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SYLLOGE ON CHINA

Focus: Nuclear, Space, Missiles and other Security Issues

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INDIAN PUGWASH SOCIETY



Prepared By: Diya Deep Singh

Chinese envoy calls for solidarity and cooperation to tackle global challenges

Xinhua, November 4, 2020

A Chinese envoy on Tuesday called for the recognition of solidarity and cooperation as the most powerful weapon to tackle global challenges. In today's global village, the close ties that bind countries together dictate that mankind has a common destiny. There is a need to develop a sense of community of shared future instead of a sense of small groups or zero-sum thinking, said Zhang Jun, China's permanent representative to the United Nations. Global threats and challenges require stronger global responses. Multilateralism must be preserved, and the role of the United Nations must be strengthened, he told a Security Council high-level debate on "drivers of conflict and insecurity."

China always believes that all countries, big or small, should enjoy equal rights and equal opportunities, and follow the same rules in international affairs. All countries should uphold the purpose and principles of the UN Charter, safeguard the international system with the United Nations at its core, and maintain the international order based on international law, he said. The Security Council, the General Assembly, and other bodies of the United Nations should fulfill their respective mandates and complement one another. The United Nations should strengthen its coordination with regional and sub-regional organizations and form synergy in order to jointly tackle risks of conflict and factors for instability, he said.

http://www.xinhuanet.com/english/2020-11/04/c_139489035.htm

China's Hualong One 3rd-gen nuclear tech meets Europe's standards

Global Times, November 10, 2020

China's Hualong One third-generation nuclear technology passed its European Utility Requirements (EUR) review, showing China's nuclear power technologies have become advanced and mature by meeting Europe's standards, according to a statement that China General Nuclear Power Group sent to the Global Times. The EUR reviewers came from 14 European power giants in countries including France, the Czech Republic, Finland, the United Kingdom, Germany, Slovenia, Ukraine, Hungary, Russia, Belgium and Turkey, in a bid to formulate general user requirements to maintain safety, economic and environmental values for European nuclear power plants.

Reviewers are responsible for reviewing and certifying imported nuclear technologies based on EUR requirements, and conducting overall inspections for the European nuclear power sector. Achieving the EUR certification has become an important condition for overseas nuclear power technologies to enter the European power market.

<https://www.globaltimes.cn/content/1206377.shtml>

China's military lays out technology road map to catch up with the US

Kristin Huang

South China Morning Post, November 12, 2020

China must apply cutting-edge technologies such as artificial intelligence if it wants to transform its military into a modern fighting force on a par with those of other leading powers, according to new guidelines and comments from senior leaders. The statements come from a booklet published this month by the state-run People's Publishing House, in which senior officials, including Chinese President Xi Jinping, outlined the latest five-year plan for the country's development.

According to a communique released after a high-level meeting last month, the People's Liberation

Army (PLA) will be transformed into a modern military force by 2027. Analysts say China's aim is to build an army that is on a par with that of the United States.

In an article titled "Speed up the Modernisation of Defence and Military" from the booklet, Xu Qiliang, vice-chairman of the Central Military Commission, stressed the importance of smart technologies in modernising the PLA.

<https://www.scmp.com/news/china/military/article/3109443/chinas-military-modernisation-must-be-driven-innovation>

As China's military confidence grows, it's now looking to 'design' how war is fought

Kristin Huang

South China Morning Post, November 13, 2020

China is expected to become more proactive in seeking to shape military events as its technology advances instead of following other powers, according to analysts. But a shift to pre-emptive planning could push China's neighbours in the Indo-Pacific and the United States to try to counterbalance its moves and possibly prepare for a "pre-war period", they said. The change was highlighted in an official publication released this month laying out China's next five-year development plan to 2025. Xu Qiliang, vice-chairman of the Central Military Commission, wrote that China had to "broaden its strategic approaches to catch up, surpass and accelerate the transition from passively adapting to war to actively designing how a war is fought".

He also said China had to give full play to the driving force of reform to build an innovative People's Liberation Army. China has set a target of 2027 for the PLA to become a modern military force, according to a communique released after a high-level meeting last month. Song Zhongping, a former instructor with the PLA's Second Artillery Corps, said the emphasis on "designing" war indicated that China would focus more on developing weapons for how it saw a future conflict may be waged, and in areas where other nations lacked strength. "In past years, [China] has been passive, only responding to the plans of other nations, and the weapons they have," Song said. "If we can get the upper hand in terms of how a war is fought and develop our strategy, then other nations will follow." One area would be developing drones to ensure different types of troops were equipped with such weapons, he said.

<https://www.scmp.com/news/china/military/article/3109585/chinas-military-confidence-grows-its-now-looking-design-how-war>

China's military aims to use AI to dominate in cyber and outer space, Japanese think tank warns

Kyodo

South China Morning Post, November 13, 2020

The Chinese military is aiming to utilise cutting-edge technologies like private sector-developed artificial intelligence to enhance its offensive capability in domains such as cyberspace and outer space, a Japanese defence ministry think tank warned. Beijing aspires to match the United States' overall military capacity by transforming its People's Liberation Army into a world-class fighting force with the help of advanced technologies, the National Institute for Defence Studies said in its annual report on China's security strategy. The report said that until the Chinese caught up with the American military, "the PLA will build up its interference and strike capabilities to prevent the United States' military use of both the cyber and space domains".

