

UTAR ASEAN Research Centre For A Community of Shared Future (ACSF) Public Lecture

22 July 2026 UTAR Kuala Lumpur

The Global Development Initiative, the Global Security Initiative, the Global Civilization Initiative, and the Global Governance Initiative

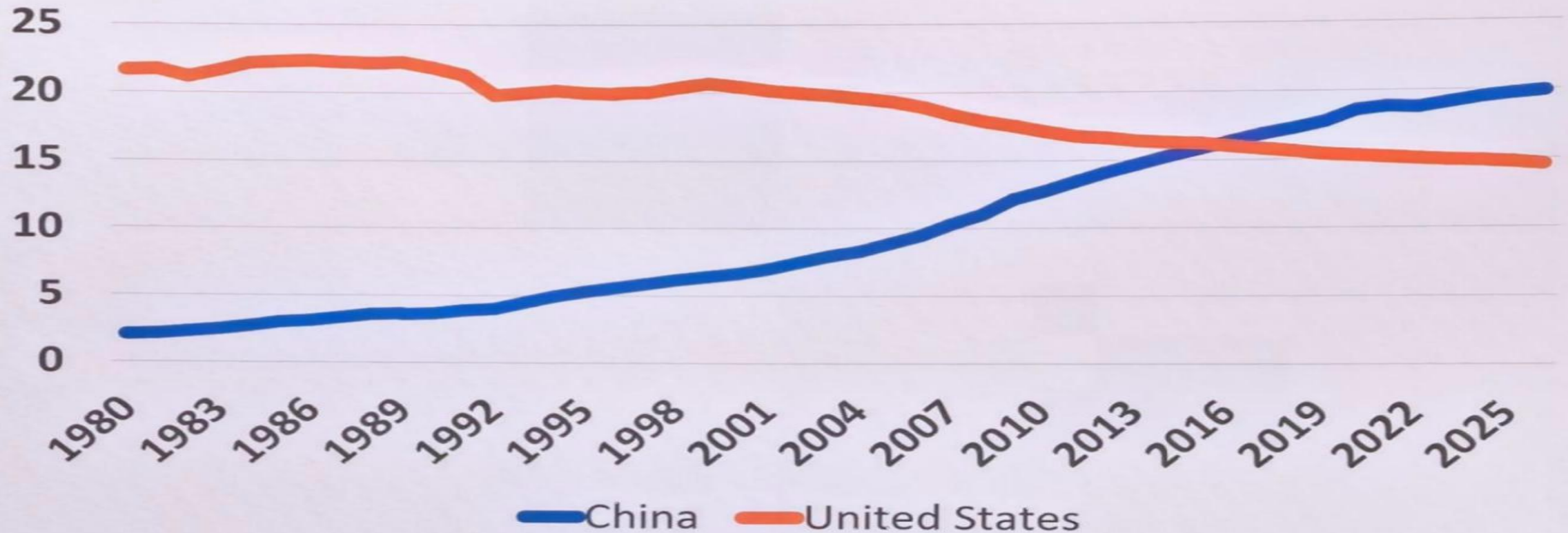
By Academician Dato Ir. (Dr) Lee Yee Cheong (李怡章), Malaysia
Honorary President, The Academy of Engineering and Technology of the Developing World(AETDEW)/Honorary Chairman, UNESCO International Science, Technology and Innovation Centre for South-South Cooperation, Malaysia (ISTIC)

1.0 Introduction

President Xi Jinping of China announced the Global Development Initiative in 2021, the Global Security Initiative in 2022, the Global Civilization Initiative in 2023 and the Global Governance Initiative in 2025. The four global initiatives will define the agenda for the world to achieve the common destiny of humankind for prosperity and peace.

China is able to anchor the achievement of the four global initiatives, because of its spectacular success in uplifting itself from abject poverty and becoming the second largest economy in the world in the short span of thirty years. China is on course to become the largest economy in the world within the next decade.

US and China Shares of World Output



From Professor Jeffrey Sachs Public Lecture at Sunway University Malaysia 16 March 2026

The four global initiatives have been hailed by leaders of nations from north and south as the blueprint for a world of sustainability, prosperity and peace. The foundation for the successful realization of the four global initiatives rests on the understanding and knowledge of the common people of the world about the four global initiatives as well as bottom-up initiatives of common people of the global south in their implementation.

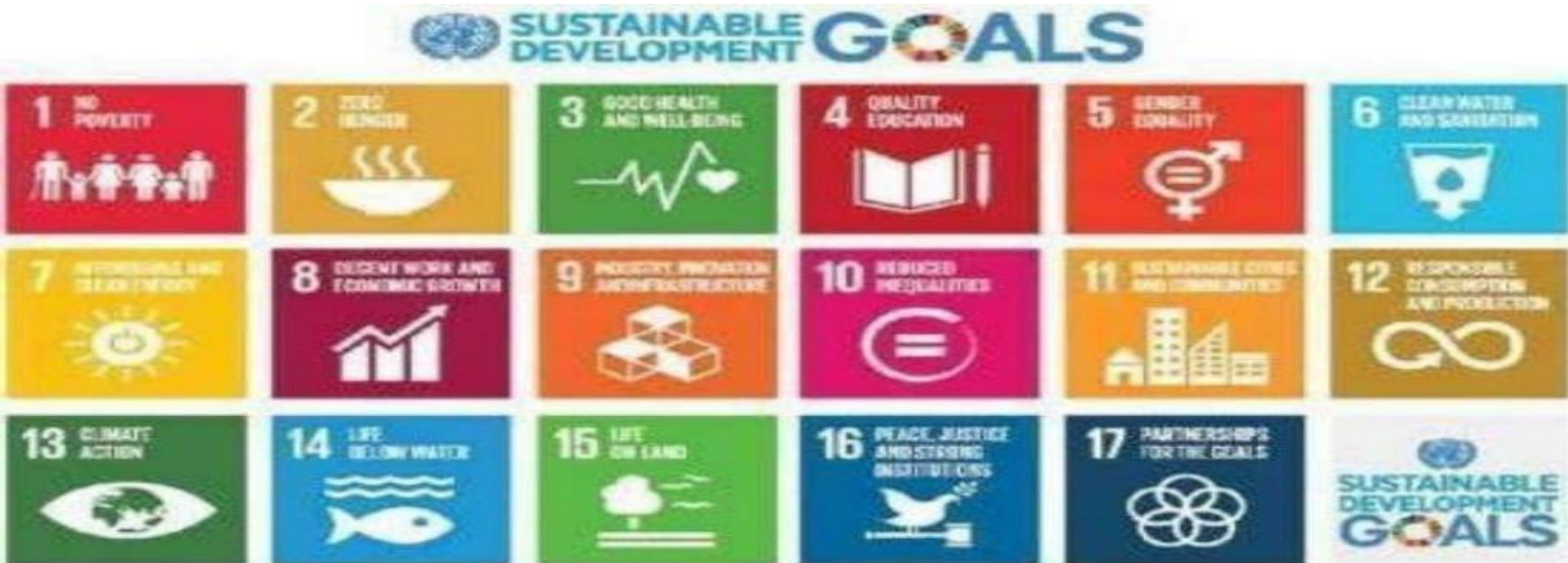
I was the chairman of the UNESCO International Science Technology and Innovation Centre for South-South Cooperation (ISTIC) hosted by Malaysia . In 2017, ISTIC established the Academy of Engineering and Technology of the Developing World (AETDEW). AETDEW is now an academy independent of government.

The proposals in this paper are based on my initiatives and activities in ISTIC and AETDEW and on my observations during more than 100 visits to all parts of China since 1987.

2.0 The Global Development Initiative

2.1 The UN Sustainable Development Goals

The United Nations General Assembly in 2016 unanimously adopted the UN Post-2015 Development Agenda with its 17 Sustainable Development Goals for all member nations to achieve by 2030.



In my opinion, the 17 SDGs are too comprehensive and all embracing for most developing countries with limited resources and human capital to achieve by 2030. They must devote all their resources to achieve SDG No.1 “No Poverty”. Poverty is the root cause of all the social, economic and environmental ills in any nation, region and the world.

The G20 Summit Meeting in Rio, Brazil, November 2024 established the Global Alliance Against Hunger and Poverty. This emphasizes the lack of progress in global poverty eradication just 6 years before 2030.

The World Bank Report “Four Decades of Poverty Reduction in China: Drivers, Insights for the World, and the Way Ahead” dated 2022 vindicates China’s success in poverty eradication. The Report urges the developing world to learn from China. In fact, China is sharing her spectacular development success with the rest of the world through her visionary Belt and Road Initiative BRI.

2.2 China and Poverty Eradication

China's spectacular rise has been anchored by first eradicating poverty. China has been able to lift 800 million of her population in the most remote regions out of poverty by 2021. This is a feat unparalleled in the history of the world. What is even more amazing is that the 800 million people have joined China's society of moderate prosperity (小康社会). China has thus been able to take care of all the basic needs of her population, like clothing, food, housing, and transport (衣食住行) as well as access to education, basic medical services, and gainful employment even in her remotest rural regions.

In the process, China has been improving her environment, turning desert into grassland, forest and farmland, cleaning up her rivers and lakes, and conserving her wetland, thus protecting its flora and fauna.

As the Chinese people have become more prosperous, they are able to devote resources to improving their quality of living, as per Chinese saying (琴棋书画) or “music, chess, book, painting”, including deeper appreciation of China’s glorious civilization of 5000 years, and increasing knowledge of other civilizations.

In China’s spectacular poverty eradication success, villages in remote regions have been the main beneficiary. They have become prosperous and many of their enterprises have become part of China’s global supply chain.

Through poverty eradication, China has achieved most of the SDGs for her people.

In my opinion, one of the most important factors in the uplift of villages in China has been the return of university-trained youth to their home villages. They have applied their knowledge, their urban commercial and financial skills and urban work experience to revive agriculture, horticulture and traditional cuisine and set up profitable downstream production chain with modern branding and packaging. They have also beautified their villages, emphasized their custom and culture, their song and dance to make them thriving tourist destinations.

In contrast, villages in most developing countries are in sharp decline due to lack of education and job opportunities for their youth, forcing them to go to cities in search of work. Their villages are ageing , and their social, economic and environmental conditions are worsening day by day.

I believe a solution will be for villages and villagers from Belt and Road countries to learn directly from their counterparts in China.

2.3 Proposal for Twinning of Villages in Belt and Road Countries with Chinese Villages under BRI

I have been associated with UTAR New Villages Project from the beginning. New Villages in Malaysia have benefited much from the Project. I naturally made New Villages as the China-Malaysia pilot project for the Twinning of Villages under BRI.

I made an exploratory visit to Pinggu Village in Beijing in 2023 leading to the visit of the UTAR led Malaysian New Villages delegation to Beijing Villages in 2024.



