

Weekly Dispatch

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# SYLLOGE ON CHINA

Focus: Nuclear, Space, Missiles and other Security Issues

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INDIAN PUGWASH SOCIETY



INSTITUTE FOR DEFENCE  
STUDIES & ANALYSES  
रक्षा अध्ययन एवं विश्लेषण संस्थान

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## **China's amphibious rescue aircraft readies for maiden sea takeoff**

China Military Online, May 25, 2020

China's indigenously developed amphibious aircraft AG600, which is the largest in the world, will set out for sea for the first time in the second half of the year, its developer said. Codenamed Kunlong, it is designed to undertake emergency rescue missions. The aircraft will have its maiden sea takeoff in Qingdao, east China's Shandong Province, said state-owned plane maker Aviation Industry Corporation of China (AVIC). The development of the vessel also represents a major breakthrough for China in terms of natural disaster prevention and control. The multi-tasking amphibious aircraft is designed for high speeds, accessibility and good maneuverability. It is capable of serving in various missions including forest fire fighting, water rescue and maritime rescue, according to the AVIC. With the capability to rescue up to 50 people on each mission, the AG600 is designed for heavy loads and extensive and high-efficiency searches. The AG600 conducted its maiden flight in December 2017.

The development team and test flight team have optimized the aircraft, trained the test flight pilots, and made preparations for the test flights to be undertaken in a maritime environment. The AG600, together with the Y-20 large transporter and C919 single-aisle passenger airplane, is part of China's key project to develop three large airplane models. With long range and long haul capabilities, the AG600 can shuttle between the fire site and water source efficiently, each time carrying as much as 12 tonnes of liquid. The AG600 is designed to work in complex weather conditions. By developing such large amphibious aircraft and testing them, China explores and masters key technologies and airworthiness review systems, gaining independent intellectual property rights in the process, said the AVIC.

[http://english.chinamil.com.cn/view/2020-05/25/content\\_9821663.htm](http://english.chinamil.com.cn/view/2020-05/25/content_9821663.htm)

## **China's PLA sends anti-pandemic supplies to militaries of three countries**

China Military Online, May 25, 2020

Approved by the Central Military Commission (CMC), the Chinese People's Liberation Army (PLA) sent anti-pandemic supplies including face masks and protective gears to Russia, Mongolia, and East Timor respectively on 22nd and 24th of May to assist the militaries of the three countries in their fighting against the COVID-19, according to a statement released by China's Ministry of National Defense (MND). Viruses know no boundaries and epidemics are non-racial. The Chinese military will continue to strengthen international pandemic response cooperation and make contributions to the building of a health community for mankind, said the statement.

[http://english.chinamil.com.cn/view/2020-05/25/content\\_9821635.htm](http://english.chinamil.com.cn/view/2020-05/25/content_9821635.htm)

## **China to probe Mars in July: CASC**

Deng Xiaoci

Global Times, May 24, 2020

China is eyeing a July launch for its first-ever Mars probe mission, via its strongest launch vehicle the Long March-5B, according to state-owned rocket giant space contractor China Aerospace Science and Technology Corporation (CASC) on Sunday. According to a press release the CASC sent provided to the Global Times, the Mars probe project was approved by national authorities in 2016, and was scheduled to be delivered by the end of the 13th Five-Year Plan (2016-2020.) The project is being carried out on schedule.

The Mars probe is developed by the China Academy of Space Technology and the Long March-5 carrier rocket is developed by the China Academy of Launch Vehicle Technology. Both companies are affiliated with the CASC. China aims to achieve orbiting, landing and roving of the Red Planet all at the same time. The Mars probe will be made up of an orbiter that will provide relay communication services and a combination of a Mars lander and rover. There will be 13 kinds of payloads onboard the Mars probe — seven for the orbiter and six for the Mars rover, according to the CASC. The contractor did not reveal details of the payloads in the statement.