The "China Security Report 2021" was released as rivalry between Washington and Beijing has been

intensifying, and amid competition for technological hegemony. The US has restricted exports of semiconductors to Huawei Technologies, the Chinese telecoms giant that is aiming to expand its dominance of next-generation 5G technology. That technology will enable transmission of large amounts of data at extremely high speeds, allowing telecommunication devices to connect to numerous products and services, including those related to military affairs, over digital cellular networks.

<https://www.scmp.com/news/china/military/article/3109803/chinas-military-aims-use-ai-dominate-cyber-and-outer-space>

China's 'aircraft-carrier killer' missiles successfully hit target ship in South China Sea, PLA insider reveals

Kristin Huang

South China Morning Post, November 14, 2020

The two "aircraft-carrier killer" missiles that China launched in August travelled thousands of kilometres and hit their designated target, a moving ship, near the Paracel Islands in the South China Sea, according to a Chinese military expert. This is the first time the Chinese side has revealed details of the missile launches, which were first reported by the South China Morning Post in August. The news was later confirmed by the US military. After the launches it was reported that the missiles fell into the South China Sea, but Wang Xiangsui, a former senior colonel who now works as a professor at Beihang University in Beijing, said they hit a ship, their intended target.

<https://www.scmp.com/news/china/military/article/3109809/chinas-aircraft-carrier-killer-missiles-successfully-hit-target>

China now has the nuclear strength to hit back at a first strike, former PLA colonel says

Liu Zhen

South China Morning Post, November 17, 2020

The military has built an 'underground Great Wall' of tunnels to hide and move its arsenal of ballistic missiles, Wang Xiangsui tells Moganshan forum. The defences add up to a credible ability to mount a second strike, resulting in a deterrent effect, he says. China has spent the last two decades building defences for its nuclear armoury on land and at sea, ensuring that the military can hit back at a nuclear attack and deter others from launching one, according a former Chinese senior colonel. Wang Xiangsui, now a professor at Beihang University in Beijing, said these defences – which included a vast network of tunnels to transport and protect missiles – meant China's security was guaranteed even in the worst scenario. "Launching nuclear strikes on China has always been a military option for the US," Wang told a closed-door meeting last month. "But for this option they are facing increasing uncertainties due to our adjustment and changes in the past 20 years."

He delivered the assessment at the four-day Moganshan forum to discuss domestic and international issues and China's new five-year plan, but the transcript of his remarks was only made public. Without specifying the source, Wang said some US assessments claimed that only one Chinese nuclear warhead would be able to survive a US first strike and reach American soil in a counter-attack. He dismissed the claims as "clearly nonsense". He said China had taken a series of measures over the years to establish a credible "second-strike" capability to respond to a nuclear attack. In addition to intercontinental ballistic missile tunnels, China had developed advanced missiles and expanded "bastion waters" in the South China and Yellow seas in which its ballistic missile submarines could operate safely. "These have drawn a bottom line for China-US confrontation – that the confrontation is unlikely to become a massive invasion, which is an important basis [of calculation

for both sides],” he said.

<https://www.scmp.com/news/china/military/article/3110091/china-now-has-nuclear-strength-hit-back-first-strike-former-pla>

China gets rocket ready to launch ambitious mission to the moon

South China Morning Post, November 17, 2020

China moved a massive rocket into place in preparation for launching a mission to bring back materials from the moon for the first time in four decades. The Long March-5 was transported by tractor from its hangar to the nearby launch site at the space base in Wenchang along the coast of the southern island province of Hainan. The Chang’e-5 mission it will carry is scheduled to launch early next week, placing a lander on the moon that will drill 2 metres (almost 7 feet) beneath the surface and scoop up rocks and other debris to be brought to Earth. That would allow scientists to study newly obtained lunar materials for the first time since the American and Russian missions of the 1960s and 1970s. The mission, named for the Chinese moon goddess, is among China’s most ambitious as its space programme continues to build steam since it first put a man in space in 2003, becoming only the third nation to do so after the US and Russia.

<https://www.scmp.com/news/china/science/article/3110200/china-gets-rocket-ready-launch-ambitious-mission-moon>

Hydrogen use booms in China amid carbon neutrality push

Wang Sheng

Global Times, November 18, 2020

More than three domestic and foreign energy giants have announced they will keep loading up hydrogen, the energy carrier essential to achieve the target of China's carbon neutrality. China Petrochemical Corp (Sinopec) is speeding up the upgrade of refueling stations, integrated with refined petroleum products, hydrogen as well as LNG, Zhang Yuzhuo, chairman of Sinopec, said at an industry conference Thursday, adding that Sinopec is loading hydrogen on "a large scale." Sinopec will produce hydrogen from sources based on its refineries in the short run, and then produce the clean energy carriers from renewable sources, said Zhang.

