mattered in the report.¹⁷⁷ The perceived view of China by many observers suggested that it could not grow into an industrial giant in the 21st century. Its population was too large and its GDP too small.¹⁷⁸ Nevertheless, by 2010, China had grown in a low-cost manufacturing site for multinational companies.¹⁷⁹ Although many continued to believe advances in information technology could not be made in authoritarian regimes, by 2020, China had transformed into the world's top high-tech manufacturer country and displaced the US.¹⁸⁰ Furthermore, beyond becoming a manufacturing powerhouse, China has also become a serious competitor in the foundational technologies of the 21st century, such as AI, 5G, quantum information science (QIS) (as described at Figure 11) biotechnology, and green energy.¹⁸¹

16. Additionally, Beijing was desperate to achieve semiconductor independence while the Trump Administration sought to block Chinese plans with sanctions against Chinese technology and telecommunications companies, like Huawei.¹⁸² In addition, this tech rivalry left chip-making global power Taiwan in the middle. Semiconductors are the cornerstone technology of the information age – from smart phones to automobiles to weapons systems – and a critical driver that affects US-China relations as well as the status of both countries' relationship with Taiwan. China currently trails the US, ROK and Taiwan in the production of chips but it is rolling out a suite of measures – with major state subsidies – to bolster research and financing for the state, military-industrial and commercial sectors.¹⁸³

17. On the other hand, China's techno-nationalism is driven by a fast-growing technological sector, especially in the digital sphere, and is spreading its platforms, which are controlled by China in other countries, widely in the US, but also in countries of the Indo-Pacific region. The US takes measures to limit the reach of technology companies based in China. Such measures are motivated by national security concerns related to economics, cybersecurity, or threats to civil rights. Moreover, technologies, such as the 5G network from Huawei and the use of platforms based on cloud infrastructures, such as TikTok, raise questions about data privacy, freedom of speech and economic competitiveness.

18. Similarly, the trend towards differentiation of technical standards will pose difficulties to the less developed countries, which will have to choose between two innovation giants, China or the US. In

the worst case, a country with traditional economic relations, perhaps also with Western values, may opt for innovative technologies from China because the offer will possibly be unbeatable. As a result, any country of the Indo-Pacific region could become disconnected from established trade systems in Europe or elsewhere in the world. Consequently, competition for technological progress creates economic and national security risks, which becomes increasingly obscure. One way of risk mitigation could be the preservation of the Rules Based International Order with common standards, and distancing from a technological Cold War.

19. Another actor of technology in the region is India. Currently, this country ranks in the top five among 50 countries in the Global Innovation Index (GII). By 2022, R&D expenditure targets are expected to reach at least 2% of the country's GDP. IT spending in India will grow 7% with \$101.8 billion in 2022. India's National Artificial Intelligence Strategy prepared by NITI Aayog outlined a way forward to harness the potential of AI in different fields. The Irish company 'Accenture' forecasts that AI will raise India's annual growth rate by 1.3% by 2035. All these developments indicate that a technologically advanced India will be an important actor in the Indo-Pacific region in the near future.¹⁸⁴

IMPLICATIONS

a. Global competition for the core elements of technology. Brain drain, R&D investment, and enhanced rivalries, are significant factors in the competition between the US and China. Amassing the resources to sustain broad technology leadership, including concentration of human talent, foundational knowledge, and supply chains, requires decades of long-term investment and visionary leadership. This has become a competition space between China and the US. However, "the US enjoys two advantages in human capital that Beijing cannot replicate. First, half of the world's AI superstars work for US companies. Second, America can recruit from all the world's 7.9 billion people, while inherent insularity restricts China to its own population."¹⁸⁵

b. Expanding commercialization supports Chinese Techno-Nationalism. The commercialization of new emerging technologies, such as man-machine augmentation technology, cloud quantum computing, advanced AI and virtual reality technology, has allowed China to pursue its aim of becoming the standard setter for some future technologies. China's move towards self-reliance is driven by an innovation infrastructure, which aims to define the future of technological standards. If achieved, this could

lead many nations within the region to shift away from Western technology sources to Chinese technology.

c. Sector dominance of technology industries.

Big Data and quantum computing industries may gain market dominance within the next two decades. Due to unevenly applied regulations, a division of wealth and economic gains between Indo-Pacific nations could emerge and potentially lead to friction.

d. Aggressive standards setting.

Advancements in information and biotechnology will continue to change the world and influence the future of the global society. The nation or region who controls advanced technologies controls their future and thus the standardization of them. Flushing the international market with inexpensive or subsidized technology commodities could favour one technology solution over another. This could swing technological dominance of the global market from the West to the Indo-Pacific region.

3.2. EMERGING AND DISRUPTIVE TECHNOLOGIES' ROLE IN SHAPING THE REGION

20. Technologies such as AI, autonomous systems, big data analysis, 5G, biotechnologies, and quantum computing technologies will change the world in immeasurable ways. Especially in the

Indo-Pacific region, China's pursuit of technologies across all levels of EDTs, from robotics, AI and machine learning, to developing new capabilities to engage in future warfare, will possibly change the balance of power in the region in favour of China. Chinese utilization of technological ambitions supporting grey-zone coercion and hybrid warfare to shift the balance of military power in the Indo-Pacific will raise concerns for many regional actors for the decades to come.

21. China currently does not present a military threat to the Alliance or the Euro-Atlantic region. However, the increasing pace of its military modernization and its focus on seizing on and exploiting EDTs development and implementation can transform it to a prime concern to the Alliance. EDTs, such as AI, quantum technologies, and outer space use will likely play a very important role in determining the outcome of the next major conflict. The main actors within the Indo-Pacific, such as Australia, India, Japan, and the US, all stress the need for the Indo-Pacific region to be 'free,' 'open,' 'resilient,' and 'inclusive.' At the same time, Beijing possessing a regional, if not global, advantage in 5G will continue to develop its networks further in the short-term.

22. Recent data described in Figure 12 shows that while China has 150 million 5G users, this number reaches only 6 million for the US. This huge gap continues on base station numbers,

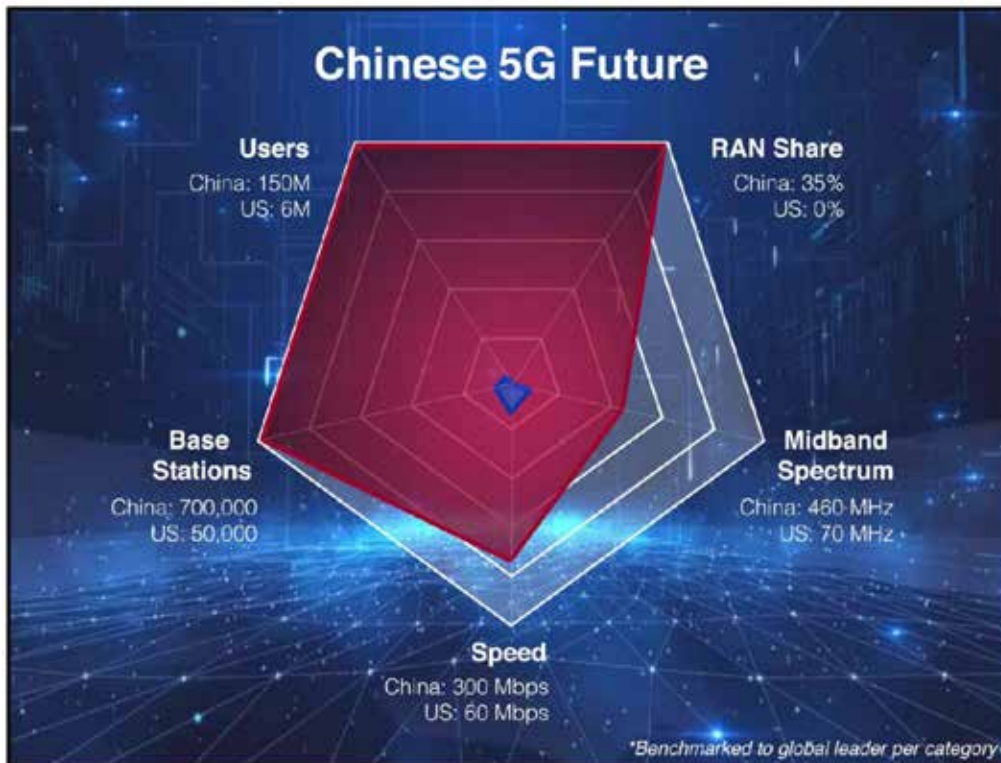
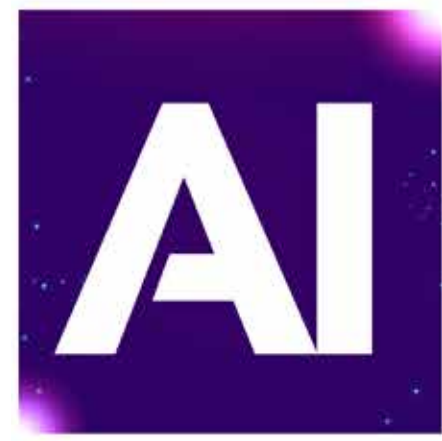
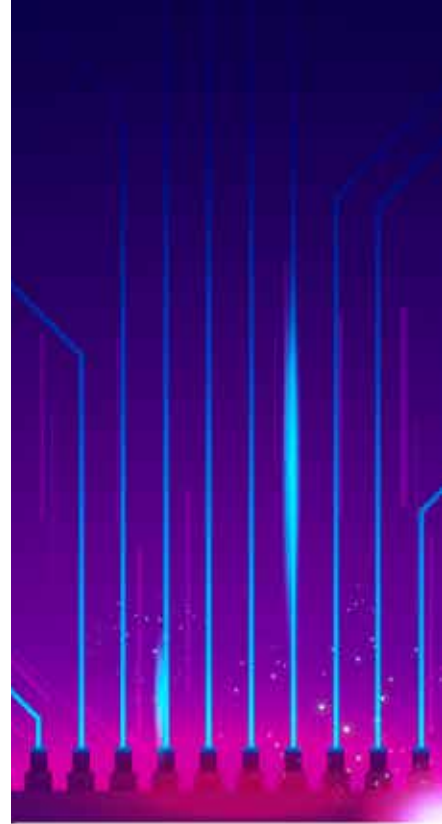


Figure 12:
US-China Comparison of 5G Technology
(Alison, Graham, et al. "The Great Tech Rivalry: China vs the US"
Harvard Kennedy School, Belfer Centre, December 2021, 8)



“In addition to its superiority on cyberspace technologies, China is also perceived as a full-spectrum peer competitor for the US in the AI technology.”

speed, RAN share and mid-band spectrum as well. Similarly, recognizing the value of 5G standards, fuelled by high R&D budgets, Chinese companies are aggressively expanding their influence over standards bodies and eroding America's. According to those findings, Chinese 5G future would be more promising than the American one. The Chinese communication company Huawei leads in shares of 5G patent families granted by the US and European patent offices, and in approved 5G technical contributions to the 3rd Generation Partnership Project (3GPP), while China has already set its sights on the next generation of mobile communications and holds 35% of 6G patents. Rather, the US holds 18% of these patents.¹⁸⁶ China's pro-6G digital economy blueprint marks its latest move to take a leading role in shaping advanced mobile technology development. Though 6G technology is likely at least a decade away, the impacts will certainly become visible by 2040 as the PLA is planning for its use on the battlefield already.

23. In contrast, alternative statistics show a slightly different view. Herein, 5G subscriptions in 2022 estimating 243 million for North America and Europe, 32 million for the Indian Subcontinent, and 832 million for North East Asia. For 2025, this changes to 782 million for North America and Europe, 202 million for Indian Subcontinent and 1370 million for North East Asia. By 2027, this further changes to 1076 million for North America and Europe, 500 million for Indian Subcontinent and 1628 million for North East Asia. Therefore, North America and European growth appears linear, Indian Subcontinent appears exponential and North East Asia as stagnating, with the respective percentage of market share changing as well.

24. Besides 5G estimates and in addition to cyberspace technology advancements, China appears as a full-spectrum peer competitor for the U.S in AI technology.¹⁸⁷ Furthermore, advancements in the AI realm raise many issues under the LOAC. Future soldier robots, autonomous drone warfare, and space and cyberspace technologies will increase the need for regulations that will at least attempt to control technological advancements in the coming decades. Being overwhelmed by adversarial forces could drive a nation into unregulated use of technologies, once unleashed, these could be very hard to regain control of, or at least limit, their spread.

25. Another effect of EDTs is a digital gap of populations. The economic advantages and social growth from technological expansion highlights a growing gap among populations due

to their limited/restricted access to resources and opportunities. The digital gender gap is of central importance when considering the target user and who has access to technology. Enhanced digital capabilities implemented in the workforce disproportionately impact women and certain age demographics as the requirements of digital technology use and job skills make them more difficult for population groups with limited access to use. The increasing automation and digitalization impact in female dominated industries in the formal economy, such as office and administration, manufacturing and production, should be further considered as such trends emerge in China, India, Indonesia, Thailand, the Philippines and Malaysia.

IMPLICATIONS

a. Countering cyber space disinformation. Regional actors will likely face challenges countering disinformation efforts as well as emerging forms of cyber-attacks. In order to maintain the free and open regional character of the Indo-Pacific, the Alliance can assist in efforts to resist non-kinetic coercion through formal and informal partnership cooperation and discussion towards the development of machine-learning tools and counter-adversarial technologies that combat the spread of disinformation.

b. Increasing need for cooperative efforts in the region. The Alliance should explore new and broader ways to work within existing partnerships while potentially establishing new partners in the region. The aim of partnerships should remain focused on contributing to regional actor goals of upholding the Rules Based International Order rather than improving operational capabilities in the region itself.

c. United efforts of regional security in the Indo-Pacific and Euro-Atlantic regions. An effort to develop the unified stance that sees the benefit of leveraging defence and security efforts in both the Euro-Atlantic and in the Indo-Pacific regions will extend its network of partners and cooperative efforts. The Alliance may contribute to establishing standards and innovation control over EDTs that influence both regions equally. Establishing digital partnerships within the region enhances the ability to regulate innovation while ensuring common data-governance policies are maintained.

d. Technology advances ahead of regulatory measures. As technology advances ahead of regulatory measures, the risk is that regulating bodies may never be able to catch up to, let alone overtake, rapid technological advancements, thus efforts from the commission to make

the regulation future-proof are compounded. Some of its provisions will be overtaken by rapid technological developments before they even apply. As nations feel they are falling behind in potential traditional military forces or capabilities, the likelihood of reliance on AI, robotics or exploitation of the cyber domain becomes an increasingly attractive measure to meet national and economic security interests.

e. Technology competition feeds economic development. Escalating superpower tech competition will force governments in the region to make difficult decisions. The importance of technological innovation in economic development has long been a feature in advancing Asian economies. Wealthy, internet-savvy countries like Japan, ROK, and Singapore leveraged the benefits of high tech, and consumers embraced it. More recently, China made the transformative decision to identify AI as a strategic priority since it is likely to become a game changer.

3.3. SHIFTING DOMINANCE OF 'THE USE OF SPACE'

26. The fierce competition between the US and China for economic and military dominance is not restricted to the globalized commercial markets nor the maritime environment of the SCS alone. Along with other space actors, such as the European Space Agency (ESA) and private companies, Space is now another battleground between the US and China amid a broader technological competition for supremacy. Particularly, the two nations seem locked in what increasingly looks like another cold war arms race that could threaten who controls and regulates satellite constellations and future space stations. This new space race could have important scientific and military implications over the next few decades.

