

SEPTEMBER MONTH DEFENCE CURRENT AFFAIRS

SEPTEMBER 1, 2024

INS Tabar Conducts Maritime Partnership Exercise with Spanish Navy Ship Atalaya

- ✓ Maritime Partnership Exercise (MPX) is a multilateral event conducted by Indian Navy in which naval forces of foreign countries participate. This exercise is conducted as part of the Indian Navy's ongoing efforts to enhance its operational capabilities and strengthen its partnerships with friendly nations. MPX underscores India's commitment to promoting regional stability and security.
- ✓ Indian Navy had participated in 47+ Maritime Partnership Exercises (MPX) with navies from 28+ different countries; including Australia, Brazil, Egypt, France, Germany, Indonesia, Japan, Russia, and more.

Key points about this exercise:

- ✓ **Ships involved:** INS Tabar (Indian Navy) and Spanish Navy Ship Atalaya
- ✓ **Location:** Mediterranean Sea
- ✓ **Exercise type:** Maritime Partnership Exercise (MPX)
- ✓ **Significance:** This exercise aims to enhance naval ties and cooperation between India and Spain.
- ✓ **INS Tabar :** The stealth frigate is the third Talwar-class ship built in Russia for the Indian navy, commissioned in April (2004), in Kaliningrad Russia
- ✓ It is capable of conducting air, surface, and sub-surface missions,
- ✓ It can operate independently or as part of a larger naval task force.
- ✓ It serves in the Indian navy's western fleet, based in Mumbai.
- ✓ It is equipped with a range of weapons and sensors, including supersonic BrahMos anti-ship cruise missiles, and Barak-1 missiles.
- ✓ It is the first Talwar-class frigate to carry BrahMos missiles.

SEPTEMBER 2, 2024

Samudra Pratap



- ✓ The first indigenously developed Pollution Control Vessel of the Indian Coast Guard (ICG), 'Samudra Pratap' was launched in Goa.
- ✓ Samudra Pratap vessel will help to check the oil spillage on the country's sea coast.
- ✓ It is built by Goa Shipyard Limited (GSL) for the Indian Coast Guard.
- ✓ It is the first time that these types of vessels are being designed and built indigenously in India.
- ✓ It is equipped with state-of-the-art technology for pollution control.
- ✓ Notably, it features side-sweeping arms to contain oil spills while in motion, an advanced radar system for oil spill detection and facilities to recover and store various types of oil.

Key points about Samudra Pratap

- ✓ **Purpose:** The ship will help the Indian Coast Guard prevent and detect oil spills along India's coastline. It will also help with oil spill response operations in the Exclusive Economic Zone (EEZ).
- ✓ **Size:** The ship is 114.5 meters long and 16.5 meters wide.
- ✓ **Crew:** The ship will be manned by 14 officers and 115 sailors.
- ✓ **Significance:** The ship represents a step towards India's self-reliance in defense manufacturing and a growing capability in shipbuilding and technological advancement.

SEPTEMBER 3, 2024

Grom-E1 Missile



- ✓ Russian troops recently hit Kharkiv, Ukraine, with a Grom-E1 hybrid missile
- ✓ Grom-E1 Missile is a “air-to-surface” missile.
- ✓ It was developed by Russia and officially unveiled for the first time in 2018.
- ✓ It combines the features of both a missile and an aerial bomb.
- ✓ It features a high-explosive modular warhead equipped with a contact detonator.
- ✓ In addition to its standard configuration, there is a variant with a thermobaric design capable of detonating at high altitudes.
- ✓ The effectiveness of the Grom-E1 depends on the altitude and speed of the aircraft that launches it.
- ✓ This weapon can be deployed by Russian aircraft such as the MiG-35, Su-34, Su-35, Su-57, and certain helicopters.

SEPTEMBER 3, 2024

Project NAMAN



- ✓ The Indian Army launched Project NAMAN to support Defence Pensioners, Veterans, and their families, centred around the SPARSH digital pension system.
- ✓ The project aims to streamline pension processes and provide essential services through Common Service Centres (CSCs) across India.
- ✓ These centres, supported by HDFC Bank and managed by veterans or their families, offer SPARSH-enabled pension services, e-Governance, and banking solutions, reflecting the Army’s commitment to veteran welfare and community empowerment.

