

March
2024

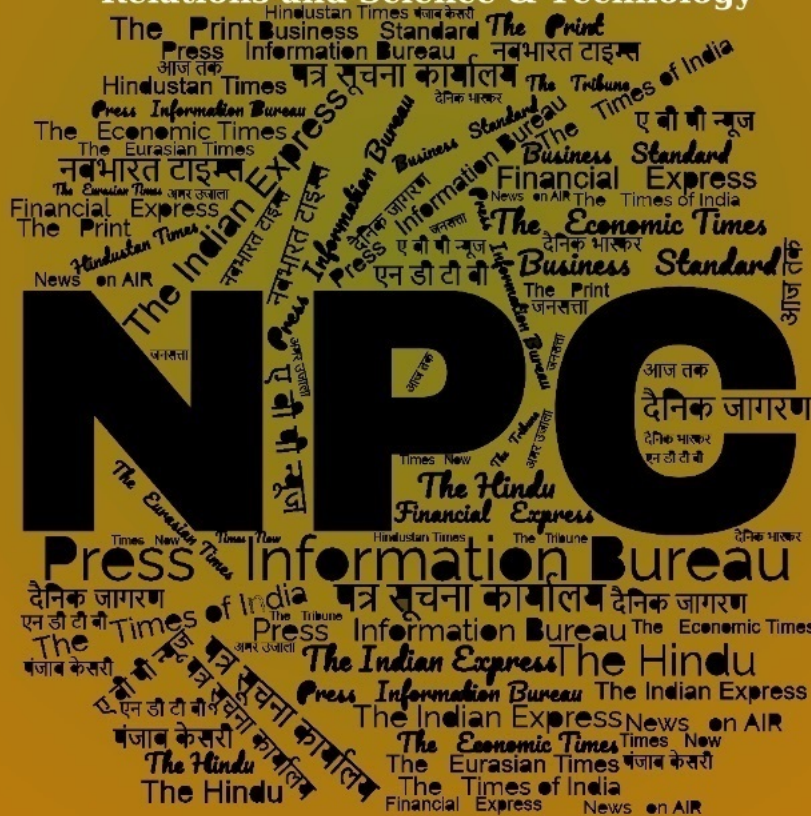
खंड/Vol. : 49 अंक/Issue : 46

06/03/2024

समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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Press Information Bureau
Government of India

Ministry of Defence

Tue, 05 Mar 2024

1st Naval Commanders' Conference of 2024: Raksha Mantri witnesses 'twin-carrier operations', a testament to Indian Navy's growing capabilities towards safeguarding maritime interests

The first edition of the Naval Commanders' Conference of 2024 commenced on March 05, 2024. The inaugural session of the three-day event saw Raksha Mantri Shri Rajnath Singh embarking at sea to witness the Indian Navy's ability to conduct 'twin-carrier operations'. Both aircraft carriers showcased the growing capabilities of the Navy to safeguard India's maritime interests. The demonstration served as a powerful testament to the crucial role of sea-based air power in maintaining maritime superiority.

The Raksha Mantri also addressed the Naval Commanders during the session. He commended the Indian Navy for increasing its multi-dimensional capabilities in the Indian Ocean region and continuously emerging in a leadership role.

He appreciated the Navy's efforts to work towards peace and prosperity across the Indo-Pacific region, in line with Security And Growth for All in the Region (SAGAR) as envisioned by Prime Minister Shri Narendra Modi. He lauded the anti-piracy operations of the Indian Navy in the Indo-Pacific region which, he said, is being appreciated not only in India but across the globe.

Shri Rajnath Singh highlighted the Navy's important contribution in maritime security and maintaining the sovereignty of India, in addition to the crucial role it plays in fulfilling the global commitments. "If India's reputation has increased in the Indian Ocean Region and wider Indo-Pacific, it is due to the bravery and promptness of our Navy.

It has become synonymous with credibility in the Indo-Pacific region. The Navy is a reflection of India's growing stature on the global canvas," he said.

