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▷ LEAD STORY

PHOTOGRAPH: Manish Kumar Jha

Chief of the Naval Staff, Admiral Dinesh K. Tripathi Addressing the Press Conference

Nuclear Attack Submarine for the Navy, AIP-powered Submarines Soon under P-75(I): Navy Chief Admiral Dinesh Tripathi

Briefing the media ahead of the Navy Day in the national capital, Navy Chief Admiral Dinesh K. Tripathi outlined India's naval ambitions with two mega nuclear submarines and the forthcoming submarine Project-75(I) under the strategic partnership model

■ MANISH KUMAR JHA

IN A FIRST, NAVY Chief Admiral Dinesh K. Tripathi outlined India's nuclear naval ambitions with two mega nuclear submarines with indigenously developed nuclear-powered subs—SSNs. While he put forth his bold and broad perspective on India's maritime ambitions, he also outlined the forthcoming submarine Project-75(I) which is delayed and awaiting final announcement under the strategic partnership (SP) model. He also said that the Cabinet Committee on Security (CCS) has approved the first two SSNs.

Additionally, the Navy Chief elaborated -while briefly—on the delays of the crucial P-75(India) for constructing six submarines which is based on the Air Independent Propulsion (AIP) system. Replying to the question and concerns raised by the author, the Navy Chief explained the intricacies and pointed out that the proj-

EDITORIAL

India's Chief of the Naval Staff Admiral Dinesh K. Tripathi held the annual press conference on the eve of Navy Day 2024. Briefing the media, Navy Chief outlined India's naval ambitions with two mega nuclear submarines and the forthcoming submarine Project-75(I) under the strategic partnership model.

The CNS elaborated that Indian Navy has an extensive roadmap, including the Acceptance of Necessity for 31 ships and submarines, 60 utility helicopters, and the induction of autonomous systems, reflecting its commitment to becoming an Atmanirbhar Navy by 2047. Also, two special task forces, led by Rear Admiral rank officers, have been established to integrate niche and disruptive technologies like AI, robotics, and quantum computing, sourcing innovations from Indian startups, MSMEs, and industries.

Responding to the insightful question by Jayant Baranwal, Editor-in-Chief of SP Guide Publications, about what it truly means to be "future ready," and what are the key pillars of it, the Navy Chief outlined the essential elements required and emphasized that being future ready is not about merely reacting to unforeseen events, but about positioning the Navy in a way that allows it to respond swiftly and effectively to challenges before they escalate.

In an interesting development, The Bhabha Atomic Research Centre (BARC) is set to build a new 190-MW submarine nuclear reactor, marking a pivotal advancement in the country's nuclear and maritime capabilities. The reactor will power P77 nuclear attack submarine - SSN and S-5 ballistic missiles nuclear submarines–SSBN. Manish Kumar Jha reports that this critical technology for national security comes at a time when China has succeeded in building a land-based prototype nuclear reactor for a large surface warship.

As Indian Government's 'Atmanirbharta' in defence gathers momentum, OEMs from all over the globe are keen on tying up with Indian manufacturers. In an exclusive interaction with Manish Kumar Jha, Adolfo Urso, Minister of Enterprises and Made in Italy, talks about the comprehensive range of bilateral trade and Security relations between the two countries and how Italian Shipbuilding companies are keen on collaborating with India.

There is also a feature on German Chancellor Olaf Scholz's visit to India, marking a historic chapter in the Indo-German ties that now seem to surpass trade and commerce to defence and security with the potential to collaborate across the strategic and military domains from submarines to next-generation aircraft.

Wish you all discerning readers happy reading!

Jai Hind!

JAYANT BARANWAL
Publisher & Editor-in-Chief

ect would take off soon as the final vendor was shortlisted under the strategic partnership model.

Notably, P-75(India) which is behind schedule is to be contracted for the Indian naval defence entity along with their foreign partners – foreign original equipment manufacturer (OEM).

The delay will further extend the acquisition deadline and with all the seaworthy operational trials and tests, leading to possible induction by 2037-38 as per the technical experts. The criticality of P-75(I) is also linked to the Navy's further expansion for Project-76 under which 12 totally indigenous submarines were to be built.

The Navy has put forth a lot of firepower through its deployment across the Indian Ocean, stretching it to observe the vast oceanic areas. "Since November 2023, our ships have been deployed in the Gulf of Aden, the larger South Western Indian Ocean and the Northern Arabian Sea for anti-piracy operations as also for Op Sankalp and to provide security to merchantmen in light of attacks by various vectors," Navy Chief said.

"Our forces have remained on Atmanirbharta as we remain committed to becoming an Atmanirbhar Navy by 2047, said the Navy Chief.