SEPTEMBER 7, 2024

Successful Launch of Agni-4 Ballistic Missile:

- ✓ A successful test launch of the Agni-4 Intermediate Range Ballistic Missile (IRBM) was carried out from the Integrated Test Range in Chandipur, Odisha.
- ✓ **Agni Missile Series:** It is a family of Indian long-range ballistic missiles developed by DRDO under the Integrated Guided Missile Development Programme (IGMDP).
- ✓ Range and Variants:
 - Agni-I: Range of 700-900 km.
 - Agni-II: Range of 2,000-3,000 km.
 - Agni-III: Range of 3,500-5,000 km.
 - Agni-IV: Range of 4,000-4,500 km.
 - Agni-V: Intercontinental ballistic missile (ICBM) with a range of over 5,000 km.
- ✓ **Strategic Importance:** Agni missiles are designed for strategic deterrence and defense, capable of carrying both conventional and nuclear warheads.
- ✓ **Technological Features:** They employ advanced technologies like composite rocket motors, inertial navigation systems, and multiple independently targetable re-entry vehicle (MIRV) capability in some variants.
- ✓ **Role in National Security:** Agni missiles form a critical part of India's nuclear triad strategy, ensuring credible minimum deterrence and national security.
- ✓ The Agni missile series is a **surface-to-surface ballistic missile** system, which means it is designed for **land-to-land** or **surface-to-land** strategic targeting. It is not an **air-to-air**, **land-to-air**, or **water-to-air** missile.
- ✓ The Agni missile series is primarily under the command and operation of the **Indian Army** for strategic deterrence. It is part of India’s nuclear triad, which consists of land, sea, and air-based nuclear delivery systems. Here’s how the Agni series fits into India’s armed forces structure:
- ✓ Indian Army: The **Indian Army** is the primary operator of the Agni missile series.
- ✓ **Agni-I, II, III, IV, and V** are all under the command of the **Strategic Forces**

Command (SFC), which falls under the purview of the Indian Army.

- ✓ These missiles are road and rail-mobile, making them flexible and difficult to detect, ensuring strategic mobility and survivability.
- ✓ Indian Navy: The Agni missile series itself does not have any naval variants.
- ✓ For the Indian Navy, **Dhanush**, a naval variant of the Prithvi missile, is deployed for sea-based strategic deterrence.
- ✓ The Navy's nuclear deterrence relies primarily on **SLBMs (Submarine Launched Ballistic Missiles)** like **K-4** and **K-15** missiles, deployed on the **INS Arihant** class submarines.
- ✓ Indian Air Force (IAF): The Indian Air Force is not directly involved in operating the Agni missile series.
- ✓ However, as part of the nuclear triad, the IAF is responsible for **air-launched nuclear weapons** using fighter jets like the **Mirage 2000** and **Sukhoi Su-30 MKI**.

SEPTEMBER 7, 2024

Indian Coast Guard Participates in 20th HACGAM:

- ✓ The Indian Coast Guard participated in the 20th Heads of Asian Coast Guard Agencies Meeting (HACGAM) held in **Incheon, South Korea**. This important gathering, which took place from September 2-6, 2024, brought together coast guard agencies from across Asia to discuss crucial maritime.

SEPTEMBER 7, 2024

Exercise Varuna

- ✓ The 22nd edition of the India-France bilateral naval exercise VARUNA took place in the Mediterranean Sea. INS Tabar, a frontline stealth frigate, ship borne Helicopter and LRMR Aircraft P8I participated from the Indian side, while French side was represented by FS Provence, Submarine Suffren, Aircraft F20; Atlantique2, fighters MB339 and NH90 Dauphin helicopters.
- ✓ These joint-exercises are conducted either in the Indian Ocean or the Mediterranean Sea.

- ✓ Exercise Varuna is the bilateral Naval Exercise between India and France.
- ✓ This bilateral exercise between the two navies was initiated in 1993. It was named 'VARUNA' in 2001 and has become a hallmark of India-France's strategic.

SEPTEMBER 9, 2024

Yudh Abhyas:



- ✓ India-U.S. bilateral Army exercise Yudh Abhyas is set to commence at the Mahajan field firing ranges in Rajasthan.
- ✓ Yudh Abhyas is a joint military exercise conducted annually between India and USA.
- ✓ It has been ongoing since 2004.
- ✓ It is designed to promote cooperation between the two militaries while sharing training, cultural exchanges and building joint operating skills.
- ✓ The previous edition of the exercise was conducted at Fort Wainwright, Alaska, USA.