平谷区
峪口镇

南营村民委

中共平谷区
峪口镇

南营村党支部

平谷区
峪口镇

南营村民兵连

做“新时尚”
一参与地



恒升牧业

都市现代畜牧产业

科技引领 生态优先





峪口禽业
Yukou Poultry

中国蛋鸡大数据中心



The Malaysia-China village twinning pilot project has shown success under the joint initiative of the Rural Revitalization Subcommittee of the Beijing City Planning Society, Beijing University of Civil Engineering and Architecture, and UTAR. A cooperation agreement was formally signed between Beigou Village, Beijing, and Triang New Village, Pahang, Malaysia.

UTAR has organised a visit to Beijing Beigou Village by a delegation of Pahang State Government, Triang New Village representatives, UTAR faculty member and students in June 2026. A return visit by Beijing Beigou Village to Triang New Village will take place in the autumn 2026.

I led a Malaysian delegation to Ningxia Hui Autonomous Region in North West China 6-9 June 2025 to explore the possibility of twinning more villages between Muslim Malaysia with Muslim region of China.

The nine-member Malaysian delegation comprised representatives from AETDEW, the Malaysia-China Friendship Association (PPMC), UTAR and villages from Perak State. In a hectic 3 days in Yinchuan, Ningxia, we visited Runfeng and Haoyuan Villages ;Ningxia University; Goji Farm and Goji Product Research and Development Centre.

Follow-up action to twinning Runfeng/Haoyuan Villages in Ningxia and Labu Kubong/Tanjung Tualang Villages in Perak is in progress.

With the success of the Malaysia-China village twinning pilot project, it is hoped village twinning will be extended to villages in other ASEAN countries







吴苑乡村大舞台





中共银川市金凤区丰登镇润丰村
银川市金凤区丰登镇润丰村
银川市金凤区丰登镇润丰村

- Man 1: Wearing a pink long-sleeved shirt, black trousers, and glasses. He has an orange lanyard with a blue badge.
- Man 2: Wearing a black polo shirt, black trousers, and glasses. He has an orange lanyard with a blue badge.
- Woman: Wearing a purple long-sleeved dress, white sneakers, and a black bag. She has an orange lanyard with a blue badge and is holding a small white booklet.
- Man 3: Wearing a grey polo shirt, black trousers, and glasses. He has an orange lanyard with a blue badge.
- Man 4: Wearing a yellow long-sleeved shirt, white trousers, a yellow cap, and glasses. He has an orange lanyard with a blue badge.
- Woman 2: Wearing a red long-sleeved shirt, black trousers, a pink hijab, and glasses. She has an orange lanyard with a blue badge.
- Man 5: Wearing a purple short-sleeved shirt, black trousers, and glasses. He has an orange lanyard with a blue badge.
- Man 6: Wearing a patterned short-sleeved shirt, black trousers, and glasses. He has an orange lanyard with a blue badge.

2.4 The Belt and Road Initiative

The Belt and Road Initiative (BRI) was announced by President Xi Jinping in Kazakhstan and Indonesia in 2013 on the Land Silk Road Economic Belt in the former, and the 21st Century Maritime Silk Road in the latter.

One belt, one road

China is pushing to revive its ancient overland and maritime silk routes to Europe. The route connects many land and sea ports over three continents.



The anchor of China's success in eradicating poverty is its extensive and inclusive physical and virtual infrastructure. Ultra-modern highways, high speed rail, ports, airports and 5G broadband internet assure that the most remote villages are becoming part of China's global supply chain. There is an old Chinese saying often quoted by President Xi Jinping: "To get rich, build roads first" (要想富先修路).

China's physical and virtual infrastructure development is anchored by China's world-leading scientific, engineering, and technology achievements such as:

- (i) High-speed rail networks;**
- (ii) Cross-sea bridges;**
- (iii) Multi-purpose water resource dams and reservoirs;**

- (iv) South-to-North Water Diversion;**
- (v) Broadband 5.5G network;**
- (vi) Supercomputers;**
- (vii) Aerospace development of rocket, spacecraft, Mars rover and space station;**
- (viii) Modern Mega Airports;**
- (ix) Autonomos Ports**
- (x) Shipbuilding and Marine Transportation**
- (xi) Rare Earth and New materials industry;**

- (xii) Commercial Aircraft development;**
- (xiii) Solar photovoltaics, wind turbines, nuclear power and thorium based 4th generation reactors;**
- (xiv) Robotics and humanoid robots;**
- (xv) Drones;**
- (xvi) Electric vehicles and energy storage batteries;**
- (xvii) Short messaging systems;**
- (xviii) Open-source AI platforms;**
- (xix) Big Data Centres**



The Three Gorges Project is primarily a Flood Mitigation Project. Disastrous Floods in Yangtze River occurred about once a decade. The 1998 flood was considered the worst flood in 40 years in China . It resulted in 3,704 dead, 15 million homeless and US \$26 billion in economic loss. The Three Gorges Project also provides 22,500 Mw of renewable hydro power, the largest in the world. Total Project Capital Cost US \$22.5 Billion



(World Bank funded Xiaolangde Hydro Project ,Yellow River, Louyang, China)

The Yellow River used to be “China’s Sorrow” due to severe floods. Due to many dams upstream and over drawdown of its water, it ran dry at the delta in Shandong.



The Baihetan Dam is on the Jinsha River, an upper stretch of the Yangtze River in Sichuan and Yunnan provinces. The dam is a 289-meter-tall double-curvature arch dam with a crest elevation of 827 m, and a width of 72 m at the base and 13 m at the crest. It is also the second largest hydropower plant in the world after Three Gorges. The hydropower station is equipped with 16 hydro-generating units that each have a capacity of 1000 Mw, the largest single-unit capacity in the world



The molten-salt concentrated solar power plant is located in Dunhuang, Gansu Province. The 100MW power plant works by using 12,000 mirrors that concentrate the sunlight onto a receiver at the top of a solar tower, which then heats the molten salt.



2 MW 4th Generation Molten Salt Thorium Reactor in Gansu connected to China's power grid. 10 MW units expected in commercial operation in 2030.



China has built in 2022 the world's first waterless reactor in the desert. This water-free nuclear reactor is called molten salt reactor. Its coolant and fuel are molten salt and it is fueled by liquid thorium. Uranium nuclear reactor waste must be stored for more than 100,000 years, radioactive waste produced by molten salt reactors only 300 years of storage. Molten salt reactors can also use the waste from nuclear reactors as fuel.



China is the world leader in wind power generation, with the largest installed capacity of any nation on land and 200000 MW on the sea. Wind power was China's third-largest source of electricity at the end of 2021, accounting for 7.5% of total power generation.capacity to reach a total capacity of 281000MW.



The Xinjiang-Anhui Changji–Guquan 1100kV HVDC Power Transmission Line Spans 3,284 km from Changji, Xinjiang, to Guquan, Anhui,



Liquefied CO₂ Cylinder at coal-fuelled power station that can be transported to suitable CO₂ sequestration site



First Ship to Ship Liquefied CO2 Transferred in Shanghai 2026. Liquefied CO2 will be stored as energy that will power the ship



The South–North Water Transfer Project channels fresh water from the Yangtze River in southern China to the arid north through three canal systems: The East Route follows Grand Canal the Central Route from the Han River to Beijing and Tianjin; The West Route goes from the Bayankala Mountain to provinces in North West China. The Eastern and Central Routes are operational.



The Grand Canal

The earliest sections of the Grand Canal date back to the Spring and Autumn Period (770–476 BC), when regional states like Wu and Yue dug canals to facilitate local trade and military logistics. The latest canal is the Pinglu Canal Guangxi. It is a 134.2km, \$13.7 billion project that opens in September 2026, significantly shortening shipping routes to Singapore and other parts of South-east Asia, reinforcing booming China-Asean trade.



Guizhou Province has built nearly 30,000 bridges since the late 1970s and is now home to half of the 100 tallest bridges in the world. Due to number of bridges, their types, and the complex technologies used in construction, Guizhou is known as "the museum of world bridges." The Beipanjiang Bridge is world record holder, over 565 meters above a valley, equivalent to the height of a 200-story building,



The 36km-long Hangzhou Bay Bridge is the second longest ocean-crossing bridge in the world, spanning across the Hangzhou Bay on the East China Sea connecting Shanghai and Ningbo.



The Hong Kong–Zhuhai–Macau Bridge is a 55-kilometre (34 mi) bridge–tunnel system consisting of a series of three cable-stayed bridges, an undersea tunnel, and four artificial islands. It is both the longest sea crossing and the longest open-sea fixed link in the world.



China had overtaken South Korea in 2021 to become world champion of annual shipbuilding order volume. the global order volume of new ships in 2021 was 45.73 million compensated gross tons (CGTs), of which South Korea received 17.35 million CGTs, accounting for 38 percent, second only to China's 22.8 million CGTs. Photo: Lianyungang carrying 69,000 tons of LNG at Tianjin LNG terminal in December 2021.



The container pier at Yangshan Port, which forms part of the Port of Shanghai. It is the world's busiest trading port which handles 45 million TEU containers per year in 2020



China's homemade “Fuxing” entered commercial service in July 2017 between Beijing and Shanghai with speed of 350 km an hour. This is the world's highest speed. The high-speed rail network in China is the world's longest with a total length of 42,000 kilometres by the end of 2022. The 600km an hour maglev train was launched in Qingdao in July 2021.

