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SYLLOGE ON CHINA

Focus: Nuclear, Space, Missiles and other Security Issues

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China develops world's most powerful Stirling engine

Liu Xuanzun

Global Times, December 22, 2021

In a latest highlight of China's efforts to domestically develop high-quality engines of different types, the country recently made a major breakthrough in making the world's most powerful Stirling engine, a type of heat engine with applications in power generation and submarine propulsion. Developed by the No. 711 Research Institute under the China State Shipbuilding Corporation Limited (CSSC), the basic prototype of China's first large-bore Stirling engine successfully conducted the recent performance test. The prototype ran at a rated power of 320 kilowatts with a power conversion efficiency of 40 percent, making it the most powerful Stirling engine known around the globe, the CSSC stated.

<https://www.globaltimes.cn/page/202112/1243157.shtml>

Chinese 'artificial sun' kicks off new rounds of experiments

Global Times, December 22, 2021

A new round of experiments for an advanced superconducting tokamak (EAST) or the "Chinese artificial sun" kicked off at the Hefei Institutes of Physical Science under the Chinese Academy of Sciences (CAS) in December. The experiment is aimed at upgrading the EAST auxiliary heating system, with the goal of making the artificial sun more "hot" and "durable", Song Yuntao, vice director of the Hefei Institutes of Physical Science under CAS, said. The ultimate goal of EAST, is to create nuclear fusion used by the Sun, incorporating deuterium abundant in the sea to provide a steady stream of clean energy.

<https://www.globaltimes.cn/page/202112/1243088.shtml>

Chinese aircraft carriers in separate South China Sea, Pacific training drills

Liu Zhen

South China Morning Post, December 21, 2021

The Chinese navy's two active aircraft carriers have been deployed for separate drills, in the contested South China Sea and the Pacific Ocean, and military observers say they could soon be operating together. The Shandong – China's first domestically built carrier, commissioned two years ago – has left its home port in Sanya, Hainan province for "combat-oriented exercises". Drills will include fighter jet landings, damage control and maritime search and rescue, according to the report, which did not disclose the location of the exercises or when they would take place.

<https://www.scmp.com/news/china/military/article/3160580/chinese-aircraft-carriers-separate-south-china-sea-pacific>

PLA reveals details of Z-10 attack helicopter, 'superior to foreign counterparts'

Liu Xuanzun

Global Times, December 21, 2021

The Chinese People's Liberation Army (PLA) revealed many details of the country's domestically developed Z-10 attack helicopter in a recent program aired by the state broadcaster, introducing its outstanding, unique capabilities in modern warfare against tanks, infantry and other choppers. As the first type of attack helicopter domestically developed by China, the Z-10 has been commissioned by the PLA in large numbers in recent years, including an aerial assault brigade affiliated with the 83rd Group Army, China Central Television (CCTV) reported. With a range of 1,120 kilometers, the Z-10 has an empty weight of about 5,100 kilograms. It has four external hardpoints that can carry air-to-ground and air-to-air missiles as well as rockets, plus a 23 millimeter caliber revolver gun, according to CCTV's report.

<https://www.globaltimes.cn/page/202112/1243058.shtml>

Will India's new 'China hand' ambassador help fix damaged ties?

Yang Sheng and Yu Xi

Global Times, December 21, 2021

India has appointed a senior diplomat, who can speak Chinese fluently and with rich experience in diplomatic negotiations, to be its new ambassador to China, and this might be a positive sign for China-India relations, experts said, but stressed that "know China well" doesn't necessarily mean "be friendly to China" because Indian diplomats' behavior is driven by India's internal politics. If the Indian government refuses to be pragmatic to fix damaged ties, to stop hyping a hostile sentiment toward China within its country, then the recovery of China-India ties is impossible regardless of who is appointed as ambassador, Chinese analysts warned. According to the press release of the Ministry of External Affairs of India, Shri Pradeep Kumar Rawat, presently Ambassador of India to the Netherlands, has been appointed as the next Ambassador of India to the People's Republic of China.