27. China is determined to replace the US as the dominant power in space. While proclaiming its peaceful intentions, Beijing's doctrine considers space as a military domain, and it is investing heavily in space infrastructure designed to secure both economic and military advantages. Russia has been a spacefaring nation more than 50 years. China and Russia cooperation to develop a space station and construct a joint lunar space station could deepen their strategic cooperation and increase their capacity to lead in this area. By 2040, the International Space Station will have been decommissioned (planned for 2031) and there will likely be two new operational space-based assets. These will be controlled solely by China and Russia as alliances in space increasingly mirror the geopolitical lines on Earth.

28. One of the key concerns with how this race

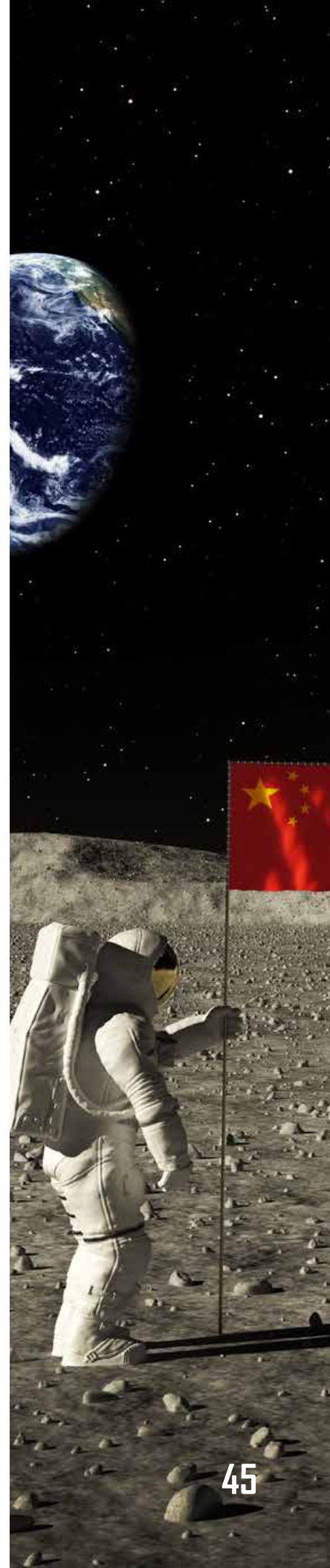
will play out eventually focusses on who will finally take the lead in the global space industry. Within the lead of technology development and expanding space exploration comes the ultimate responsibility of managing the ever-increasing use of space. This key role ensures space remains a safe environment for exploration while ensuring it maintains a similar status as the arctic – as a region to remain un-militarized. The concern lies in what the implications of China achieving space dominance and the rest of the world rallying around the new high ground holder would be.


29. The private sector is, and will remain, a key element in the success of US and Allied space programs. Especially since NASA ended the Space Shuttle program, space programs have relied less on governments and more on private industry, as evidenced by the burgeoning US commercial space industry. A decade after the first commercial launch of a satellite to Low Earth Orbit in 2009, the space industry has accelerated, with more than \$25.7 billion in private investment globally. Despite its importance, private-sector space entities sometimes face challenges in interacting with the US government. These obstacles include a complex regulatory and compliance environment that can be slow moving, risk averse, and process based, rather than outcome oriented.¹⁸⁸ However, the most recent developments involving multiple private entrepreneurs allowed companies to harness new technologies, pushing new boundaries, uncovering value while simultaneously opening the door to chaos and competition.

IMPLICATIONS

a. The unregulated region. The major concern over which nation or region will dominate the global space industry will be who will assume management of the technological space advancements and ever-increasing use of space. The expected growth of sheer satellite numbers will demand close observation, control, and management to negate the risk of collisions and consequential creation of orbital debris.

b. The dual use of space. China has embarked on a major process to achieve civil-military integration and to develop advanced dual-use technologies. This effort includes technologies dedicated to the use of space. Due to the inherent dual-use nature of space technologies, the concern exceeds simply a loss of scientific prestige and global standing if the West loses the dominance of the space sector. In addition to national defence and security, life on earth is dependent on the free use of space. This includes digital communications and precise





navigation (GPS), the latter of which is often taken for granted as a capability in military operational planning.

c. Increasing private sector role in space competition. There is a need to facilitate the transition to an orbital economy in the long term (2040-2050) and maximize space-based services to Earth in the short term (2021-2025). Therefore, it will be crucial to invest in space launch, satellite-constellation operations, upgraded space power and propellants, on-orbit services, In-Situ Resource Utilization (ISRU); to prepare for rocket transportation; to develop innovative ways of harnessing the private sector; and to secure supply chains. It is difficult, if not

impossible, to predict which technologies will be critical in thirty years' time. To account for the nonlinear nature of technological development, this strategy recommends investing in some specific technologies to push the envelope of space development in the short term and engaging in reforms to government practices that will encourage the development of space technology throughout the thirty-year timeframe of this strategy.¹⁸⁹

ECONOMICS/ RESOURCES THEME

1. The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP) Agreements connect ASEAN¹⁹⁰ Economic Community with other Indo-Pacific countries, China, Japan, ROK, Australia, and New Zealand, which has created the world's largest free trade zone. RCEP will presumably enhance East Asia's regional economic integration and contribute to regional and global economic growth. India and the US were to be members of RCEP and the CPTPP, respectively, but withdrew from these agreements. RCEP is very important for the region due to ASEAN centrality for the agreement that incentivizes supply chains across the region but also caters to political sensitivities.¹⁹¹

2. The US absence at the Trans-Pacific Partnership (TPP), which was meant to support the US foreign policy of 'Pivot to Asia', has increased Indo-Pacific countries' focus on regionalization and has allowed China to expand its economic, and therefore political, clout. The US introduced the Indo-Pacific Economic Framework (IPEF) in May 2021, which aims to reassert US economic engagement and provide a US-led alternative to China's economic statecraft in the region. While the IPEF's framework can strengthen the US foothold in the region and curb China's vast influence, it is not a free trade agreement, and the lack of detail has led to much speculation that the IPEF is merely geopolitical theatre.¹⁹²

3. Geopolitical changes in the Indo-Pacific region have further concerning economic effects due to

recent disputes between China and other regional countries, such as India or Vietnam.¹⁹³ Over the past decade, there has been the emergence of a multipolar world in the context of a liberal economic order whose freedoms have been exploited by less democratic actors. China has demonstrated a growing willingness and capacity to challenge and simultaneously exploit the benefits of the liberal order.¹⁹⁴ Russia's war in Ukraine, alongside the continuing global pandemic, multiply the growing threats of fragmentation into geopolitical and economic blocs. "The threat to our collective prosperity from a breakdown in global cooperation cannot be overstated."¹⁹⁵

4. Indo-Pacific countries, as well as many member states and partners of NATO, are highly dependent on resilient global supply chains. A determining factor in access to the area will be the evolution of China's doctrine of 'civil-military fusion'¹⁹⁶, in which access to resources, shipping, industrial production, manufacturing, pharmaceuticals, investments and more are considered by Beijing as effectively incorporating dual use capabilities, distorting economics¹⁹⁷ and international rules and norms. In terms of economic power and influence, experts view China as more influential in the region than the US today, and this gap may grow in the next coming years. Concurrently, Japan's economic influence might also relatively decrease over time.¹⁹⁸ Be it in the dispute with China around the Senkaku Islands or in other regional disputes such as between the ROK and its Northern neighbour the DPRK, the escalation and subsequent economic impact of any such disputes

"The CPTPP and RCEP Agreements connect ASEAN Economic Community with other Indo-Pacific countries, China, Japan, ROK, Australia, and New Zealand."

“China could overtake the US as the world’s largest economy as early as 2024 in nominal GDP terms, while other estimates suggest this will happen by the end of the decade.”

may have global economic consequences, even if it would not directly involve Allied nations.

5. In 2020, while most of the major economies were significantly contracting due to the pandemic (e.g., the US -4.3%, Japan -5.3%, Germany -6%, UK and France -9.8%, India -10.3%, and Italy -10.6%), China was projected to record a positive growth rate of 1.9%.¹⁹⁹ The current economic trajectories cannot be taken for granted in the coming and following decades; however, the Political Theme suggests that China could overtake the US as the world’s largest economy as early as 2024²⁰⁰ in nominal GDP terms, while other estimates suggest this will happen by the end of the decade. However, China’s zero-Covid policy in 2022 is severely disrupting key industrial and commercial sectors.

6. In order to increase capacity and strengthen national economies, the untapped potential of half of Indo-Pacific countries’ population needs to be utilized in order to strengthen each national economy and to enhance the quality of life for their citizens. For some nations, women are primarily part of the informal economy and make up the unpaid work (91% of unpaid work in India is done by women). With half of the nations’ population in the informal workforce or unpaid labour, the national GDP is unable to maximize its full potential by not including half of the population. When assessing economic disparity, current estimates place India’s rate of female participation at 24% of the formal labour force. India’s economy could flourish by an additional 60% by 2025, adding 2.9\$ trillion, if women were represented in the formal

economy at the same rate as men. Although China has had one of the highest percentage of women in the labour force in the region, since the 1990s it has declined from 73.2% in 1990 to 60.5% in 2019 (75.3% of men participated in the labour workforce in 2019).

7. Additional challenges for women in the labour market, such as lower retirement ages, working lower-paying jobs in the service-sector and/or rural areas, workplace harassment and institutional discrimination are persistent barriers to women’s full participation. Cultural norms disadvantage working women, which was re-affirmed when Japan launched their ‘womenomics’ in 2013 as part of the nation’s growth strategy to mitigate demographic challenges. National strategies that support equal opportunities and equitable practices can build inclusive economies that empower sustainable growth.

4.1. GLOBAL ECONOMIC WEIGHT SHIFTING TO ASIA

8. In 1950, the US GDP, in purchasing power parity (PPP) terms, was 27.3% of the world’s GDP while China accounted for only 4.5%. At the end of the Cold War, the US had 20.6% while China had only 3.86%.²⁰¹ However, in 2022, the US GDP is at 15.78% while China accounts for 18.79% of the world’s GDP. A similar trend has been observed between the advanced Western economies that account for 42.09% while emerging markets and developing economies of the South/East account for over 57% of the world GDP.²⁰² This economic change is also associated with other elements of

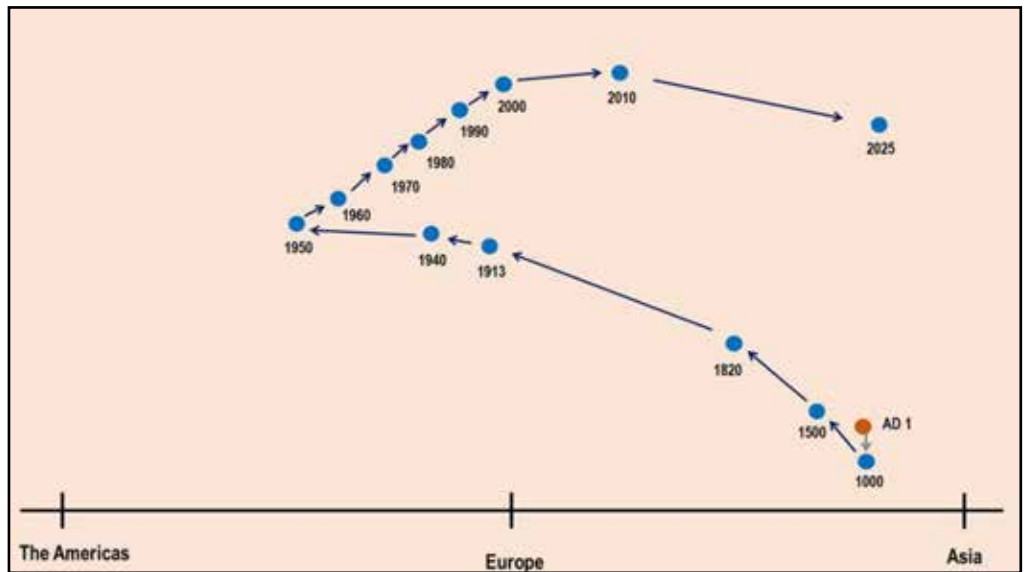


Figure 13:
The Shift of Global Economic Power based on the GDP
(Ablett, Jonathan and Erdmann, Andrew. "Strategy, Scenarios, and the Global Shift in Defense power." McKinsey Global Institute, April 2013)

national power that has taken place since early 2000s. Figure 13 depicts how the world's centre of gravity shifted over the years, especially the fastest-ever shift in the world's economic centre of gravity, which took place between 2000 and 2010. While the shift of global power continues from the West to the East, the US remains the most powerful country in the Indo-Pacific region, even though it registered the largest drop in relative regional powers in 2020.²⁰³ An increasingly multipolar world has emerged over the past decade in which China and Russia have demonstrated an increased willingness and ability to challenge the liberal world order.²⁰⁴ The future role of the US in the world and its foreign policy priorities remain ambiguous.

9. In 2020, the International Monetary Fund (IMF) has already pointed at 'exceptional uncertainty' after the pandemic, and the Ukraine crises will be a proportionate factor to accentuate this trend. The IMF's initial upward projection of 0.3 percentage point relative to previous forecasts, reflects both expectations of vaccine measures and policy support. This projected recovery, however, may vary significantly across countries in the coming years, 'depending on access to medical interventions, effectiveness of policy support, exposure to cross-country spill overs and structural characteristics entering such crises.' Since January 2022, the IMF's outlook has deteriorated substantially, largely because of Russia's unprovoked invasion of Ukraine and its wider consequences. In April 2022, the World Bank

increased concerns that this invasion threatened the uneven recovery of developing East Asia and Pacific countries from the COVID-19 shock.²⁰⁵

10. Indo-Pacific countries partake in strong multilateral cooperation bonds on one side and face increasing domestic re-prioritization on the other side. For example, Small Pacific Island nations stand up and see themselves together as 'Large Ocean States', rather than 'Small Island States.' This trend of strategic reorientation is also evident in China's quest for more self-reliance and less dependency internationally by calibrated decoupling and yet expanding globally at the same time. China's Belt and Road initiative, supporting economic expansion, reaches back to times where China had flourishing economy and trade relations with other parts of the world, and therefore China intends to remember and re-connect with that historic success. Their BRI is a new "Silk Road" project that promotes global cooperation and economic development. Hence, China is building a land bridge to Europe and the Middle East that runs through Central Asia, as well as a sea bridge running through the Indo-Pacific region, which is likely to leave developing countries in the precarious position of having to choose a side in a separated world.

11. Recently the CCP government in Beijing adopted a 'dual circulation' policy approach representing a major change in China's relationship with the 'surface world' (the global trading community). This 'dual circulation'

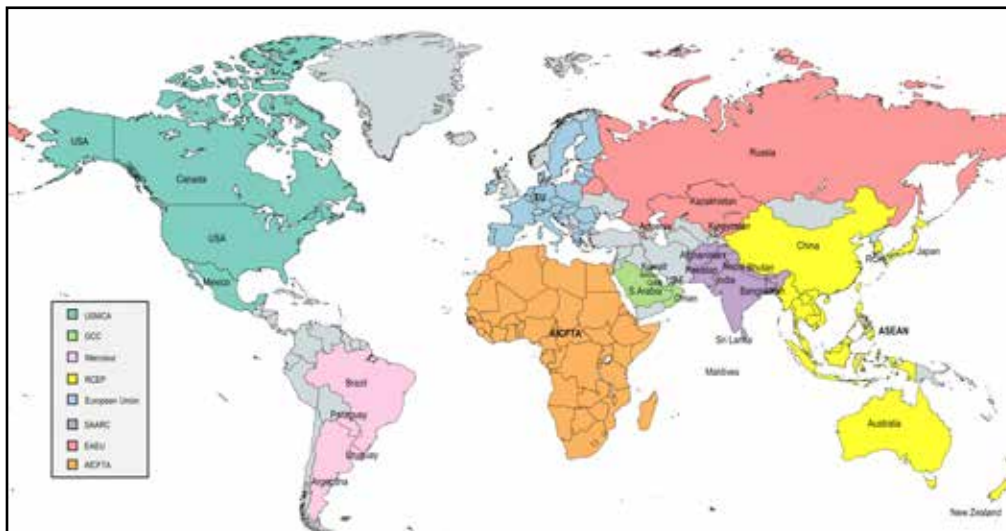


Figure 14:

The global significance of RCEP by comparing it with the USMCA (USA, Mexico, Canada) and EU free trade areas.