Studies of the space environment, geographical features, and surface structure of Mars will be carried out during the mission. The launch window for Mars exploration opens this summer, and China's Mars probe, codenamed Tianwen-1, is one of the remaining three projects, as ExoMars, a cooperation program between Europe and Russia, has previously announced to be delayed to 2022. The other two Mars missions left are the Mars2020 by the US and the Hope Mars Mission by the United Arab Emirates, which are also scheduled for July this year.

<http://www.globaltimes.cn/content/1189292.shtml>

### **The world faces 10 risk factors in 2020: China's top think tank**

Global Times, May 24, 2020

Global economic slump and rising international trade and technology conflict are the potential risks facing the world in 2020 amid the raging coronavirus pandemic, according to a report issued by the Chinese Academy of Social Sciences (CASS), a major government think tank. In the report released on Saturday, CASS predicted the top10 risks that may have a major negative impact on the world. These 10 risk factors include global economy recession, escalation of international trade conflict, risks of political and even military confrontation between China and the US over the Taiwan question and the South China Sea, arms race triggered by US government's abolishing "The Intermediate-Range Nuclear Forces Treaty," new round of turmoil in the Middle East, tussle between India and Pakistan, rising tension on the Korean Peninsula, global social unrest, supply crisis in international crude oil market; and instability in Britain and the European Union caused by UK's exit from EU. The Report pointed out that the Sino-US relations are shifting from "half competition and half cooperation" to the current strategic rivalry between the two superpowers.

From the perspective of the international political system, the changes are rooted in the structural changes in the relations between China and the US, which reshapes the US' perception of the so-called "threats from China". It predicted that with the US presidential election drawing nearer now, and no matter which political party in US takes the White House, the US' general trend of comprehensively containing China in economic, political, security, and ideological fields is unlikely to change.

<http://www.globaltimes.cn/content/1189268.shtml>

### **PLA drill in South China Sea about combat readiness, not seizing Taiwanese islands, experts say**

Minnie Chan

South China Morning Post, May 24, 2020

Taipei-controlled Pratas and Taiping islands lost their geostrategic importance to Beijing after it developed eight artificial islands nearby, military observer says. At least one aircraft carrier from

PLA Navy set to take part in summer exercises, which will also incorporate landing drills, insider says. Earlier this month, Japan's Kyodo News reported that the PLA was planning a large-scale beach landing exercise near Hainan province in August, simulating the takeover of the Pratas Islands – a group of three atolls in the north of the South China Sea that are controlled by Taiwan. “An aircraft carrier strike group will pass through the Pratas Islands on its way to the exercise site to the southeast of Taiwan in the Philippine Sea,” said a military insider, who asked not to be named due to the sensitivity of the issue.

It was not clear whether both the Liaoning – the PLA's only aircraft carrier to have achieved initial operating capability – and the Shandong, which was commissioned at the end of last year, would take part in the drills, or just one of them, the person said. China's first aircraft carrier, the Liaoning, or its sister ship, the Shandong, is expected to be involved in this summer's drills.

<https://www.scmp.com/news/china/military/article/3085823/pla-drill-south-china-sea-about-combat-readiness-not-seizing>

### **China's first plateau-focused unmanned helicopter makes maiden flight, missions along border with India expected**

Liu Xuanzun

Global Times, May 24, 2020

China's first domestically developed unmanned helicopter focused on plateau operations recently made its maiden flight. Capable of conducting missions including reconnaissance, communication relay, electronic disruption and fire strike at high altitude, this versatile and easy-to-operate drone could help safeguard China's southwestern borders with India, analysts said on Sunday. The AR500C unmanned helicopter, developed by the state-owned Aviation Industry Corporation of China (AVIC), on Wednesday successfully made its maiden flight at an AVIC base in Poyang, East China's Jiangxi Province, in which it conducted several maneuvers including hovering, horizontal and vertical moves, China Central Television (CCTV) reported on Saturday.

