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Sinometer for the months of July-August 2023

Escalating Tensions in the Tech War: China Tightens Controls on Semiconductor Materials

By Manav Saini

The semiconductor industry has become a battleground in the escalating trade and tech war between China and the United States. Recent developments reveal the strategic importance of two critical metals used in semiconductor manufacturing: gallium and germanium. China, as the world's largest producer of these metals, it has taken steps to impose export controls on them, citing the need to protect national security and interests. This move comes as a response to Washington's efforts to limit Chinese access to advanced microprocessors and semiconductor technology. The situation underscores the high-stakes competition between the two economic giants in the technology sector.¹

China's Ministry of Commerce and the General Administration of Customs announced the imposition of export controls on gallium and germanium, effective from August 2023. Special licenses will be required for exporting these metals, which are essential in the production of semiconductors, communications equipment, and military technology. These controls are part of China's measures to safeguard its technological development and national security amidst efforts by the

US to limit Chinese access to advanced technology, including semiconductor chips.² The decision also comes ahead of US Treasury Secretary Janet Yellen's visit to Beijing, signaling the importance of the issue in the bilateral relationship.³

The silvery metals, gallium, and germanium, are key components in semiconductor manufacturing and play a crucial role in powering everything from mobile phones to military hardware. China's position as the world's top producer of gallium, accounting for 95 percent of global output, highlights its dominance in the supply chain. Additionally, the critical usage of germanium in fiber optics, infrared technology, and solar panels makes it a valuable resource.⁴ The European Union's reliance on China for germanium imports adds significance to the situation, as the metal is classified as a critical raw material.

The imposition of export controls on gallium and germanium is part of China's efforts to counter the US-led restrictions on semiconductor technology. The US has taken measures to limit China's access to technology with potential military applications, leading to an intricate web of restrictions on semiconductor manufacturing equipment and chip exports.⁵ Countries like the Netherlands and Japan have also joined the effort to restrict their semiconductor-related exports. The escalating tech war is



creating disruptions in the global supply chain, as key players like ASML face challenges due to export control regulations.⁶

The escalating trade and tech war between China and the United States in the semiconductor industry is reaching a critical point. With both nations taking measures to safeguard their interests and limit dependency, the global supply chain for electronic components and technology products faces potential disruptions. The importance of semiconductors in various sectors, including telecommunications, military, and renewable energy, makes this conflict a significant concern for the international community. As high-level communications continue between the two nations, finding common ground becomes essential to mitigate the implications of the escalating tensions. The global tech landscape is witnessing unprecedented shifts, and the outcome of these actions will have far-reaching consequences for both countries and the world economy.

**India and Brazil Raise Concerns
Over China's BRICS Expansion:
Analysing the Implications**

By Manav Saini

The BRICS (Brazil, Russia, India, China, and South Africa) is an economic and political alliance of emerging nations with significant global influence. Recently, China has been pushing for the expansion of BRICS by inviting countries like Indonesia, Saudi Arabia, Egypt, and others to join.

However, India and Brazil have expressed reservations about this move, citing concerns about diluting the group's original purpose and potential geopolitical motivations.⁷ They are worried that the inclusion of more countries might divert the organization's focus from addressing crucial economic and developmental challenges specific to the original member nations. Strengthening the existing BRICS framework and resolving internal issues are seen as priorities by India and Brazil before considering expansion. They want to maintain the cohesiveness of the alliance to tackle shared challenges effectively.⁸

India's wariness of China's BRICS expansion plans is reinforced by China's attempts to forge closer ties with potential new member countries, such as Indonesia, Saudi Arabia, and Egypt. These engagements have raised suspicions about China's intentions behind the expansion. India perceives this as a strategic move by China to consolidate its influence within BRICS and potentially overshadow India's role as a major player in the organization. China's growing assertiveness in the global arena adds to India's concerns.⁹

Both India and Brazil are concerned about how the inclusion of new member countries might shift the power dynamics within BRICS. They fear that China could leverage the expansion to assert its influence over critical decisions, potentially sidelining other member nations. India, in particular, is cautious about the potential alignment



of new members with China's interests, which could hinder the group's ability to act cohesively on international issues. Cohesiveness and collaboration should remain paramount in making BRICS a relevant and effective alliance in the face of evolving geopolitical landscapes.