Yudh Abhyas 2024:

- ✓ It marks the 20th edition of the
- ✓ It is designed to enhance interoperability and strengthen the operational capabilities of both forces.
- ✓ It will feature a range of advanced military tactics and coordinated man oeuvres aimed at improving the readiness of both armies in high-stakes scenarios.
- ✓ It is going to feature one of the largest U.S. contingents at the exercise with around 600 personnel and the U.S. Army is also set to deploy Stryker infantry vehicles and the M142 HIMARS (High Mobility Artillery Rocket System).
- ✓ These advanced rocket systems, which have gained prominence for their use in Ukraine, can deliver precision strikes over extended ranges.

SEPTEMBER 14, 2024

Third Edition of INDUS-X Summit Concludes in California:

- ✓ The third edition of the INDUS-X Summit, held on 9-10 September 2024 in California, marked significant progress in advancing a joint defence innovation ecosystem between India and the USA. Co-organised by the U.S.-India Strategic Partnership Forum (USISPF) and Stanford University, the event focused on deepening defence collaboration through innovation, joint research, and investment.

SEPTEMBER 18, 2024

Anti-Submarine Warfare Launch:



- ✓ Malpe and Mulki, the fourth and fifth ships of the Eight Anti-Submarine Warfare (ASW) Shallow Water Craft (SWC) project, being built by M/s Cochin Shipyard Ltd, for the Indian Navy, were launched in Kochi.
- ✓ INS Mahe, INS Malvan, and INS Mangrol were unveiled in 2023.
- ✓ The Mahe-class ASW SWC have been named after strategically significant ports along India's coastline.
- ✓ The ASW SWC ships are equipped with indigenously developed, state-of-the-art underwater sensors, and are envisaged to undertake anti-submarine operations in coastal waters as well as Low Intensity Maritime Operations and Mine Laying Operations.
- ✓ They can achieve a maximum speed of 25 knots with endurance of up to 1800 nautical miles.

SEPTEMBER 19, 2024

Navika Sagar Parikrama II:



- ✓ The Indian Navy announced the second women circumnavigation expedition and unveiled the expedition logo.
- ✓ Two Indian Navy women officers, Lt Cdr Roopa A and Lt Cdr Dilna K, will embark on a globe-circumnavigating expedition known as Navika Sagar Parikrama II, onboard INSV Tarini.
- ✓ Women Navy officers are being guided by Cdr Abhilash Tomy (Retd.), a renowned circumnavigator and Golden Globe Race hero.
- ✓ Golden Globe Race is a prestigious solo sailing competition to circumnavigate the globe without stopping and using only traditional navigation methods.
- ✓ In the Navika Sagar Parikrama logo, the octagonal shape in the center depicts the Indian Navy, while the sun signifies a celestial body and the compass, guiding the sailors through the challenging seas.
- ✓ Navika Sagar Parikrama, the first ever Indian circumnavigation of globe by an all women crew of six officers in 2017.

SEPTEMBER 24, 2024

Goa Maritime Symposium 2024:

- ✓ The Indian Navy is hosting the fifth edition of the Goa Maritime Symposium at Naval War College, Goa.
- ✓ Goa Maritime Symposium 2024 is a forum for fostering collaborative thinking, cooperation, and mutual understanding between India and key maritime nations of the Indian Ocean Region
- ✓ The theme for the event is **Common Maritime Security Challenges in the Indian Ocean Region**: Progressing Lines of Efforts to Mitigate Dynamic Threats such as illegal and unregulated fishing and other illegal maritime activities.

- ✓ It will be participated by the representatives from 12 Indian Ocean Littoral countries- Bangladesh, Comoros, Indonesia, Madagascar, Malaysia, Maldives, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka and Thailand. Observers from Kenya and Tanzania
- ✓ Goa Maritime Symposium (GMS) : It was conceptualised and instituted by the Indian Navy in 2016.

SEPTEMBER 26, 2024

Inauguration of the 41st Indian Coast Guard Commanders' Conference:

- ✓ Raksha Mantri Shri Rajnath Singh inaugurated the 41st edition of the Indian Coast Guard (ICG) Commanders' Conference in New Delhi on September 24, 2024.
- ✓ This three-day conference serves as a crucial platform for ICG Commanders to engage in meaningful discussions on strategic, operational, and administrative matters amid evolving geopolitical landscapes and maritime security complexities.