The Raksha Mantri underscored the importance of jointness and synergy of the three Services amidst the constantly-evolving geopolitical scenario. He also spoke about the increasing use of drones in modern-day warfare and various maritime operations. He urged the Commanders to remain prepared to deal with all kinds of challenges, assuring Government's all-possible support.

The Naval Commanders' Conference, this time around, is being held in a hybrid format. It serves as a platform for Naval Commanders to deliberate on strategic, operational, and administrative matters concerning maritime security.

Held against the backdrop of evolving geopolitical dynamics, regional challenges and the current volatile maritime security situation in the region, the conference plays a pivotal role in shaping the future course of the Indian Navy.

The Chief of Defence Staff, along with the Chiefs of the Indian Army and Indian Air Force, will also engage with the Naval Commanders during the conference to discuss the convergence of the three Services in light of the common national security environment.

They will explore avenues to enhance tri-service synergy and readiness in defence of the nation.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2011706>



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Ministry of Defence

Tue, 05 Mar 2024

Visit of Air Marshal Vibhas Pande AOC-in-C, Maintenance Command

Air Marshal Vibhas Pande, Air Officer Commanding-in-Chief Maintenance Command, visited Air Force Station Tughlakabad on 5th March 2024. He was accompanied by Mrs. Ruchira Pande, President Air Force Family Welfare Association (Regional).

They were received by Air Commodore Rishi Seth, Air Officer Commanding, Air Force Station Tughlakabad and Mrs. Anjali Anand Seth.

The Air Marshal appreciated the Def-Tech Expo 2024 which displayed modern niche technology along with display of indigenised projects of the Depot. The event was aimed at showcasing achievements in the field of indigenisation by the Depot with participation of private partners in various projects.

He valued the efforts of the base towards realizing the vision of *Atmanirbhar Bharat* with focus on capacity building through innovation. The Air Marshal also visited Depot Historical Cell with chronicled the milestones of its long and illustrious history.

During the interaction with station personnel, AOC-in-C emphasized on the need for reducing dependency on imports, strengthening domestic manufacturing capability and self-reliance.

The Air Marshal exhorted the air warriors of the Depot to innovate and strive hard towards developing home-grown solutions for enhancing Op Capability of the IAF.

He further lauded the involvement, enthusiasm and focused approach of all personnel of the Depot towards ensuring support to operational Units.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2011742>



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Ministry of Defence

Tue, 05 Mar 2024

Indian Navy Provided Assistance to Liberian-Flagged Container Vessel, MSC SKY II

On 04 Mar 24, INS Kolkata mission-deployed in the Gulf of Aden responded to a request from MSC Sky II, a Liberian-flagged Container Vessel, which was reportedly attacked by a drone/ missile, at about 1900 h (IST) on 04 Mar 24, approx. 90 nm South East of Aden.

Consequent to the attack, the master reported smoke and fire onboard. INS Kolkata was immediately diverted to render necessary assistance and arrived at the scene of incident by 2230 h (IST). Based on the request of the Master, the MV was escorted from the scene of incident to the territorial waters of Djibouti by the *IN* ship.

In the early hours of 05 Mar 24, a specialist firefighting team (12 personnel) ex-Kolkata embarked the MV and provided assistance in extinguishing the residual fire/ smoke. Additionally, an Explosive Ordnance Disposal (EOD) team also embarked the MV for residual risk assessment.

The crew of 23 personnel, including 13 Indian nationals are safe and the vessel is proceeding to her next destination.

The swift actions of *IN* ship reiterate the commitment and resolve of the Indian Navy in safeguarding the seafarers plying through the region.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2011785>



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Government of India**

Ministry of Defence

Tue, 05 Mar 2024

**Raksha Mantri Shri Rajnath Singh inaugurates new
Administrative & Training building at Naval War College,
Goa**

Raksha Mantri Shri Rajnath Singh inaugurated the new Administrative & Training building at the Naval War College (NWC), Goa on March 05, 2024. The modern edifice, named the 'Chola', pays homage to the mighty maritime empire of the Chola dynasty of ancient India. In his address, the Raksha Mantri lauded the Navy for creating a world-class state-of-the-art training facility that resonates with India's stature among the maritime powers of the world.