Navy's Capability Roadmap

- 62 ships and 10 submarines are constructed in various Indian shipyards.
- The Navy has the Acceptance of Necessity (AoN) of 31 ships and submarines, all of which will be Made in India, including 7 X 17B stealth frigates and 6 modern submarines under P-75(I)
- The Navy also has AoN for 60 Utility Helicopters(M).
- The Indian Navy has signed the contract for a Tri-Services case of 31 MQ-9B HALE RPAs (of which 15 will be for the Navy) to augment their surveillance capability. The Navy has also inducted Drishti MALE UAV and many indigenous solutions are on the anvil for the induction of autonomous systems in all three domains. "I am confident that they will bear fruit in the coming months and years."
- The Navy has been at the forefront of utilising various existing programs like Make II, iDeX, Technology Development Fund, and suo moto proposals to develop weapons, systems and equipment by Indian manufacturers. So far, 197 cases are being progressed under Make II, iDEX, and TDF.

Two special task forces, led by Rear Admiral rank officers, have been established to integrate niche and disruptive technologies like AI, robotics, and quantum computing, sourcing innovations from Indian startups, MSMEs, and industries

PHOTOGRAPHS: PIB, GA-ASI

Indian Navy's Growing Maritime Strength:
(Top) INS Tushil, the latest multi role stealth guided missile frigate;
(Above) MQ-9B SeaGuardian High Altitude Long Endurance (HALE) Remotely Piloted Aircraft System.

Nuclear submarines (SSN): Two Advanced Nuclear-powered SSNs for Indian Navy

Navy Chief told, that the Government has approved the construction of two nuclear power submarines to be designed and constructed indigenously, thereby showing faith in our in-house capacity, as well as in the larger defence ecosystem of the country. This will substantially galvanise many ancillary industries.

Anti-ship Cruise Missile

The Navy has successfully fired a DRDO-developed 1,500 km range anti-ship cruise missile, which will significantly add to the deterrence capability of our arsenal, said the Navy Chief.

The Navy Chief highlighted delays in the P-75(I) project for constructing six Air Independent Propulsion (AIP) submarines, though reassurances were given that the project would proceed soon with a final vendor selected under the strategic partnership model

He also further elaborated on the scale of the missile to cover two fronts, and said, "We have kept an eye on the capability enhancement of our Navy. Towards that, a large number of units will be commissioned in the next 12 months."

A New Tech Task Force for the Navy

The Indian Navy has always strived to march ahead in addressing futuristic technology indigenously. "We have accordingly redoubled our focus on the infusion of niche and disruptive technologies – AI, ML, Robotics, Quantum Computing etc. Towards that, we have set up two special task forces under a Rear Admiral rank Flag Officer each, whose task is to go into the defence ecosystem and look for the available technologies with startups, MSMEs and established industries in the country so that they can be inducted to enhance our capability and plug the gaps wherever visible in a limited time frame", Chief announced on the crucial fronts.

India was, is and always remains a Maritime Nation, Chief puts his perspective, addressing the role and efficacy that maritime plays not only for security but greater trade and commerce which is marked for the growing Indian economy and its growth. On this, the Chief said, "Underscoring the transformative strategic thinking of 'New India', Defence Minister Rajnath Singh has asserted that we were once known as a 'landlocked country with sea shores', but now we can be seen as an 'island country with land borders'".

Manish Kumar Jha is a Consulting & Contributing Editor for SP's Aviation, SP's Land Forces and SP's Naval Forces and a security expert. He writes on national security, military technology, strategic affairs & policies.

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60 1964-2024 YEARS OF SP'S

Navy Chief's Blueprint for Future Readiness

Insights from the Navy Chief on the 5 Pillars of Being Future Ready

■ NEETU DHULIA

INDIA'S CHIEF OF THE Naval Staff Admiral Dinesh K. Tripathi held the annual press conference on the eve of Navy Day 2024. Responding to the insightful question by Jayant Baranwal, Editor-in-Chief of SP Guide Publications, about what it truly means to be "future ready," and what are the key pillars of it, the Navy Chief outlined the essential elements required to ensure the Navy is prepared for the challenges ahead. He emphasised that being future ready is not about merely reacting to unforeseen events, but about positioning the Navy in a way that allows it to respond swiftly and effectively to challenges before they escalate. The goal is to proactively address global events, especially those that could impact national maritime interests.

Technological Advancement

The Navy Chief stressed that one of the primary pillars of being future ready is staying ahead of the technology curve. In an era of rapid technological advancement, it is crucial to integrate cutting-edge technology into the Navy's operations. The Chief pointed out that recent global conflicts, like the Armenia-Azerbaijan war, have provided valuable lessons about the necessity of being technologically advanced. By infusing new technologies into their systems, the Navy ensures it is never surprised by unforeseen advancements or shifts in the strategic environment. The Navy must be proactive in adopting and adapting to new technologies to maintain superiority in maritime operations.