10 Speed: 352km/h



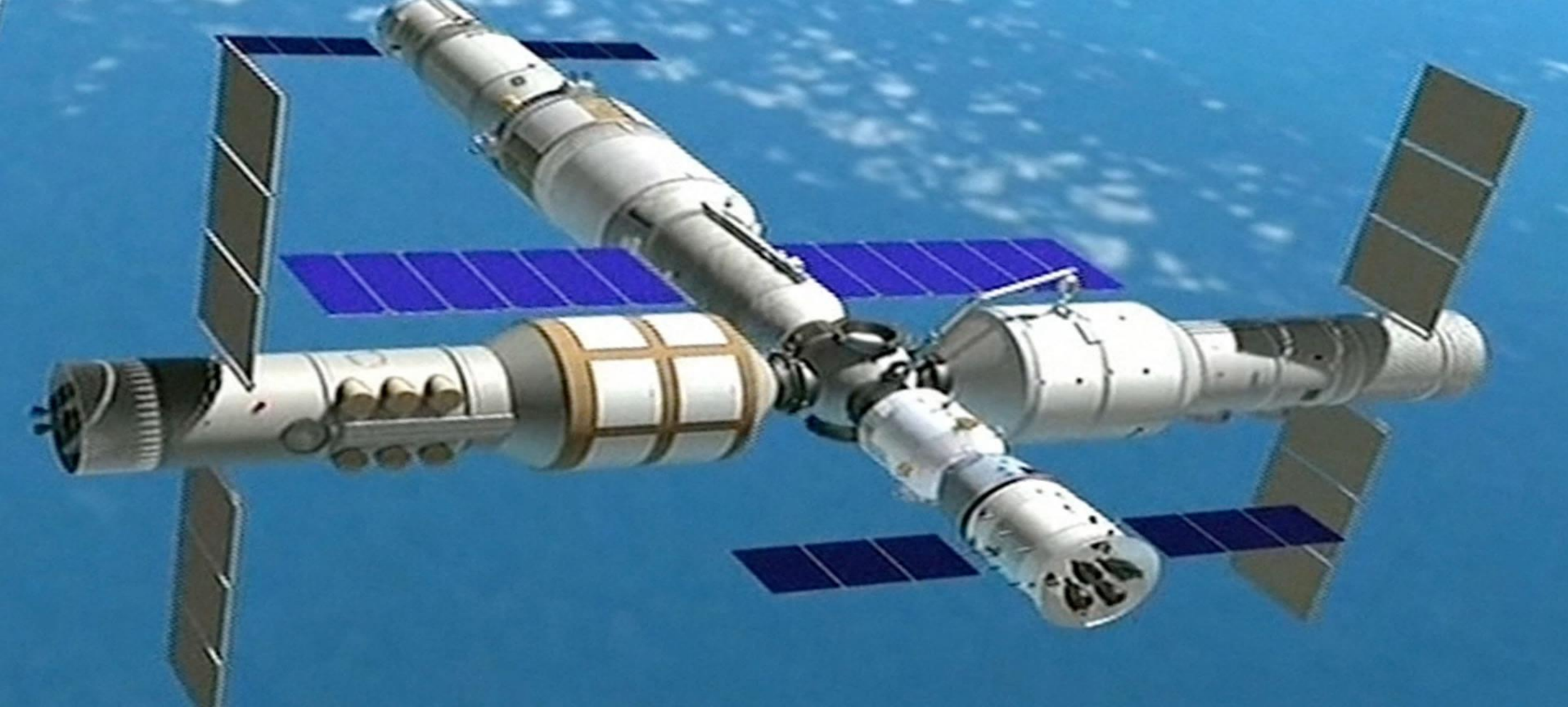
HUAWEI P9 Plus
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China has built world's biggest Daxing airport in Beijing with seven runways. The new airport begun opearation in 2019 with 4 runways and a 700,000 m2 terminal, the world's largest single-building airport terminal



The Sunway TaihuLight is officially ranked as the fourth most powerful supercomputer in the world, however researchers claim its latest AI demonstration puts it on a par with the US Frontier, which currently tops the list.



The Tiangong space station is a permanently crewed space station operating in low earth orbit between 340 and 450 km above earth. it has a pressurised volume of 320 m³, one third the size of the International Space Station. It was completed in November 2022



The BeiDou Navigation Satellite System is a Chinese satellite navigation system. In June 2020, the 55th BeiDou satellite was successfully launched. It provides full global coverage for timing and navigation. In 2015, it was generating a turnover of US\$31.5 billion per annum and to reach \$64 billion in 2020 and will be worth US\$160.0 billion



In Guizhou province stands the five-hundred-meter Aperture Spherical Telescope (FAST), the largest radio telescope in the world.



The Comac C919 is a narrow-body airliner developed by Chinese aircraft manufacturer Comac. the first prototype had its maiden flight on May 2017. In September 2022, it received its CAAC type certificate, and the first airliner was delivered to China Eastern Airlines in December 2022. China's air fleet size will reach 10000 by 2040, 22 percent of the global passenger aircraft fleet. China will take delivery of 9,084 passenger planes at or above the 50-seat class in the next two decades by 2040, valued at approximately US\$1.4 trillion.



The world's biggest drone maker is DJI China. The global drone market is expected to grow from US \$30.6 billion in 2022 to US \$55.8 billion by 2030. DJI dominates more than 70% of that market.



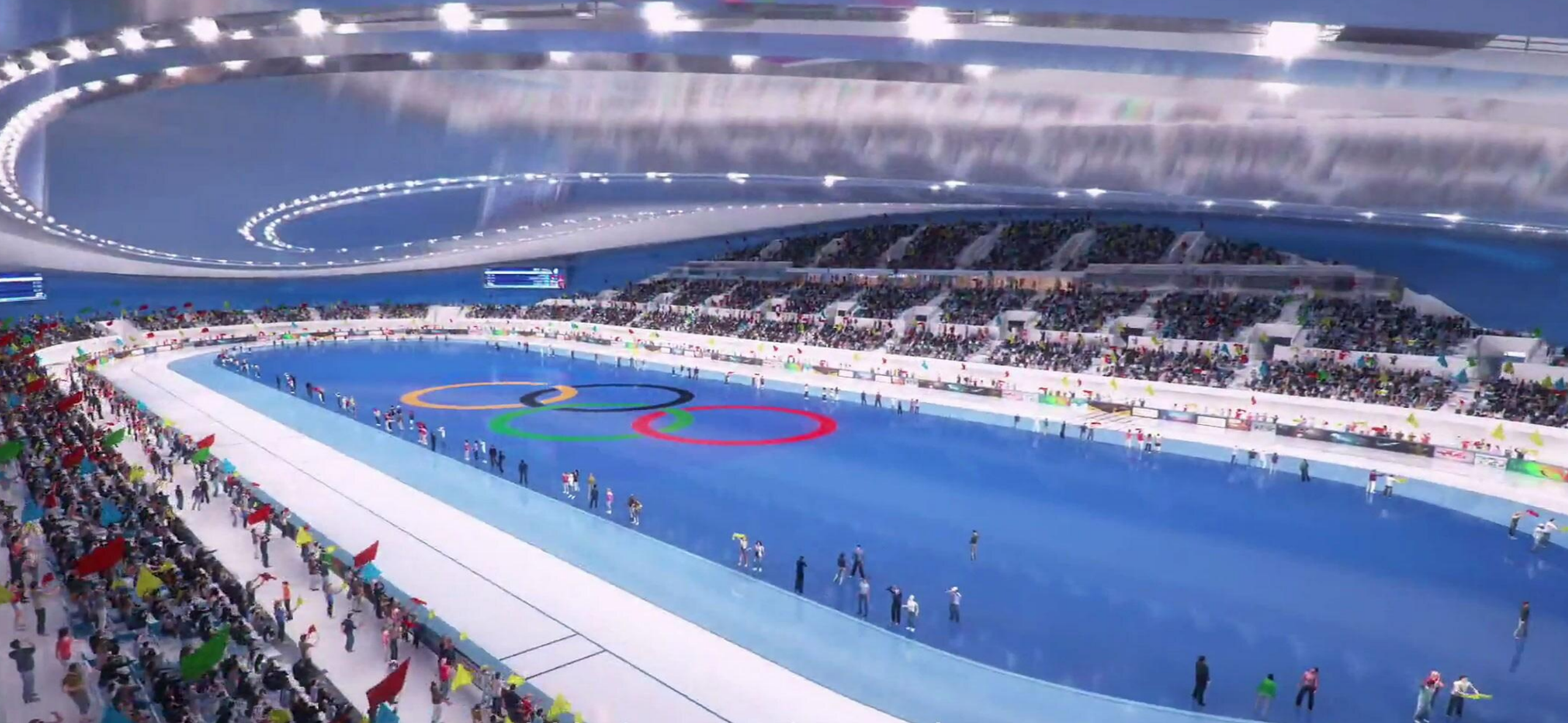
China has become a global leader in automation. From 2018 to 2020, sale increase surged by 27 percent to 87,000 units in 2016. As of September 2020, there were 381,000 units of industrial robots globally, China at 140,500 units. The photo shows Uni-Tree robots performing martial art during Chinese Spring Festival Gala 2026.



China Mobile and Huawei have together built the highest elevation 5G base station on this planet at 6500 meters at Mount Everest. Over 700,000 5G base stations have been set up in China by end 2020, connecting more than 180 million terminal devices. One million base stations are planned to be built in 2021, while their number is expected to reach almost five million by 2025. They are expected to increase the number of 5G users in China to 1.28 billion and create the largest data network in the world.



The electric vehicle industry in China is the largest in the world, accounting for around 57.4% of global production of electric vehicles (EVs) and around 500,000 exports in 2021. The battery industry is closely related to the EV industry as batteries constitute around 1/3 of the cost of EVs and around 80% of lithium-ion batteries in the world are used in EVs. Chinese electric vehicle (EV) battery makers dominated the global market in 2022, with six companies featuring among the world's top 10 players and accounting for a 60.5 per cent share amid a doubling of EV sales in China. China has the most electric vehicle (EV) charging stations in the world — over 1.2 million in 2019 — China is looking to add around 600,000 more.



Beijing 2020 Winter Olympics are the first to use natural CO₂ as a refrigerant to cool the skating venues, instead of synthetic hydrofluorocarbon refrigerants, saving up to 26,000 tonnes of carbon.



China builds clusters of datacenters in the nation's west where the weather is cooler, renewable energy is more available, and space to build giant bit barns is easier to find. Eight new computing hubs are needed because China's datacenters already exceeds five million racks of kit, delivering a collective 130 exaFLOPS China aims to expand its big data industry into a more than US\$637.9 billion sector by 2025.

I have included the above photos of China's engineering and technological achievements to your information, as a picture is worth a thousand words. I hope you will browse my comments in the photos to realise that these achievements have occurred in the short timespan of two decades or so.

The Australian Strategic Policy Institute (ASPI) is a think tank that carries out studies for the US government departments. Its "Critical Tech Tracker" found China is beating the United States in 37 of 44 technologies which are likely to propel innovation, growth and military power in coming decades, including artificial intelligence, robotics, biotechnology, advanced manufacturing, and quantum technology.

Technology	Lead country	Technology monopoly risk
Advanced materials and manufacturing		
1. Nanoscale materials and manufacturing	China	high
2. Coatings	China	high
3. Smart materials	China	medium
4. Advanced composite materials	China	medium
5. Novel metamaterials	China	medium
6. High-specification machining processes	China	medium
7. Advanced explosives and energetic materials	China	medium
8. Critical minerals extraction and processing	China	low
9. Advanced magnets and superconductors	China	low
10. Advanced protection	China	low
11. Continuous flow chemical synthesis	China	low
12. Additive manufacturing (incl. 3D printing)	China	low
Artificial intelligence, computing and communications		
13. Advanced radiofrequency communications (incl. 5G and 6G)	China	high
14. Advanced optical communications	China	medium
15. Artificial intelligence (AI) algorithms and hardware accelerators	China	medium
16. Distributed ledgers	China	medium
17. Advanced data analytics	China	medium
18. Machine learning (incl. neural networks and deep learning)	China	low
19. Protective cybersecurity technologies	China	low
20. High performance computing	USA	low
21. Advanced integrated circuit design and fabrication	USA	low
22. Natural language processing (incl. speech and text recognition and analysis)	USA	low
Energy and environment		
23. Hydrogen and ammonia for power	China	high
24. Supercapacitors	China	high
25. Electric batteries	China	high
26. Photovoltaics	China	medium
27. Nuclear waste management and recycling	China	medium
28. Directed energy technologies	China	medium
29. Biofuels	China	low
30. Nuclear energy	China	low
Quantum		
31. Quantum computing	USA	medium
32. Post-quantum cryptography	China	low
33. Quantum communications (incl. quantum key distribution)	China	low
34. Quantum sensors	China	low
Biotechnology, gene technology and vaccines		
35. Synthetic biology	China	high
36. Biological manufacturing	China	medium
37. Vaccines and medical countermeasures	USA	medium
Sensing, timing and navigation		
38. Photonic sensors	China	high
Defence, space, robotics and transportation		
39. Advanced aircraft engines (incl. hypersonics)	China	medium
40. Drones, swarming and collaborative robots	China	medium
41. Small satellites	USA	low
42. Autonomous systems operation technology	China	low
43. Advanced robotics	China	low
44. Space launch systems	USA	low

In my opinion, it is not just about the race for leading individual front-edged technology that matters. It is the capacity and capability to innovatively amalgamate these technologies in China's well-functioning infrastructure, as smart design, manufacturing, construction and commercialization. This process has been enabled by government, offering land, necessary infrastructure and R&D seed funding; universities offering open source R&D support and private venture capital providing commercialization funding support.