[Silk Road Briefing. "The RCEP, Asia's Equivalent to USMCA and the European Union", June 03, 2022. <https://www.silkroadbriefing.com/news/2021/06/03/the-rcep-asias-equivalent-to-usmca-and-the-european-union/> (last accessed 24.06.2022)]



“By 2040, competition with China, likely leading an East-Asian bond, might drive developing states to side themselves with either democratic or autocratic alignments.”

economic model places greater emphasis on China’s domestic market — or inside circulation — and fewer on external export commerce – outside circulation – with the surface world.²⁰⁶ While this new economic model is still in its initial stages, it will have significant impact of the Chinese economy as it emerges from the COVID-19 pandemic.

12. By 2040, competition with China, likely leading an East-Asian bond, might drive developing states to side themselves with either democratic or autocratic alignments, or the world might see the creation of non-aligned groups or new partnerships lead by local regional powers, transcending ideology and national governance by placing greater emphasis on economic interests and geographic realities. Authoritarian countries will probably follow this trend by choosing a partner on relevant topics while considering advantages. For instance, Vietnam is likely to continue strengthening its affinity with the West, despite a closed political system and ideological affinity with Beijing, where others may focus on economic advantages offered by RCEP for instance. RCEP is one of the largest free trade agreements in Asia that encompasses 15 countries, accounts for approximately one third of the global GDP, and is already 2.5 times larger than that of the European Union and USMCA (USA, Mexico, and Canada) together.²⁰⁷

13. An additional and significant part of Beijing’s overall BRI strategy is the DSR, under which China provides aid, political support, and other assistance to recipient states toward improving recipients’

telecommunication networks, AI capabilities, cloud computing, e-commerce and mobile payment systems, surveillance technology, smart cities, and other high-tech areas.²⁰⁸ In particular, countries of Eastern Europe and Southeast Asia desperately need inexpensive, high-quality technology to expand wireless phone networks and broadband internet coverage. The true number of DSR recipients’ agreements and investments is unclear, because memoranda of understanding (MOU) do not necessarily show whether China and any other country have embarked upon close cooperation in the digital sphere. Although these MOUs are not legally binding, they show the scope of interest in the DSR and therefore a global trend reaching even beyond the Indo-Pacific region. Overall, DSR-related investments can help fill the world’s infrastructure financing gap and spark growth by providing or helping finance recipients’ critical infrastructure.

14. China’s DSR promotes CCP’s ‘Made in China 2025’ initiative, ramping up China’s high-tech industries. China gains knowledge through a joint venture between Huawei and the British firm Global Marine Systems. Both form Huawei Marine Networks, owning the Pakistan East Africa Cable Express (PEACE) that provides almost all international data transfer through undersea cables. The shortest route for high-speed internet traffic between Asia and Africa begins at Gwadar’s port town in Pakistan, and China operates this port today. Experts anticipate that “this port will become a Chinese naval facility in the coming years.”²⁰⁹

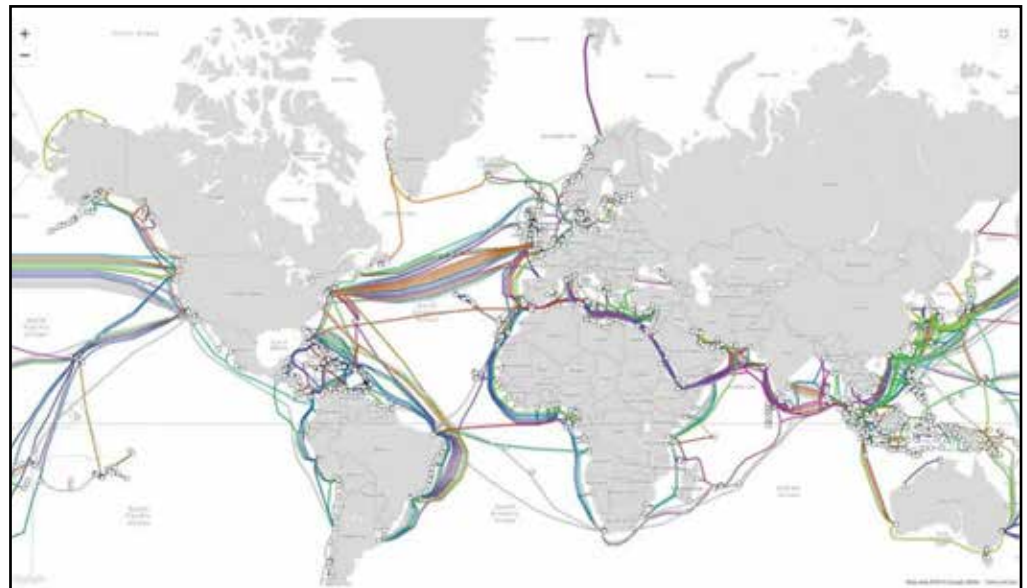


Figure 15:

Digital Silk Road – China’s new global data highway

[Council on Foreign Relations. “Assessing China’s Digital Silk Road Initiative: A Transformative Approach to Technology Financing or a Danger to Freedoms?” <https://www.cfr.org/china-digital-silk-road/> (last accessed 28.03.2022)]

15. Beijing's economic engagement allows China to apply indirect pressure on Taiwan's 'allies' and isolate Taiwan's Capital Taipei from international organizations. Beijing's primary goal of deterring Taiwan's efforts, to formally become a sovereign state, has impeded other countries from officially recognizing Taiwan and thereby preventing its government from joining international organizations as a member with such status.²¹⁰ China funds its 'out-reach' partly through Western and Japanese flows of hard currency into China, including large-scale financial sector investments such as pension funds.²¹¹ This situation fuels the trend of having investors applying political pressure on their home governments, not to 'upset' China.²¹²

16. According to a Duke University article from 01 October 2020,²¹³ nine of the world's 10 busiest seaports are in that region, and 60 percent of global maritime trade transits are going through Asia, with roughly one-third of global shipping passing through the SCS alone (see Figure-16). These facts leave no doubt about the importance of maintaining worldwide economic stability through a secure international order. After WWII, the members of the United Nations agreed on a system that would allow free and open trades around the globe, based on international standards. Recent and further developments regarding the application of economic tools in pursuit of assertive policies may show the fragility of such an agreement.

17. Many democratic countries in the region that are considered like-minded and pro-democratic

countries, such as Australia, New Zealand, Thailand, and several other Pacific Island countries, will be under increasing economic pressure to accommodate Beijing's objectives.²¹⁴ National governments will make such decisions with economic and geostrategic interests in mind and regardless of perceived ideological preferences. Those democratic states could follow the trend of working with non-democratic partners while struggling to understand the pro-Beijing positions of traditional democratic partners, tied to China by economic or geographic interests. In that context, disruptions of transformative technologies to current value chains requires consideration. New ways of manufacturing based on automation and 3D printing in combination with resilience issues and environmental concerns are likely to have a major impact on future trade flows and value chains. This means Asia's traditional role as a cheap labour manufacturing hub is likely to change, with digital trade becoming more important.

18. Since 2020, there have been nascent considerations in the West to 'de-couple' from China, and vice versa, with countries still obliged to band together for strategic economic development and protection. Indo-Pacific centred discussions in the West have focused on shifting supply chains out of China via the India-Australia-Japan Supply Chain Resilience Initiative.²¹⁵ This initiative could include vaccines, climate, energy, infrastructure, and emerging technologies.²¹⁶ Within two decades, regional countries, except China, could form new

“Many democratic countries in the region that are considered like-minded and pre-democratic countries, such as Australia, New Zealand, Thailand, and several other Pacific Island countries, will be under increasing economic pressure to accommodate Beijing’s objectives.”

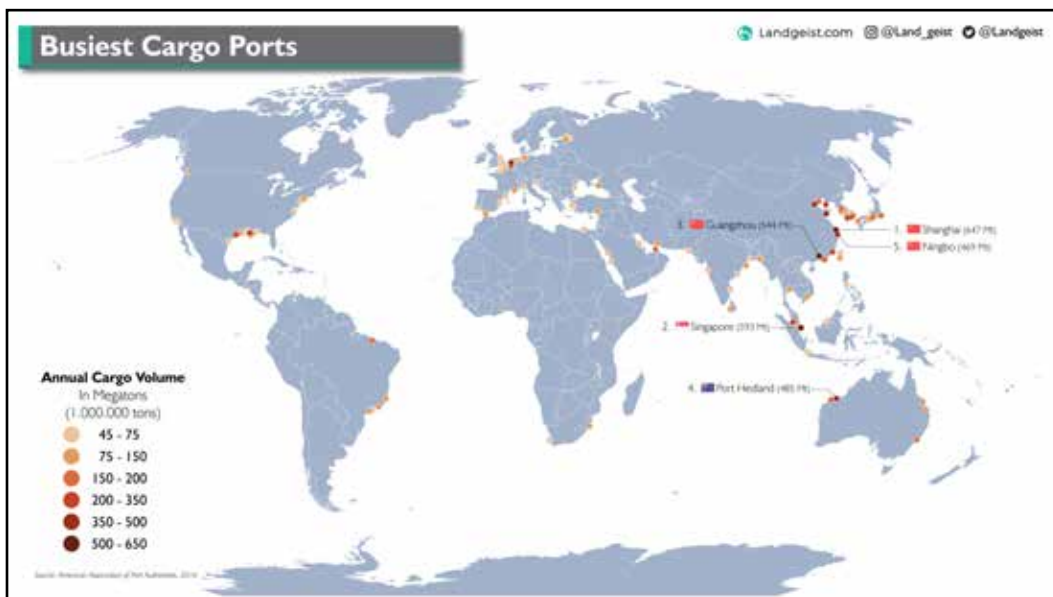


Figure 16:

Nine of the world's 10 busiest seaports are in the Indo-Pacific region

[Wordpress.com, "Busiest Cargo Ports", 2016. <https://landgeistdotcom.files.wordpress.com/2021/01/world-busiest-car-go-ports-1.png> (last accessed 24.06.2022)]

“The Indo-Pacific region accounts for 28% of global defence, which continues to intensify military competition, resulting in a vicious cycle caused by a security dilemma.”



Figure 17:

Economic Weight shifting to Asia

[US Office of the Director of National Intelligence, “Global Trends 2040”, Economics, March 2021. <https://www.dni.gov/index.php/gt2040-home/gt2040-structural-forces-economics> (last accessed 24.06.2022)]

international economic organizations, like QUAD Plus or QUAD 2.0, in order to limit Chinese economical supremacy.

IMPLICATIONS

a. Domestic re-prioritization. Many factors discussed above, including the pandemic and the Ukraine invasion, lead to varying economic growth rates. On the one hand, the world experiences an increased need for ‘strong multilateral cooperation’ to control such crisis together and to reinforce economic growth again, and on the other hand, new security challenges emerge that need attention and ‘domestic re-prioritization’. Similarly, China’s 14th Five-Year Plan revolves around security concerns alongside economic and technological growth.

b. Further escalation of tensions. A shift of economic power will continue to be associated with an increase in military expenditure, driving a potential arms race in the Asia-Pacific region.

For example, if approved, the new budget would amount to 2% of Japan’s GDP, putting the country in alignment with NATO’s defence spending standards. This change indicates a huge increase for Japan.²¹⁷ A recent report suggests that the economic downturn had a minimal impact on defence spending in the Indo-Pacific region.²¹⁸ The Indo-Pacific region accounts for 28% of global defence, which continues to intensify military competition, resulting in a vicious cycle caused by a security dilemma. Further escalation of tensions will present a potential risk for the economic recovery and stability of regional countries, and with second-order consequences globally.

c. Natural resources dependency. China is adapting its technology toward enhancing growth. That means technology becomes a ‘force multiplier’ and the main driver for China to achieve all of their long-term goals. Nevertheless, technology means resources and expertise. In that respect, ‘Russia is a major dominator’ when it

comes to natural resources, and Russia's growing Arctic exploitation may still serve as another rich source for China's future economy, which could preserve the relationship between Russia and China and thus a force multiplier for the economic weight shifting to the East. It could also impose pressure on European Allies to rebuild economic alternatives, while Russian realignment of natural energy exports towards Asia would further fuel diversification.

d. New emerging relationships. Fluctuations between multilateralism and regionalism nurture the global shift by challenging the global order and flagging a historical turning point. "A worry about China brings the QUAD together," and India's position in the Indo-Pacific region, as part of the QUAD (including the US, Japan, and Australia), is the will to engage more with partners in the West to address related challenges. However, the Biden Administration states clearly that from a US view "there is no space for not working with China." Beyond the QUAD there are some other emerging relationships in the Indo Pacific region, such as AUKUS or ASEAN, one that does not even include China or the US. Such realignments harbour the risk of conflicts of interest and thus potential for fundamental disputes.

e. Calibrated de-coupling. China is attempting to achieve an ambitious and risky decoupling from the West, which is only partly realistic. The Regional Comprehensive Economic Partnership agreement (RCEP) from November 2020 created the world's largest economic bloc with 15 countries,²¹⁹ covering 30% of global trade and representing a similar percentage of global output.²²⁰ A calibrated reduction in reliance on

fragile supply chains could increase domestic capacity but would not protect the economy from future disruptions if interdependent and interconnected. Looking out to 2040, changing the current regional geo-economics trajectory would require Western and Japanese governments to give the region and their own business sectors real alternatives to Chinese investments.

f. Diversification and resilience of supply chains. The dependence on a single source or a single point of failure of supply chains could be exploited for coercion. European dependence on Russian oil and gas is an example of the dangers of coercive exploitation. The COVID-19 pandemic has also shown the risks involved in a high level of dependence on a single source of supply chains through potential competitors. A plethora of supply chain risks, such as extreme weather events, labour disputes, cyberattacks, and supplier disruptions could affect resilience of NATO/Western countries.²²¹ A paradigm shift needs to be adapted to increase supply chain resilience and security of key supplies, including products critical to national health, the economy and the military. At the same time, the Alliance should be able to address these challenges through providing tools for strengthened resilience for allied and partner countries.