Transition in many of its over 30,000 gas stations is not enough. Sinopec has also taken substantial steps in geothermal, offshore wind power, and photovoltaic power generation, said Zhang. Zhang noted China strives to achieve the goal of carbon neutrality by 2060, which is technically and economically possible. Sinopec is not alone. China Huaneng Group announced Tuesday it will build a green hydrogen industrial park in Southwest China's Sichuan Province, which has abundant hydropower resources. This is a demonstration project to produce hydrogen via the electrolysis of water, with the electricity used in the process coming from renewable sources. The three projects demonstrate China's efforts to proactively promote clean energy transition. The deployment of hydrogen is a significant step to achieve the target of carbon neutrality, experts said.

<https://www.globaltimes.cn/content/1207401.shtml>

US conducts ICBM interception test; ‘tech won’t work against advanced missiles’

Liu Xuanzun and Leng Shumei

Global Times, November 19, 2020

The US recently conducted an intercontinental ballistic missile (ICBM) interception test with a

missile launched from a warship. US media said on Wednesday the move could harm the mutual deterrence between major nuclear powers and force China and Russia to expand their capabilities. Chinese military analysts said on Thursday that the test was only done in an optimal scenario and may find it difficult when facing a real missile, not to mention that China and Russia are already developing and commissioning more advanced missiles, including hypersonic ones, which are much harder to intercept.

<https://www.globaltimes.cn/content/1207417.shtml>

China bolsters its ambitious space programme with the high-powered vision of a new antenna array

Laura Zhou

South China Morning Post, November 19, 2020

Three new radio telescopes added to Kashgar station to create a deep-space tracking facility for Chinese lunar and interplanetary missions. System is up and running two months after China denied contract extension for use of space tracking station in Western Australia. China has begun using a deep-space antenna array system from a ground station in Xinjiang, which it hopes will enhance its ability to navigate and explore space amid stiff competition from the United States. Based in Kashgar, the westernmost corner of China, the system comprises four 35-metre (115-foot) diameter radio telescopes – three of them newly built – that form an array capable of recording signals equivalent to a single 66-metre radio telescope, China News Service reported. The system has enhanced data-receiving sensitivity and can “provide powerful support to different kinds of deep-space explorations”, the report said.

The array system was established two months after the Swedish Space Corporation said it would not renew a contract with the China Satellite Launch and Tracking Control General, which also runs the Kashgar station, to use a space tracking station in Western Australia, a move widely believed to undermine Beijing’s expanding space exploration and navigational capacity in the Pacific region. While it is unclear when the lease runs out, the Swedish state-owned company said in September the decision was based on the “complexity of the Chinese market, brought about by the overall geopolitical situation”, adding that it would not seek new business with China, according to Reuters.

<https://www.scmp.com/news/china/diplomacy/article/3110387/china-bolsters-its-ambitious-space-programme-high-powered>

China launches 1st lunar sample return mission, aims for multiple breakthroughs in aerospace history

Deng Xiaoci and Fan Anqi

Global Times, November 24, 2020

The Long March-5 Y5, China's state-of-the-art carrier rocket and strongest member of the Long March launch vehicle family, blasted off early Tuesday morning from the Wenchang Space Launch Center located in South China's Hainan Province, successfully sending the Chang'e-5 lunar probe into planned orbit. About 2,200 seconds after lift-off, the Chang'e-5 lunar probe separated from the rocket and entered the Earth-Moon transfer orbit with the perigee at 200 km and the apogee at about 410,000 km. Despite the difficulties brought by the COVID-19 epidemic, China's aerospace sector has been able to launch not only the country's first-ever Tianwen-1 Mars probe, but also the latest lunar sample return mission, showcasing the country's resilience and increasingly mature capabilities in the space sphere, according to observers.

Dubbed one of the most complicated and challenging space exploration projects ever attempted, Chang'e-5 will carry out the third stage of China's current lunar programs, which involves three phases—orbiting, landing and return. The first two phases have been completed successfully.

<https://www.globaltimes.cn/content/1207822.shtml>

Chinese military testing home-made engines for Y-20 transport planes that will allow them to carry most advanced 99A tanks to battlefield

Kristin Huang

South China Morning Post, November 25, 2020

China is testing a domestically designed engine for its military transport planes that could replace the Russian engines the fleet currently relies upon and increase the loads it can carry by around 20 per cent, according to a military source. The increased capacity means it will now be able to transport China's most advanced tank, the 58-tonne 99A, which is too heavy for the current engines to carry. China has long struggled to produce high-quality engines for its warplanes, leaving the military reliant on Russian engines to power some of its jets. The source said the WS-20 engine is designed to give the planes a bigger lift and longer range and has been installed on one Y-20 for testing. "It will probably take three or more years to install such engines to other transport aircraft," the source continued.