China will continue to be "the world factory with Chinese characteristics" and "the world market with Chinese characteristics."

Nothing symbolizes the Land Silk Road Economic Belt more than the China-Europe freight-rail service, replacing camels with trains. The first China--Europe freight train was launched in Chongqing. By the end of February 2024, this China-Europe train service had connected 120 Chinese cities with 219 cities in Europe. The China-Europe freight train service had completed 90,000 train trips, transporting millions of containers of goods worth more than US\$380.0 billion. It is truly a lifeline for landlocked countries in Central Asia, Eastern Europe, and even Western Europe. The China-Europe freight-rail service will be greatly enhanced by the China-Kyrgyzstan-Uzbekistan rail railway linking Iran, Turkire and Eastern Europe.

Nothing symbolizes the 21st Century Maritime Silk Road more than the fleet of Chinese container ships that is the world's largest fleet, plying the seven seas and making landfalls at ports in the developing world that are equipped with intelligent autonomous loading, unloading, and port management systems that are supplied by Chinese companies.

Since 2013, physical and virtual infrastructure projects built by China to Chinese engineering standards abound throughout the developing world.

In Africa, China has built and is operating the Addis-Djibouti railway. China built the African Union complex in Addis. China is building the new container port of Doraleh in Djibouti. China has started construction of the new Port of Lamu in North-East Kenya to link landlocked South Sudan and Ethiopia to the Indian Ocean. The project includes major highway, railway, power plant and oil and gas pipeline. The Mombasa-Nairobi Railway is in operation and is being extended to Naivasha.

Important BRI projects in Asia include the already operational Istanbul Ankara railway. The Astana-Almaty 1000km high speed rail project is under implementation by Chinese corporation. The high speed rail project by China in Thailand will herald the 3,000km high-speed rail link from Kunming, China all the way down to Singapore through Laos, Thailand and Malaysia. The 1000km China-Laos railway project is operational.

China is building the Kyaukpyu Port in Myanmar and the Kuantan Port in Malaysia. China owns the Hambantota Port in Sri Lanka. China owns the Port of Gwadar in Pakistan and is linking it through 3000km long route to Kashi, Xinjiang in China. The US \$46.0 billion “China Pakistan Economic Corridor” project is a “one in four” infrastructure project: highway, railway, oil and gas pipeline and broadband optic fibre. Projects under CPEC also include special economic zones and power plants.

In Europe, China leases and operates the Port of Piraeus in Greece. Rail link connecting it to Budapest through Serbia is under construction.

In Latin America and the Caribbean, Belt and Road projects include the North-South link of Jamaica’s Highway 2000; Panama-Chiriquí Railway; the El Espino-Boyube Highway Project linking Bolivia to Argentina & Paraguay; Port Chancay, Peru; Santiago-Valparaiso High Speed Rail, Chile; National Highway B Argentina; and the Bi-Oceanic Road & Rail Corridor, connecting Atlantic to Pacific across Latin America.

The BRI has delivered fruitful outcomes and won widespread support and participation from the developing world. It has created jobs, improved physical and virtual infrastructure, and promoted social and economic uplift in Belt and Road countries. The BRI has brought many direct and tangible benefits to the peoples of participating countries by improving agriculture and horticulture, building hospitals, clinics, houses, stadiums, schools, and colleges, etc. BRI has enhanced people-to-people exchange and interaction by China offering thousands of scholarships, setting up Confucius Institutes and Luban Workshops in Belt and Road countries.

In view of the lack of progress of the Global South with the SDGs, developing countries should focus on the priority agenda of the Johannesburg Plan of Action of the UN World Summit on Sustainable Development (WSSD) of 2002, namely WEHAB or Water, Energy, Health, Agriculture and Biodiversity.

I highlight below the remarkable achievements of China in WEHAB and urge developing countries to learn from China.

WATER

Major rivers fed by Himalayan glaciers

Seven of Asia's major river systems begin in the Himalayan glaciers. The environmental impact of shrinking glaciers on the 1.3 billion people in the region is just now being measured.



We have to depend on ocean for water by desalination and then water transfer from ocean up rivers. China possesses the technology





The Pinglu Canal is a significant project in Guangxi, 134.2km, \$13.7 billion project that opens in September 2026. It will reduce the distance needed to ship goods from China's inner western provinces to Singapore by up to 740km. It is expected to save around 5.2 billion yuan (\$768 million) annually in logistics costs. It will enhance trade between China and ASEAN centred on China-Malaysia Qinzhou Industrial Park.

ENERGY

China tops the world in Renewable Energy, Hydro-Electric, Solar, Wind, 4th Generation Thorium Based Nuclear, and Extra High Voltage Long Distance Direct Current Power Transmission for Electric Power Grid.

Energy from Renewables are intermittent, They need Energy Storage. China tops the world in Battery and Liquefied Carbon Dioxide Systems.

As 50% of greenhouse gases are emitted by internal combustion vehicles, electric vehicles are the solution, China tops the world in electric vehicle production, Energy storage systems like batteries and liquefied carbon dioxide will power ships and reduce CO₂ emission from ships.

Petronas Malaysia has a joint venture with Shanghai Company to manufacture Liquefied Carbon Dioxide Tankers.

HEALTH

Pandemics are becoming more frequent and deadly. In this century, we experienced SARS, MERS, EBOLA and COVID-19. The first line of defence in global south is traditional medicine. During COVID-19, China employed traditional medicine to save many lives in global south.



连花清瘟胶囊

LIANHUA QINGWEN JIAONANG

请仔细阅读说明书并按说明使用或在药师指导下购买和使用。

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【性状】本品为硬胶囊，内容物为棕黄色至黄褐色的颗粒和粉末；气微香，味微苦。

【规格】每粒装0.35克

【用法用量】口服。一次4粒，一日3次。

【包装】铝塑板装。2X12粒/板/盒。



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Nobel Laureate Tu You You



Nobel Laureate Tu You You investigated the Chinese medical classics in history. She summarized 640 prescriptions.

She discovered artemisinin (also known as qīnghāosù, 青蒿素) and dihydroartemisinin, used to treat malaria, a breakthrough in twentieth-century tropical medicine, saving millions of lives in South China, Southeast Asia, Africa, and South America.

I was instrumental to get the ASEAN Academy of Engineering and Technology (AAET) that I founded to have a China/ASEAN research project on Traditional Chinese Medicine (TCM) with the Chinese Academy of Engineering. We hope to use China's expertise in TCM to get ASEAN countries to devote more resources to their own tradition medicines.

As TCM is well accepted as medicine science by the West and doctors trained in western medicine are increasingly applying TCM in their practice, I urge AAET to open the China/ASEAN research project to members of Medical Association of Malaysia and other ASEAN counterparts.



AAET President Professor Ewe Hong Tat and China Academy of Engineering President Professor Li XiaoHong exchanging gifts after signing MOU on TCM in UTAR Kampar Campus September 2024



**AAET Welcome Dinner for CAE President Professor Li XiaoHong Kuala Lumpur
September 2024**



Under Chinese government direction, humanoid robots for home care of the old and handicapped is making great stride

AGRICULTURE

Yuan Rongping discovered hybrid rice that saved millions from hunger. He was Fellow of the Chinese Academy of Engineering and Foreign Fellow of US National Academy of Sciences . I was instrumental in getting him awarded the Mahathir Award of the Academy of Sciences Malaysia in 2012.





Professor Yuan Rongping with Prime Minister Dr Mahathir Mohamad at the Mahathir Award Dinner Kuala Lumpur

Professor Yuan Rongping led scientists in China who have developed more than 200 new strains of high-yield, saltwater-tolerant rice.

His research team hopes the crops will eventually be grown in boggy swamps and coastal areas, and feed as many as 200 million people in China.

With sea level rising, rice fields in South East Asia will be invaded by salt water adversely affecting traditional rice cultivation. Salt-water tolerant rice strains will be the solution.

•

BIODIVERSITY



Zhongwei in China's Ningxia Hui Autonomous Region, has been in a battle against the Tengger Desert since the 1950s. A breeze would bring dust and sand from the desert into residents' homes. Now, the distance between the desert and Zhongwei has expanded to 25 kms. The success has been due to scientifically using straw "checkerboards".



Afforestation in China is the most successful in the world. The Saihanba Forest Farm is the world's largest man-made forest, a 750-square kilometer barrier situated 300 kilometers north of Beijing saving the Chinese capital from dust storms.



China has strengthened biodiversity conservation as a national strategy. An example was the elephant herd from the sanctuary in Yunnan near the Thai border that wandered hundreds of kilometers north to Sichuan Province, They were guided back to the sanctuary by Chinese people at all levels. This Elephant Walk went viral on Chinese TV for months.



**Successful Wetland Conservation in China has increased bird population,
both local and migratory**

2.5 Belt and Road Institute of Infrastructure Maintenance for the Global South (BRIIM) in Pakistan

There can be no doubt that China will continue to dominate the world of engineering. Thus, infrastructure design, engineering, manufacture, construction, and implementation of major BRI projects in the Global South will continue to be provided by China.

Chinese engineering corporations typically complete BRI infrastructure projects in three to five years; engineers and technicians in host nations have to keep these costly infrastructure assets in good repair for twenty to fifty years. There is an urgent need to train engineers and technicians in Belt and Road countries in the proper operation and maintenance of infrastructure as an integral part of BRI.

I have been an ardent advocate of establishing a Belt and Road Institute of Infrastructure Maintenance for the Global South (BRIIM). As all infrastructure maintenance training programs under BRIIM must involve site attachments to infrastructure projects, the choice has been limited to Pakistan due to the comprehensive infrastructure development under the BRI pace-setting flagship project, namely China Pakistan Economic Corridor (CPEC).

In 2017, I led an AETDEW delegation to meet with the International Cooperation Centre of the China Development and Reform Commission in Beijing to advocate for the establishment of BRIIM in Pakistan under CPEC. Again, in 2017, AETDEW Fellow Professor Manzoor Soomro and I met Pakistan Planning Commission Member (Science and Technology) Dr Athar Osama together with the CPEC Project Director, Mr Hussein in Islamabad for the same purpose.

Our efforts in 2017 failed due to considerable skepticism in Beijing and Islamabad about CPEC.