Training and Personnel Readiness

A second critical pillar is ensuring that personnel are well-trained to operate the high-tech systems the Navy incorporates. The Navy Chief explained that, unlike land-based forces, naval personnel often work in isolation, especially on ships and submarines. In such environments, it is essential that personnel are capable of maintaining and repairing complex systems mid-sea. Proper training ensures that Navy personnel are not only capable of using advanced technology but can also keep it operational under challenging conditions. This level of readiness is crucial for the Navy's continued operational success, particularly in remote or hostile environments.

Leadership Development

The Navy Chief highlighted the third pillar as the cultivation of strong, forward-thinking leadership. He emphasised that future-ready leadership must be agile and equipped to face the unique challenges of the 21st century. In an era of rapidly evolving geopolitical dynamics and technological change, effective leadership will be essential in guiding the Navy through new and unforeseen challenges. The Navy is focused on developing leaders who can not only adapt to but also anticipate emerging threats and opportunities. These leaders will play a vital role in navigating the complex global security environment and ensuring the Navy's success.

PHOTOGRAPHS: PIB, maritimeindia.org

Indian Navy's Pillars of Being Future Ready include:
(Top) Leadership Development, to face the unique challenges of the 21st Century;
(Above) Maritime Domain Awareness, as the starting point for all operational decisions.

Capability Enhancement

The Navy Chief also focused on the importance of enhancing capabilities to match the ever-evolving needs of national defence. This includes the introduction of new assets and systems that keep the Navy competitive and capable of responding to any maritime challenge. The recent approval for the induction of two nuclear-powered attack submarines (SSNs) and High-Altitude Long-Endurance Remotely Piloted Aircraft (HALE RPAs) are prime examples of such advancements. These additions will significantly enhance the Navy's operational flexibility and readiness. The Navy is committed to ensuring its capability enhancement is aligned with national security priorities, helping to maintain maritime dominance.

Maritime Domain Awareness (MDA)

Finally, the Navy Chief underscored the significance of Maritime Domain Awareness (MDA) as the starting point for all operational decisions. MDA involves the ability to detect, track, and respond to maritime activities that could threaten national security. By ensuring the Navy has comprehensive situational awareness of the maritime domain, the force can act swiftly to neutralise potential threats. The Chief noted that the Navy is making significant strides in this area, such as the government's recent approval of Phase-III of the Space-Based Surveillance (SBS) programme, which will significantly enhance satellite surveillance capabilities. These steps ensure that the Navy can remain on top of emerging maritime threats and respond proactively rather than reactively.

BARC to Build Submarine Nuclear Reactor in India

The Bhabha Atomic Research Centre (BARC) is set to build a new 190-MW submarine nuclear reactor, marking a pivotal advancement in the country's nuclear and maritime capabilities. The reactor will power P77 nuclear attack submarine--SSN and S-5 ballistic missiles nuclear submarines --SSBN. This critical tech for national security comes at a time when China has succeeded in building a land-based prototype nuclear reactor for a large surface warship.

MANISH KUMAR JHA

IN A SIGNIFICANT DEVELOPMENT for India's defence and energy sectors, the Bhabha Atomic Research Centre (BARC) is set to build a new 190-MW submarine nuclear reactor, marking a pivotal advancement in the country's nuclear and maritime capabilities. The reactor will power the P77 nuclear attack submarine–Ship Submersible Nuclear (SSN) and S-5 ballistic missiles nuclear submarines –Ship Submersible Ballistic Nuclear (SSBN) that carry nuclear warheads. India has planned for six SSNs under Project 75 Alpha.

This comes at a time when China has succeeded in building a land-based prototype nuclear reactor for a large surface warship. China is advancing toward producing the country's first nuclear-powered aircraft carrier, according to a new analysis of satellite imagery and reports.

After INS Arihant, the Navy has already inducted a second ballistic missile nuclear submarine (SSBN) – INS Arighat – code-named S-3. Both submarines weigh about 6,000 tonnes, are powered by an 83 MW pressurised water reactor, and are armed with K-15 nuclear ballistic missiles, which have a range of 750 km.

Additionally, the third SSBN, slightly larger, 7,000-tonne, INS Aridhaman is in the pipeline for the commission by the next year. INS Arighat will be loaded with K-4 submarine-launched ballistic missiles (SLBMs) with a range of 3,500 km. The Navy has further planned for SSBN, the S-4, and an unnamed fifth SSBN with the 5,000-km range K-5 submarine-launched ballistic missile (SLBM).