The Y-20, built by the Xian Aircraft Industry Corporation, is the biggest warplane in the air force's fleet. It is currently powered by Soloviev D-30 engines that give it a range of 7,500km (4,660 miles) and a cargo capacity of 55 tonnes. The aircraft manufacturer said the new WS-20 engine, designed by the Shenyang Aeroengine Research Institute, would increase its capacity from 55 tonnes to 66 tonnes.

<https://www.scmp.com/news/china/military/article/3111322/chinese-military-testing-home-made-engines-y-20-transport>

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<https://www.scmp.com/news/china/military/article/3111322/chinese-military-testing-home-made-engines-y-20-transport>

Beijing ‘doesn’t want to upset neighbours’ with air defence identification zone

Minnie Chan

South China Morning Post, November 25, 2020

Beijing is unlikely to declare an air defence identification zone in the South China Sea in the next few years because it is too “complicated”, but it may happen if the situation changes, according to a Chinese think tank and analysts. In a commentary released on Monday, the Beijing-based SCS Strategic Situation Probing Initiative said the international community’s perception that China would set up an ADIZ over the disputed waters – as it did in the East China Sea seven years ago – was a “misinterpretation”. The guest commentary by Chang Ching, a research fellow at the Society for Strategic Studies in Taipei, said even though the US had stepped up military activities in the area in recent years, China had no need to respond by declaring an ADIZ.

“In comparison with the situation of insufficient coverage extending seaward provided by the flight information region in the East China Sea, the airspace coverage provided by the Hong Kong flight information region and the Sanya flight information region under the Chinese civil aviation administrative system in the South China Sea is sufficient to support the depth needed for air defence target identification and classification operations,” he wrote. But, if the level and intensity of foreign military aviation activities continued to grow and purposely approached airspace not covered by the Hong Kong and Sanya flight information regions, the People’s Liberation Army may fail to filter civil aviation activities, and Beijing may establish an ADIZ in the South China Sea, Chang said.

<https://www.scmp.com/news/china/military/article/3111204/south-china-sea-beijing-doesnt-want-upset-neighbours-air>

China’s H-20 stealth bomber will give PLA ‘truly intercontinental’ strike capacity, says report

Kristin Huang and Liu Zhen

South China Morning Post, November 23, 2020

China’s subsonic H-20 stealth bomber will give the country a “truly intercontinental” capacity expanding its reach far beyond the country’s seaboard, according to a report by a leading think tank. The bomber is still under development but the Pentagon believes that when completed it will be able to target US overseas territories such as Guam, while other analysts believe its range will bring Hawaii within reach. The report by the London-based Royal United Services Institute for Defence and Security Studies gave an overview of how Russia and China were developing their air forces, including next-generation planes and new weapons. “Armed with nuclear and conventional stand-off missiles, the H-20 would represent a major break from previous PLAAF (PLA Air Force) doctrine and equipment development practice,” said the report released in late October.

<https://www.scmp.com/news/china/military/article/3111374/chinas-h-20-stealth-bomber-will-give-pla-truly-intercontinental>

US general describes ‘China threat’ in space as Chang’e-5 lunar mission heats up rivalry

Kristin Huang

South China Morning Post, November 26, 2020

Rivalry between China and the United States in space exploration has reached new heights, with a US general saying China was a threat that could block American access to space.

Just days after the launch of Beijing's first lunar mission to bring samples back to Earth, US Space Force General John Raymond said the United States had to strengthen ties with its allies to handle the "threat" from China and Russia over space. Raymond's comments came as the head of the Chinese space administration said the nation would launch more lunar probes and invite other countries to join China on its missions. The China-US space rivalry intensified after a Long March-5 rocket carrying the Chang'e-5 lunar spacecraft blasted off from Wenchang, Hainan province

<https://www.scmp.com/news/china/diplomacy/article/3111454/us-general-describes-china-threat-space-change-5-lunar-mission>

China's military: Xi Jinping tells top brass to 'transform' training amid security challenges

Minnie Chan

South China Morning Post, November 26, 2020

President Xi Jinping has called on China's top military brass to push forward the PLA's modernisation by making "comprehensive and overall improvements" to training amid growing security challenges at home and abroad. Analysts said it was the latest indication that China's military focus was shifting to training and command, integrating advanced weapons and equipment, as it seeks to turn the People's Liberation Army into a modern fighting force.

"There have been changes happening in China in national security, military struggles, missions, modern warfare patterns, as well as in the goals of defence and military modernisation," Xi, also chairman of the Central Military Commission, told senior commanders at a conference in Beijing "Military training has entered a new stage of all-around change, and it needs comprehensive and overall improvements. Strategic planning and design from the top level needs to be enhanced to push forward and transform military training," he said.