Meeting at the China Development and Reform Commission International Cooperation Centre Beijing 2017



Meeting at Pakistan Planning Commission, Islamabad 2017

Now, the situation has completely changed. Under BRI and CPEC, besides the 3000km corridor of highway, railway, and oil and gas pipelines from the Port of Gwadar to Xinjiang, thermal and hydroelectric power plants, potable water and irrigation projects, airports, highway upgrades, and special economic zones have been carried out.

During Pakistan Prime Minister Muhammad Shehbaz Sharif's visit to China in May 2026 he and Xi Jinping, the President of China agreed that based on the success of the China-Pakistan Economic Corridor (CPEC), to promote the implementation of the eight major steps on high-quality Belt and Road cooperation in Pakistan, and to jointly build a growth corridor, a livelihood-enhancing corridor, an innovation corridor, a green corridor, and an open corridor to create an upgraded version of CPEC (CPEC2).

With CPEC2, Pakistan can provide site attachments for infrastructure projects of every description under BRIIM.

Pakistan has one of the largest numbers of educated engineers and technicians in any country in the world. Many have worked on CPEC and BRI projects in Pakistan and overseas. The dominance of China in world infrastructure engineering has been due to the widespread application of artificial intelligence AI in every aspect. Even experienced infrastructure engineers and technicians will need refresher training at BRIIM to keep their knowledge up to date. The pool of well-trained infrastructure engineers and technicians will ensure that infrastructure assets in Pakistan built under CPEC, CPEC2 and BRI will be well operated and maintained.

They can also be deployed overseas: eastward to ASEAN nations and westward to the broader Middle East region. Pakistan will become an exporter of infrastructure professionals. ASEAN countries and member countries in the Gulf Cooperation Council (GCC) have good infrastructure. They all aspire to have the ultra modern and comprehensive infrastructure like CPEC2.

I have written a letter to the Pakistan Prime Minister urging him to positively consider establishing BRIIM in Pakistan under BRI and CPEC.

AETDEW

Academy of Engineering and Technology of the Developing World

Academician Dato (Dr) Lee Yee Cheong, AETDEW Honorary President,
Block E, 13A- 10, Mont Kiara Plaza,
57100 Kuala Lumpur, Malaysia

5 June 2026

His Excellency Muhammad Shehbaz Sharif,
Prime Minister of Pakistan,
Islamabad, Pakistan.

Your Excellency,

AETDEW Proposal for Belt and Road Institute of Infrastructure Maintenance for the Global South in Pakistan

3.0 The Global Security Initiative

In last two hundred years, China was reduced to semi-colonial state by invasions from the sea by Western imperialists, including Japan. The only exception was Czarist Russia that annexed large part of Siberia by land attacks

China has realized that navy power is essential to safeguard her national security and well-being of her people. China has built a blue ocean navy equipped with fighters, rockets and missiles. It is more than adequate to assure her territorial integrity and counter any military challenge from abroad.

The ocean carries about 60% of China's trade. China is today one of the world's dominant forces in the global maritime industry. In terms of fleet size, China commands one of the largest merchant fleets globally, encompassing bulk carriers, container ships, LNG tankers, oil tankers and cruise ships. Key shipping routes like the Asia-Europe and Asia-North America sea lanes are critical to China's export-driven economy. Container shipping is particularly significant, as China is the world's largest exporter of goods.

Ports like Shanghai, Guangzhou, Ningbo, and Shenzhen are consistently ranked among the busiest container ports globally. China is also a world leader in shipbuilding.

China has heavily invested in developing state-of-the-art port facilities, with 7 of the top 10 busiest ports in the world located in China. Chinese ports are at the forefront of technological innovation, with increasing levels of automation and digitalization.

China's port development strategy is closely linked to its Belt and Road Initiative (BRI), which seeks to enhance connectivity between Asia, Europe, and Africa.

Chinese port operators have extended their influence globally, acquiring stakes in foreign ports such as Piraeus, Greece; Gwadar, Pakistan; Cancay, Peru; Hambantota, Sri Lanka; Darwin, Australia; Kyaukphyu, Myanmar; Doraleh, Djibouti; Lekki, Nigeria; and Kuantan, Malaysia.

3.1 Proposal for An Alliance of Port Cities in 21st Century Maritime Silk Road

US President Trump has repeatedly declared he will re-occupy the Panama Canal militarily and the Pentagon has hinted that the US Navy is planning to stop and board cargo ships in the Straits of Malacca from their warships in their naval base in Singapore. US has militarized the South China Sea through military bases in the Philippines. More recently, the USA has seized Venezuela petroleum and has embargoed oil supply to Cuba by naval blockade. The current closure of the Strait of Hormuz after the illegal USA/Israel attack on Iran has aggravated the energy supply of the world.

China must seriously consider forming an alliance of port cities in the countries along the 21st Century Maritime Silk Road to counter the above threats against genuine freedom of navigation in important sea lanes for commerce and trade. As in the case of Shanghai Cooperation Organization for the Land Silk Road Economic Belt, security of the sea lanes is the collective responsibility of the countries along the sea lanes, especially their important port cities.

Ports in the ancient Maritime Silk Road are: Nanjing, China; Quanzhou, China; Guangzhou, China; Samarang, Indonesia; Malacca, Malaysia; Hormuz, Iran; Dhofar, Oman; Jeddah, Saudi Arabia; Lamu, Kenya; Tangier, Morocco; Algiers, Algeria; Carthage, Tunisia; Alexandria, Egypt; Istanbul, Turkiye; Basra, Iraq; Calicut, India; and Mali, Maldives.

Important ports in the 21st Maritime Silk Road are: Gwadar, Pakistan; Piraeus, Greece; Cancay, Peru; Hambantota, Sri Lanka; Kuantan, Malaysia; Kuwait, Kuwait; Dubai, UAE; Doha, Qatar, Bahrain, Bahrain; Lekki, Nigeria; Dolerah, Djibouti; Kyaukphyu, Myanmar; Shanghai, China; Guangzhou, China; Ningbo, China; and Shenzhen, China. Some of these port cities, especially those with Chinese ownership or part ownership, can form the initial members of the Alliance of Port Cities of the 21st Century Maritime Silk Road.

The Hub for the Alliance must be an important port in China associated with the 21st Century Maritime Silk Road. I would like to recommend Guangzhou due to its historical connection with Islamic countries through the ancient Maritime Silk Road. Guangzhou is also within the Guangdong Hong Kong Macao Greater Bay Area that is a powerhouse of innovation, engineering, manufacturing and finance in China and in the world. The Greater Bay Area can be the model for regional development associated with a major port city in a Belt and Road country.

Guangzhou Port is one of China's major seaports, serving as a key hub for trade and logistics in the Pearl River Delta region and acting as a gateway for international shipping. The port consists of multiple terminals. Its location within the Pearl River Delta allows efficient access to inland China and connections with major ports within China. Guangzhou Port is a modern, versatile seaport serving as a key international logistics gateway in southern China, with strong facilities for container, bulk, and specialized cargo, supported by extensive inland transport links.



4.0 The Global Civilization Initiative

Chinese President Xi Jinping proposed the Global Civilization Initiative in 2023. He called for respecting the diversity of civilizations, advocating the common values of humanity, valuing the inheritance and innovation of civilizations, and strengthening international people-to-people exchanges and cooperation. In spite of differences in histories, cultures, political systems and development phases, countries and peoples around the world share the common aspiration for peace, development, equity, justice, democracy, and freedom.

In my opinion, civilization and culture underpin the social, economic and environmental development of a nation. There is an urgent need to understand how different civilizations have mutually and beneficially interacted with one another. We should start with civilizations associated with Belt and Road countries.

In the context of the Global Civilization Initiative that aims to realize the common destiny of humankind for peace and prosperity, we must prioritize living and enduring civilizations like the 5000 year old civilizations of China and Iran rather than the “museum civilizations” of the Nile, Greece, Roman, Mayan, Pheonecian, Mali etc. In philosophy and religion, we must priority thriving ones like Confucianism, Buddhism, Taoism, Catholicism rather than philosophy like that of Greece that is no longer practised in Europe.

4.1 Shortcoming in Belt and Road Civilizations Narrative

4.1.1 Shortcoming in Land Silk Road Economic Belt

Knowledge of BRI in the global south is confined to major infrastructure projects. There is little understanding of the historical and cultural background of the Land Silk Road and the Maritime Silk Road that dates back to the Han Dynasty some two thousand years ago. This shortcoming needs to be rectified.

In the narrative of the ancient Land Silk Road Economic Belt, the main focus has been on China's westward ventures from her heartland like the diplomatic mission of Zhang Qian (195-114 BC) in the Han Dynasty to Tajikistan, and Xuanzang (602-664 BC) in the Tang Dynasty seeking Buddhist scriptures from India. In fact, no Chinese merchants ventured out of Central Asia to Europe until the Mongol invasion of Eastern Europe in the 13th century. If it were not for the business-savvy Sogdians in Central Asia trading between China and Europe, the Land Silk Road would not have become a reality. The Sogdians have a long history of ties with China. The most famous Sogdian in Chinese history was An Lushan (703-757 AD), whose rebellion led to the decline of the Tang Dynasty.

What is most relevant to the Belt and Road Civilizations Narrative but little known is the Western Xia or the Xi Xia Kingdom, which was a Tangut-led dynasty of China that existed from 1038 to 1227 AD. At its peak, the dynasty ruled over 800,000 square kilometres (310,000 square miles) of modern-day north-central China. The capital of the Western Xia was Yinchuan. Western Xia was annihilated by the Mongols in 1227 AD. Western Xia occupied the area around the Hexi Corridor, a stretch of the ancient Silk Road, the most important trade route between China and Central Asia. They had their own written script and made significant achievements in literature, art, music, and architecture.

The other relevant kingdom was the Western Liao Kingdom of 1124AD. The Kingdom covered parts of modern-day China, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan and Uzbekistan and extended all the way to Samarkand. The kingdom lasted until 1218 AD being conquered by the Mongols.

I would suggest that the Narrative for the Land Silk Road Economic Belt must cover the epic campaign of Alexander the Great (356-323BC) from Macedonia, Greece to India. Besides bringing death and destruction, he left behind in Central Asia enduring elements of Greek and Persian cultures and philosophies. It was also the Abbasid Caliphate (750-1517AD) originating from Central Asia that ushered in the Golden Age of Islam. Through the great Translation Movement, it preserved classical Greek, Roman, Hebrew, Persian, Indian, and Chinese texts and translated them into Arabic. It led to a great flowering of scientific, engineering and technological innovations as well as religious and philosophical discourses. It subsequently sparked the European Renaissance. The contributions of the Ottoman Empire (1300-1922AD) of Turkiye to the culture and civilization of the Land Silk Road must also be acknowledged.