4.2. INCREASING NATURAL RESOURCES COMPETITION

19. As described in the Human Chapter, the Indo-Pacific region consists of more than half of the global population. Nevertheless, the region is richly abundant in strategic minerals and other natural resources and raw materials, including

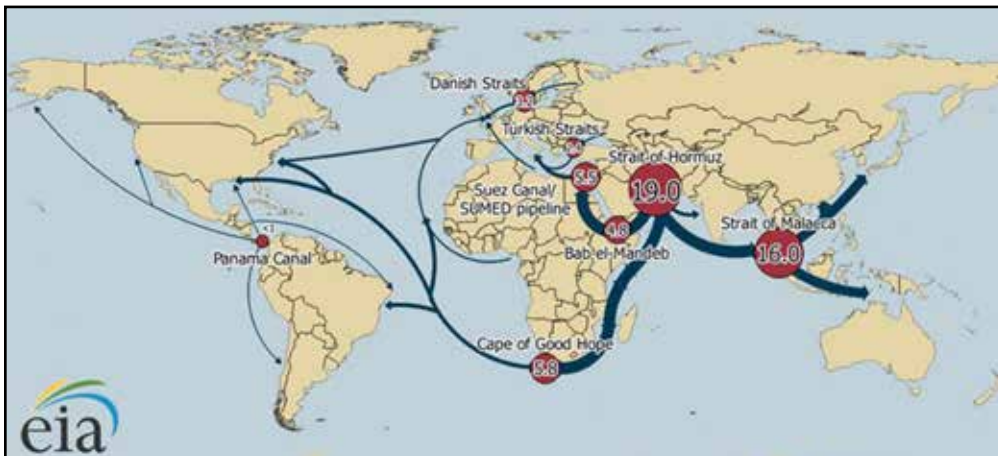


Figure 18:

Daily Transit Volumes of Crude Oil and Petroleum Liquids Through the Principal Maritime Oil Corridors

(Raga, Ana A. "The Bab el-Mandeb Strait: Geopolitical Considerations of the Strategic Chokepoint" Instituto Español de Estudios Estratégicos, March 10, 2020)



“The warming of the world’s oceans due to climate change is driving fish away from their current habitats and towards the poles of the earth.”

those of freshwater and coastal ecosystems. The exploitation of such resources accelerates the trend of growing opportunities and increasing competition for China, the US, India, Russia, Japan, and the many other coastal countries comprising the Indo-Pacific.

20. Key maritime choke points, notably the Strait of Malacca, Strait of Hormuz, or Bab el-Mandeb, highlight the geopolitically sensitive and fragile corridors supporting the oil, gas, and electrical energy needs not only of China but also of many other Indo-Pacific states. China has accounted for more than 50% of global lithium production, flagging the trend of accumulative strategic competition in rare earth metal elements, placing huge importance on sustainability in regional and global supply chains. Even though piracy cases dropped in the region in recent years, such narrow maritime passages, through which very high volumes of trade passes, are always exposed to threats.

21. Across the Indo-Pacific, similar to their approach in Africa and the Arctic, Chinese businesses are engaged in activities, including major port operations, banks, casinos, and resource extraction. In some places, such as the Tonga Island, ethnically Chinese were able to dominate at least 80% of the retail sector.²²² As in this example, in many island nations there is often little effective competition. Nevertheless, the West might exploit the weakness that China’s Renminbi (Yuan) is not freely convertible. Be it

to purchase foreign goods and raw materials or to fund overseas projects, including sections of the BRI, Beijing needs convertible currency such as the US dollar or euro. In that respect, the US dollar is yet one of the last major economic tools Washington has to use against China. However, a new trend could usher in a turning point because Beijing is keen to eliminate that advantage, and is floating a range of tactics to weaken the dollar’s international position, including launching a Chinese government-backed digital currency.²²³ “Galvanized by the West’s sanctions on Russia, Beijing can now be expected to accelerate its efforts to boost the use of the Renminbi in international markets.”²²⁴

22. As mentioned in the Environment Chapter, the warming of the world’s oceans due to climate change is driving fish away from their current habitats and towards the poles of the earth. Around three quarters of countries have at least one fish species migrating from their exclusive economic zones.²²⁵ By 2030, 23% of the world’s common fish stocks could be migrating, and unless greenhouse gas emissions drop drastically, the number could rise to 45% by the end of the century. By 2100, 81% of the exclusive economic zones may suffer the same fate. Alarming to the region, the East China Sea has already experienced a rate of warming ten times the global rate. Although the SCS fares slightly better, minor increases in sea temperatures are significant given the already warm and tropical nature of the

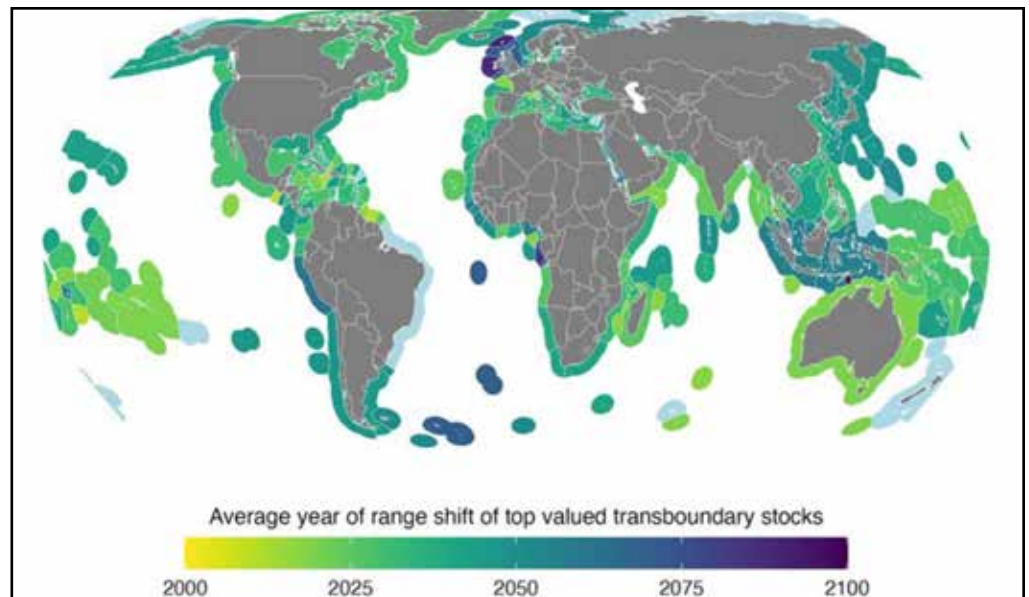


Figure 19:

Fish Leaving Habitats Poleward or Into Deeper Waters Over Time

[Raman, Spoorthy. “Climate Change Set to Upend Global Fishery Agreements, Study Warns” Mongabay, March 9, 2022. <https://news.mongabay.com/2022/03/climate-change-set-to-upend-global-fishery-agreements-study-warns/> (last accessed 24.06.2022)]



Figure 20:
Russia-China Plan New Gas Pipeline

[Raman, Spoorthy. "Climate Change Set to Upend Global Fishery Agreements, Study Warns" Mongabay, March 9, 2022. <https://news.mongabay.com/2022/03/climate-change-set-to-upend-global-fishery-agreements-study-warns/> (last accessed 24.06.2022)]

ecosystem.²²⁶ This projected trend of fish stock movements, especially in the Indo-Pacific region, could jeopardize joint fisheries agreements, and current catch quotas may require renegotiations to take into account the impact of fish movement poleward or into deeper waters caused by global warming.

23. Fossil resources such as oil, gas, and coal are still the most consumed energy source in the region, which represents half of the global population. While the Indo-Pacific countries are increasingly aware of growing risks related to global warming, the renewable energy sector experienced remarkable growth. This is important if the region strives to maintain social and economic stability in the years to come. Related effort has already resulted in Asia overtaking North America and Europe in its production of renewable energy.²²⁷ This trend of global expansion of renewables may strategically reduce reliance on non-renewable energy sources.

24. Since the unprovoked Russian invasion into the Ukraine dominated international discussions and security concerns, "Chinese analysts have debated the country's policy choice."²²⁸ The Ukraine war presents both a diplomatic dilemma but also opportunities to Beijing. On one hand, there would be 'no forbidden areas of cooperation'

in the bilateral relationship between Russia and China. On the other hand, it requires Beijing to remain friendly with the West while avoiding the impression that it would tolerate Russia's ruthlessness. Nevertheless, China has already imported liquefied natural gas from Russia via its 'Power of Siberia' pipeline since 2019, and both agreed additionally on a 30-year contract to supply more gas to China via a new pipeline, and Russia will "settle the new gas sales in euros."²²⁹ China's rationale for its value is the compensation of evolving coal shortage combined with accelerated de-carbonization efforts.

25. The UN Climate Change Conference in Glasgow (COP26) in November 2021 suggested that nuclear energy could play an important role in decarbonization efforts. "Reactors today can be much smaller, have better cooling systems, faster shutdowns and quicker emergency responses." Anil Kakodkar, a nuclear physicist and former chairperson of the Atomic Energy Commission of India, also noted; "You may say radiation causes cancer, I may say radiation cures cancer, and both are true."²³⁰ Today, China ranks first for installed nuclear capacity and plants under construction. In addition, despite the Fukushima disaster in 2011, Japan is rethinking the 'nuclear option' in the light of sanctions on Russia.²³¹ Nuclear energy will play

"Today, China ranks first for installed nuclear capacity and plants under construction."

“Nuclear materials may also get into the wrong hands and be used to make a crude nuclear device or a so-called ‘dirty bomb’.”

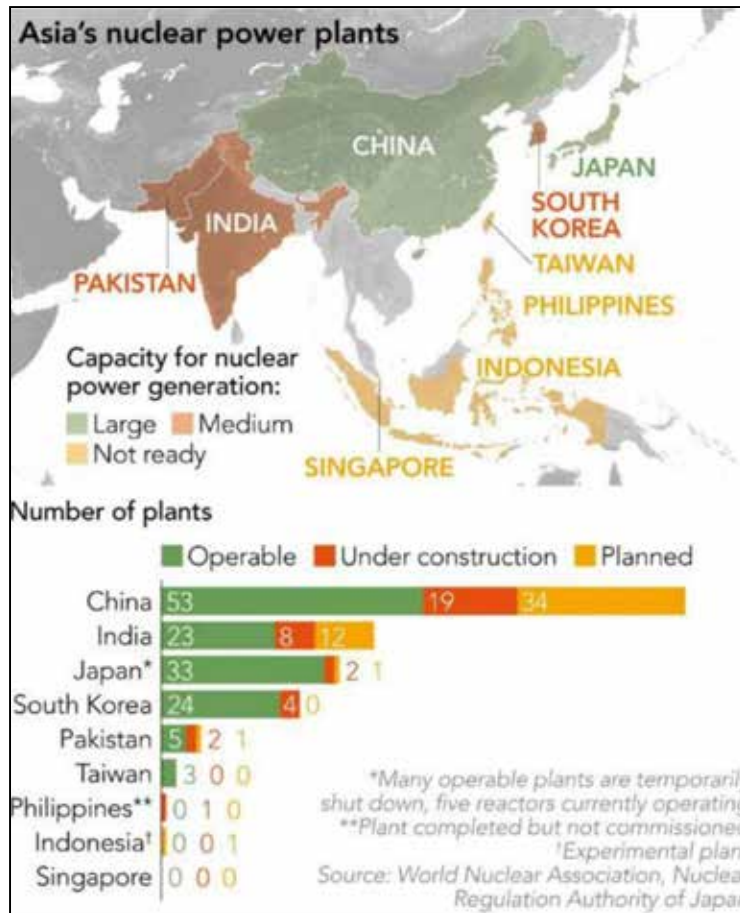


Figure 21:

Nuclear Reactor Outline

(Ni, Vincent. “Ukraine Crisis Poses Dilemma for China But Also Opportunity”, The Guardian, February 22, 2022)

an important role in decarbonizing the energy sector in developing countries, transitioning away from fossil fuels. The question remains whether this trend can withstand the pressure of nuclear opponents around the world, trying to ensure respect for the often-disregarded 1968 NPT - to ensure nuclear material is not diverted to military use.

IMPLICATIONS

a. Scarcity and migration. Notwithstanding increasing physical infrastructure on land, maritime trade will remain vital for the development of the Indo-Pacific region, with the SCS alone continuing to provide the space for at least 30% or more of transport capacity of total global trade. The escalation in global climate insecurity through global warming will pose existential threats to the regional environment, biodiversity and ultimately the planet itself. Such instability will fuel scarcity and conflict by accelerated internal and external irregular migration for instance.

b. Fragile international relations. The region has an increasingly dominant share of investment and trade in strategic minerals and clean energy.

Such dominance will nurture international tensions and fragile international relations, including with member states and partners of NATO that are highly dependent on sustainable supply chains in the strategic resources and technologies.

c. Fishing disputes. In the SCS alone, annual fisheries provide food for almost four million people, which will be at risk in the future due to global warming impacts and fish migration movements. The growing need for fish-based food will lead to increased overfishing also in other areas of the region. “Fishing is one of the reasons why China is locked in disputes with its neighbours in the South China Sea.” An absence of urgent international cooperation to reduce fishing will provoke a catastrophic collapse in vital fisheries, fuelling ongoing open disputes and likely conflicts.

d. Clean energy strategy. The Indo-Pacific region with the largest concentration of population is also the greatest source of global emissions. Insufficient investments and slow-moving, cross-country efforts to increase broad energy availability will stall the much-needed energy transition around the world. China’s geographic location and clean energy developments make it a potential

partner in the Indo-Pacific region. This will most likely lead to an economic realignment and thus a shift in the balance of power in the region, with the Western world presumably losing geo-economic ground,²³² without having a clean energy strategy in that region.

e. Nuclear weapons. Nuclear technology and nuclear weapons clearly share several characteristics. There is a risk that more nuclear power plants in the region could mean more nuclear weapons, as countries that acquire nuclear energy technology could undermine its use to develop nuclear weapons. “Nuclear materials may also get into the wrong hands and be used to make a crude nuclear device or a so-called ‘dirty bomb’.”²³³ Even new technology may reduce some risks, radiation will always be dangerous and difficult to protect against, terrorists could unleash a Chernobyl on every soil, and nuclear waste dumps could violently transform into nuclear weapons.²³⁴

4.3. RE-FOCUSING ON DEFENCE EXPENDITURE

26. Military expenditure has risen in the region since 1989 and is expected to continue to grow based on a perceived return to great power competition.²³⁵ For example, Chinese military spending increased by more than 85% over the past decade.²³⁶ Especially the discussion about nuclear arms control drives military strategic thinking and with that, consequences regarding defence expenditure. China might maintain strategic self-sufficiency but in case it would engage in any strategic defence alliance, it would have a great impact on other nation’s domestic policies, and therefore their defence expenditure too. Defence expenditures reflect assessments of national risks and public priorities arising from national economic strengths of each country, and this coherence currently looks unpredictable, especially in the shadow of COVID-19 and other crises such as the Ukraine war. Related to the latter, it is reasonable to assume that the trend in military spending will ramp upwards worldwide. In exchange, however, the funds available for domestic programs will be reduced, including those that may do more to stimulate economic growth.²³⁷

27. Keeping the Indo-Pacific region free and open for economic transit is one driver for the Western world to design future military strategies in that region. This observation underpins the trend of increasing presence and commitment of NATO member countries and partners. Similar efforts and achievements require China’s proportional attention on security considerations if it continues to expand over the globe. The big challenge in the Indo-Pacific region is harmonization between

competitors and partners at the same time, promoting and defending common global interests while balancing domestic funds. Examples of significant synergies are the enhanced collaborative work by the United States and Japan in the Indo-Pacific region, specifically during the Vietnam era and more recently the controversial AUKUS programme of cooperation intended to promote interoperability.²³⁸

28. In September 2021, a ‘Joint Leaders Statement on AUKUS’ projected the recommitment of Australia, the UK, and the US to protect shared values and promote security and prosperity. Along with other important allies and partners, the new endeavour aims to help sustain peace and stability in the Indo-Pacific region. Recognizing deep defence ties for more than 70 years, this trilateral collaboration under AUKUS will enhance their joint capabilities and interoperability. This trend points to defence spending increasingly focusing on cyber capabilities, AI, quantum technologies, and additional undersea capabilities in the Indo-Pacific region.²³⁹ AUKUS’ first core initiative looks to assist Australia in building nuclear-powered submarines to bolster “interoperability, commonality, and mutual benefit” without compromising nuclear non-proliferation, security, and safety commitments.²⁴⁰ This targeted cooperation should not undermine the role and contributions of other key allies such as France.