Xi's speech came after the CMC issued new training guidelines that took effect on November 7. State news agency Xinhua said they were aimed at improving integration and joint operations across the PLA, and also highlighted the use of cutting-edge weapon systems. Defence ministry spokesman Ren Guoqiang told a regular press briefing on Thursday the guidelines were aimed at "responding to major changes ... including global hegemony, power politics and unilateralism" and developments in modern warfare. Details were not released, but according to a military insider more than 70 per cent of the new guidelines were based on those used by the United States military for its joint operations. China's ruling Communist Party wants the PLA to be a modernised force by 2027, and a world-class military by 2050.

<https://www.scmp.com/news/china/military/article/3111542/chinas-military-xi-jinping-tells-top-brass-transform-training>

First nuclear unit with Hualong One reactor connected to grid

Xinhua, November 27, 2020

China's first nuclear power unit using Hualong One technology, a domestically developed third-generation reactor design, was connected to the grid on early Friday morning. The No.5 nuclear power unit in the city of Fuqing, east China's Fujian Province, was connected to the power network at 0:41 a.m. Friday and started to generate electricity, according to the China National Nuclear Corporation.

http://www.xinhuanet.com/english/2020-11/27/c_139546194.htm

China military: 'leaders' lack of combat experience' a drag on modernisation drive

Minnie Chan

South China Morning Post, November 30, 2020

A lack of combat experience and knowledge of modern warfare at the top are hampering the Chinese military's modernisation drive and ability to confront growing security challenges at home and abroad, analysts said. The People's Liberation Army, which has 2 million troops, had tried to learn from the US military in the past few decades, but experts said intrinsic faults and China's political system were compounding problems with the modernisation push. Over the last four years, the PLA has embarked on an unprecedented overhaul to transform the bulky military into a more nimble modern fighting force.

The ruling Communist Party wants the PLA to be a modernised force by 2027 and a world-class military by 2050. But there are signs of some way to go in crucial joint operations, with the all-powerful Central Military Commission (CMC) issuing new training guidelines in early November. Details of the guidelines were not released but they are meant to foster integration between the various combat forces and the PLA's advanced weapon systems.

<https://www.scmp.com/news/china/military/article/3111922/china-military-leaders-lack-combat-experience-drag>

Chinese team test jet engine 'able to reach anywhere on Earth within 2 hours'

Stephen Chen

South China Morning Post, December 1, 2020

Chinese scientists have built what they claim is a revolutionary plane engine for Mach 16 flight. An aircraft powered by the engine could reach anywhere in the world within two hours, they said. The test flight of a prototype in a hypersonic wind tunnel in Beijing suggested unprecedented performance in terms of thrust, fuel efficiency and operational stability.

The engine could also serve "reusable trans-atmospheric planes [that will] take off horizontally from an airport runway, accelerate into orbit around the Earth, then re-enter into the atmosphere, and finally land at an airport," said the scientists, led by Professor Jiang Zonglin of the Chinese Academy of Sciences' Institute of Mechanics in a peer-reviewed paper published in the Chinese Journal of Aeronautics on Saturday.

The futuristic engine has a relatively simple design. It consists of three major components without any moving parts: a single-stage air inlet, hydrogen fuel injector and combustion chamber. The chamber's mouth opens to the upper end of the air inlet. "It is easily mistaken for a sliding board," said a Beijing-based hypersonic flight researcher who was informed about though not involved in the study.

<https://www.scmp.com/news/china/science/article/3111985/chinese-team-test-jet-engine-able-reach-anywhere-earth-within-2>

China tightens export rules for sensitive tech, boosts power to retaliate against foreign sanctions

Sidney Leng

South China Morning Post, December 1, 2020

China's broadly defined export control law came into effect on Tuesday, expanding Beijing's arsenal of countermeasures to trade restrictions imposed by other countries. The law, first drafted in 2017 and approved in late October, bears resemblance to US Export Administration Regulations, including a list of controlled items like sensitive technology, military goods, dual-use items that have both civil

and military uses, and a licence requirement for anyone who intends to export or re-export these goods.

The regulation is widely viewed as a response to United States' restrictions on Chinese technology firms like Huawei Technologies Co., which has seen access to American technology severed amid a growing tech war between the world's two largest powers. "I see the Export Control Law as a milestone for China because this new law provides [it] with the first comprehensive regulatory framework for restricting exports of military and dual-use products and technology for national security and public policy reasons," said Julien Chaisse, a law professor at City University of Hong Kong

<https://www.scmp.com/economy/article/3111972/china-tightens-export-rules-sensitive-tech-boosts-power-retaliate-against>

China military: how Beijing is pushing forward its plan for a powerful, modern armed forces

Nadia Lam

South China Morning Post, December 1, 2020

As regional tensions rise, a more assertive China has set a goal of turning its vast People's Liberation Army into a modern fighting force by 2027, and a world-class military by 2050 – but how far has it come, and where is it headed? The PLA began in 1927 with an armed uprising launched by the Communist Party against the Nationalist Kuomintang forces in Nanchang, Jiangxi province. This motley collection of communists, peasants, Kuomintang deserters and bandits was known as the Red Army. They had no ranks or formal command chain, and used guerilla tactics – irregular, fast-moving and small-scale actions – against their better armed and bigger enemy. It was renamed the People's Liberation Army in the later stage of China's pre-1949 civil war.