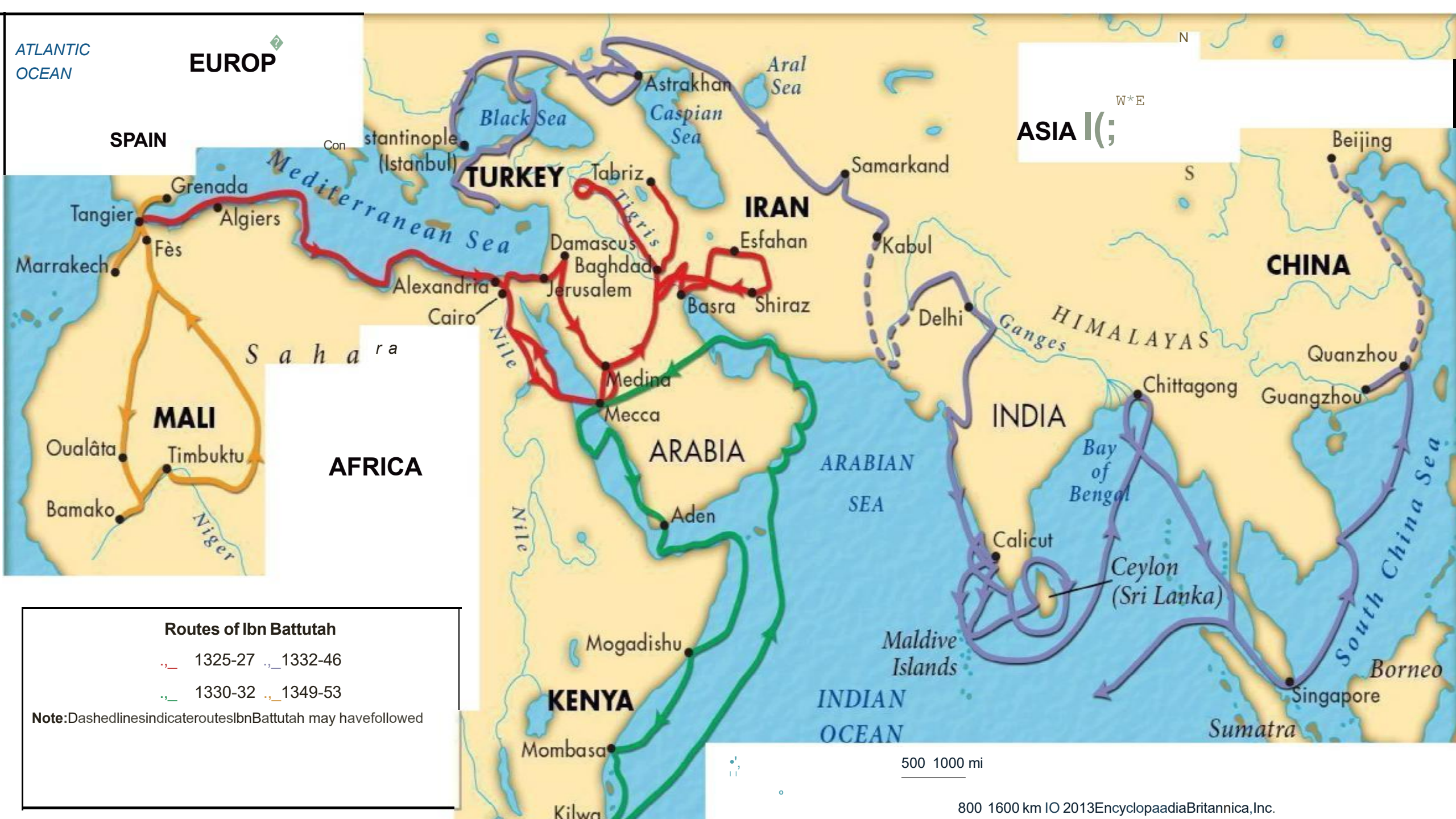
As the countries in the ancient land Silk Road are Muslim, it is to me a more glaring omission is with respect to Ibn Battutu, the Moroccan learned Muslim judge and philosopher, whose contribution to the fusion of Belt and Road civilizations was acknowledged by President Xi Jinping in his speech announcing the Belt and Road Initiative in Indonesia in 2013. He also mentioned Marco Polo. In my opinion, Marco Polo was a merchant not a philosopher. He overemphasized the wealth of China, stating that its streets were paved with gold. This aroused the avarice of the imperial West to come to China to plunder its “riches”.

In 335AD, Ibn Battuta of Tangier, Morocco, then 21 years old, set out to explore the world. His travels spanned 25 years and 75000 miles.

He visited Andalusia, Mekah, Egypt, Persia, Turkiye, Central Asia, India, S.E.Asia, Maldives and China, Ibn Battuta was unique with respect to the Land and Maritime Silk Roads. He travelled by land all the way to India, then took ship to China. His ship was blown off course by storm to Maldives, and then sailed to China landing in Quanzhou. He visited Guangzhou, Hangzhou and Beijing. He also visited South East Asia.

It is to be noted he arrived in Quanzhou China by ship. He was thus associated with the ancient Maritime Silk Road. In his book The Travels or Rihla, he recounted that he met a holy man in Alexandria who forecast that he would become a world traveler and that he would meet his brother in Guangzhou. Battuta did find the brother of the holy man in Alexandria living in a cave in Guangzhou as a revered holy man. It is obvious that Guangzhou has been the China hub for Muslims from Arabia for centuries.

The neglect of Ibn Battuta is also symptomatic of the neglect of the contribution of Islam to Chinese civilization.



ATLANTIC
OCEAN

EUROP

SPAIN



MALI

AFRICA

Routes of Ibn Battutah

1325-27 1332-46

1330-32 1349-53

Note: Dashed lines indicate routes Ibn Battutah may have followed

ASIA

CHINA

INDIA

ARABIA

KENYA

Statutes of Ibn Batutta and Marco Polo in Quanzhou



4.1.2 Shortcoming in 21st Century Maritime Silk Road

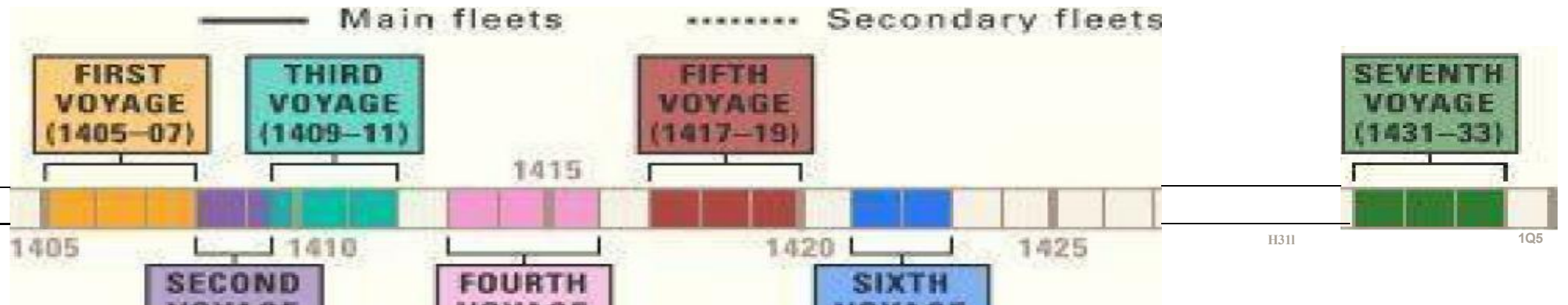
Although the ancient maritime Silk Road also started in the Han Dynasty some two thousand years ago, it has not attracted as much attention as the ancient Silk Road. This is understandable as Chinese civilization started in the Yellow River inland. The narrative of the 21st Century Maritime Silk Road must begin with some stories of the trade between Chinese ships and Arab ships in the Han Dynasty.

The Huaisheng Mosque (怀圣寺) is the main mosque of Guangzhou. It is traditionally thought to have been originally built over 1,300 years ago, which would make it one of the oldest mosques in the world. Old Chinese Muslim texts state that the mosque was built in 627 by Sa'd ibn Abi Waqqas, a Companion of Prophet Mohamed, who supposedly came on to China in the 620s AD during the reign of Tang Emperor Tang Gaozhong. The other historical mosque in Guangzhou is the Xianxian Mosque (先贤清真寺). The mosque was originally built during the Tang Dynasty (618–690 AD). It is also a cemetery honouring 40 famous Arabic Muslim missionaries who were buried there. This mosque is also attributed to Sa'd ibn Abi Waqqas (595–674 AD).

The most significant event in the 21st Century Maritime Silk Road was the seven voyages of Admiral Zheng He (Sambao) from China through South East Asia, Indian Ocean, Arabic Sea to East Africa.. His first voyage began in 1405AD and the last voyage ended in 1433AD. During the seven voyages, Zheng He built his fleet from Nanjing/Taicang in Jiangsu Province. He visited more than 30 countries. Zheng He promoted peace, commerce, trade and social and cultural exchanges. He never occupied a square inch of all the countries he visited.

Admiral Zheng He is revered in ASEAN countries. The most important port city associated with Zheng He's seven epic voyages was Malacca (马六甲), Malaysia. Zheng He visited Malacca five times demonstrating the friendly exchanges between China and Southeast Asia. The Zheng He Cultural Museum fully demonstrates the mutual integration of Chinese and Malay cultures over the past 600 years. The other important city was Semarang (三宝垄) in Central Java, Indonesia, It is the only foreign city in the world named after Admiral Zheng He ("Sambao"). Zheng He landed here five times during his seven epic voyages, carried out trade and cultural exchanges. The Sambao Temple (Sam Bao Kong) in Samarang is a common place of worship by Indonesians of multiple religious denominations. There are Zheng He temples and shrines in many cities and towns in ASEAN.

VOYAGES OF ZHENG HE (1405-33)





Zheng He Museum Malacca



Sambao Temple Samarang



Wat Phanang Choeng associated with Zheng He Ayutthaya Thailand

4.2 Proposal for Land Silk Road and Maritime Silk Road Narrative

While it is important to acknowledge the historical contributions of Belt and Road civilizations, we should highlight more recent global events that have greatly impacted the global south, such as the immense suffering and humiliation under Western (including Japan) oppression since the first industrial revolution of 1776 as well as the two World Wars.

Above all, the Belt and Road Civilization Narrative must record the more recent rise of the global south, including China's eradication of poverty and her social, economic, and environmental development since its Reform and Opening Up, and China's great contribution to the Global South through its BRI projects and programs. We must also remember the great progress in social, economic, and environmental development being made by the Belt and Road countries.

4.2.1 Proposal for The Maritime Silk Road Narrative

The proposal is to prepare a comprehensive Narrative of the Maritime Silk Road, starting with important events from the Han Dynasty until the voyages of Admiral Zheng He and the travels of Ibn Battuta.