This move comes at a time when India's strategic and defence interests are evolving rapidly, and its ambitions for self-reliance in advanced technology have never been clearer. The creation of an indigenous nuclear reactor for submarines is poised to further bolster India's naval strength and establish it as a key player in the global defence arena.

The Role of BARC in India's Nuclear Programme

Founded in 1954, the Bhabha Atomic Research Centre (BARC) has been the linchpin of India's nuclear energy and defence programmes. As the primary research and development organisation for India's civilian and military nuclear sectors, BARC has been instrumental in developing indigenous nuclear technology, including reactors, fuel cycles, and weapons-grade material. The centre has also played a vital role in India's nuclear submarine programme, which forms the backbone of the country's strategic deterrence capability.

India has planned for six nuclear attack submarines under Project 75 Alpha, enhancing its strategic naval strength amid growing regional tensions

PHOTOGRAPH: DPR Defence

INS Arihant, India's First Nuclear Submarine

The Significance of a Submarine Nuclear Reactor

A nuclear-powered submarine (SSN or SSBN) relies on nuclear reactors to generate the power required to propel it underwater for extended periods without needing to surface for fuel. This is a critical advantage, as it allows submarines to remain submerged for months, making them difficult to track and capable of carrying out sustained operations without logistical constraints.

India has long sought to develop and deploy such technology to enhance its strategic deterrence capabilities. Nuclear-powered submarines, particularly those carrying ballistic missiles (SSBNs), are considered the ultimate deterrent against adversaries due to their stealth and the assured retaliation capability they offer in the event of a nuclear conflict.

A closer look at the two fronts gives the urgency to not only scale up the deterrence but also the strike capability. There are serious concerns on both fronts especially in this area of strategic deterrence and strike capability. Pakistan has acquired eight Chinese Type 039B Yuan-class submarines – with the first of the class launched in April this year.

China's People's Liberation Army -Navy (PLAN) fleet has acquired 60 submarines, including six SSBNs, 6 SSNs, and 48 diesel-electric submarines with two new classes of nuclear submarines-- the Type 95 SSN and the Type 96 SSBN underway. The concern is acute for India as the PLAN may even come close to the massive strength US Navy, which has 68 nuclear submarines (14 SSBNs, four SSGNs, and 49 SSNs).

India's Nuclear Submarine Programme: A Timeline

India's journey towards developing nuclear-powered submarines has been both challenging and ambitious. The country's first indigenously designed nuclear-powered submarine, INS Arihant, was launched in 2009 and became operational in 2016 after completing rigorous sea trials. This marked a major milestone in India's defence history, positioning the nation as one of the few countries in the world with a nuclear triad, the ability to launch nuclear weapons from land, air, and sea.

However, INS Arihant's reactor was initially based on a design borrowed from Russia, specifically the VM-4 reactor, a technology developed in the Soviet era for their submarines. While this was a significant leap forward, India's long-term goal is to develop an indigenous nuclear reactor for submarines that meets both its security and technological needs.

BARC and the Development of Indigenous Submarine Nuclear Reactors

The new initiative by BARC to design and construct a submarine nuclear reactor represents a crucial step towards achieving greater self-reliance in defence technology. This development will likely involve advanced reactor designs that meet the unique operational demands of submarines, including compact size, efficiency, and durability. The reactor will also need to withstand the harsh underwater environment, including pressure and vibration, all while ensuring that it remains safe and sustainable for long-duration missions.

The reactor design for these submarines will likely build on the technology demonstrated by the Arihant-class submarines but take it a step further by creating an even more sophisticated and efficient power source. In particular, the Pressurized Water Reactor (PWR), which is currently being used in India's nuclear-powered submarines, will likely see upgrades, potentially incorporating newer safety features, increased fuel efficiency, and reduced maintenance requirements.

The Indo-Pacific region's rising geopolitical tensions make India's ability to project naval power increasingly crucial, and BARC's nuclear reactor development aligns with India's broader maritime ambitions and strategic deterrence goals

The Future of India's Naval Power

The new reactor project is likely to accelerate the development of India's next-generation nuclear-powered submarines, which could include the Arihant-class's successor, the SSBN class, as well as potential new submarines focused on attack missions (SSNs). The addition of more submarines to India's fleet will allow the Navy to maintain a continuous deterrent patrol, ensuring that India's second-strike capability remains credible and effective.

In between, addressing the gaps as an interim measure in SSN capability, India is also geared up to lease an Akula-class submarine, INS Chakra III, from Russia which is delayed and expected to be delivered by 2025.

The development also has broader implications for India's maritime ambitions. With increasing global geopolitical tensions and the Indo-Pacific region becoming a focal point of international strategic competition, India's ability to project power through its naval assets will be crucial for both regional and global security.