Its main missions include reconnaissance and communication relay, but when equipped with additional devices, it can also run electronic disruption, target indication, fire strike, cargo delivery and nuclear radiation and chemical contamination reconnaissance, according to an AVIC statement. As China's first unmanned helicopter designed to fly in plateau areas, the AR500C can take off at an elevation of 5,000 meters and has a ceiling of 6,700 meters. It has an endurance of five hours, maximum speed of 170 kilometers an hour and a maximum takeoff weight of 500 kilograms. Highly digitalized and intelligent, it can take off, land and hover automatically and is installed with a number of advanced flight programs for efficient and safe flights. The maiden flight of the AR500C marked a significant technological breakthrough in fields such as rotor and engine design, Fu said, noting the thin air on plateaus usually makes it difficult for aircraft to fly. The test flight of the AR500C came at a time when China-India border tensions have been flaring up, as Chinese border defense troops have bolstered border control measures and made necessary moves in response to India's recent, illegal construction of defense facilities across the border into Chinese territory in the Galwan Valley region.

An unmanned helicopter like the AR500C can help in missions in the high elevation border areas if commissioned into the Chinese military in the future, as it can keep a watchful eye on the skies for extended periods and patrol locations that are difficult for infantry troops to reach on foot, analysts said. AVIC is also developing other types of unmanned helicopters including the AV500 and its armed reconnaissance variant AV500W. Some of them can also reach plateaus, but cannot go as high as the AR500C. The Chinese military operates the Z-8G, China's first large transport

helicopter with a focus on plateau operations. It can take off from 4,500 meters above sea level and has a ceiling of more than 6,000 meters and lift troops and supplies to high-altitude areas.

<http://www.globaltimes.cn/content/1189349.shtml>

### **Architect of China's new-generation spaceship reveals process of design**

Global Times, May 23, 2020

The successful return of the trial version of China's new-generation manned spaceship capsule to the Dongfeng landing site in North China's Inner Mongolia Autonomous Region on May 8 marked another milestone of the China's space station program and a step closer to sending astronauts to the moon. Zhang Bainan, chief designer of the trial version of China's new-generation manned spaceship, witnessed the success with his team members at the Beijing Aerospace Control Center. Zhang was born in June 1962 in Qiqihar of Northeast China's Heilongjiang Province. He has consistently read Aerospace Knowledge, a science popularization magazine, since his junior high school years.

<http://www.globaltimes.cn/content/1189223.shtml>

### **China eyes biology experiments in space station**

Deng Xiaoci

Global Times, May 23, 2020

China's new space station, expected to be operational in 2022, will likely be used as a facility for large-scale biological experiments which will help the country safeguard its biosecurity, according to Zhao Xiaojin, Party chief of the China Academy of Space Technology (CAST). The trial version of the country's new-generation manned spaceship, which was developed by CAST, successfully completed its maiden flight and returned safely earlier this month, fully verifying the function of the key technology, Zhao noted. "The era of China's space station construction has officially been ushered in," he said.

Construction of the space station is set to be completed in 2022. It will operate in low-Earth orbit at an altitude of 340-450 kilometers for more than 10 years, supporting large-scale scientific, technological and application experiments. China is also expected to conduct its first Mars probe mission, codenamed Wentian-1, later this year, and the Chang'e-5 lunar probe, a moon sampling return mission, is also scheduled for this year. According to China's space authorities, the country's third-generation spacecraft tracking ship the Yuanwang-6 has set sail for the Pacific where it will conduct monitoring and control missions.

The ship's captain Yang Bianjiao said that the journey is intended to test the vessel's updated equipment and strengthened spacecraft tracking capabilities, which will lay the foundation for follow-up missions, including the Mars probe and the Chang'e-5 lunar probe. Tianwen-1, China's first Mars probe mission, aims to orbit, land and rove in one go, according to the China National Space Administration. No country has completed such an undertaking in its exploration of the Red Planet, meaning the Chinese mission faces unprecedented challenges, Zhao said. China also plans to send out two more advanced Earth observation satellites from the Gaofen satellite family in 2020, and will conduct a Mars sample return mission by around 2030, as well as a Jovian System probe mission, Zhao said.