29. All of the above reinforce the trend of cumulative complexity in the Indo-Pacific region, and therefore raises the question of whether this conglomerate of multiplied alliances will create bigger concerns or opportunities to stabilize the area in a way to become a win situation for all of its players. For example, the interaction between military energy issues and non-military energy issues raises awareness, and the Western military has already taken on a leadership role in research, development and procurement of specific energy technologies, such as the search for alternative fuels for major weapon systems. China’s target is to have a renewed military force in 2035, and top military force until 2050. However, China’s diverging view on regulations compliance makes it hard to cooperate in the field of green policy on defence assets. The threat of economic decoupling has been widely discussed, and therefore decoupled developing countries due to being disconnected from future alliances are likely to be out of reach for such shared global goals.

30. Chinese economic assertiveness already presents a main driver of strategic relationship shifts in the Indo-Pacific region. Particularly in the context of the CCP’s doctrine of military-civil fusion²⁴¹ in which Beijing views most things,





COLOR KEY: ACTIVE CURRENT BUILDING PROJECTED BUILDING	SUBMARINES		CARRIERS		AMPHIBIOUS SHIPS		DESTROYERS /FREGATES			MINOR VESSELS						
	Active	Projected	Active	Projected	Active	Projected	Active	Projected	Active	Projected	Active	Projected				
AUSTRALIA	6	12	0		3		11	3	6	41	14	1				
CHINA	71	4	3		2	1	1	31	5	81	22	19	357	27		
INDIA	16	7	19		1	1	1	6	4	23	15		93	15	39	
JAPAN	21	4	1		4			3		42	3	2	62			
ROK	71	4	3		0		1	6		23	5	11	137	11	30	
TAIWAN	4	6			0			1	1	3	26	10	73			
UNITED STATES	72	9	32		11	2	2	19	6	14	104	39	28	215	19	27

Figure 22:

Naval Capabilities as of 2020, Amount of Naval Capabilities in Total Numbers

(Active/Building/Projected. - Carriers include aircraft carriers and helicopter carriers. Amphibious forces include LSD, LPD, LST (H), AOR/AXE.

Warships include corvettes, patrols)

(Pape, Alex. "Janes Fighting Ships Yearbook 2020-2021," Janes, 2020.

Recent reporting indicates China has made considerable progress in the construction of its third aircraft carrier, known as the Type 003, potentially ready to launch in 2021.)

[Funaiole, Matthew P. and Bermudez, Joseph S. Jr. "Progress Report on China's Type 003 Carrier", Center for Strategic and International Studies, July 14, 2021. <https://www.csis.org/analysis/progress-report-chinas-type-003-carrier> (last accessed 20.09.2021)]

[Hong Kong-based South China Morning Post reports that China is constructing a fourth carrier, intended to be nuclear powered. Chan, Minnie, "Chinese military: fourth aircraft carrier likely to be nuclear powered, sources say," South China Morning Post, March 13, 2021 <https://www.scmp.com/news/china/diplomacy/article/3125224/chinesemilitary-fourth-aircraft-carrier-likely-be-nuclear>. (last accessed 20.09.2021)]

including the application of economic levers, as potentially dual use. Beijing's military-civil fusion approach has proven effective so far, and this trend could spill over to nations aligning with China, triggering further complexity and uncertainty regarding future Indo-Pacific strategy designs.

IMPLICATIONS

a. Domestic interests driving policies. India's relationship has suffered with China during the Pandemic crises, and therefore the QUAD (Australia, India, Japan and the US) engagement is one attempt to compete with China on an equal level, but does not point to the possibility of any other future military alliance with China. The membership of the QUAD will not necessarily expand, but the collaboration will increase with other partners. For example, Great Britain and France are focusing more on the Indo-Pacific region, and ASEAN is a big organization with great influence in that region too. Both the QUAD and ASEAN launched tailored working groups to design regional agendas in order to keep a FIOP. The risk is a divergence of understanding and lack of harmony among the multiplied alliances in the region, reflecting a disparity of common understanding and interoperability.

b. Common challenges. In respect to conflict resolution and harmonization, the future landscape could become more promising because of common challenges such as climate change.

Also in the light of the lessons from the Ukraine crisis, future 'conflict could wisely be avoided.' However, the global community faces specific and individual domestic challenges like historic bond issues. For example, the geopolitical frame with Russia as a European neighbour originates on historical relationships, and so it is the case with some countries in the Indo-Pacific region. Historical roots and ideological commitments can also lead to neighbourly commonalities taking precedence over global societal challenges and thus have a negative impact on global economic geography in the future.

c. Balancing of interests. Russia does not want to be drawn into China and Japan conflicts or disputes in the SCS, and China struggles with its position regarding the Ukraine crisis, not disconcerting Russia. In addition, Japan seeks German help to counter China's influence in the Indo-Pacific. However, Germany must balance its interests between China and Japan. Finally, pushing ASEAN to take position against China could also lead to fatal consequences. Both regional powers and Western allies recognize the complexity of their cooperative and competitive dual relationship with China. Future cooperation will likely be based on common interest and transcend ideological divides. This dual relationship of cooperation and competition will shape the economic operating environment in the Indo-Pacific for decades to come, and with that, shifting priorities regarding defence expenditure.

ENVIRONMENT THEME

1. The Indo-Pacific will be increasingly exposed to the impacts of climate change over the coming decades. Furthermore, the region is recognized as having the geographic and human attributes to potentially become the epicentre of a global climate-crisis.²⁴² The risks from extreme weather events and long-term sea-level rise will manifest in multiple forms; stressing food, water, infrastructure, energy production and supply. The combination of these stressors will create instability in certain locations and an existential threat to basic human survival in others.²⁴³

2. Weak governance and further fragmentation of the international system may also reduce the ability of nations within the region to respond to crisis and potentially reduce the willingness and ability of external actors to assist. New alliances and partnerships may form as low-income countries will find themselves increasingly less able to adapt or mitigate the impacts of climate change.²⁴⁴ Failure of nations to adjust to climate-related variations in the region could be exacerbated further as many countries are dependent upon natural resources for sustenance and the primary form of national income, which will increase economic, risk and stall future development.²⁴⁵ These densely populated coastal areas find themselves reliant upon the agriculture, forestry, and fishery sectors, which are affected by variability in climate and are inherently slow to recover from disaster.²⁴⁶ As a consequence, climate change will continue to reshape every aspect of the region's economy, from politics to migration, financing and supply chains.²⁴⁷ Climate-related challenges will also

demand a greater level of transnational governance and closer cooperation across the region in order to mitigate the impacts and reduce the risks. Areas such as energy transition and the development of clean energy supply chains, water management and food production will all need to be tackled collectively in order to avert pressure on regional systems. Conversely, this may provide opportunity for malign actors to exploit weak governance or the seams between local relationships as a means to project soft power and explicitly gain regional influence.²⁴⁸

3. NATO has a limited physical footprint in the region from which to react to the impacts of a catastrophic weather event or shape responses to long term shifts in geo-environmental conditions. Although not the primary actor in societal climate solutions, the defence and security sector should look to the many partnering opportunities that will be in ever-increasing demand.²⁴⁹ NATO Partner Nations, and NATO members with territories in the region, can contribute through regional initiatives, and assist the collective understanding of emerging environmental threats, evolving challenges to human security in the region, and the ways to mitigate national risk or specific challenges, such as the disproportionate impact of climate change on women and girls. Remaining agile to regional environmental and human stressors will be key to understanding how new strategic sites and hotspots may develop and how regional partnerships and alliances may form. Potentially, this may also indicate how and where a more prominent China will seek to gain influence in

“The risks from extreme weather events and long-term sea-level rise will manifest in multiple forms; stressing food, water, infrastructure, energy production and supply.”

“The physical geography, especially the scale of coastline and the human population at risk make the Indo-Pacific highly vulnerable to climate variation.”

the region ahead of Alliance Nations and Partner Nations.

4. Climate change has the ability to affect governance functions across borders and render societies less governable. A collaborative approach to climate risk would improve governance of regional climate issues and provide the means to generate a positive influence within the region and promote long-term stability; shared responses to the climate crisis are both a political imperative and an economic opportunity for all actors present in the Indo-Pacific.²⁵⁰ Reducing regional vulnerability to the threats of climate change and long-term environmental degradation will be essential to the overarching stability of the Indo-Pacific and the prevention of significant migration shifts.²⁵¹ Regional resilience, and how nations choose to adapt, will need to be at the forefront of government and international thinking if critical-infrastructure, agriculture, fisheries and energy security is to be protected, human tragedy avoided and instability prevented.

5.1. INCREASING REGIONAL VULNERABILITY TO CLIMATE CHANGE EFFECTS

5. As global temperatures and weather patterns change, the Indo-Pacific region is expected to become one of the areas most affected by climate change.²⁵² The physical geography, especially the scale of coastline and the human population at risk, make the Indo-Pacific highly vulnerable to climate variation; these two themes are likely to dominate the future of the region for many decades to come. Sea level rise in combination with

extreme weather events will become an existential threat to coastal populations and island nations, including British, French and American territories in the Indo-Pacific.²⁵³ A broad spectrum of conventional, unconventional, and hybrid security risks and challenges may start to emerge as a result of climate stress. Climate related impacts in the region should therefore be considered a ‘threat multiplier,’²⁵⁴ impacting all aspects of socio-economic, gender and infrastructure systems, and in turn having a significant bearing in regional stability.

6. All climate models indicate that extreme and volatile weather events will continue to increase over the coming decades for the Indo-Pacific region,. More intense rain and higher sea levels will further intensify damages caused by such events.²⁵⁵ intense rain and higher sea levels will further intensify damages caused by such events. Climate vulnerability will bring natural resources and global supply chains under more scrutiny.²⁵⁶ The region is still comparatively abundant in natural resources, including strategic materials and fisheries, though large-scale resource exploitation and the spreading of illegal fisheries remain a growing concern. Strategic competition in rare earth elements highlights the vulnerability of regional and global supply chains; tension or miscalculation is likely to occur as supply chains come under pressure and access rights become ever-more contested in fragile environmental and eco-systems.

7. Erratic and severe disruptions to weather patterns will affect food productivity. In a region that relies heavily upon monsoon season for crop

Average temperatures are projected to increase in many parts of Asia.

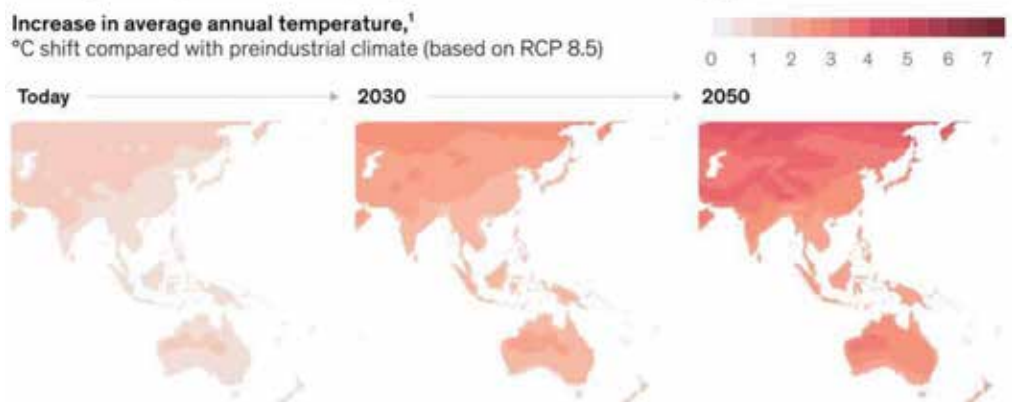


Figure 23:

Average Temperatures are projected to increase in many parts of Asia.

[Baudu, Pauline. “The Legacy of Climate Security Leadership: Sheri Goodman on Heat of the Moment”, Council on Strategic Risks, January 31, 2022. <https://councilonstrategicrisks.org/2022/01/31/the-legacy-of-climate-security-leadership-sherri-goodman-on-heat-of-the-moment> (last accessed 24.06.2022)]

production, variations in weather patterns could have a significant impact upon food security, especially areas that are already susceptible to flooding and temperature increases. Increasing mean average temperatures (particularly inland) and periods of excess rainfall are likely to continue to rise, threatening agriculture and increasing the risk of flooding and landslides. The resulting loss in yield will have a prolific impact on nations that rely on local supply chains. Already, an estimated 375.8 million people in the region faced hunger in 2020, which is nearly 54 million more people than in 2019. In this region alone, more than 1.1 billion people did not have access to adequate food in 2020.²⁵⁷ When aggregated, the destruction of infrastructure, weather volatility, sea level rise and climate-induced migration have the potential to cause widespread and significant humanitarian disasters that will call for major interventions.

8. A stable supply of water will be critical to peace, stability and prosperity in the region. Glaciers in the Hindukush-Himalaya-Tibetan plateau are the vital source of several major Asian rivers that cut across political boundaries. In China and the Korean peninsula, water scarcity will also have the potential to cause large-scale economic and social displacement. Numerous arterial choke points and many collection areas that are susceptible to temperature rise and potential desertification will further exacerbate the fragility of the water supply across the region.²⁵⁸

9. Climate-related changes could give rise to

new catastrophic risks and thereby affect the regional security landscape. The actions of the two principal hydro actors, India and China, will be much observed. While India's freshwater agreements with its neighbouring countries are based on longstanding water-sharing treaties and trust, China leverages its upstream dominance with countries in South Asia and Southeast Asia.²⁵⁹ To counterbalance China's water approach, the high stakes in the three basins region could trigger an opportunity to foster regional dialogue.

10. Acute changes to the oceanic system across the entire Indo-Pacific region is expected over the coming decades as a result of increases in the thermal temperature range and acidification levels.²⁶⁰ This will have far-reaching environmental, human and economic impacts not yet fully understood. Oceanic circulation, fish-stocks and biodiversity are critical in a region that relies heavily upon marine proteins as its main source of food. Any future alteration in sea temperature or oceanic chemistry will affect the entire region, potentially driving political and security decision making as ocean services such as fisheries, aquaculture, marine biotech and human sustainment come under increased stress. Oceanic pollution levels, particularly marine debris, will continue to impact the eco-system both in terms of water quality and fish-stock behaviours.²⁶¹ In addition, water run-off from increasingly extreme precipitation events, especially from urban or arable locations, will have a detrimental effect on local marine eco-systems,



Figure 24:
Glacial Water Supply and Associated Rivers

[Wester Philippus et al. "The Hindu Kush Himalaya Assessment", Springer Open, 2019. <https://link.springer.com/content/pdf/10.1007/978-3-319-92288-1.pdf> (last accessed 24.06.2022)]



“The ASEAN countries and China are still attempting to forge a maritime “Code of Conduct” as a means of dispute resolution or to avoid miscalculation in the area, even though many of the ASEAN countries remain in dispute with China regarding the perceived EEZ boundaries.”

as well as the potential to permanently alter pH levels; scientists expect that fish species will be unable to adapt and may force local fisheries further and further off-shore and in potential breach with established Economic Exclusion Zone (EEZ).²⁶² Oceanic supervision and protection, including how EEZs are managed, will become of increasing importance. Governance structures will need to be resilient to ensure safety and environmental protocols are maintained. Disputed EEZs combined with migration of fish stocks may prove to shift political fault lines especially if marine resources become increasingly scarce.²⁶³ The ASEAN countries and China are still attempting to forge a maritime “Code of Conduct” as a means of dispute resolution or to avoid miscalculation in the area, even though many of the ASEAN countries remain in dispute with China regarding the perceived Exclusive Economic Zone boundaries.