The construction of an indigenous submarine nuclear reactor by BARC is not only a leap forward in technological terms but also a significant step in strengthening India's strategic deterrence capabilities. By increasing the number of nuclear-powered submarines, India can ensure the survivability of its nuclear arsenal in case of a first-strike attack from a potential adversary.

The construction of an Indigenous submarine nuclear reactor by BARC is a landmark development for India's defence infrastructure, signalling a new phase in the nation's technological and strategic evolution. With this initiative, India not only enhances its self-reliance in critical defence technologies but also ensures that its strategic deterrence remains credible in the face of evolving threats. As India continues to modernise its military and expand its global influence, this breakthrough in submarine nuclear technology will serve as a cornerstone of its naval and national security strategy in the 21st century.

SP GUIDE PUBLICATIONS

60 1964-2024 YEARS OF SP'S

Italian Shipbuilding Companies are keen on Collaborating with India: Italian Minister Adolfo Urso

On board, Amerigo Vespucci, a historic sailing ship and training ship of the Italian Navy, which was docked in Mumbai, In an exclusive interaction, Consulting & Contributing Editor, **Manish Kumar Jha** speaks with **Adolfo Urso**, Minister of Enterprises and Made in Italy on the comprehensive range of bilateral trade and Security relations.

THE AMBASSADOR OF MADE in Italy in the World is engaged in a world tour that brought it, for the first time in its 93-year history, to Mumbai, India, where it stopped from November 28 to December 2, 2024.

During its stay in Mumbai, the Amerigo Vespucci was accompanied by Villaggio Italia, the international Made in Italy exposition that gathers together the "national teams of Italian excellence", so that the world tour of Nave Amerigo Vespucci is a unified expression of the values of the entire Italian nation and a showcase of Italian excellence and supply chains, a driving force for the economy and the diffusion of Italian culture.

Crucially, the conference deliberated on the Blue and Space Economy with immense possibilities for Italian companies to collaborate and jointly work together with Indian defence and space entities. The cooperation puts forth the working mechanism together with the Italian Space Agency and Telespazio/e-GEOS of the Leonardo group, which also showcased the space cooperation with satellites of the Italian constellation of the ASI and the Ministry of Defence, COSMO-SkyMed. This will provide an opportunity to reflect on the contribution of satellite technologies to Earth observation, said Minister Urso.

During the talks, Minister Urso highlights the IMEC-- the India-Middle East-Europe economic corridor and International Cooperation.

The Amerigo Vespucci embarked on its first visit to Mumbai, India, from November 28 to December 2, 2024, as part of its global tour to showcase "Made in Italy" excellence

PHOTOGRAPH: Italian Navy

Italian Navy Carrier Strike Group Cavour during exercises in the Indo-Pacific after participating in the Pitch Black 2024 air exercise

Italian Minister Adolfo Urso highlighted the strategic trade agreement signed between India and Italy at the G20 Summit in Brazil, aimed at deepening ties in scientific, industrial, and technological domains

Excerpts:

Manish Jha: To begin with, I'd like to get a comprehensive understanding of the scope of our bilateral relations. Our bilateral trade has reached approximately $15 billion, but could you provide an overview of the current status and the potential areas for growth in our trade and economic relationship?

Adolfo Urso: Certainly. This mission to India follows the recent signing of a strategic trade agreement between Prime Minister Modi and Italian Prime Minister Giorgia Meloni during the G20 Summit in Brazil just two weeks ago. The objective is clear: we are moving beyond simple trade, which has already been growing, to a deeper partnership. This includes scientific, industrial, productive, and technological collaboration.

Additionally, this is a key moment to expand Indian investments in Italy, where over 130 Indian companies are already operating. Italy can serve as a production hub for Indian companies targeting the European market. Similarly, Italian companies can contribute to India's growing domestic market and nearby markets. India is emerging as a major global manufacturing base, and this mission lays the groundwork for strengthening our cooperation.

Manish Jha: Thank you for explaining that. Regarding investments, I understand that from 2000 to 2023, Italian investments in India amounted to around $3 billion. What are the potential sectors for Italian companies to invest in India? Also, which Indian sectors or companies could explore opportunities in Italy?

Adolfo Urso: Italian investments in India are likely to focus on the manufacturing sector, including machine tools, agricultural equipment, automation, and machine learning. Italian companies can also contribute to improving the quality and design of automobiles in India. Another significant area is shipbuilding, where Italy has a legacy of design and expertise.

On the other hand, Indian investments in Italy could target renewable technologies, mining, smelting, rail manufacturing, and aerospace. The blue economy and food processing are also promising areas for collaboration. Indian companies can benefit from Italy's advanced technology and production systems.