The Chapters can be, but not limited to the following:

- 1. Events associated with Maritime Silk Road from Han Dynasty to the Voyages of Zheng He;**
- 2. Zheng He and Nanjing and in Jiangsu Province since his ships were built there. They were also the assembly points for the start of his voyages.**
- 3. Zheng He and Malacca, Malaysia;**
- 4. Zheng He and Samarang, Indonesia;**
- 5. Zheng He and the Arab World;**
- 6. Zheng He and Africa;**
- 7. Battuta and the Indian Subcontinent;**
- 8. Battuta and the Maldives;**

- 9. Battuta and Malaysia and Indonesia;**
- 10. Battuta and Quanzhou and Guangzhou;**
- 11. 21st Century Maritime Silk Road and Pacific Islands;**
- 12. 21st Century Maritime Silk Road and Latin America and the Caribbean.**

I would like ACSF to seriously consider the implementation of the proposal

4.2.2 Proposal for Land Silk Road Narrative

I would like Communication University of China to seriously consider the implementation of the proposal with respect to the Land Silk Road.

4.2.3 Proposal for Museum Exhibits of Land Silk Road and Maritime Silk Road Narrative

I would like to propose that the Narrative should be accompanied by a series of AI-enabled virtual reality displays, suitable for exhibitions in museums in Belt and Road countries for the edification of all common folk. Belt and Road countries can learn from China how to create museum pavilions with interactive displays as an integral part of the education system.

As part of the Global Civilization Initiative, every national museum in Belt and Road countries should have a BRI digital and interactive pavilion. This will greatly expedite the spread of knowledge and understanding of Belt and Road Civilizations and their beneficial interactions.

I would like to suggest ACSF and Communication University of China to seriously consider the implementation of this proposal.

4.3 Fusion of One Belt One Road Civilisations Education Curriculum Project

I consider it is most important for the youth of Belt and Road countries to know and appreciate the contributions of other civilizations to their own.

The “Fusion of One Belt One Road Civilisations Education Curriculum” Project for primary school teachers and students in Belt and Road countries was one such effort. The Fusion of One Belt One Road Civilisations Education Curriculum Project was initiated by me when I was the chairman of the Global Council of the Inter-Academy Partnership Science Education Program (IAP SEP). This project took four years. It was essentially a Malaysia-China project.

The Fusion of One Belt One Road Civilisations Education Curriculum Handbook is divided into two parts. The first part covers the Land Silk Road, telling the story of Ibn Battuta. This part was carried out by the South East University, Nanjing, China.

The second part covers the Maritime Silk Road, telling the story of the seven epic voyages of the famous Chinese Muslim Admiral Zheng He (1371-1435AD). This Part was carried out by curriculum experts from the Ministry of Education, Malaysia.

As the Handbook is a project of IAP SEP, it emphasizes the scientific, engineering and technological achievements in Belt and Road civilizations. Its lessons cover water resource installations for irrigation in the desert, such as water wheels and the karez underground irrigation system; Chinese and Islamic building systems; navigation aids for land and sea travel; Chinese and Arab sailing ships, monsoon wind, and spices. Simple classroom experiments illustrating the above devices and installations are included in the Handbook.



[One Belt One Road Fusion of Civilisations Education Curriculum English version](#)
[One Belt One Road Fusion of Civilisations Education Curriculum Chinese version](#)



InterAcademy Panel - Science Education Programme

International Forum on Science Education

Quality Science Education at Schools –
A Must for Quality Higher Education and Economic Development

**One Belt One Road Fusion of Civilisations Education Curriculum Working Group Meeting in
Kuala Lumpur 2018**

4.4 AETDEW/ISTIC Consortium of AI Education for the Global South

In current AI era, I believe employment and wealth creation will increasingly be in the hands of technical and vocational education and training (TVET) graduates and practitioners in Belt and Road countries.

As AI is a two-edged sword. Many people are using AI to smear, lie and cheat. the most outrageous example is the US President using AI to portray himself as Jesus Christ! It is most important that AI is part of the curriculum of primary education to educate children to distinguish between the bright and the dark side of AI and to use AI properly. The ethical use of AI must be an important part of secondary education, tertiary education, and lifelong education.

Recently, Western AI experts have begun to admit that AI innovations in China will dominate the world. They attribute China's success to the nurturing of AI-savvy human capital by incorporating AI as part of the school curriculum from the first year of primary school onward. Indeed, I attended an AI Education Conference in Lenovo Beijing 2019 and participated in a training session for primary school teachers. I was amazed by the free availability of textbooks on AI for primary schools.



Donald J. Trump  
@realDonaldTrump



数字丝路 产教融合研讨会

International Forum on Digital Silk Road & Industries-Education Integration

Beijing-China | 2019.03.27-28

主办单位：教育部学校规划建设发展中心、
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iTech



数 字 丝 路 产 教 融 合 研 讨 会

I started the cooperation on AI education between China and Malaysia by inviting Professor Han Liqun, an acknowledged authority in AI education in China, to speak at the 2024 Kuala Lumpur Engineering Science Fair (KLSEF) and to discuss China's AI education development in a roundtable with Malaysian AI experts from government, academia and industry.

This led to AETDEW/ISTIC hosting the AI literacy training workshop for ASEAN school teachers in Kuala Lumpur in June 2025 with 4 expert trainers from China led by Professor Han Liqun. Decisions were made during the AI Literacy training workshop, namely the initiation of the Malaysia-China AI School Teacher Exchange Program and the establishment of the Consortium of AI Education for the Global South for Belt and Road countries to learn from China.

5 Malaysian Teachers were invited to the AI Literacy Training Workshop for Key Teachers in Chengdu 27-30 May 2026. The workshop was conducted in Chinese.

The next AI Literacy Training Workshop for Key Teachers will be held in Sri Bestari Private School Kuala Lumpur for ASEAN teachers on 26-28 August 2026. The Workshop will be in English. Five teachers from China will be invited to participate.



Kuala Lumpur Engineering Science Fair

**The evolutionary path
of human tools
- from saving physical energy
to saving mental energy**
人类工具的进化之路——从省力到省脑



Speaker: Professor Han Liqun
(AETDEW Fellow)

AETDEW
ACADEMY OF ENGINEERING AND
TECHNOLOGY OF THE DEVELOPING WORLD

Affiliation: former Dean of School of
Information Engineering, Beijing Technology
and Business University, and Vice Chairman
of the 5th/6th Council of China Association
for Artificial Intelligence.



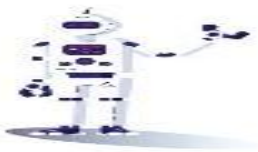
Venue: Main Stage, MIECC

Date: 8/11/2024

Time: 10.30am

For Further Information, Please Contact:
KLESF Secretariat – Universiti Tunku Abdul Rahman
Email: info@klesf.net

Get in touch!



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Majulah bestari maju
Teruskan sampai ke marcu
Gemilang terus gemilang
Bestari pasti cemerlang

Rukun Negara
MAKA KAMI rakyat Malaysia,
berikhtisarkan seluruh tenaga dan
usaha kami untuk mencapai cita-cita tersebut
berdasarkan asas prinsip-prinsip yang berikut:
KEPERCAYAAN KEPADA TUHAN
KESETIAAN KEPADA RAJA DAN NEGARA
KETUHAKHAKHAN KEPADA PERLEMBAGAAN
KEDaulatan UNDANG-UNDANG
KESOPHAKAN DAN KESUSILAAN

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SRI BESTARI PRIVATE SCHOOL KUALA LUMPUR,
UNESCO, ISTIC & AETDEW
PRESENTS THE
TRAINING PROGRAMME ON AI LITERACY FOR
ASEAN PRIMARY & SECONDARY SCHOOL TEACHERS
BY PROFESSOR KIM LAYAL, PROFESSOR SHARIF SHARIF, PROFESSOR SHI YAN & PRINCIPAL SHARIF YUSOF
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17 - 19 JUNE 2025 @ SBPSKL





**Inaugural Meeting of Consortium of AI Education for the Global South
at ISTIC Kuala Lumpur January 2026**

融合创新·共筑AI新生态

INTEGRATION AND INNOVATION
BUILDING A NEW AI ECOSYSTEM TOGETHER

全学段骨干教师AI素养提升专项培训

SPECIAL TRAINING FOR AI LITERACY IMPROVEMENT FOR KEY TEACHERS ACROSS ALL SCHOOL LEVELS

主办单位 成都市教育局

承办单位 成都市教师教育学会 四川省成都市玉林小学

协办



4.5 AAET/UTAR Contribution to STEM Education



<https://aaet-asean.org/Short-Stories-Books.php>

In 2024, I persuaded Professor Han Liquan to make short videos of all the short stories in “AAET/UTAR Short Stories on Discoveries, Inventions, Innovations and Creativities” in both English and Chinese versions.

She completed the task in two years. During AAE on 6 June 2026, AAET President Professor Ewe Hong Tat acknowledged her contribution by stating “AAET Council extends its profound appreciation to Foreign Fellow Prof. Han Liquan and her team for their production efforts, as well as to Senior Fellow and AAET Founding President Dato (Dr) Lee Yee Cheong for his invaluable coordination.”

The final outcome consists of a Chinese video edition (13 chapters, 118 stories) and an English video edition (11 chapters, 116 stories). To maximize outreach across the ASEAN region, the finalized videos are currently being uploaded to a newly launched YouTube channel dedicated to broadcasting and archiving AAET STEM activities.

https://youtube.com/playlist?list=PLJwIFGc5PJ_4&si=YIBW5xioPGL7BLTs



Aircraft

2.6 China-Malaysia Confucianism and Islam Dialogue Initiative

During the April 2025 State Visit to Malaysia by Chinese President Xi Jinping, Prime Minister Anwar Ibrahim hosted a state dinner for him. In his welcome speech, Datuk Seri Anwar remarked: “The Global Civilization Initiative is unprecedented, unique in the leadership of the world today. That initiative offers a timely reminder that respect for difference is not a barrier to harmony, but its precondition.”

Thus, began the Malaysia/China joint project “The Dialogue of Confucianism and Islamic Civilization and their impact on Chinese and Islamic Civilizations”, launched jointly by President Xi Jinping and Prime Minister Anwar Ibrahim.

To implement the Dialogue, two MOUs were signed between (i) China Confucianism Association and the International Islamic University Malaysia; and (ii) the Nishan Foundation, Shandong and UTAR.

However, I consider the China-Malaysia Confucianism/Islamic Religion Dialogue to be too narrow in the context of the Global Civilization Initiative.

I do not think that Chinese civilization is so Confucianism for it to be the sole anchor of Chinese civilization. Throughout Chinese history, emperors have switched from Confucianism to Taoism or Buddhism as the State Religion or State Philosophy. Chinese civilization is an amalgam of Confucianism, Taoism, and Buddhism. Confucianism statesmen and scholars in various dynasties had also adapted Confucianism to the needs of the day. Confucianism is no longer the “Four Books and Five Classics” (四书五经) of Confucius and his disciples.

Chinese civilization has also absorbed elements of other foreign religions and philosophies like Islam, Catholicism, Hebrew, Hinduism, as well as democracy, imperialism, capitalism, socialism, and communism. Thus, Chinese civilization has always welcomed other civilizations and cultures in the evolution of its current national and international ethos of “Common Destiny of Humankind for Peace and Prosperity.”

In terms of the study of Confucianism, the choice of Nishan Foundation cannot be questioned as Nishan was the birth place of Confucius and the Nishan Forum of World Civilization has been a flagship event in the past decade.