11. India and China are faced with a growing need for national energy sources that rely on either coal-fired plants or nuclear power plants, with both countries being in the top five global green house gas polluters.²⁶⁴ Nevertheless, both claim developing country status and argue that industrial countries, for historical reasons, should pay more to deal with climate change measures. As a result, they continue to extract and/or import coal for extensive coal-fired power stations, with more under construction or in the planning stages. China has as much coal-fired power capacity as the rest of the world combined. Clean energy supply

chains will need to be developed in a region that consumes approximately half of the global energy. Technology development will enable clean energy supply chains, but access, industrial capabilities and workforce will be critical if energy transition is to be realized.²⁶⁵ The relationship between consumer and supplier will also be paramount as nations switch away from fossil fuel dependency, as elsewhere in the region, opportunities to support low-income nations will open up as clean energy transition evolves. Beijing has declared that it will work toward freezing its carbon emissions by 2030 and stop all carbon omission by 2060. Whether China can compete in a regional clean energy market will hinge not only upon its own transition but how easily it can wear itself off of the cheap Russian gas supply.²⁶⁶

12. Utilizing climate diplomacy as a political instrument of power may become more commonplace in the future, especially in a region as environmentally vulnerable as the Indo-Pacific.²⁶⁷ Credibility and strengthening of trust between developing and developed nations will need to be built if mitigation measures including emission targets and funding are to be realized. Targets and funding are not the only points of difference across regional countries; agreeing on what rules should govern international carbon markets is expected to be equally problematic as nations struggle to contend with the “Article 6 Paris Agreement’s ‘implementation guide’ – the Paris Rulebook.”²⁶⁸ Nevertheless, NATO nations

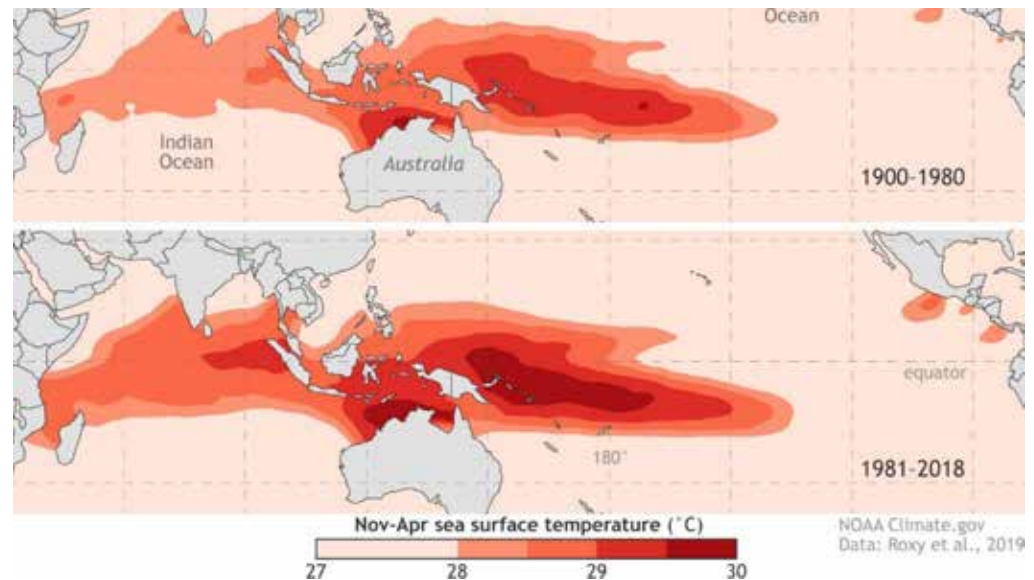


Figure 25:

Changes in Indo-Pacific Warm Pool

[Stevens, Alison. “A Warm Pool in the Indo-Pacific Ocean Has Almost Doubled in Size, Changing Global Rainfall Patterns”, Climate.gov, December 3, 2020. <https://www.climate.gov/news-features/featured-images/warm-pool-indo-pacific-ocean-has-almost-doubled-size-changing-global> (last accessed 29.06.2022)]

remain ambitious but the Alliance must remain cognizant of poorer countries, which will need funding, especially in areas that are already contending with growing pollution problems. How the top global polluters respond will be key, both in terms of building trust as well as through financial and technological investment; this may lead to direct competition between the US and China for influence in the region.

13. In a regional security environment characterized by systemic power competition and historically rooted mistrust, there is a risk that the impact of climate-related instability is likely to be exploited to gain comparative advantages. This trend has the potential to escalate a negative spiral of events, generate instability and the potential for conflict. Given the shift in global geopolitics discussed in the political chapter, power competition manifesting in the region is increasing with climate-related challenges possibly becoming an area of tension and exploitation.²⁶⁹ Climate diplomacy, financing, and new technology both as a means of resilience and for advanced climate or geo-engineering may be used as levers to influence regional instruments of power. Conversely, natural disasters will reduce the capacity of nations to respond and provide opportunity for an adversary.

IMPLICATIONS

a. Food & water security risk. Although well furnished with natural resources, the region is highly susceptible to food and water security threats due to the sheer amount of water table and food production areas at risk and in close proximity to the coast and vulnerable to violent tropical cyclones. Rising temperatures, as well as increased flooding with seawater encroachment, could have a devastating impact upon crop yield. This will not only cause food shortage issues but potentially force migration away from traditional fertile land. Temperature rises will also alter ocean acidification and currents, affecting marine biodiversity and force stock migration in a region that relies heavily upon fish stocks as its main source of protein. This could force fishing fleets to operate in unfamiliar areas and rapidly lead to confrontation in contested waters or another nation's EEZ.

b. Maritime and oceanic governance. The protection and management of the marine / oceanic environment will be essential for the long-term resilience across the region and maintenance of stability. National policy makers and international organizations alike may struggle to keep pace with the rapidly changing conditions, which in turn could lead to a failure to manage

the marine environment. Risk prevention and environmental cooperation will be critical in areas where human activity and climate vulnerability exist, notably in high threat areas that span national boundaries. As such, environmental management and prevention of human-sourced maritime disasters will be a subject where NATO Nations and Partner Nations in the region can seek to provide a positive influence.

c. Confluence of instability. Climate change effects in the Indo-Pacific will increase the potential for instability across the region. The combination of human factors, such as weak governance and population at risk, in conjunction with poor food, water and infrastructure resilience, and a limited amount of secure ground availability will have a significant bearing upon stability throughout the region. Partner Nations and NATO members present in the region will need to understand the impact of instability and of forced migration.

d. Contested soft power. Regional instability may lead to both direct and indirect competition for influence over governments and populations at risk, as well as natural resources. As a consequence, climate diplomacy may become a means to project soft power, and competition could manifest in multiple forms as malign actors on both a local and regional level seek to gain from volatile meteorological conditions and human insecurity. The defence and security sector will not be at the forefront of societal climate solutions but NATO nations and regional Partner Nations should be prepared for climate-related impacts to alter the broader security environment. Competition for access and with it the opportunity to increase influence will present itself, notably if the number and intensity of natural disasters increases. In turn, the associated instability may contribute to increasing corruption and overexploitation if monitoring support and enforcement is not bolstered.

5.2. FREQUENCY OF NATURAL DISASTERS TO INCREASE

14. The population at risk from extreme weather events in the Indo-Pacific is a growing concern to all regional actors.²⁷⁰ The volatility and destructive capacity of tropical cyclones, combined with sea level rise and increased temperatures, will force regional governments to consider how their respective political, economic and military instruments of power respond and interact with other states. The expenditure and reputational risk in failing to counter such violent weather conditions may have the capacity to instigate government and social collapse, opening the opportunity for transnational corruption and malign





influences. Those nations and partnerships that place a high priority on resilience and protect their states from climate disruption will likely remain stable despite unpredictable shifts in the global system. In this regard, NATO can provide support to willing regional partners, as well as forging new relationships in the region. No nations will be exempt from the impact of natural disasters; tropical cyclones will make landfall with increasing commonality, flooding and land-slides will impact populations, and heat-waves will induce forest fires and droughts. In addition, earthquakes and volcanoes will continue to put pressure on both social and natural structures.²⁷¹ Sea level rise and intense rainfall are becoming an existential threat to coastal populations and islands nations (with the Maldives and Marshall Islands being the most susceptible).

15. Although many natural disasters are climate driven, a key influencing factor concerning the level of impact is clearly related to human activities and governance. Sheer population density and increasing urbanization in the region means that extreme levels of pollution and environmental degradation will make hazardous living conditions increasingly commonplace, especially when combined with the impact of an extreme weather event. New technologies, including waste management, early warning and resilience measures are expected to improve. That said, societal buy-in, governance, and investments in mitigation efforts and disaster relief capacities differ vastly across the region. Energy transition and maritime management will need to be at the forefront of regional government thinking. For example, the Daichi nuclear power plant meltdown during the Fukushima disaster was not caused by the earthquake but by a combination of loss of grid supply and the swamping of the diesel generators by the tsunami. Furthermore, the sheer volume of maritime trade passing through the SCS, coupled with the expectation of increasing weather volatility will elevate the level of maritime risk and the potential for a manmade disaster in the region. Enhanced maritime codes and procedures may be required along with advanced search and rescue (SAR) arrangements and disaster planning if the increasing number of localized pollution events is to be limited.

16. The connection between climate change and natural disasters is complex, but scientific data increasingly indicates that climate change will lead to not only impacts such as sea-level rise but also more severe weather events, as well as changing weather patterns. As we look out over the next 20 years, Indo-Pacific climate is expected to see increased frequency and intensity of extreme

weather events like typhoons. A large proportion of Asia's population already lives in low elevation coastal zones; these communities are at risk from sea level rise but also storm surges and typhoons. According to the UN Intergovernmental Panel on Climate Change (IPCC) "depending on the region, half to two-thirds of Asia's cities with 1 million or more inhabitants are exposed to one or multiple hazards, with floods and cyclones most important". Three of the world's five most populated cities (Tokyo, Delhi, and Shanghai) are located in areas with high risk of floods. Farther out into the future, by the 2070s, Asia is expected to include 15 of the global top 20 cities at risk from coastal flooding in terms of projected population exposure and 13 of the top 20 for asset exposure including Shanghai, Mumbai, Tokyo, Hong Kong, and Bangkok.

17. Rapidly rising costs for the damage from natural disasters, as well as mitigation costs that reduce a state's freedom of action, are likely to continue as weather pattern volatility increases. In Asia in 2020, the cost attributed to natural disasters was USD \$67 billion out of \$210 billion globally.²⁷² Given the likelihood of future natural disasters in the region, an efficient, timely, and successful support during a humanitarian emergency will be an important lever of influence and status. China is already gearing up to play this role. As an alternative force for economic development and security, China continues to build and dominate regional initiatives that consistently exclude Western powers such as the Shanghai Cooperation Organization (SCO) or the Conference on Interaction and Confidence-Building Measures in Asia. As a partner in humanitarian and economic development, China will continue to grow its political influence in the Indo-Pacific.

18. In general terms, resilience in the region has increased (with considerably fewer human casualties than in the past) and a range of new technologies is expected to increase resilience and early-warning systems further. However, societal buy-in, governance and investments in mitigation efforts and disaster relief capacities differ vastly in the region with countries such as Japan and China having a high level of preparedness while poorer countries in the region are likely to remain vulnerable. The South Pacific Islands including the Kingdom of Tonga and others have been a major focus for the Chinese government for its 'loan diplomacy' (BRI projects) to acquire port access and commercial rights.

19. The threat from natural disasters caused by severe weather in densely populated areas will cause major economic disruption and humanitarian emergencies, causing widespread

land disputes and resource competition. As an example, during the Pakistan floods of 2010, twelve million people were made homeless. As a result of this threat, climate will remain a key multiplier of security risk. The impact of natural disasters is open to exploitation at every level of society and government. The rush to gain a comparative advantage post natural disaster may escalate a negative spiral of events, generating instability and potential for conflict. In the long-term future new technology for advanced climate, engineering may even be used as an instrument to create natural disasters to reduce the capacity of an adversary. However, as often has been the case in the past, a major natural disaster may also open new cooperative space and break a vicious circle.

20. Under current AUKUS planning models, natural disasters will increasingly occupy the efforts of military forces, potentially lessening their ability or availability to conduct expeditionary security roles in favour of supporting domestic resilience tasks. Examples of this include the 2012-19 PLA and People's Armed Police (PAP) deploying 95,000 soldiers and 1.41 million militia for disaster relief, and in 2019/20 Australian forces overwhelmingly employed in domestic Humanitarian Assistance and Disaster Response (HADR)-tasks. Deployment of forces in more complex yet relatively frequent HADR-operations, which demand high levels of integration with a broad range of state and non-state actors, is likely to lead to revised planning assumptions and drive for capability development in its own right (still using agile platforms and advanced C2 and surveillance systems). Space based platforms will be increasingly important in this respect. An efficient, timely and successful support during a humanitarian emergency will of course continue to be a hugely important lever of influence and status. It will also influence the image and popular support for the forces involved. NATO and close regional partners could potentially play a role in this respect.

IMPLICATIONS

a. Food & water security put under increasing stress. Severe weather events will become more frequent and, based upon current modelling, likely to become more volatile and increasingly make landfall (NASA). This will affect food production, access to fresh water and biodiversity. It will disrupt infrastructure and cause health issues, leading to forced migration (e.g. during the Pakistan floods of 2010, twelve million people were made homeless), land disputes and resource competition. The threat from natural disasters caused by severe weather in densely populated

areas will cause major economic disruption and humanitarian emergencies. As a result, climate will remain a key multiplier of security threats.

b. Weakened national governance and increasing poverty. Climate stress will impact all nations in the region, forcing regional governments to consider how their respective political, economic and military instruments of power respond and interact with other states. Many nations may be suffering from the same catastrophe which could see them competing or cooperating for resources. Failure to respond will lead increased pressure on regional governments, which may in-turn lead to government collapse if not addressed. Through regional partners, an appropriate mechanism to support low-income regional nations can be developed, both reinforcing regional relationships and reducing critical relief supply chains when called upon.

c. Environmental exploitation or cooperation. One of the outstanding challenges in regional disaster risk reduction is the integration of knowledge management and establishment of regional disaster reduction cooperation hubs.²⁷³ Immense impacts from natural disasters in the region could result in major geopolitical changes, open to influence and at risk of exploitation. In the past, a major natural disaster can also open new cooperative space and break a vicious circle of competition. Although the defence and security sectors will not lead social changes and preparedness for climate-related activities, NATO and regional Partner Nations must align to these opportunities and threats and remain agile enough to respond with credibility.

d. Military support to HADR will come under increasing pressure. With the likely increase in the scale and volume of natural and human-sourced disasters, military support to such operations will come under increasing pressure to respond. Given the sheer scale and remoteness of some Indo-Pacific locations the military will often find itself as the first responder. However, nations may struggle to balance their resources between support of natural disaster relief and guaranteeing a safe environment against evolving aggressors in the Indo-Pacific region. If multiple disasters and strategic shocks were to occur simultaneously, financial constraints, as well as resources, may impinge military support operations. NATO has historically provided disaster relief in the region to limited effect; therefore, the Alliance may consider how NATO Nations, active in the region, could provide a conduit through which coordinated responses may be developed further.