Shri Rajnath Singh described Chola Bhawan as a symbol of the aspirations of the Navy and India's legacy of maritime excellence. It is also a reflection of India's new mindset of coming out of the mentality of slavery and feeling proud of our rich historical heritage – a clarion call made by Prime Minister Shri Narendra Modi from the ramparts of the Red Fort, he added.

The Raksha Mantri also spoke about the shift in dealing with the threat perception under the visionary leadership of the Prime Minister, which is now covering land-based as well as maritime challenges. "Earlier, almost all the governments focused on strengthening land borders, but maritime threats were not given as much importance.

In view of the increased movement of our adversaries in the Indian Ocean Region (IOR) & the commercial importance of the region, it was necessary to re-assess our threat perception and accordingly re-balance our military resources & strategic attention. Under the Prime Minister's guidance, we not only re-imagined India's role in the IOR, but also strengthened it. Due to these efforts, India has today emerged as the first responder and preferred security partner in the IOR," he said.

The Raksha Mantri added that it has been ensured that rules-based maritime order can be strengthened in the IOR. "India is ensuring that all the neighboring countries of the Indian Ocean should be helped in protecting their autonomy and sovereignty. We have ensured that no one exercises hegemony in the region," he said.

Shri Rajnath Singh highlighted that due to the Navy's readiness, India is fulfilling its responsibility in the IOR by providing full assistance to the littoral countries. He stated that the Navy is ensuring that no country, with its overwhelming economic and military power, is able to assert dominance over friendly countries or threaten their sovereignty. The readiness with which the Navy stands with the country's allies provides substantive strength to India's global values, he said.

The Raksha Mantri pointed out that through the mantra of '*Vasudhaiva Kutumbakam*', India has given to the world the unique value of taking everyone together. If India becomes stronger, not

only the areas around it will progress, but democracy and rule of law will also be strengthened, he said.

Underlining the growing prowess of the Indian Navy on the back of a strong Naval industrial base, Shri Rajnath Singh emphasised that the idea is not to achieve dominance, but to create an environment of peace and prosperity in the Indo-Pacific. “The increasing naval power not only protects us from our adversaries, but also provides an environment of security to other stakeholders in the Indian Ocean,” he said.

The Raksha Mantri reiterated India’s commitment to work towards strengthening the economic & security co-operation with its maritime neighbours, in line with the Security And Growth for All in the Region (SAGAR) vision of the Prime Minister. He commended the Navy for fulfilling this commitment, adding that India's stature at the global level will increase if the Navy becomes stronger.

Underscoring the transformative strategic thinking of ‘New India’, Shri Rajnath Singh 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’”. He stated that the resources and opportunities available in this region will be the factors of India's prosperity, which makes the Indian Navy’s role even more important in the future.

The Raksha Mantri added that most of the goods trade takes place through the sea route, with the Indo-Pacific region emerging as its hub. He highlighted that due to the increasing goods trade, many threats such as incidents of piracy and trafficking have come to the fore.

Shri Rajnath Singh praised the Navy for strengthening the security environment in the region and generating goodwill for India on the global canvas its through its anti-piracy and anti-trafficking operations. He stated that while these incidents have been reduced due to the promptness of the Indian Navy, the threats cannot be ignored. He referred to the recent attacks on the undersea cables, terming such incidents as a direct attack on strategic interests. He urged the Navy to remain prepared to deal with such challenges.

The Raksha Mantri exuded confidence that the new building at NWC, Goa will go a long way in training the officers on the growing and crucial role of the Indian Navy in the Indo-Pacific Region. He hoped that the NWC, through its innovative training, will not only enhance the military capability of the trainees, but also make them aware of the new perspective and focus on the country’s economic interest.