I participated in the Nishan Forum in 2023 and 2024 as speaker and panellist and urged the Forum to widen its focus on the Chinese perspective of interaction with other world civilizations to include Taoist and Buddhism.

I cited the fact that in Shandong itself, there is the Taoist Shrine in Laoshan, Qingdao, a place of veneration of the Taoist Founder, Laozi. I quoted also the Three Religion/Philosophy Hall of Hengshan Xuankong Temple in Shanxi that has been dedicated to Sakyamuni from Buddhism, Laozi from Taoism, and Confucius from Confucianism. The founders of the three great philosophies or religions were venerated in the same hall of the 1500-year old temple. This is unique in the world. It is a splendid demonstration of the tolerant, embracing, and absorptive nature of Chinese civilization.

Hengshan Hanging Temple Three Philosophy Hall



Laoshan with Laozi Statute



With Dr Sonia Sachs, Wife of Professor Jeffrey Sachs at Nishan Forum of World Civilixzatoions Nov 2023



As for Malaysia, it is a multi-ethnic, multi-religious, and multi-cultural country. Malaysian civilization is a fusion of Indigenous, Malay, Chinese, India, Arabic, Portuguese, Dutch, English, and Japanese cultures throughout its history, as well as the fusion of Islam, Buddhist, Hindu and Christian religions. In my opinion, the fact that the people of Malaysia have lived in harmony and have forged unity in diversity is due to the mutual respect, understanding, and tolerance of her people toward one another. Malaysians have lived in harmony in Malaysia. Malaysia's forging friendly relations with most nations has been, to a great extent, due to the mutual respect, understanding, and tolerance for all peoples, as per its national motto “Unity in Diversity” and its international ethos “Prosper Thy Neighbours”.

I would like to propose that the China-Malaysia Dialogue between Confucianism and Islamic Civilization be extended to include other civilizations, cultures, religions and philosophies, especially those of Belt and Road countries.

4.6.1 Proposal for Implementation of China-Malaysia Dialogue of Confucianism and Islamic Religion Project

Of the four organisations involved in the two China-Malaysia MOUs, only UTAR is not exclusively associated with Confucianism or Islamic Religion, I would like to urge UTAR to engage other secular universities and think tanks to focus on the multi-religious, multi-ethnic and multi-cultural aspects of Malaysian nationhood, leading to harmony, peace and sustainable development.

I consider Malaysia as a model for Belt and Road countries to emulate. In this respect ACSF with its Chinese and ASEAN networks can play an important part.

5.0 The Global Governance Initiative

The Global Governance Initiative (GGI) was proposed by Chinese President Xi Jinping during the 2025 Shanghai Cooperation Organization Summit meeting in Tianjin. He was quoted to have said "While the historical trends of peace, development, cooperation, and mutual benefit remain unchanged, the Cold War mentality, hegemonism, and protectionism, continue to haunt the world, adding new threats and challenges that have only been increasing, and the world has found itself in a new period of turbulence and transformation. Global governance has come to a new crossroads. We must firmly safeguard the status and authority of the UN, ensuring its irreplaceable and key role in global governance. All countries, regardless of size, strength, and wealth, are equal participants, decision-makers, and beneficiaries in global governance.'

As a firm believer in multilateralism and a multipolar world and a committed supporter of the UN. Malaysia should work with China in actively promoting GGI. Malaysia was pivotal in the establishment of ASEAN in 1967 and in the establishment of the Organisation of Islamic Cooperation (OIC) in 1969. Malaysians have been President of the UN General Assembly, UN Deputy Secretaries-General, Assistant Secretaries-General, and president of UNESCO general conference, and chief executive of UN Habitat.

Of particular relevance is Malaysia's abiding commitment to UN peacekeeping, from sending Malayan soldiers to the Congo in 1960 through the setting up of the Malaysian Peace Keeping Training Centre in 1995 to the current pledge of preparing an infantry battalion for future UN peacekeeping missions. In the Commonwealth, Malaysia vigorously opposed apartheid in South Africa. Malaysia caucuses with G77 in important global summits like the World Summit on Sustainable Development. Malaysia condemns the genocide in Gaza by Israel and defends the rights of the Palestinians.

In her chairmanship of ASEAN in 2025, Malaysia raised the international standing of ASEAN to great height.

In 1980, Malaysia established the Malaysian Technical Cooperation Program (MTPC) which emphasizes human resource development through the provision of training in various vital fields for developing countries, such as public administration, good governance, health services, education, sustainable development, agriculture, poverty eradication, investment promotion, ICT, and banking. MTCP programs have benefited many Islamic and African countries.

In my opinion, the realization of Global Governance Initiative would rest on the political leaders of member states of the UN practising good governance in their countries. I suggest that they should look at the unique characteristic of the political leadership of China that has lifted China from abject poverty to become the second largest economy of the world in the short span of three decades.

China's political leaders are members of the Politburo of the Standing Committee of the Communist Party of the People's Republic of China (PRC), headed by the Party Secretary-General who is also the President of the PRC and Chairman of the Military Commission.

Before 1998, all seven members were engineers. Of the nine members from 1998-2003, seven were engineers. The other two were technocrats: a geologist and a metallurgist. All of them practised their professions from the ground up. Their successful political experience has spanned the spectrum, starting at the village level, to minor officials at the county level, to more important political positions at the town level, then the city level, the provincial level, and to national leadership. They were the creme de la creme of the Chinese Communist Party. This stringent selection process for national leaders is now the norm.

Their successors in the Politburo 2003-2012 were predominantly engineers. At the 18th Congress of the Communist Party of China in early December 2012, the era of the dominance of engineers in the Politburo came to an end.

The current members of the Poliburo of Xi Jinping (习近平), Li Qiang (李强), Zhao Liji (赵乐际), Wang Huning (王沪宁), Cai Qi (蔡奇), Ding Xuexiang (丁薛祥), and Li Xi (李希) are remarkable in being a balanced mix of engineer, technocrat, economist and cultural experts. They all have postgraduate degrees from universities at home and abroad and with spells of work-related experience overseas.

However the scientific management with engineering and technological practice of China's leadership is now well-entrenched.

Chairman Mao realized the importance of science, technology, and industrialism. He had the scientific and engineering approach to problem-solving. The inscription of the Chinese Communist Party School “事实求是” (seeking truth from facts) was made by him in Yan'an in 1943 during his tenure as school president 1942-1947 and remains the school motto to this day. Two of the four modernizations introduced by Premier Zhou Enlai in early 1963 while under Mao's leadership were “science & technology” and “industrialization”.

Unfortunately, Chairman Mao was an ideologue as demonstrated by his Great Leap Forward campaign from 1958 to 1961, which aimed to use China's vast population to rapidly transform the country from an agrarian economy into a modern socialist society by the process of rapid industrialization through collectivization. The Great Leap Forward ended in catastrophe. His Cultural Revolution was a social-political movement from 1966 through 1976, with its stated goal of enforcing socialism in China by removing capitalist, traditional and cultural elements from Chinese society.

Intelligentsia were exiled to hard labour in remote corners of China at best and tortured and killed by Red Guards at worst. Priceless heritage of Chinese art, culture, and history was wantonly destroyed. Universities were shut down. Western influences were banned, including science and technology. Infrastructure facilities were damaged by rampaging youths. Indeed, the Cultural Revolution politically paralyzed the country, caused untold suffering, and set China back economically and socially by at least a decade.

It was up to Deng Xiaoping, the father of modern China, to rehabilitate the shattered Chinese economy and society after the Cultural Revolution. He pushed through the economic reform and opening up (改革开放) program in December 1978 that laid the foundation of modern China. Deng Xiaoping was a pragmatic ideologue. The oft-quoted sayings of his testify to his pragmatism: “It does not matter whether the cat is black or white as long as it catches mice, it is a good cat.” (不管黑猫白猫，捉住老鼠就是好猫) and “Cross the stream by feeling for stones.” (摸着石头过河) The latter is very scientific and engineering in theory and practice. When in doubt, experiment first. China’s social and economic success is in no small measure due to his injunction to move ahead with economic reforms pragmatically, without fanfare, and without involving in war and conflict (韬光养晦).

He was a great believer in science, technology, and higher education. One of his first tasks was the revival of the university entrance examination. He revived the Chinese Academy of Sciences. He was realistic enough to acknowledge that China was behind the West and should learn from the West. His visit to Jurong Singapore 1978 led to the development of Shenzhen. His ride in the bullet train in Japan in 1978 inspired high speed railway network in China. His visit to Johnson Space Center in Texas and to Boeing in Seattle in 1979 made space and aircraft development as priority in China. He requested President Jimmy Carter in 1979 to allow 5000 Chinese students to study in USA. President Carter allowed 10000.

To me, the most significant development under his leadership from the late 1980s was entrusting the control of the Communist Party and the central government of China to outstanding engineers and technocrats like President Jiang Zemin (江泽民), Premier Li Peng (李鹏), Premier Zhu Rongji (朱镕基) and their anointed successors in the leadership of the PRC, like Hu Jintao (胡锦涛), Wu Bangguo (吴邦国), Wen Jiabao (温家宝). .

To guide a nation of 1.4 billion to prosperity for its citizens and to global economic prowess for the nation over a short span of three decades must have demanded great patience, perseverance, and perspicacity of its top engineers and technocrats. In my opinion, they are guided by the positive attributes of engineering and technological practice, such as teamwork, long-term policy planning, and constant review and adjustment in implementation. Above all, they believe in the continuity of the glorious Chinese civilization.

In contrast, countries practising Western democracy are experiencing frequent national elections with changes of government policies and leaders, making long-term planning impossible. Their political leaders have little or no grounding in political management from the ground up. Many are not well educated but depend on political and/or financial patronage for their rise to power. It is little wonder they are falling behind China in development.

UNESCO Director General Khaled El-Enany met Chinese President Xi Jinping in Beijing May 2026. They agreed for UNESCO and China to have a joint project to implement the four Global Initiative.

Malaysia is a member of UNESCO Executive Board. I would suggest that Malaysia helps UNESCO to implement the joint UNESCO-China Project to demonstrate Malaysia's commitment to multilateralism in a multipolar world and to the international rule of law under the UN. Malaysia can also share its governance system with countries in the global south.

ISTIC being the only UNESCO Category 2 Centre dedicated to South-South Cooperation can also mobilize its widespread network of science, technology and innovation elites to help the implementation of the UNESCO-China Project.

The Seven



5.1 Proposal for Study of China's Governance System

I would suggest that ACSF and Communication University of China with appropriate partners should seriously consider conducting a study of China's governance system as a model for Belt and Road countries to adapt to their own governance need.

6.0 Conclusion

The implementation of the four Global Initiatives and the Belt and Road Initiative cannot be left in governments and policy makers in the Global South alone. Their citizens and civil society organisations must also take active parts.

The proposals in this lecture demonstrate how they can be active and proactive partners with governments and policy makers to expedite the realization of the Common Destiny of Humankind for Peace and Prosperity.

Thank You

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