The issue of China's push for BRICS expansion and the concerns expressed by India and Brazil illustrate the complexities within international alliances. While BRICS has the potential to be a powerful platform for emerging nations, careful navigation of these complexities is crucial. Transparency, cooperation, and a shared commitment to addressing global challenges will determine the future trajectory of BRICS and any potential expansion. The concerns raised by India and Brazil should serve as an impetus for meaningful discussions among member nations to ensure that BRICS remains an impactful force on the global stage. Only through a united and collaborative approach can BRICS continue to fulfill its original objectives and adapt to changing geopolitical realities.

China Deploys Satellites to Monitor Malabar Exercise in Australia

By Manav Saini

In a recent development that underscores the growing significance of space in modern warfare, China has deployed a substantial number of satellites to monitor military training activities in Australia. The satellites,

both in geostationary orbit and low Earth orbit (LEO), have been employed to gather intelligence on exercises involving the United States and its regional partners, including India and Japan.

At the forefront of China's satellite surveillance activities are the "Talisman Sabre" and "Exercise Malabar" military exercises. The former "Talisman Sabre" exercise, which took place in July, saw Chinese geostationary orbit satellites strategically positioned over northern Australia. Notably, the Shiyang 12-01 satellite, along with Shijian-17 and Shijian-23, were detected maneuvering to observe multiple areas where the war games were being conducted. The latter exercise, "Exercise Malabar," involves naval joint exercises between Australia, the United States, India, and Japan. To monitor this exercise, China has deployed more than 300 of smaller LEO satellites, which have been tracked performing thousands of flights over the Australian continent where military exercise held. These satellites have focused on observing the activities of warships around Sydney Harbor.¹⁰

Commercial space data obtained by the Australian Broadcasting Corporation (ABC) has revealed the extent of China's satellite activity. The data, collected using telescopes stationed outside Canberra and in Western Australia, details the comprehensive surveillance carried out during both "Talisman Sabre" and "Exercise Malabar." James Bennett from EOS Space Systems, a defense company

based in Canberra, reported that over 300 satellites were actively surveying ground-based activities during these exercises.¹¹

China's use of satellites provides them with detailed and continuous observation capabilities over Australia's mainland and offshore areas. This extensive surveillance enables China to gather military intelligence, assess the capabilities and equipment of Australian forces, and monitor ground-based military activities. Similar incidents happened in the past when India initially established a no-fly zone for November 10 and 11, 2022 because of its missile test but this decision was swiftly reversed shortly after a Chinese intelligence-gathering vessel entered the Indian Ocean in close proximity to the upcoming missile test.¹² One of the reasons for recent spy on Exercise Malabar can be to force QUAD member countries to reduce the intensity of military exercise.

Despite the notable presence of Chinese satellites and their surveillance activities, the QUAD members have refrained from disclosing details about how it is monitoring and addressing the associated risks. The Australian Defense Force (ADF) has emphasized its commitment to safeguarding information security and tracking satellite movements as part of broader space domain awareness efforts.

Sale of Infrared Search & Track Systems for F-16 Fighter Jets By US to Taiwan

By Col Vijay Goyat

The US State Department has approved a possible \$500 million sale to Taiwan of infrared search and track systems (IRST) for F-16 fighter jets, as well as other equipment on 23 Aug 23.¹³

This is an apparent move to counter J-20 stealth fighter jets of the Chinese People's Liberation Army (PLA). Taiwan is likely to use the new equipment for its latest F-16V aircraft, improving their ability to detect and track long-range targets and greatly improve the effectiveness of air operations.

The F-16V fighter jets have advanced avionics, weapons and radar systems to "better face down" the PLA Air Force, including its J-20 stealth fighter jets and the IRST system provides capabilities potential to detect stealth aircraft, because unlike radar that uses the reflection of radio waves to find targets, IRST uses heat signals radiating from its target to detect them. Stealth aircraft are designed to be low-observable to radar, but its infrared radiation can only be reduced, not eliminated. While China flagged the sale as continuous US measures to arm Taiwan, US insisted that the sale does not alter the military balance.¹⁴

Taiwan's military spending will rise by 3.5% year-on-year and hit a record high in 2024, President Tsai Ing-wen said on 21 Aug 23.

Heavy Duty Tunnel And Underground Infrastructure In Aksai Chin

By Col Vijay Goyat



China has undertaken construction of tunnels and underground or semi underground shelters and bunkers on a large scale in the Aksai Chin Area, approx. Sixty kilometres east of the Depsang Plains in Northern Ladakh. These assets are being constructed , into a hillside along a narrow river valley.¹⁵

The site which has been identified by Maxar lies in Aksai Chin, East of the Line of Actual Control, in territory illegally held by China and claimed by India. The images clearly show presence of at least 11 portals or shafts bored into the rockface on both banks of the river valley.