On the occasion, Shri Rajnath Singh inaugurated two major piers in Naval Base, Karwar in the presence of Admiral R Hari Kumar, Chief of the Naval Staff and other senior officers. The Aircraft Carrier Pier is capable of simultaneous berthing of two Aircraft Carriers and one Landing Ship Tank (Large). The Auxiliary vessel Pier would host Fast Attack Craft, Interceptor Craft and Auxiliary Craft. The piers would also provide various shore-based services, such as power, potable water, chilled water for air conditioning and other domestic services to the ships.

These infrastructure developments are part of ongoing Phase IIA of Project Seabird which will accommodate 32 ships/submarines, 23 yardcraft, a dual-use Naval Air Station, a complete Naval Dockyard, four covered dry berths and logistics for ships/aircraft. It will house around 10,000 uni-

formed and civilian personnel with families, significantly boosting the local economy and industrial growth. The Naval Air Station with Civil Enclave is anticipated to enhance tourism in North Karnataka and South Goa. The ongoing construction has created 7,000 direct and 20,000 indirect jobs. The Project aligns with 'Aatmanirbhar Bharat', sourcing over 90% of materials domestically.

The Raksha Mantri stated that Project Seabird, brought as the largest Naval infrastructure building project of the country, is working to increase the capacity of the Indian Navy. He expressed confidence that both the piers will further strengthen the strategic presence on the western coast of the country.

Delivering the keynote address, Chief of the Naval Staff Admiral R Hari Kumar drew the attention of the audience to the evolving security challenges, particularly in the maritime domain. He highlighted the indispensable role of higher military education in countering these challenges. He expressed confidence that the new training facility will serve as an icon of the country's resurgence as a maritime power by serving as a Gurukul for learning and sharing maritime perspectives, not only for the officers of Indian forces but also for maritime neighbours.

The Raksha Mantri also interacted with the personnel involved in the project's execution and complimented them. An inaugural special postage stamp was also released to commemorate the event. He inspected the Guard of Honour before dedicating the Chola building to the Armed Forces.

The inaugural ceremony was also attended by Goa Chief Minister Shri Pramod Sawant, Union Minister of State for Tourism & Ports, Shipping and Waterways Shri Shripad Naik, Chief of Naval Staff Admiral R Hari Kumar and Flag Officers Commanding in Chief, Western & Southern Naval Commands. The event marked a significant milestone in the history of the NWC, reinforcing its commitment to excellence in military education and nurturing maritime thought.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2011563>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 05 Mar 2024

Maiden Two-day Brainstorming session 'Impetus to Indigenisation' organised by Department of Military Affairs concludes in New Delhi

The maiden two day Brainstorming session, 'Impetus to Indigenisation', organised under the aegis of the Department of Military Affairs by HQ Integrated Defence Staff in collaboration with the Society of Indian Defence Manufacturers concluded on March 05, 2024.

The event resulted in extremely productive outcomes with takeaways for policy reform aimed at accelerating the indigenisation process and enhancing private sector participation in the Indian Defence Manufacturing Sector.

Chief of Defence Staff Gen Anil Chauhan in his address underscored the ongoing transformative process in defence reforms.

He highlighted the need for collaborative efforts for a 'Whole of Nation' approach between the government, services, R&D and defence production ecosystem towards fostering innovation in India's journey of achieving self-reliance in defence manufacturing and production in sync with India's 'Vision 2047'.

In the keynote address during the inaugural session, Defence Secretary Shri Giridhar Aramane emphasised the government's commitment towards promoting indigenisation through private sector participation in the defence sector.

The Brainstorming Session, chaired by Gen Anil Chauhan, saw active participation of key stakeholders from MoD, DMA, Service HQs, Indian Coast Guard, DRDO, Dept of Defence Production, DGQA, Academia, Industry Partners and field units of tri-services.