China's military has been significantly downsized since the 1980s as it tries to streamline operations, but it remains the world's largest army with more than 2 million active personnel. That is even after the most recent efforts to reduce the numbers, when some 300,000 troops were retrenched, according to a defence white paper released by Beijing in 2019. As well as troop reductions, the PLA has also undergone a massive structural reform that began in 2015. The four general departments – staff, politics, logistics and armaments – were reorganised into 15 agencies under the Central Military Commission. And seven military area commands were merged and replaced by five theatre commands. That put the CMC in charge of overall administration of the military, while the theatre commands focus on operations and troop development, according to state news agency Xinhua, citing an adviser to the commission's leading group on reform.

<https://www.scmp.com/news/china/military/article/3111960/how-china-pushing-forward-its-plan-powerful-modern-military>

Chang'e-5 starts collecting samples, will help explain moon's geological evolution

Deng Xiaoci and Fan Anqi

Global Times, December 2, 2020

Following a perfect landing on the designated area on the near side of the moon late Tuesday evening, the landing vehicle of Chinese robotic lunar probe Chang'e-5 officially began sample collecting work on the surface of Earth's celestial neighbor, according to the China National Space Administration (CNSA) on Wednesday. The CNSA said in a statement sent to the Global Times that as of 4:53 am Wednesday, the lander-ascender combination of the Chang'e-5 probe had completed drilling the moon's surface and sealed the samples it had collected. The CNSA did not reveal the weight of the sample collected as of press time. The lander-ascender combination of the spacecraft is currently

working on collecting samples from the lunar surface, the Chinese space agency said.

The Chang'e-5 uses a combination of a robotic arm and drilling equipment for its automatic and robotic sample collection from multiple points on the moon's surface and deeper ground, the CNSA said. The surface sample collecting stage will take about two days, after which the ascender segment of the probe, carrying the sealed lunar samples, will take off from the moon to rendezvous and dock with the orbital module. The re-entry capsule will then haul the moon dirt and rocks to Earth, with a touchdown planned in North China's Inner Mongolia Autonomous Region. The whole mission will last for 23 days, the CNSA said. Scientists believe that the landing site contains rocks and soil that are about 1.2 billion years old. It has never been visited either by a probe or human, and scientists believe it will fill an important gap in their understanding of the moon's volcanic activities.

The lunar material collected by the Chang'e-5 probe was formed from the space weathering of lunar rocks after meteorite impact, solar wind and cosmic ray radiation. It consists of a considerable amount of rock fragments, minerals and meteorites, which provide valuable information for studying the geological evolution of the moon, as well as solar activities, Xiao Long, a professor at the Wuhan-based China University of Geosciences, told the Global Times.

<https://www.globaltimes.cn/content/1208699.shtml>

China ready to share development opportunities with Russia: Chinese premier

Global Times, December 3, 2020

Chinese Premier Li Keqiang on Wednesday expressed to Russia China's willingness to share development opportunities, expand two-way opening-up, and enhance mutually beneficial cooperation to strive for more achievements in various aspects of bilateral cooperation. That came as Li co-chaired the 25th regular meeting with his Russian counterpart Mikhail Mishustin via video link. Li said China and Russia, as the biggest neighboring countries of each other, have been following a policy of good-neighborliness based on mutual respect with an eye on realizing mutual benefits and win-win results. He hailed the two countries' cooperation amid COVID-19, as well as the sustained and high-level development of bilateral ties led by the two countries' leaders.

Despite the withering global economy and sluggish trade and investment, Li said China and Russia made renewed progress in multiple fields. It is indicated by closer bilateral trade, the blooming development of emerging business forms, steady advancement of major projects of strategic importance in energy and other sectors, and new outcomes in the Far East and subnational cooperation.

<https://www.globaltimes.cn/content/1208821.shtml>

China sees major breakthrough in nuclear fusion with artificial sun

Global Times, December 4, 2020

The new generation of China's "artificial sun" installation, known as HL-2M Tokamak, has been successfully installed in Chengdu of Southwest China's Sichuan Province on Friday and realized its first discharge, China Atomic Energy Authority announced. This shows China has independently mastered the design, construction and operation of technologies of a large-scale advanced tokamak device, a machine designed to harness the energy of fusion, laying a solid foundation for the independent design and construction of my country's nuclear fusion reactors, it said.

The HL-2M Tokamak, designed to replicate the natural reactions that occur in the sun, aims to provide

clean energy through controlled nuclear fusion. With a more advanced structure and control mode, the new apparatus can generate plasma hotter than 200 million degrees Celsius, and the plasma electric current level can be elevated to more than 2.5 trillion amperes. The artificial sun is currently the largest advanced tokamak device with the highest parameters in China. It will provide key technical support for China to achieve high-quality development in nuclear fusion, and become an international platform that China join hands with the world in nuclear fusion energy, the agency said.