<https://www.globaltimes.cn/page/202112/1243055.shtml>

Liaoning aircraft carrier group holds drills in 'strategically important' West Pacific

Liu Xuanzun

Global Times, December 21, 2021

After entering the Pacific Ocean through the Miyako Strait last week, the Chinese People's Liberation Army (PLA) Navy's Liaoning aircraft carrier battle group reportedly conducted drills involving fighter jet and helicopter operations in waters east of Japan's Okinawa, a location Chinese analysts said is of strategic importance in safeguarding China's territorial

integrity and national sovereignty.

<https://www.globaltimes.cn/page/202112/1243033.shtml>

Chinese aviation firms vulnerable to financing restrictions due to US embargo on dual-use exports

Amanda Lee

South China Morning Post, December 21, 2021

As the US expands its sanctions lists, Chinese companies in the aviation sector are facing increasing restrictions on financial services as well as American technology, according to trade lawyers and defence experts. Washington is deeply concerned with China's military-civilian fusion strategy, which aims to modernise the country's defence forces by integrating civilian research and the commercial sector with military-industrial players. The plan is a central component of President Xi Jinping's vision for China's long-term security and development. Former US president Donald Trump began limiting China's access to dual-use products – technology that can be used for both military and peaceful means – by designating Chinese aerospace and aviation companies, including the Aviation Industry Corporation of China (Avic) and Aero-Engine Company of China (AECC), as “military end users”.

<https://www.scmp.com/economy/china-economy/article/3160420/us-embargo-dual-use-exports-leaves-chinese-aviation-firms>

China urges Japan to respect territorial sovereignty and stop complicating maritime situations

Global Times, December 21, 2021

China urged Japan to respect China's territorial sovereignty, maritime rights and interests, and avoid actions that could complicate the Diaoyu Islands issue and other issues. The Chinese side made the remarks during the 13th round of high-level consultations on maritime affairs held between China and Japan via video link, which was the first of its kind after Fumio Kishida took office in October. The two countries agreed to properly manage maritime contradictions and differences, safeguard maritime security and stability, and make the East China Sea a sea of peace, cooperation, and friendship. Both sides agreed to build a China-Japan relationship that meets the requirements for the new era, fully implement the important consensus reached by the leaders of the two countries and the four-point principled consensus.

<https://www.globaltimes.cn/page/202112/1242964.shtml>

China's cyberspace regulator summons Quora-like platform Zhihu for publishing illegal information

Global Times, December 20, 2021

The Beijing cyberspace regulator announced that it was asked by the Cyberspace Administration of China (CAC) to summon the online question-and-answer platform Zhihu for publishing illegal information and demanded "immediate rectifications" based on the country's Law on Cybersecurity. The CAC said the online platform shall earnestly fulfill its main responsibility, improve the information security management system, and shall not provide a space for the dissemination of illegal information. The Beijing Internet Information Office filed a case for administrative punishment against Zhihu for its illegal behavior.

<https://www.globaltimes.cn/page/202112/1242950.shtml>

World's first nuclear power plant using 4th generation high-temperature gas reactor officially enters operation in E China's Shandong

Global Times, December 20, 2021

The world's first nuclear power plant which contains a pebble bed reactor (PBR), the fourth generation of high-temperature gas reactor (HTGR), has officially entered operation in East China's Shandong Province, the China National Nuclear Corporation (CNNC) announced. There are a very few countries which have mastered HTGR technology, and the launch of HTGR nuclear power plant in Rongcheng, Shandong Province marks the country consolidating its role as a world leader in nuclear power. The plant's core technologies were all domestically developed with 93.4 percent of the material used in the plant domestically sourced. HTGR has been called the safest type of nuclear reactor to date. The reactor will not melt when placed under duress and there is no risk of radiation leaks. Aside from a high-degree of safety, the temperature index of the reactor also matches multiple fields including petrochemical engineering, coal chemical industry and hydrogen production.