All participants engaged in consultative discussions on various aspects of indigenisation, including evolving way ahead to address policy level challenges, ways and means of providing impetus to indigenisation with focus on sustenance, Maintenance, Repair & Overhaul (MRO) issues effecting Aviation, Maritime and Land Assets.

The outcome-based discussions focused on identifying key areas for development of indigenous technologies and products and reduction of our dependence on imports towards enhancing product availability and ensure high operational readiness of the Armed Forces.

The key highlights of the first day sessions were private sector participation in Defence R&D, enhancing effectiveness of Make, iDEX, Positive Indigenisation List (PIL) and Technology Development Fund (TDF) schemes, ways to incentivising private sector participation in defence manufacturing, providing level playing field to private sector, development & management of Defence Industry Corridors, capacity mapping of all defence manufactures across the country, incentivising MSMEs, PPP/GOCO models and IPRs.

The second day witnessed Services & ICG brining out their MRO requirements in future and inviting the private industry to participate to fulfil their requirements.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2011614>

DMA: सीडीएस जनरल अनिल चौहान बोले, रक्षा क्षेत्र में आत्मनिर्भरता के लिए सहयोगात्मक प्रयास आवश्यक

चीफ ऑफ डिफेंस स्टाफ जनरल अनिल चौहान ने रक्षा विनिर्माण और उत्पादन के क्षेत्र में आत्मनिर्भरता के लिए सरकार, सैन्य बलों, अनुसंधान एवं विकास और रक्षा उत्पादन पारिस्थितिकी तंत्र को एक संपूर्ण राष्ट्र के दृष्टिकोण के साथ सहयोगात्मक प्रयास करने की आवश्यकता है।

रक्षा मंत्रालय के अनुसार, सीडीएस मंगलवार को सैन्य मामलों के विभाग (डीएमए) की तरफ से स्वदेशीकरण को प्रोत्साहन पर आयोजित दो दिवसीय विचार मंथन सत्र 'इंपीटस टू इंडिजिनाइजेशन' के आखिरी दिन अपने विचार रख रहे थे। कार्यक्रम मुख्यालय इंटीग्रेटेड डिफेंस स्टाफ द्वारा सोसाइटी ऑफ इंडियन डिफेंस मैनुफैक्चरर्स के सहयोग से आयोजित किया गया था।

सत्र में सीडीएस ने रक्षा सुधारों को लेकर चल रही परिवर्तनकारी प्रक्रिया पर भी जोर दिया। उन्होंने कहा कि भारत के विजन 2047 के लिए रक्षा विनिर्माण और उत्पादन में आत्मनिर्भरता प्राप्त करने में नवाचारों और संपूर्ण राष्ट्र के दृष्टिकोण की आवश्यकता है। कार्यक्रम के उद्घाटन सत्र को रक्षा सचिव गिरिधर अरमाने ने भी संबोधित किया था। इस दौरान उन्होंने भी रक्षा क्षेत्र में निजी क्षेत्र की भागीदारी से स्वदेशीकरण को बढ़ावा देने के प्रति सरकार की प्रतिबद्धता पर जोर दिया था।

सेना प्रमुख ने भी आत्मनिर्भरता पर दिया था जोर

कुछ दिन पहले एक कार्यक्रम में सेना प्रमुख जनरल मनोज पांडे शनिवार को नई दिल्ली में आयोजित फर्स्टपोस्ट रक्षा शिखर सम्मेलन में पहुंचे थे। सम्मेलन को संबोधित करते हुए जनरल पांडे ने कहा था कि देश की सुरक्षा को हम न तो आउटसोर्स कर सकते हैं और न ही हम अपनी सुरक्षा को किसी के उदारता पर निर्भर कर सकते हैं।

देश की सुरक्षा के संरक्षक के रूप में हम अपनी विकास आवश्यकताओं के लिए आयात निर्भरता से पूरी तरह दूर रहने की आवश्यकता से अवगत हैं।