<https://www.globaltimes.cn/content/1209009.shtml>

China plans coastal base to launch rockets from the sea

Kristin Huang

South China Morning Post, December 4, 2020

China is building a facility on its east coast that will allow it to launch rockets from the sea, state media has reported. Wang Zhanyu, vice-president of China Academy of Launch Vehicle Technology, said the site near the city of Haiyang in Shandong province would supplement the four existing launch sites, one on Hainan island and the others in remote areas of Gansu, Sichuan and Shanxi provinces. "With the rapid development of the commercial aerospace industry, the demand for launches is increasing day by day. And the sea-based rocket launches are a powerful supplement to traditional land-based launches," Wang told state news agency Xinhua.

In June last year China became the first country to own and operate its own floating sea launch platform when a Long March 11 rocket blasted off from a site in the Yellow Sea near the new base, carrying five satellites and two experimental probes. The first sea launches were carried out in the 1990s under a now-cancelled programme involving Russia, the United States, Norway and Ukraine. In September this year China conducted a similar launch, sending nine satellites into space in a mission hailed as an "important step" by Li Zongli, director of the Taiyuan Satellite Launch Centre. After the first mission, aerospace officials said they hoped sea launches could help cut the costs and the risk of sending rockets into space by offering more flexibility over the choice of launch site and date.

<https://www.scmp.com/news/china/diplomacy/article/3112459/china-planning-coastal-base-will-allow-it-launch-rockets-sea>

Despite calling China a 'security threat,' US is the most militant nation on earth: FM

Global Times, December 4, 2020

Chinese Foreign Ministry and Chinese Embassy to the US on Friday refuted an article in the Wall Street Journal which called China "national security threat No. 1," criticizing the fact-distorting article which laid bare the Cold War mentality and ideological prejudice in the current administration, ignoring the fact that the US is the most militant country on earth. The opinion piece was written by John Ratcliffe, Director of National Intelligence, who claimed that China poses the greatest threat to America today, and the greatest threat to democracy and freedom worldwide since World War II.

The article was rebutted by the Chinese embassy, however, as "fact-distorting" and full of Cold War mentality and ideological prejudice. Foreign Ministry spokesperson Hua Chunying also pointed out that the article only has a sensational headline but lacks substantial evidence in its argument other than repeating the same-old smears and lies.

<https://www.globaltimes.cn/content/1208984.shtml>

How a Spratlys radar system could give the PLA an information edge

Minnie Chan

South China Morning Post, December 5, 2020

China's sweeping communications network in the Spratlys will have a decisive role to play in Beijing's crisis management plans to deal with its increasing tensions with the US in the South China Sea, according to military reports and analysts. Several scenarios under consideration in Beijing feature the seven artificial islands which cover about 1,300 hectares (3,200 acres) of coral reefs in the disputed Spratly archipelago. A report in Chinese military magazine Naval and Merchant Ships, said the US had tried to create a "grey zone" by forming a mini "Nato" in the Pacific to counter China, in a C-shaped arc linking India, Singapore, Taiwan, Japan and South Korea.

"Beijing should take countermeasures to cope with the US 'grey zone tactics' and let the US realise China is neither a passive receiver nor regional guest in Washington's Indo-Pacific strategy, but a key player and master in the region," according to the analysis in the December edition of the magazine, run by the Chinese navy's main contractor China State Shipbuilding Corporation. The article said superiority in battlefield information – provided by the artificial islands' uninterrupted communications network connecting the Beijing military command with frontline outposts – could be the most efficient way to beat the US in a conflict in the disputed waterway.

<https://www.scmp.com/news/china/military/article/3112402/south-china-sea-how-spratlys-radar-system-could-give-pla>

Beijing's South China Sea military bases 'are vulnerable to attack and will be of little use in a war'

Kristin Huang

The artificial islands China has built in the South China Sea are vulnerable to attack and unlikely to contribute much to any combat mission, a Chinese military magazine has warned. China has been transforming the reefs and atolls it occupies on the disputed Spratly Islands since 2015, turning them into artificial islands. It has also built airstrips and other military facilities and deployed equipment such as anti-aircraft guns and close-in weapons systems, according to the US think tank the Centre for Strategic and International Studies. These moves heightened fears among rival South China Sea claimants such as Vietnam and the Philippines, which fear the military build-up could allow Beijing to attack warplanes or shoot down missiles from the facilities

But an article in the latest edition of Naval and Merchant Ships, a Beijing-based monthly magazine, highlighted the artificial islands' weaknesses in four areas: their distance from the mainland, small size, the limited capacity of their airstrips and the multiple routes by which they could be attacked.