NATO UNCLASSIFIED - PUBLICLY DISCLOSED

1. The future of a complex region affected by so many trends and great powers, such as the Indo-Pacific, can occur in a massive number of means. Within the context of this report, great power competition, geostrategic power shift, demographic transition, and climate change are the main drivers of a dramatically changing security environment in the Indo-Pacific region. Therefore, within the scope of this chapter, ‘great power competition’ will dominate the discussion, whereby all trends and implications will not be addressed equally. Firstly, over the next two decades, the degree of the competition between China and the US will continue to increase in alignment with the ambition of authoritarian countries. Secondly, the level of Russian and Chinese partnership, through their common interests, will indicate how some trends really unfold, and to what extent.

2. Variations of the future scenarios emerge from numerous signals fluctuating in strength, indicating minor to profound changes in the region. The intent of describing future scenarios is not to attempt to predict the future, but to provide scenarios that can serve to inform NATO policies and plans with respect to the developments in the Indo-Pacific and its relations vis-a-vis democratic and autocratic governments, Partner Nations, as well as amongst NATO Allies. Considering the trends laid out in the respective chapters covering political, human, technology, economic/resources, and environment themes, the followings describe the most plausible scenarios for the Indo-Pacific in 2040. Therefore, scenarios on ‘soft to hard competition among great powers’ and ‘multi-polarized competition among

many actors’ will predict the possible futures of the Indo-Pacific region.

SCENARIO-1: SOFT COMPETITION AMONG GREAT POWERS

3. In this scenario, China will consistently continue to pursue specific goals in terms of economic growth, regional and global leadership, and control over claimed territories. These goals, which are firmly manifested in a long-term strategy, will keep China in competition with Indo-Pacific countries, including NATO member nations and partners. All competing actors will acknowledge the nature of this competition. Actions and counter actions will be clearly recognizable, threats will be prioritized, and responses will be measured. Nevertheless, attempts will still be made to manage complex relationships in such a way that competitive advantages will be maintained while mitigating potential escalations that could threaten the strategic goals of competing nations.

4. China will lack the credibility to become a reliable global leader because of systemic corruption, human rights violations, waning population, and a debt trap that would make potential partners reluctant to engage in real long-term deals. Contrary to this, Indo-Pacific nations may choose to follow the established but fragile global world order, mainly based on democratic values and rules, but also to remain aligned with the US dollar as a main trade currency.

5. China, with Russia’s support, will try to gain influence through the UN for its benefit and to

“In the first scenario, China will consistently continue to pursue specific goals in terms of economic growth, regional and global leadership, and control over claimed territories.”

“In the second scenario, China will manage to fulfil its stated goals for National Rejuvenation, solidifying domestic prosperity and party control, as well as achieving its sovereignty and maritime claims.”

strengthen authoritarian regimes globally. The essential re-stabilization of international systems and economic trade may offer better opportunities to non-authoritarian members of the UN and other world organizations. As a result, liberal sectors of China may seek to become part of the open process that allows competition and cooperation at the same time, allowing weaker countries, like Nepal or Bangladesh, to collaborate and therefore prosper as well.

6. China will continue to use its soft power tools. Western nations and regional powers will find themselves in an unpredictable, complex and intertwined dual relationship. Smaller nations in the region will still be caught in the cross-hairs, seeing a need to align with and appease China without real alternatives, as China controls industries in the region through expansion of its loan network and further integration of the BRI. Continuing its “war without fighting” and utilizing soft power tools, information warfare assets, like United Front and Digital Influence Operations, China will work even harder to increase its influence in the region, its grip on small Indo-Pacific nations, and potentially to control maritime choke points and supply chains.

7. NATO member states and regional players will increasingly see themselves cooperate across the democratic-authoritarian divides, basing alignment on interest rather than ideology. Regional powers will play an enormous role in containing the expansionist aspirations of China, potentially via expansion of the QUAD, with support of other Western nations.

8. Political power competition further will characterize the region. The Indo-Pacific will likely face dramatic consequences from climate change and natural disasters. Humanitarian consequences and potential instability will have to be addressed with the support of regional powers and partner nations. Japan will become the most trusted country in the area, through humanitarian assistance but also because of the ability to convey the right language as the voice of the QUAD Plus. This will further limit China’s political influence. As a result, the PLA will remain unable to prevent the Alliance from maintaining a strong influence within the Indo-Pacific region.

9. The PRC government will continue to make major efforts to manipulate and manage international organizations to encourage foreign countries to follow its governance model. The PLA will also continue to expand its regional warfighting reach by building up its SCS islets, matched by friendly naval and air use agreement with countries like Cambodia or other South Pacific Island nations.

10. Further, East and South Pacific Island

nations will be a major focus for the Beijing government with the common ‘loan diplomacy’ (BRI projects) to acquire port access and commercial rights. This situation will increasingly inhibit the free activity of Western nations in the region and will be of particular importance to Allied nations holding territories in the Pacific Ocean, such as France, the UK, or the US. Therefore, the international ability to counter political warfare, diplomatic strategies on the international level, as well as battles over narrative in the informational and digital sphere, will determine who gets to set the rules of the international order going forward. By 2040, China would reach a position in which it can control the whole information domain owing to gained advantages from Web 3.0 and developing digital tools. By this capability, it will be able to upgrade its acquired influence on the region. In the next decade, regional powers and their Western allies must invest effort to enhance their capabilities to identify, prevent and counter political and informational warfare campaigns.

SCENARIO-2: HARD COMPETITION AMONG GREAT POWERS

11. In this scenario, China will manage to fulfil its stated goals for National Rejuvenation, solidifying domestic prosperity and party control, as well as achieving its sovereignty and maritime claims. Many Indo-Pacific nations will prefer to follow the China model and will continue to ignore “internal affairs” of other countries around the globe, including genocide, human rights violations, and political oppression. The result will be the essential collapse of the international order. Consequently, democratization efforts are declining, with less influence in the UN for international peace building.

12. In addition, de-coupling with differing technological standards will be progressing, which decreases control over military expansion of developing countries with emerging commercial and military industries. Unfavourable relations of new partnerships will emerge, with conflicting interests of existing relations. This era faces undermining of international regulations and agreements, especially over open waters.

13. This all will create the proverbial tipping point in regional stability. Unhealthy developments will lead to ceased economic growth and China will experience an economic downturn. PRC elites will become dissatisfied with the economic stagnation. The current head of state has concentrated power around the office of the party leader and will thus be held responsible. Domestic instability together with international backlash will show that China turns inward in an attempt to regain domestic power and stability.

14. Increased exclusionary and purging of party membership signals that the PLA party control is weakening. This unstable China is even less predictable with devastating implications for other regional countries and especially neighbouring states. Countries who depend on China to pursue economic alternatives will face stagnation and/or potentially political crises. To mitigate instability, it will become imperative for other regional powers and their partners to define the rules-based maritime order in the region to ensure free and safe waterways, particularly in the South and East China Seas.

15. Western Countries, Australia, New Zealand, ROK and Japan will build a strong alliance of interest against China to avoid tensions escalating to a major conflict. Others find the best way to survive in the international system will be to take care of themselves and turn inward as well, which further fuels de-coupling.

16. China will signal and solidify power domestically, and will be highly motivated to use military force to achieve overseas objectives in an attempt to divert from internal challenges, such as reducing emissions, especially coal-fired power plants, in order to avoid climate chaos. This unstable China will now be even more unpredictable because the international pressure will have made it even more inward and therefore even less transparent.

17. In the next decade, China will challenge the commitments of bilateral partnerships and security alliances, defining the geostrategic status of the Indo-Pacific region until 2040 and beyond. China will likely ramp up low intensity military aggressions in pursuit of its goals around Taiwan and the First and Second Island Chains. Along with Chinese and Russian aggressive attempts, caused by geostrategic competition and Western sanctioning, an emerging anti-Western alliance would trigger a global war, after a temporary Cold War-II era. In this global war, China will gain advantage due to EDTs, especially robotic systems, which the PLA is using to compensate for China's declining and aging population. The lack of ethical rules within the LOAC in 2040 will create a complex battlespace that will challenge the Western norms.

SCENARIO-3: MULTI-POLARIZED COMPETITION AMONG MANY ACTORS

18. In this scenario, instead of being a part of a bipolar strategic competition between China and Western countries, regional countries will prefer to act independently in order to protect themselves from the negative effects of a great power rivalry.

Therefore, Southeastern Asian countries will start to agree collectively on strategies against dominant influences of the great powers. As a result, by enrolling new regional countries to the organization, ASEAN will transform into a powerful regional organization such as the EU.

19. Furthermore, some NATO partner countries, such as Japan, Australia, ROK and New Zealand, will prefer to focus on decreasing China's influential power on the region rather than canalizing other regional countries to act against China.

20. With increasing population and economic progress, India will transform into a new regional power in the Indo-Pacific. After solving border disputes with China and Pakistan, this country will start to concentrate on its internal problems, such as unstable urbanization, unfair distribution of income, and harassments against religious minorities. Similarly, Pakistan will become another influential actor in the region owing to its increasing prosperity. The rise of India and build-up of Pakistan will prompt China to reconsider its overzealous ambitions, while refining the approach to its role as a world power.

21. Although China increases its economic effects on the region, other international actors will become significant influencers as well. These actors will include international organizations, such as QUAD, ASEAN, NATO, EU, UN, OPEC, Organization of Islamic Cooperation (OIC); non-governmental organizations (NGOs); and some globalized firms. The existence of these actors will balance Chinese soft power activities in the region.

22. Nevertheless, China will continue to insist on its rejuvenation ambitions. However, regional income inequality and harassments to minorities will cause domestic instability within this country. To decrease the negative effects of possible disorder, Chinese politicians will aim to benefit from the SCO as a global/regional influencer. Nonetheless, other regional powers in this organization such as India and Pakistan will be able to balance Chinese ambitions. Additionally, the effects of Chinese soft power tools, like social media, economic assets, and the Chinese overseas diaspora will not achieve the desired aims due to other regional countries' increasing influences.

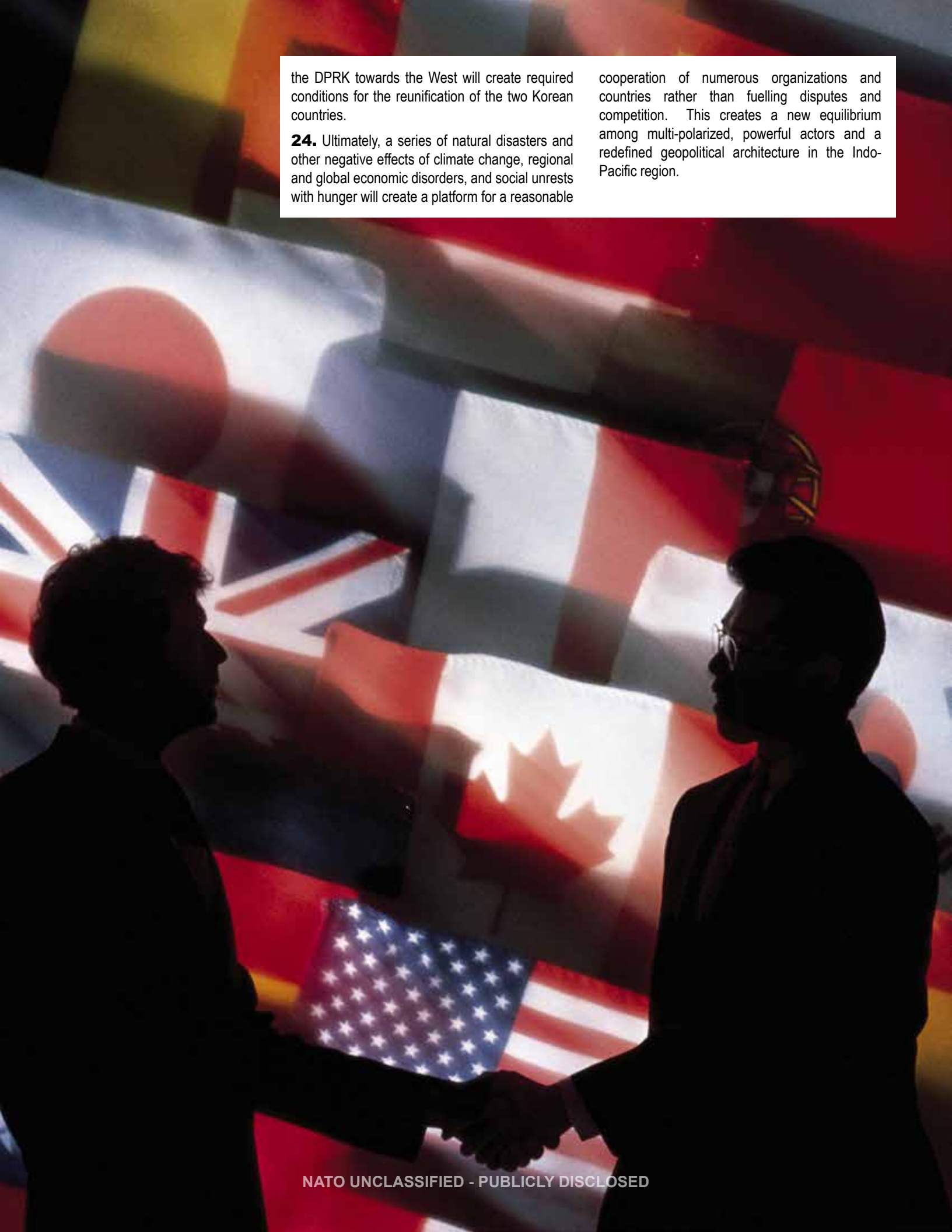
23. Similarly, DPRK will prefer not to compete with ROK and Western countries due to its economic problems. This country will strengthen diplomatic ties with the ROK and Japan, especially to reinforce its financial situation and thus its influence in the region. Pyongyang will decide to assure Western countries with an international treaty not to use nuclear weapons against any other country and will declare to be part of regional non-proliferation attempts. The rapprochement of

“In the third scenario, instead of being a part of a bipolar strategic competition between China and Western countries, regional countries will prefer to act independently in order to protect themselves from the negative effects of a great power rivalry.”

the DPRK towards the West will create required conditions for the reunification of the two Korean countries.

24. Ultimately, a series of natural disasters and other negative effects of climate change, regional and global economic disorders, and social unrests with hunger will create a platform for a reasonable

cooperation of numerous organizations and countries rather than fuelling disputes and competition. This creates a new equilibrium among multi-polarized, powerful actors and a redefined geopolitical architecture in the Indo-Pacific region.



1. Within the next two decades, NATO, a Euro-Atlantic alliance responsible to protect its members, will be challenged by multifaceted threats, systemic competition from assertive and authoritarian powers, which need to be addressed with a 360-degree approach beyond the borders of the Euro-Atlantic. As one of the assertive and authoritarian powers in the Indo-Pacific region, China will continue to affect the transatlantic landscape, remotely causing not only some challenges emanating from this complex and strategic Indo-Pacific region but also generating some opportunities globally. To address the importance of overcoming possible challenges, the Brussels Summit Communique (June 2021) has highlighted that “China’s growing influence and international policies can present challenges that -we- need to address together as an Alliance. We will engage China with a view to defending the security interests of the Alliance.”²⁷⁴


2. NATO, though regionally focused on the North Atlantic, must have a global future lens, as instability can affect the freedom and security of the Alliance’s members worldwide. Ensuring security and stability for all Allied nations encompasses the protection of the members from changing transnational security threats that are far greater than any country or continent can tackle alone, to include climate change effects. Consequently, the Alliance’s values of democracy, freedom and the rule of law could be at stake. Therefore, NATO’s principal task of protecting citizens and promoting security and stability in the North Atlantic area involves maintaining preparedness for possible

future security threats and enhancing military capabilities in order to achieve effective deterrence towards potential hostile actors anywhere in the world.