भविष्य के लिए तैयार रहने के लिए हमारी रणनीतिक योजना में यह पहलू महत्वपूर्ण है। हमारी रक्षा जरूरतों को पूरा करने में आत्मनिर्भर होने की जरूरत है। रक्षा बल भविष्य के लिए तैयार रहेंगे और सेना परिवर्तनों के अनुरूप रहेगी। प्रौद्योगिकियां पारंपरिक युद्ध के तरीके को बदल रही हैं।

नौसेना प्रमुख ने भी सेना के आधुनिकरण पर दिया था जोर

हाल ही में नई दिल्ली में आयोजित रायसीन डायलॉग कार्यक्रम में नौसेना प्रमुख एडमिरल आर हरि कुमार भी पहुंचे थे। इस दौरान उन्होंने कहा था कि हाल के सभी संघर्षों में फिर चाहे वह इस्राइल हमारा युद्ध हो या यूक्रेन रूस युद्ध, जंग की प्रकृति में बदलाव आया है। इसलिए हमें अब आधुनिक तकनीकों के उपयोग को अपनाने की जरूरत है। तकनीके हाल में काफी अधिक किफायती और सुलभ होती जा रही हैं। हमें अब समुद्री क्षमताओं में निवेश की आवश्यकता है।

कार्यक्रम में संयुक्त राज्य अमेरिका के यूएस इंडो पैसिफिक कमांड के कमांडर एडम जॉन सी एक्लिनो ने कहा कि हमें अपने बल की रक्षा करनी चाहिए। वाणिज्य के मुक्त प्रवाह की रक्षा करनी चाहिए।

<https://www.amarujala.com/india-news/cds-general-anil-chauhan-said-collaborative-efforts-necessary-for-self-reliance-in-defence-sector-2024-03-05>

The Tribune

Tue, 05 Mar 2024

Army's new Anti-Drone Weapon — High-Flying Kites Armed with Camera

As a joint India-Japan Army team mimicked a raid during the “Dharma Guardian” exercise underway in Rajasthan, the Indian Army used a kite, a bird from the eagle family, trained for anti-drone and surveillance missions.

The kite flew overhead, providing real-time imagery and situational awareness to ground troops, who are part of the “Dharma Guardian” exercise being held in Rajasthan, officials said.

“Arjun” and “Deep” have been trained to intercept drones and provide live feed with a head-mounted camera system connected via secure communication to ground stations. The small, light-weight camera system attached to the heads of the birds for aerial surveillance represents a remarkable fusion of nature and technology.

It is difficult to combat dangerous combat drones that can launch airborne assaults in border and conflict zones. Birds possess the ability to navigate complex terrains, making them ideal for surveying remote or challenging areas. Additionally, their unobtrusive presence reduces the risk of detection by enemies. Conventional drones or aircraft are detectable by enemy radars.

The Army also used specially trained dogs during the “Dharma Guardian” exercise. The canines have been trained to assault, immobilise and even kill on handler’s command.

Assault dogs undergo rigorous training in varied scenarios and conditions to develop skillsets which make them invaluable assets for the military personnel in apprehension, jungle search, vehicle assault and other such scenarios. The Army also has explosive detection and mine detection dogs.

<https://www.tribuneindia.com/news/india/armys-new-anti-drone-weapon-%E2%80%94-high-flying-kites-armed-with-camera-597556>

Meet MethaneSAT, a Satellite which will ‘name and shame’ Methane Emitters

MethaneSAT — a satellite which will track and measure methane emissions at a global scale — was launched aboard a SpaceX Falcon9 rocket from California on Monday (March 4).

While the washing-machine-sized satellite is not the first spacecraft to identify and quantify methane emissions, it will provide more details and have a much wider field of view than any of its predecessors.

Here is all you need to know about MethaneSAT.

But first, why do we need to track and measure methane emissions?