<https://www.scmp.com/news/china/military/article/3112419/beijings-south-china-sea-military-bases-are-vulnerable-attack>

China fully prepared, including militarily, for any final Trump madness

Hu Xijin

Global Times, December 6, 2020

The Donald Trump administration is utilizing its last 40 days in office to keep provoking China. Some Chinese people think it is not worthwhile to wrangle with the team now and suggest it is better to be tolerant of it. Such a strategy is dangerous. Once they believe we will exercise patience no matter what happens, they will definitely become insatiable and more unscrupulous. They will carry out moves that will severely jeopardize China's national interests, setting up a demonstration and even

kidnapping the future agenda of the incoming Joe Biden administration. We must resolutely combat the arrogance of Trump's team at every turn. If they make vicious moves that cross the bottom line, we should be fearless to engage in a high-intensity confrontation.

Everyone in the international community knows that the Trump administration is now provoking China. The whole world knows how China will react — any strong response will be understandable. Therefore, we are not afraid of serious crisis in the Taiwan Straits at this time. Let our aircraft fly over the island. Our legitimacy of counterattacking US-Taiwan's line-breaking provocation will have a moral high ground. The so-called Taiwan military doesn't have the guts to open fire at the PLA. They are fully aware that if they open fire, it will mark the start of war. Our military will immediately inflict devastating blows on the Taiwan military airfield and other important military facilities. The Chinese army is fully prepared for military conflict scenarios. And it will win the support of the whole country. Morale in Taiwan will quickly collapse. It is apparent to all that Trump's erratic moves are only being done for self-interest and ambition of a small circle. These wild antics are not supported by the majority of American citizens. China is bound to win the conflict and the Trump administration will leave office disgracefully. We need to keep calm. The current bad state of China-US relations is not what the Chinese side wants to see. However, sudden misfortunes cannot be avoided. We need to calmly face the waves stirred up by the Trump administration in its final stage of madness. China is a nuclear and space power. We have ample combat capabilities near the first island chain and strong anti-access capabilities. If the Trump administration wants to stage a farewell show at the Taiwan Straits, they will bring disgrace on their own head. By winning this battle, China will establish new dignity.

<https://www.globaltimes.cn/content/1209086.shtml>

China second to US in global arms market with three firms in top 10 manufacturers

Kristin Huang

South China Morning Post, December 7, 2020

Three Chinese arms companies have been ranked among the world's top 10 for weapons sales in 2019 in a Stockholm security think tank's annual list of the largest arms manufacturers.

The United States was the leading nation in terms of both arms spending and sales of weapons, with China in second place in both respects. In the ranking by Stockholm International Peace Research Institute (SIPRI), six US companies and three Chinese firms made up the top 10 along with one from Britain. Aviation Industry Corporation of China, China Electronics Technology Group Corporation and China North Industries Group Corporation were ranked sixth, eighth and ninth respectively in the list of companies.

<https://www.scmp.com/news/china/military/article/3112823/pla-reforms-drive-china-second-place-after-us-global-arms>

China's first ship-borne helicopter drone makes maiden flight

Liu Zhen

South China Morning Post, December 8, 2020

China's first ship-borne helicopter drone – which could be used as a “scout” on warships and play a role in the coastguard – has made its first test flight, according to its developer.

The AR-500B, a lightweight unmanned helicopter, has been designed for wide-area maritime surveillance and identification for both navy and civilian vessels. Its maiden flight was successfully completed at a test facility in Jiangxi province, in China's east, in late November, the China Helicopter Research and Development Institute, under the state-owned Aviation Industry

Corporation of China, said in a statement. The drone helicopter carried out take-off, hovering, manoeuvring and landing during the half-hour flight, according to the statement.

It said the drone's fuel, structure, electronics and avionics systems had been optimised for maritime use so that it could withstand humidity, mould and saltwater. It has also been equipped with guidance and control systems for vertical landing on a ship. "So overall, the AR-500B drone helicopter will be able to fit into the sea environment and ship-use scenario," the statement said. According to a commentary in Chinese defence magazine Ordnance Industry Science Technology on Monday, the drone has been developed to fill an important gap and could be used in a swarm to scout for warships as well as on coastguard vessels in the South China and East China seas.

<https://www.scmp.com/news/china/military/article/3112927/chinas-first-ship-borne-helicopter-drone-makes-maiden-flight>

Japan suspicious as Chinese, South Korean companies buy land near military sites

Julian Ryall

South China Morning Post, December 9, 2020

A suspicious increase in the number of foreign companies purchasing plots of land close to Japanese military installations has prompted Tokyo to consider restricting such sales. At least 80 plots of land close to Japanese military bases have been sold to either Chinese or South Korean companies in the last decade or so, a government panel has found, and an official within the Cabinet Secretariat says the transactions appear to be rising. "We first started closely monitoring these sales seven years ago, but the situation has become much more acute in the last few years," said the official, who declined to be identified. "Work is under way on the outline of a basic policy and that will be completed before the end of this year," the official said, adding that the agency was looking into deals the length and breadth of Japan. "One of the proposals is for a more complete examination of the reason for the purchase of the land by a foreign company, something that is not specifically required at present," the official said.

<https://www.scmp.com/week-asia/politics/article/3113100/japan-suspicious-chinese-south-korean-companies-buy-land-near>