Among the many reasons for this enhanced hardened infrastructure planned by China could be the long range vectors available with India. The images show massive construction activity over the last few months and are a likely attempt to protect heavy weaponry and soldiers from Indian airstrikes and extended-range artillery.

At least four reinforced personnel bunkers constructed along the valley face, along with three tunnel areas, with two and five portals or tunnels at each site, carved onto the hillside can be seen. Further construction in the area is also likely since the earth moving equipment is still present. Defensive measures such as raised earth around the personnel bunkers and a distinctive fork design for entry and exit to dissipate the impact of pressure from bombardment have been incorporated.

It is also pertinent to mention that the India aviation infrastructure in Eastern Ladakh is being enhanced at a rapid pace with Nyoma ALG being upgraded to a full-fledged air field with a runway length of 2700 mtrs. This will enhance the reach of the IAF and will strengthen the edge already enjoyed by the IAF in Eastern Ladakh.





ENDNOTES

- ¹ Annabelle Liang & Natalie Sherman “China curbs exports of key computer chip materials,” *BBC News*, July 04, 2023, <https://www.bbc.com/news/business-66093114>
- ² “China to impose export controls on key materials for chipmaking as West's 'chip war' escalates,” *Global Times*, July 03, 2023, <https://www.globaltimes.cn/page/202307/1293637.shtml>
- ³ Annabelle Liang & Natalie Sherman “China curbs exports of key computer chip materials”
- ⁴ Siyi Liu, Amy Lv and Dominique Patton, “China to restrict exports of chipmaking materials as US mulls new curbs,” *Reuters*, 04 July 2023, <https://www.reuters.com/markets/commodities/china-restrict-exports-chipmaking-materials-us-mulls-new-curbs-2023-07-04/>
- ⁵ Annabelle Liang & Natalie Sherman “China curbs exports of key computer chip materials”
- ⁶ “China to impose export controls on key materials for chipmaking as West's 'chip war' escalates”
- ⁷ Maria Siow “Why India is wary of China's BRICS expansion push as Indonesia, Saudi Arabia, Egypt seek to join,” *SCMP*, July 05, 2023, <https://www.scmp.com/week-asia/politics/article/3226537/why-india-wary-chinas-brics-expansion-push-indonesia-saudi-arabia-egypt-and-others-seek-join>
- ⁸ Sudhi Ranjan Sen, S'thembele Cele, and Simone Preissler Iglesias, “China's Push to Expand BRICS Membership Falter,” *Bloomberg*, July 27, 2023, <https://www.bloomberg.com/news/articles/2023-07-28/india-brazil-push-back-against-china-over-brics-expansion#xj4y7vzkg>
- ⁹ Maria Siow “Why India is wary of China's BRICS expansion push as Indonesia, Saudi Arabia, Egypt seek to join,” *SCMP*, July 05, 2023, <https://www.scmp.com/week-asia/politics/article/3226537/why-india-wary-chinas-brics-expansion-push-indonesia-saudi-arabia-egypt-and-others-seek-join>
- ¹⁰ Andrew Greene, “China deploys swarm of satellites to monitor military exercises in Australia,” *ABC news*, August 18, 2023, <https://www.abc.net.au/news/2023-08-18/china-deploys-swarm-of-satellites-to-monitor-military-australia/102742594>
- ¹¹ Ibid.
- ¹² “Chinese Spy Ships May Complicate India's Missile Test Plans In Indian Ocean For The Second Month In A Row,” *Swarajya*, December 7, 2022, <https://swarajyamag.com/news-brief/chinese-spy-ships-may-complicate-indias-missile-test-plans-in-indian-ocean-for-the-second-month-in-a-row>
- ¹³ US approves possible sale of F-16 search and track systems to Taiwan - <https://www.reuters.com/business/aerospace-defense/us-approves-possible-sale-f-16-search-track-systems-taiwan-2023-08-23/>
- ¹⁴ US to sell aircraft tracking systems to Taiwan island with PLA's J-20 stealth fighter in mind; scheme 'futile' - <https://www.globaltimes.cn/page/202308/1296902.shtml>
- ¹⁵ China Goes Underground In Aksai Chin - What It Means For Indian Forces <https://www.ndtv.com/india-news/china-goes-underground-in-aksai-chin-what-it-means-for-indian-forces-4340185>