Manish Jha: That's very insightful. Does your government provide any specific incentives or policies to encourage Indian companies to invest in Italy?

Adolfo Urso: Yes, over the last two years, Italy has simplified and fast-tracked authorisation procedures for foreign investments. Every foreign investor has access to a dedicated ministerial point of contact to assist with any procedural requirements. Additionally, resources and support are offered within the framework of European Union norms and regional policies. We also have initiatives like the "Development Contract" to support investors.

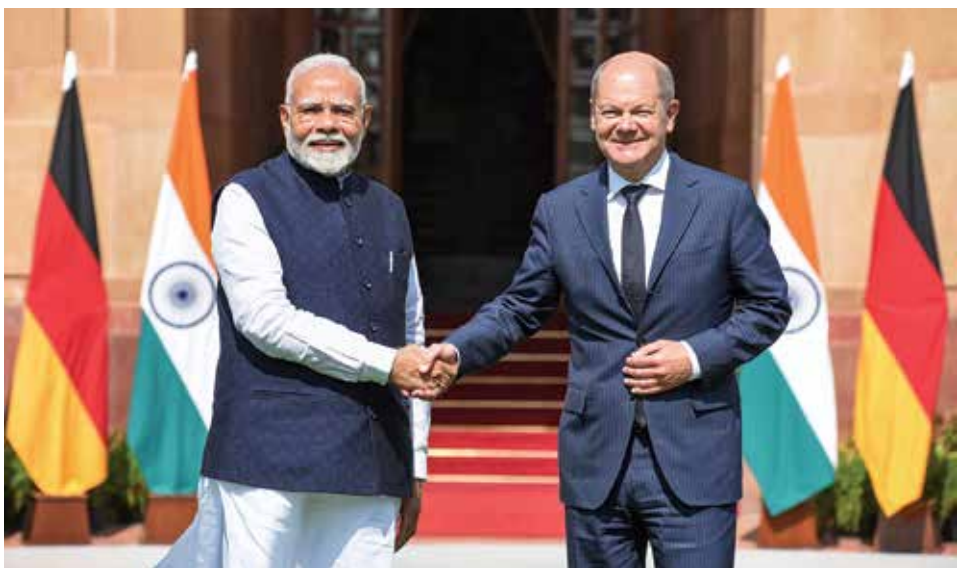
Continued on page 7...

A 'Special Status' and Security: A Resurgent Era of Indo-German Ties

According the "Special Status" in the conservative policy framework, German Chancellor Olaf Scholz, in his visit to India, opens a historic chapter in the Indo-German ties. The newly defined status surpasses the barriers beyond trade and commerce to defence and security with the potential to collaborate across the strategic and military domains from submarines to next-generation aircraft.

■ MANISH KUMAR JHA

PHOTOGRAPH: PIB



Prime Minister Narendra Modi meets the Chancellor of Germany, Olaf Scholz at Hyderabad House, in New Delhi on October 25, 2024

IN SUCH A "BREAKTHROUGH bilateral talks" according to a senior German diplomat, all important issues were discussed, including the free trade with the European Union (EU). Olaf Scholz greatly endorsed a free trade agreement, and said, "it would benefit all sides".

Responding to the breakthrough ties, Prime Minister Narendra Modi highlighted the building of defence and security sectors with Germany, as a reflection of their strong mutual trust.

As the Prime Minister emphasised the ongoing joint initiatives in defence cooperation, such as the German Navy ship's port call in Goa, and said "Our partnership has gained new momentum and direction. Germany's 'Focus on India Strategy' offers a comprehensive blueprint to modernise and elevate relations between two of the world's largest democracies."

Just one week ahead of the annual intergovernmental consultations, the German government published its first strategic document solely focused on its engagement with India. The paper is the outcome of the government's long-standing deliberation as to how it wants to engage with India and prioritise its policies. The "Focus on India" is a comprehensive manual outlining Germany's planned approach towards India.

"We want to intensify our strategic partnership with India", is the message that cuts across Germany's new approach towards India which the government liberally outlines in his policy document.

Moreover, during Scholz's three-day visit to India, he also co-chaired the 7th Intergovernmental Consultations (IGC) after a gap of 12 years.

The significance is larger in terms of building a concrete outline for India as it was being seen as ambiguous at best, in the overall policy framework while the concern for China is also increasing within the German politico. Additionally, the historical reference towards India's freedom struggle is worth mentioning in analysing the resurgence of India-Germany ties. Germany is India's biggest trading partner within the EU, and Olaf is determined to strengthen strategic ties to counter China's growing influence on the West.

India – A democratic Partner of Germany for Stability and Security

On October 16, 2024, the Cabinet adopted the key strategic document Focus on India. The vision document—Focus on India—attempts to redefine the strategic relations on the future actions within the Indo-Pacific realm, centred on India. Why so?