3. Climate change, as a major threat, is much more than an environmental crisis; it is a global systemic threat with disruptions that have the capacity to transform the geopolitical landscape.²⁷⁵ This threat is one of the potential effects that will damage the Indo-Pacific region most. Climate change with changing weather patterns and sea-level rise is probably the greatest challenge to the region. Additionally, this region contains 75% of the globe’s volcanoes and 90% of the world’s earthquakes, which occur in the Pacific Basin. As many countries in the region do not have the means to manage natural and human-induced disasters, people will feel uncomfortable living safely in their homes with their families. Therefore, instability will increase due to growing migration, and this may force regional nations to balance their resources between disaster relief and other domestic security challenges. By 2040 and beyond, NATO will increasingly face situations in which like-minded regional nations ask for support to handle such calamities, which will trigger diplomatic challenges.

4. NATO’s obligation is to support partners and help protect common values and the Rules Based International Order. Conversely, NATO’s active military presence in the Indo-Pacific region, rooted from this obligation, could spark more competition and escalate the deterrence posture in the future.

“Within the next two decades, NATO would be challenged by multifaceted threats, systemic competition from assertive and authoritarian powers, which need to be addressed with a 360-degree approach beyond the borders of the Euro-Atlantic.”



Significant changes to the security presence in the region may increase the possibility of polarization between two separate systems with different rules and standards. Different rules that the Western world may not be able to influence, along with different standards that could have hidden and inaccessible technological developments, may lead into an uncontrollable situation for the West and its like-minded partners, including the Indo-Pacific region.

5. Relations in the Indo-Pacific are dynamic and subject to constant changes. Within the next two decades, the Indo-Pacific's strategic developments might affect NATO Allies and its partners in the region. Multiple factors will influence these developments indirectly, such as a growing India, the economic dependency over Beijing and the increasing Chinese-Russian cooperation, an uncertain nuclear DPRK with long-range missiles, and other regional dynamics, especially technology competition, digital influence campaigns and political warfare strategies. As security threats become increasingly transnational, "...political dialogue and practical cooperation with partners, based on mutual respect and benefit, contribute to stability beyond NATO borders."²⁷⁶ Therefore, NATO member states should consider how to improve dialogue in order to assess and pacify these threats. While not specific to the Indo-Pacific region, the emergence of new technological advancements will demand definitions of rules of the game, both politically and militarily.

6. Due to Beijing's emphasis on 'winning without fighting', it is likely to result in an increase in low-intensity military activities by the PLA as the CCP attempts to resolve its sovereignty and maritime claims in the region. Ensuring freedom and the maritime order in the East China and South China Seas, and preventing unilateral control over geopolitical strategic locations, will be of major interest for Allied nations in the future. The security environment is becoming more volatile, uncertain, complex and ambiguous.²⁷⁷ The Russian invasion of Ukraine caused the acceleration of political, economic and military measures, where developments are now progressing in just weeks, which previously evolved over decades. Due to the globalization, such European tensions can have a direct linkage with the security of the Indo-Pacific and escalate rapidly.²⁷⁸ Therefore, democratic states will enhance deterrence by strengthening strategic relationships across all instruments of power based on mutual interest and transcending traditional ideological divides. Dialogue with regional powers and partners could result in transparent standards for cooperation, as well as fairness and freedom of global supply chains.

7. The Indo-Pacific will continue to remain a geopolitical region crucial to the stability and prosperity of the Allied Nations' territories as both European and North American countries have substantial trade interests with China. At the same time, the presence of NATO in the Western Indian Ocean, primarily in the Horn of Africa and the Arabian Peninsula, extends the Alliance's concern over a possible security vacuum through the sea and from a larger view through the Indo-Pacific region. Several NATO Allies, the United States, the United Kingdom, France, the Netherlands, and to a certain extent Germany, already have a presence in the Western Indian Ocean. These countries and some other allies might also be ready to promote a shared understanding of the capabilities and activities with their regional partners in crisis management and emergency environmental response, when needed and appropriate. It is therefore fundamental to address common challenges and common interests within the political framework of the Alliance to achieve unity of efforts and unity of relevant strategies.

8. NATO's imperative to maintain a stable maritime order and reduce potential threats to regional stability and global economic supply chains require an objective understanding of who China is today and who China wants to be in 2049. The PRC has been designing and planning its strategic objectives for many decades. To reach its ambitions, China prefers the use of soft power tools and open diplomacy. For example, Beijing's perspective on transit through the Arctic Ocean, as shown in Figure 26, underpins the PRC's reasoning for maintaining a good relation to Russia, Canada or others to become successful in the Arctic. Equally, the same approach has been adopted in the Pacific Ocean, recognizing the importance of Japan, ASEAN countries and Australia as a critical gateway into the Arctic.

9. Over the last two decades, China has increased its footprint in the Indo-Pacific region immensely, and it will continue to expand its efforts to support developing countries. Disaster relief donation is one example of China's "winning without fighting" strategy that increases economic dependency of regional nations to China. According to Lowy Institute research, China is the third-largest donor to the Pacific, contributing 8% of all foreign aid to the region. Australia is the leading donor to the region with 45%, followed by New Zealand (9%), the US a little less than China with 8%, and finally Japan (6%). If NATO and the Western world fail to remain, or in some cases become a credible partner of Indo-Pacific nations in the middle and long-term future, then the Indo-Pacific may become an ideal theatre where smaller regional states will likely have to choose between China

and the West – with their competing values and economic systems.

10. In order to keep NATO out of focus as a potential military adversary in the Indo-Pacific region, the Alliance could support its partners with HADR, improving resilience, and migration control operations. It is very likely that by 2040, harassments to the minorities and natural disasters could result in major geopolitical changes and disruptions, such as irregular migration. Even today, regional states invest a lot of money and military power to counter climate change effects and demographic instability. A common understanding of disaster relief response and migration control programmes could assist national defence efforts in the region and help mitigate shortfalls of partner nations by providing tailored support.²⁷⁹ Released regional military resources of partners would mean more capacity available to solve security issues in the region by themselves.

11. Accordingly, NATO could play a crucial role in reducing the security effects of the gender imbalances in the region, for instance, by supporting the agricultural systems of vulnerable groups such as indigenous people, women and youth, particularly in rural areas. Low quality of life for women can have security implications, if

not addressed through appropriate policies and equitable implementation strategies.²⁸⁰ NATO might also have a role in supporting local activities and programmes aimed at reducing gender imbalances. As inequalities between men and women in the region will continue to lead to social unrest, NATO could promote, together with other international organizations, public programmes, policy and governance models that favour the integration of gender perspectives. This might drastically reduce the number of women engaging in terrorism and illegal activities, thus contributing indirectly to enforcing social stability and security.

12. Overall, NATO's approach to the Indo-Pacific in the years to come will remain focused on strengthening its current partnerships in the region. How NATO succeeds in turning these partnerships into deliberative and proactive cooperation will affect the Alliance's role in shaping the security environment and promoting its goals to support possible future missions in the Indo-Pacific. Indeed, the evolution of the Ukraine war, initiated by Russia in February 2022, and Beijing's position vis-à-vis Russia in the conflict, will have major impacts on NATO's future relationship with China.



Figure 26:

China's Perspective on Sailing the Arctic

(Bennett, Mia, "It's Official: China Releases its First Arctic Policy", Cryopolitics, January 26, 2018)

TABLE OF THEMES, TRENDS AND IMPLICATIONS

APPENDIX A		SUMMARY OF 5 THEMES, 15 TRENDS, AND 55 IMPLICATIONS FOR NATO
THEMES	TRENDS	IMPLICATIONS
POLITICAL	1.1. The redistribution of geostrategic and military power from the West to the Indo-Pacific	<ul style="list-style-type: none"> a. Maintaining strategic awareness of China's economic instrument of power. b. Increasing arms race in the region. c. Challenges to assured access to global commons.
	1.2. Power politics accelerating competition	<ul style="list-style-type: none"> a. Regional alignment adapting to the accelerating competition. b. 360-degree approach to security and greater outreach to global partners.
	1.3. Conflicting territorial claims	<ul style="list-style-type: none"> a. Increased potential for conflict. b. Increasing Western presence in the region.
	1.4. Diverging ideological and security architecture	<ul style="list-style-type: none"> a. Increasing challenges to the rules based international order. b. Russia and China offer a new regional alternative.
HUMAN	2.1. Demographic instability	<ul style="list-style-type: none"> a. Ageing populations will strain resources and cause labour shortage. b. Rejuvenated countries will have to tackle various problems. c. Gender imbalance and inequalities will continue to lead to social unrest. d. Change in population fit to military service will affect defence capabilities.
	2.2. Uneven regional growth	<ul style="list-style-type: none"> a. Supporting urban resilience in the region will become vital. b. Future regional armies will have to fight in urban areas. c. The support to regional armies will vary throughout the region due to different education levels. d. Revisionist countries would aim to increase their regional influence by supporting low-income nations.
	2.3. Heterogeneous and inharmonious countries	<ul style="list-style-type: none"> a. Discrimination of religious minorities would trigger a new migration wave towards Europe. b. Harassed minorities and overseas populations may become a foundation for terrorism, in all its forms and manifestations, and piracy. c. China will continue to utilize Chinese diaspora as a soft power instrument to increase its influence in the region. d. In the independent atmosphere of Web 3.0, revisionist countries, such as China, could increase their current soft power effects.

APPENDIX A

SUMMARY OF 5 THEMES, 15 TRENDS, AND 55 IMPLICATIONS FOR NATO

THEMES	TRENDS	IMPLICATIONS
TECHNOLOGY	3.1. Rising competition in the technological industry	<ul style="list-style-type: none"> a. Global competition for the core elements of technology. b. Expanding commercialization supports Chinese Techno-Nationalism. c. Sector dominance of technology industries. d. Aggressive standards setting.
	3.2. Emerging and Disruptive Technologies' role in shaping the region	<ul style="list-style-type: none"> a. Countering cyber space disinformation. b. Increasing need for cooperative efforts in the region. c. United efforts of regional security in the Indo-Pacific and Euro-Atlantic regions. d. Technology advances ahead of regulatory measures. e. Technology competition feeds economic development.
	3.3. Shifting dominance of 'the use of space'	<ul style="list-style-type: none"> a. The unregulated region. b. The dual use of space. c. Increasing private sector role in space competition.
ECONOMICS / RESOURCES	4.1. Global economic weight shifting to Asia	<ul style="list-style-type: none"> a. Domestic re-prioritization. b. Further escalation of tensions. c. Natural resources dependency. d. New emerging relationships. e. Calibrated de-coupling. f. Diversification and resilience of supply chains.
	4.2. Increasing natural resources competition	<ul style="list-style-type: none"> a. Scarcity and migration. b. Fragile international relations. c. Fishing disputes. d. Clean energy strategy. e. Nuclear weapons.
	4.3. Re-focusing on defence expenditure	<ul style="list-style-type: none"> a. Domestic interests driving policies. b. Common challenges. c. Balancing of interests.
ENVIRONMENT	5.1. Increasing regional vulnerability to climate change effects	<ul style="list-style-type: none"> a. Food & water security at risk. b. Maritime and oceanic governance. c. Confluence of instability. d. Contested soft power.
	5.2. Frequency of natural disasters to increase	<ul style="list-style-type: none"> a. Food & water security put under increasing stress. b. Weakened national governance and increasing poverty. c. Environmental exploitation or cooperation. d. Military support to HADR will come under increasing pressure.

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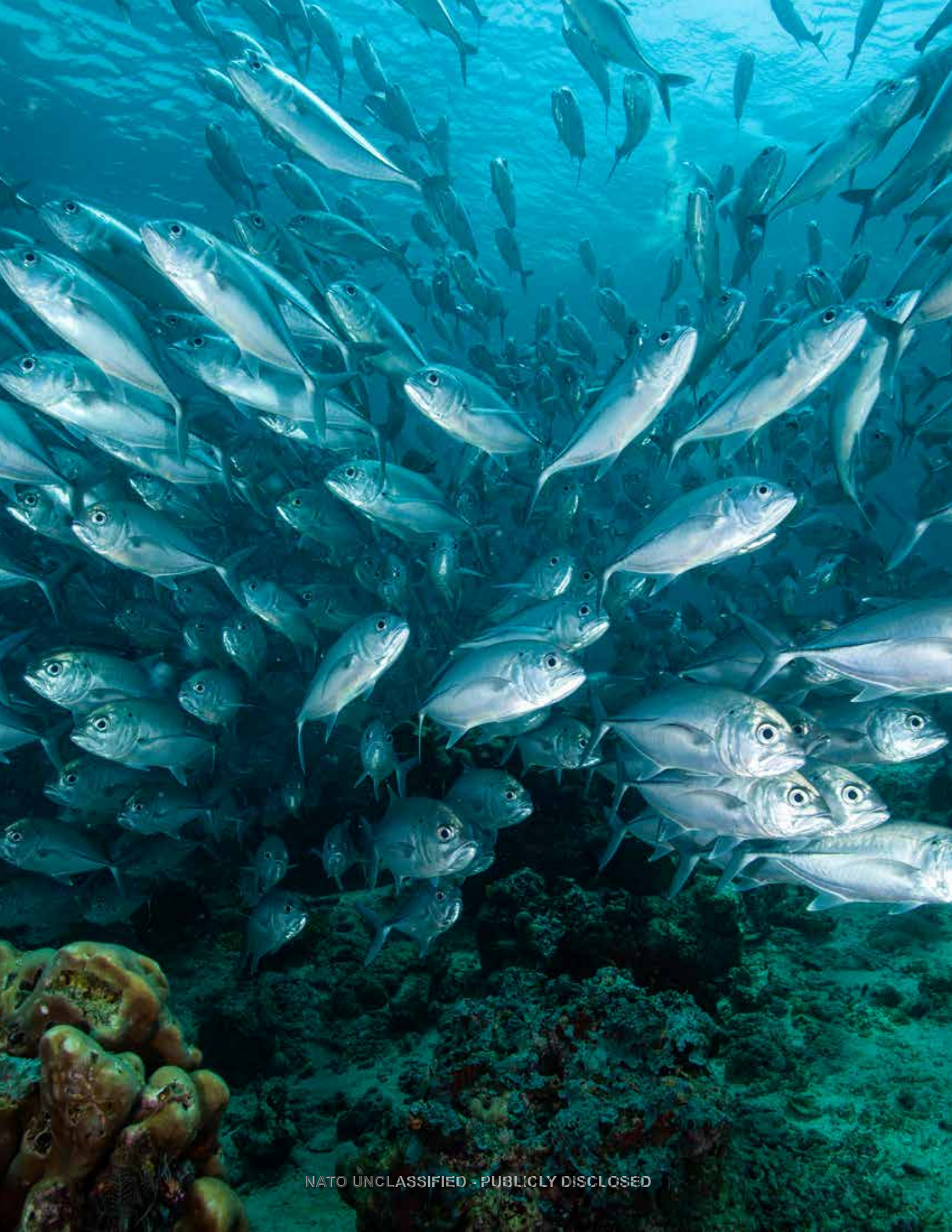
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