<http://www.globaltimes.cn/content/1189219.shtml>

## **China's 6.6 per cent defence spending boost marks slowest growth in three decades**

Liu Zhen and Minnie Chan

Budget of US\$178 billion announced as the country faces growing security risks and economic impact of coronavirus pandemic. Premier Li Keqiang says Beijing will deepen reforms of military, and increase logistics and equipment support. China will boost defence spending by 6.6 per cent this year – the lowest rate in three decades – as Beijing faces growing security risks and economic fallout from the coronavirus pandemic.

The 1.27 trillion yuan (US\$178.6 billion) defence budget was announced on Friday, the opening day of the legislature's annual meeting in Beijing. But although the increase marks the slowest growth since 1989, it is a minor adjustment from last year's 7.5 per cent rise in military spending. It comes after China's economy saw its first quarterly decline since 1992, with shutdown measures to contain the coronavirus resulting in a 6.8 per cent contraction in the first three months of the year. For the first time, Beijing did not set a target for the year's economic growth. The central government also said it would cut spending across a range of sectors including foreign affairs, education and science, with general public services to take the biggest cut of 13.3 per cent.

<https://www.scmp.com/news/china/military/article/3085723/chinas-66-cent-defence-spending-boost-marks-slowest-growth>

## **PLA naval deputy to NPC talks about technological innovation in equipment protection**

Li Yun

China Military Online

"The corrosion prevention and control of equipment is a strategic project for the navy. It is necessary to think from a macro-strategic perspective, and start with the innovative details", said Cao Jingyi, a deputy to the National People's Congress (NPC) of China and research director with the PLA Navy Academy, in an interview when she is going to attend the 13th National People's Congress in Beijing. Over last year, Cao Jingyi, together with her team, have made extensive research and offered strategic suggestions at the requirements of the PLA Navy's strategic transformation and future naval warfare based on artificial intelligence (AI). At the same time, they were also committed to tackle existing practical problems in upgrading corrosion prevention of naval equipment and the application of advanced materials.

Cao Jingyi pointed out that it is urgent to get rid of the traditional low-level, unsystematic and simple coating or painting mode, and get it promoted as a national strategy, being addressed in line with top-level planning and deployment, with the establishment of a complete corrosion prevention mechanism and system from top to bottom. The team will take every possible means to break through the existing bottleneck of technology, so as to improve the corrosion prevention level fundamentally. "As scientific and technological service members in the new era, we will start with the nuances scientific research work and live up to the glorious mission entrusted to us by the times", said Cao Jingyi.

[http://english.chinamil.com.cn/view/2020-05/21/content\\_9818555.htm](http://english.chinamil.com.cn/view/2020-05/21/content_9818555.htm)

## **Chinese tracking vessel Yuanwang 6 sails to Pacific Ocean for multiple monitoring missions**

China Military Online, May 20, 2020

China's upgraded tracking vessel Yuanwang 6 is sailing to the Pacific Ocean from a port in East China's Jiangsu province Wednesday for multiple maritime missions of spacecraft monitoring. The vessel's last voyage to the Pacific was 22 months ago. Yuanwang-6, commissioned in April 2008, represents the third generation of the country's Yuanwang space-tracking ships. After completing a monitoring mission of the Chang'e 4 relay satellite in July 2018, the vessel has undergone maintenance and maritime calibration tests.

Yang Bianjiao, captain of Yuanwang 6, said the upcoming mission will test the vessel's new equipment and improvement in measuring and controlling operation, laying foundations for future missions including the Mars exploration and Chang'e 5 lunar probe launch. Crew members have examined facilities and conducted a series of training programs and tests before the voyage to improve their emergency response capabilities.