The centre of global growth lies at the heart of the Indian Ocean region (IOR). For Germany, it only connects Europe and Asia but opens a great deal towards the oil-rich Arab states. Today, the Indo-Pacific is home to 60 per cent of the world's economic output and two-thirds of global growth while more than 80 per cent of global trade is shipped by sea.

According to the document, the German Government wants to raise the strategic partnership that has underpinned their relationship with India since 2000 to a new level. The first steps towards implementation are to be agreed upon at the next Indo-German intergovernmental consultations at the end of the month.

The paper sights the German's perspective and key role of India as a stabilising influence in a region where the global order based on the principles of the UN Charter and international law is facing considerable pressure. "The geopolitical lines of conflict in the Indo-Pacific and the high economic dynamics in the region will play a significant role in shaping the international order of the 21st century. In this process, India has expressed a clear aspiration to shape future developments and aspires also to promote the interests of developing countries throughout the world as "the voice of the Global South", the paper outlines and acknowledges the need to have greater alignment on issues.

A central component of this is intensifying security cooperation – both in the continuous efforts to find strategic convergence on key foreign and security policy challenges and through practical cooperation between the armed forces as well as reliable armaments cooperation.

Germany and India are in the midst of a hi-stake submarine contract which also signifies the agreement and consensus on security. ThyssenKrupp Marine Systems, a leading German shipbuilder which supplies 70 per cent of non-nuclear submarines globally, has already joined hands with the Indian Defence Public Sector (DPSU), Mazagon Docks Ltd (MDL) for a $3 billion Project 75 (India) to build six conventional submarines with its advanced fuel-cell-based Air Independent Propulsion (AIP) technology.

Additionally, IAF is also scouting for a next-generation military transport aircraft, including the A400M to refuelers (A330 MRTT) which puts Germany at the heart of strategic collaboration with India.

The IAF is scouting for the Medium Transport Aircraft (MTA) for which A400M is in contention, along with the Brazilian C-390 Millennium and American C-130J.

This further opened the door for the German military entities, to look out for more opportunities in India, and to sustain their industry which is now being revived to achieve best-in-class tech in light of the Russia-Ukraine war.

However, the foundation was already laid for such strategic ties, as in August, during the multination military exercise 'Tarang Shakti' in India, the Chief of Luftwaffe (German Air Force) Lieutenant General Ingo Gerhartz in an interaction with the author in New Delhi, announced Germany's presence in the Indo-Pacific building a new era of military cooperation with India.

India-Germany has already inked a contract for the overhaul and refurbishment of the Indian submarine "INS Shankush" that India bought from Germany in the 1980s.

Several key agreements were signed following discussions between Scholz and Indian Prime Minister Narendra Modi, who highlighted the deepening ties between the two nations.

Crucially, the resurgence of the Asia-Pacific Conference of German Business is a significant development after a gap of 12 years.

"We have created a roadmap for India's development over the coming 25 years," announces the government.

It is important at such a critical time that the German Cabinet has released the "Focus on India" document which will eliminate the barriers in security cooperation which is so far confined to military-to-military exercise.

Chancellor Olaf further emphasied the strategic flashpoints in the region as the Indo-Pacific remains a region of concern due to maritime disputes and potential flashpoints, including the South and East China Seas. "We need to uphold international law and the principles of the UN Charter."

While India looked at it from the trade to technology perspective, Prime Minister Modi said, "India stands on four strong pillars: Democracy, Demography, Demand, and Data. Talent, technology, innovation, and infrastructure are the tools for India's growth. Today, an additional great force drives all of these: the strength of Aspirational India."

"That is, the combined power of AI — Artificial Intelligence and Aspirational India — is with us. Our youth are driving Aspirational India," he added.

On one hand, a CEO forum meeting is taking place, and on the other, both the navies are exercising together. German naval ships are currently on a port call in Goa. Additionally, the seventh Inter-Governmental Consultations (7th IGC) between India and Germany was co-chaired by PM Modi and Chancellor Olaf Scholz on October 25 in New Delhi. The high-level IGC included Ministers of Defence, External Affairs, Commerce & Industries, Labour & Employment, Science & Technology (MoS) and Skill Development (MoS) from the Indian side and Ministers of Economic Affairs & Climate Action, Foreign Affairs, Labour & Social Affairs and Education & Research from the German side along with Parliamentary State Secretaries for Finance. The talks touched up on technology and innovation, labour and talent, migration and mobility, climate action, green and sustainable development as well as economic, defence and strategic cooperation.