<https://www.globaltimes.cn/page/202112/1242878.shtml>

China's future spaceplane may be able to take off and land at airports

Minnie Chan

South China Morning Post, December 19, 2021

China's space flight technology may have advanced beyond that of the United States as it can now launch spaceplanes without rocket propulsion, according to a Chinese military magazine. It means the spaceplanes will not need launch sites and will be able to take off and land at airports – a cost-saving development that has added to concerns over the weaponisation of space. China is developing a spaceplane known as Tengyun, which has a horizontal take-off and horizontal landing (HTHL) system. That gives it an advantage over the US equivalent, the X-37B Orbital Test Vehicle (OTV), which is rocket-launched, according to military magazine Naval and Merchant Ships.

<https://www.scmp.com/news/china/military/article/3160221/chinas-future-spaceplane-may-be-able-to-land-airports>

China releases results of first batch of experiments from world's most powerful deep underground accelerator

Global Times, December 19, 2021

The China Jinping Underground Laboratory (CJPL), China's first deep underground astrophysics experiment project in Southwest China's Sichuan Province, released results of its first batch of experiments, demonstrating that China's nuclear astrophysics has reached top international levels, making China become the third country in the world with the ability to carry out deep underground nuclear astrophysics researches. The measurement sensitivity and statistical accuracy of the first four nuclear astrophysics experimental results published are higher than other devices of the same kind around the globe. The outcomes achieved the maximum exposure, widest energy range, and highest sensitivity measured directly from international nuclear astrophysics.

<https://www.globaltimes.cn/page/202112/1242834.shtml>

New Chinese J-15 fighter jet looks ready for faster catapult take-off

Liu Zhen

South China Morning Post, December 18, 2021

China has updated its carrier-based J-15 fighters for catapult take-off, suggesting China's third aircraft carrier is likely to be equipped with the device. The new variant of the Shenyang J-15 "Flying Shark", the People's Liberation Army's only ship-borne fighter jet in service so far, was revealed to have major modifications in a photo revealed by manufacturers Shenyang Aircraft Co (SAC) on their social media account. The photo shows a J-15 fighter jet taxiing on a runway next to a tug truck. The SAC did not indicate the date or location of the picture, which was released. But the formal grey livery of the plane suggested it was close to delivery, no longer a test model that is normally painted yellow.

<https://www.scmp.com/news/china/military/article/3160216/new-chinese-j-15-fighter-jets-look-ready-faster-catapult-take>

Who has the right to confiscate your IP addresses?

Tan Yaling

Global Times, December 16, 2021

Editor's Note: "Who has stolen Africa's internet protocol (IP) addresses? Some people point fingers at China." The Associated Press (AP) and some other Western media recently reported a dispute over IP addresses in Africa in a biased way and labelled China as a "digital

colonialist," despite the fact that no official Chinese agency was involved in the dispute. Such rhetoric has become a cliché and is not worth refuting. However, barring current international political situation, it is indeed a significant internet governance issue that cannot be ignored from a technological perspective. UN's 16th Internet Governance Forum wrapped up on December 10, it thus raised a question: Who has the right to confiscate end-users' IP addresses? This year has witnessed two IP seizure incidents. In the first case, a dispute over IP addresses took place between AFRINIC, a Mauritius-registered private company that is one of the five Regional Internet Registries (RIR) responsible for IP address allocation among its registered members, and Cloud Innovation, a company that became an AFRINIC member in 2013. Over the next four years, Cloud Innovation applied for a total of 6.2 million IP addresses, which were then leased to their clients through its Hong Kong-based affiliated company, LARUS Limited. In 2020, AFRINIC noticed some "irregularities" that Cloud Innovation had used their IP addresses beyond the service area of AFRINIC, some were even used in Asia-Pacific and North America areas. AFRINIC thus requested Cloud Innovation to correct these "irregularities."