[http://english.chinamil.com.cn/view/2020-05/20/content\\_9817545.htm](http://english.chinamil.com.cn/view/2020-05/20/content_9817545.htm)

### **Leaked nuke document reveals fence-sitting mentality of Czech politicians**

Global Times, May 19, 2020

Czech lawmakers have been accused of political fence-sitting after a leaked document on upgrades for its Dukovany nuclear power plant was found to have clauses that purposefully exclude Chinese and Russian nuclear firms. Chinese experts said it reflects a fence-sitting mentality of the country's lawmakers. The top secret document revealed how the country aimed to exclude Chinese and Russian bidders from the nuclear reactor project due to national security concerns, Russian news portal tass.ru reported on Sunday, citing Czech media reports.

Plans to add a new 1,200-megawatt nuclear reactor for \$5.6-\$6.4 billion to the Dukovany nuclear power block is in final negotiations, with key deadlines set in May and June. Czech is phasing out older reactors from the 1980s, but expenses and budget constraints continue to thwart development plans. China General Nuclear Power Corporation (CGN) is looking to bid on the project. The company was unavailable for comment as of Monday.

<http://www.globaltimes.cn/content/1188767.shtml>

### **China's satellite navigation industry turned up \$49 billion in 2019**

Global Times, May 18, 2020

China's satellite navigation and location services industry achieved an output value of 345 billion yuan (\$48.58 billion) in 2019, up 14.4 percent from the previous year, according to an annual industry report. The data was published in the White Paper on the Development of China's Satellite Navigation and Location Services Industry (2020), which was released by the GNSS (global navigation satellite system) and LBS (location-based service) Association of China on Monday. The industry's growth rate in 2019 was 3.9 percentage points lower than that of 2018, due to slower demand in the domestic market and tougher competition overseas, said Zhang Quande, secretary-general of the GNSS and LBS Association of China (GLAC).

The industry's core sectors are directly related to the development and application of the satellite navigation technology, and include chip, device, algorithm, software, navigation data, terminal equipment and infrastructure sectors. These sectors reported 116.6 billion yuan in output value, accounting for 33.8 percent of the industry's total. The BeiDou Navigation Satellite System (BDS) contributed 80 percent of the output value generated by the core sectors.

<http://www.globaltimes.cn/content/1188659.shtml>

### **Chinese military's last Type 051 destroyer to retire and settle down in Zhuhai**

China Military Online, May 18, 2020

The Chinese military's last Type 051 guided-missile destroyer Zhuhai (Hull 166) is about to retire and scheduled to settle down in Zhuhai, Guangdong Province of China. At present, the designated receiving unit is arranging for its handover and applying for a provincial themed patriotism education base for it. The destroyer Zhuhai (Hull 166) was commissioned to the South China Sea Fleet under the PLA Navy in 1992. The vessel is a Type 051G2 destroyer with a length of 128.6m, a width of 12.8m, and a draft of 4.6m. The ship's standard displacement is 3,250t, and full-load displacement 3,670t.

As a diplomatic flagship of the PLA Navy, destroyer Zhuhai (Hull 166) undertook many foreign visit missions in the 1990s and therefore became a flagship destroyer of frequent occurrence at that time. In August 1995, destroyer Zhuhai visited Indonesia to participate in the Indonesian International Fleet Review (IFR); from February 20 to May 28, 1997, a fleet composed of guided-missile destroyers Zhuhai (Hull 116) and Harbin (Hull 112) visited the United States, Chile, Peru, Mexico and other South American countries, and then came to Australia, completing the first round-the-world voyage since the establishment of the PLA Navy.

[http://english.chinamil.com.cn/view/2020-05/18/content\\_9816133.htm](http://english.chinamil.com.cn/view/2020-05/18/content_9816133.htm)