Mutual Agreement

Agreement on the Exchange and Mutual Protection of Classified Information took place between Annalena Baerbock, Foreign Minister, and S. Jaishankar, External Affairs Minister. This signifies security cooperation as Germany gears up for the strategic alignment with India.

Further, both governments also inked the roadmap for the Indo-German Green Hydrogen with Robert Habeck, Minister of Economic Affairs and Climate Action with Piyush Goyal, Commerce & Industry Minister of India.

What signifies the visit is the Memorandum of Understanding on Cooperation in the field of Skill Development and Vocational Education and Training. Germany has decided to increase the number of visas for skilled Indians from 20,000 to 90,000 per year.

Such agreements indicate the beginning of a partnership with India in scale which will be crucial to the global realignment especially, the EU's role towards Asia and for India. SP

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NAVANTIA Completes the Fitting of Hydrogen Propulsion System AIP

A technology that will enhance submarine capabilities

■ SP's CORRESPONDENT

PHOTOGRAPH: Navantia

NAVANTIA Completes the Fitting of the Hydrogen Propulsion System AIP into a S-80 Class Submarine

NAVANTIA'S SHIPYARD IN CARTAGENA has completed the installation of the Hydrogen based Air Independent Propulsion System (AIP) into a S80 class submarine. This is the first third-generation AIP fitted into a submarine. The milestone was marked by the presence of Spanish National Armament Director, Admiral Aniceto Rosique Nieto.

This accomplishment is a fundamental milestone in the S-80 Programme, unprecedented in the history of shipbuilding in Spain. This technology will provide the Spanish Navy's submarines with the capability to remain submerged for extended periods, compared to a few days for conventional diesel-electric submarines. This development, which has posed a top-level challenge for the national industry, allows Navantia to offer unique capabilities in international submarine construction tenders.

The AIP System, commercially named BEST (Bio-Ethanol Stealth Technology) by Navantia, is an innovative energy production plant that allows the submarine's batteries to be recharged while submerged, avoiding periodic snorkel manoeuvres for recharging where the vessel is detectable and more vulnerable.

This plant is based on a bioethanol reforming process - a renewable fuel obtained from organic feedstock - to produce a Hydrogen-rich stream that is fed, together with pure Oxygen, to a fuel cell to generate electrical power stealthy.

Unlike equipment already operational in other navies, Navantia's AIP is a third-generation system that does not require stored hydrogen on board; instead, the system generates it on demand, providing a tactical and safety advantage, increasing the strategic autonomy and deterrence capability. Along with the extensive sensorization of the vessel, it further enhances the safety of the crew and the submarine itself, minimising the personnel required to operate it.

Participants in the event have had the opportunity to visit Section 3 of the S-83 Cosme García submarine, which houses the installed AIP equipment, liquid oxygen and bioethanol tanks, and the auxiliary systems necessary for its operation, observing the demanding work and safety procedures being carried out in the construction of the submarine.

Italian Shipbuilding Companies...*continued from page 5*

PHOTOGRAPH: Manish Kumar Jha

Manish Kumar Jha speaks with Adolfo Urso, Italian Minister of Enterprises

Manish Jha: Shipbuilding is a sector where India is ambitious. Could Italian companies with expertise in this area consider setting up partnerships with Indian firms? Are there policies to encourage such collaborations?

Adolfo Urso: Definitely. Italian shipbuilding companies, including those with public-private models, are keen on expanding their collaborations in India. These companies can explore partnerships for both commercial and military shipbuilding projects, leveraging local investments and production facilities. This sector holds great potential for cooperation.

Manish Jha: You also mentioned defence and aerospace earlier. Could you elaborate on the scope for collaboration in these areas?

Adolfo Urso: India has proven its capabilities in aerospace, as seen with its recent moon mission. In this sector, we see opportunities for collaboration in Earth observation technologies and other areas critical to global development. In defence, Italian companies like Leonardo are already involved in India, and we aim to expand this partnership further.

Manish Jha: Energy and biofuels are important for India's sustainable development goals. What plans do you see for collaboration in these areas?

Adolfo Urso: We strongly believe in the future of biofuels and the broader bioeconomy, which focuses on the efficient use of natural resources for sustainable growth. Italy is collaborating with India to develop biofuel technologies and support their implementation. This is crucial for the global shift toward renewable energy.

Manish Jha: Finally, let's touch upon international cooperation and the rule of law in maritime areas. How does Italy plan to work with India on these issues?

Adolfo Urso: The world is facing complex challenges, but countries that share common values must work together to uphold international laws, including maritime law. Cooperation between India and Italy is key to ensuring secure supply chains and stability in the global order. India is not only a close partner for Italy but also a reliable ally for Asia, the Americas, and the world.

Manish Jha: Thank you, Minister Urso, for your insights and time.

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