<https://www.globaltimes.cn/page/202112/1241650.shtml>

Qinshan nuclear power plant marks 30 years's safe operations, generating 690 bln kilowatts hours of electricity

Deng Xiaoci

Global Times, December 15, 2021

The Qinshan Nuclear Power Plant, the first domestically designed and built nuclear power plant in the Chinese mainland, has operated safely for 30 years as, with its operators saying that the multi-unit plant has generated electricity exceeding 690 billion kilowatt hours. It helped cut carbon dioxide emissions of 653 million tons, compared to planting forests on an area the size of 433 West Lakes. Nuclear power is the most practical strategic choice for coping with global climate change, and China is one of the few nations that have established a complete nuclear industry system and nuclear power industry chain, industry insiders said. The State Council, China's cabinet, released in late October an action plan to peak carbon dioxide emissions before 2030. By 2030, the share of non-fossil energy consumption will be around 25 percent, and carbon dioxide emissions per unit of GDP will drop by more than 65 percent compared with the level registered in 2005, according to the plan.

<https://www.globaltimes.cn/page/202112/1241572.shtml>

PLA conducts more live-fire drills in South China Sea as US keeps watch

Liu Zhen

South China Morning Post, December 15, 2021

China is again carrying out military exercises in the contested South China Sea, as the US steps up reconnaissance amid rising tensions in the region. The People's Liberation Army is conducting at least three live-fire drills starting from December 15 in waters to the east and south of Hainan Island and in the Beibu Gulf, known as the Gulf of Tonkin in Vietnam,

according to notices issued by the local maritime safety authorities. The exercises follow live-fire drills in the South China Sea last week that ran for “several days”, military mouthpiece PLA Daily reported. It said the drills by the PLA South Sea Fleet included main gun firing, mine hunting, helicopter operations and rescue missions.

<https://www.scmp.com/news/china/military/article/3159850/pla-conducts-more-live-fire-drills-south-china-sea-us-keeps>

China urges regulating military use of AI, first time in UN history, showing global responsibility

Liu Xuanzun

Global Times, December 14, 2021

At a time when artificial intelligence (AI) technology is developing fast and has wide prospects in military use, China for the first time proposed to the UN to regulate the military applications of AI during a conference held on December 13, raising concerns over the long-term impact and potential risks in such areas as strategic security, rules on governance and ethics, while also giving suggestions on how to resolve potential problems. Having the potential to change the rules of warfare completely, AI is a double-edged sword that could cause catastrophes if not handled well, and that is why China's proposal to regulate and control it is a responsible one that other countries, particularly those attempting to take advantage of AI to achieve military hegemony, should pay attention to, Chinese experts stated

<https://www.globaltimes.cn/page/202112/1241470.shtml>

Time to set global rules for AI warfare, China tells UN weapons review

Liu Zhen

South China Morning Post, December 14, 2021

China's arms control envoy has called for international rules to be imposed on the use of artificial intelligence in the military to prevent an international arms race and the risk of human disaster. China's arms control ambassador to the United Nations, Li Song, said that since the application of AI technology could reshape the future of warfare and potentially trigger humanitarian crises, rules were needed to stop it becoming a tool for war or hegemony. “Countries, especially great powers, should exercise restraint in developing AI weapon systems,” Li said. “China opposes the use of AI technologies to seek absolute military superiority and to undermine the sovereignty and territorial security of other countries.”

<https://www.scmp.com/news/china/military/article/3159704/time-set-global-rules-ai-warfare-china-tells-un-weapons-review>

China, France pledge to deepen cooperation at virtual dialogue

Global Times, December 13, 2021

China and France pledged to deepen bilateral economic and financial cooperation during a virtual economic dialogue on December 13, where officials vowed to collaborate in areas such as finance, nuclear energy, aviation and environmental protection. The two sides reached substantial cooperation agreements in finance, nuclear energy, aviation, environmental protection and other areas. As for their bilateral nuclear partnership, China and France will renew the Protocol on Peaceful Use of Nuclear Energy for three additional years in 2022, while placing a greater emphasis on nuclear safety.

<https://www.globaltimes.cn/page/202112/1241395.shtml>