SEPTEMBER 26, 2024

Robotic Multi-Utility Legged Equipment:



- ✓ The Indian Army has recently inducted 100 robotic Multi-Utility Legged Equipment (MULE) for use in forward (combat) areas, especially in high altitudes.
- ✓ These robots can climb stairs, steep hills, and operate in extreme temperatures ranging from -40 to +55 degrees Celsius and carry a payload of 15kg.
- ✓ Also, logistics drones are being tested to improve support and transport in high-altitude areas.
- ✓ The robotic mule is a durable, agile ground robot designed for all weather, equipped

with electro-optics and infrared technology for object recognition.

- ✓ It can move through and inside rivers.
- ✓ It will help the Indian army to enhance surveillance capabilities without risking human lives and to ensure critical supplies reach frontline soldiers.
- ✓ Mules are still crucial for supply delivery in high-altitude areas, making up a significant part of the Army's animal transport.
- ✓ The Army expects to reduce animal transport usage by 50-60% by 2030, though it remains essential in many border regions.
- ✓ China has already integrated robotic dogs into its military operations, indicating a growing deployment of robotics in military settings and possibly indicative of a new arms race.

SEPTEMBER 27, 2024

ABHED Jackets:



- ✓ The Defence Research & Development Organisation (DRDO) in collaboration with the Indian Institute of Technology (IIT) Delhi has developed Light Weight Bullet Proof Jackets called ABHED (Advanced Ballistics for High Energy Defeat).
- ✓ These jackets are designed to offer enhanced protection while maintaining lightweight features, meeting the evolving needs of the Indian Armed Forces.
- ✓ Made from polymers and indigenous boron carbide ceramic material, ensuring both strength and reduced weight.
- ✓ Developed at the DRDO Industry Academia Centre of Excellence (DIA-CoE) at IIT Delhi using advanced simulation and material characterization techniques.

- ✓ Provides 360-degree protection with modular-design and front/rear armour plates.
- ✓ Weight ranges from 8.2 kg to 9.5 kg depending on the required BIS level standards.
- ✓ Lighter than the maximum weight specified by the General Staff Qualitative Requirement of the Indian Army and meets the highest threat level standards.

SEPTEMBER 28, 2024

DF-41:



- ✓ China says it successfully fired an intercontinental ballistic missile into the Pacific Ocean on Wednesday, a rare public test that analysts said was meant to send a message to the United States and its allies amid heightened regional tensions.
- ✓ DF-41 Originate in 1980, China test-fired its first ICBM, the DF-5.
- ✓ Estimated range: 12,000 to 15,000 kilometers
- ✓ China held more than 500 operational nuclear warheads as of May 2023 and is likely to have more than 1,000 by 2030.
- ✓ Intercontinental Ballistic Missile have a range greater than 5,500 km and are primarily designed to deliver nuclear warheads.
- ✓ 8 nations have operational ICBMs—US, Russia, China, France, UK, India, Israel, and North Korea.
- ✓ India's ICBM: Agni series
- ✓ Despite being nuclear-armed, Pakistan does not possess ICBMs

SEPTEMBER 30, 2024

Thermobaric Weapons:



- ✓ Russia's use of thermobaric weapons in Ukraine has drawn significant attention due to their devastating effects, but the development and deployment of these powerful bombs are not limited to Russia.
- ✓ Thermobaric Weapons are often called "vacuum bombs" or "enhanced blast weapons".
- ✓ It consists of a fuel container with two separate explosive charges.
- ✓ This can be launched as a rocket or dropped as a bomb from aircraft. When it hits its target, the first explosive charge opens the container and widely scatters fuel mixture as a cloud.
- ✓ This cloud can penetrate any building openings or defences that are not totally sealed.
- ✓ A second charge then detonates the cloud, resulting in a huge fireball, a massive blast wave and a vacuum which sucks up all surrounding oxygen.
- ✓ The weapon can destroy reinforced buildings, equipment and kill or injure people.
- ✓ The shockwave produced by thermobaric bombs can destroy structures, while the blast's pressure differential causes catastrophic damage to the human body, including rupturing organs and lungs.
- ✓ There are no international laws specifically banning their use, but if a country uses them to target civilian populations in built-up areas, schools or hospitals, then it could be convicted of a war crime under the Hague Conventions of 1899 and 1907.