Methane is an invisible but strong greenhouse gas, and the second largest contributor to global warming after carbon dioxide, responsible for 30 per cent of global heating since the Industrial Revolution. According to the United Nations Environment Programme, over a period of 20 years, methane is 80 times more potent at warming than carbon dioxide.

The gas also contributes to the formation of ground-level ozone — a colourless and highly irritating gas that forms just above the Earth’s surface. According to a 2022 report, exposure to ground-level ozone could be contributing to one million premature deaths every year.

Therefore, it is crucial to cut methane emissions. And the main culprit: fossil fuel operations, which account for about 40 per cent of all human-caused methane emissions. The objective of MethaneSAT is to help achieve this goal.

What is MethaneSAT?

The entity behind MethaneSAT is the Environmental Defense Fund (EDF) — a US-based nonprofit environmental advocacy group. To develop the satellite, EDF partnered with Harvard University, the Smithsonian Astrophysical Observatory, and the New Zealand Space Agency.

Essentially, MethaneSAT will orbit the Earth 15 times a day, monitoring the oil and gas sector. It will create a large amount of data, which will tell “how much methane is coming from where, who’s responsible, and are those emissions going up or down over time”, according to a statement by EDF.

The data collected by MethaneSAT will be made public for free in near real-time. This will allow stakeholders and regulators to take action to reduce methane emissions.

What are the features of MethaneSAT?

Historically, tracking the source of methane emissions and measuring them has been quite challenging.

While some satellites can provide high-resolution data, they can only scan specific, pre-targeted sites. Others can examine larger areas and detect large emitting events, but cannot scan “smaller sources that account for the majority of emissions in many, if not most, regions,” the EDF statement added.

Due to this discrepancy, according to an International Energy Agency (IEA) report, global methane emissions are about 70 per cent higher than levels reported by national governments.

MethaneSAT is expected to fix the issue. Equipped with a high-resolution infrared sensor and a spectrometer, the satellite will fill critical data gaps.

It can track differences in methane concentrations as small as three parts per billion in the atmosphere, which enables it to pick up smaller emissions sources than the previous satellites. MethaneSAT also has a wide-camera view — of about 200 km by 200 km — allowing it to identify larger emitters so-called “super emitters”.

The collected data will be analysed using cloud-computing and AI technology developed by Google — the company is a mission partner — and the data will be made public through Google’s Earth Engine platform, a report by *The New York Times* stated.

Why is it significant?

The launch of MethaneSAT has come at a moment when the world is implementing more stringent methane management policies. For instance, more than 150 countries signed the Global Methane Pledge in 2021, to cut their collective methane emissions by at least 30 per cent from 2020 levels by 2030.

At last year’s COP, more than 50 companies committed to virtually eliminating methane emissions and routine flaring. MethaneSAT will help them meet these targets.

The satellite will also usher in a new era of transparency. Its publicly available data, which can be accessed by anyone in the world, will keep track of methane commitments made by governments and corporations.

However, it does not necessarily mean that the data will compel polluters to curb their emissions. Drew Shindell, an earth-science professor at Duke University who wasn’t involved with MethaneSAT, told *The NYT*: “There’s no guarantee that this information leads to a change in behaviour.”

<https://indianexpress.com/article/explained/explained-climate/methanesat-satellite-methane-emissions-9197297/>

Why Anthropic calls the new Claude 3 its ‘most intelligent’ AI model yet

Artificial Intelligence start-up Anthropic announced its latest family of AI models called Claude 3 on Monday (March 4), saying it “sets new industry benchmarks across a wide range of cognitive tasks”.

The family includes three state-of-the-art AI models in the ascending order of capabilities – Claude 3 Haiku, Claude 3 Sonnet, and Claude 3 Opus. The company claims that each model offers an increasingly powerful performance, offering a balance between intelligence, speed, and cost based on their specific use case.

Anthropic was founded by former members of OpenAI, the company behind ChatGPT. Its co-founder and president Daniela Amodei said in an interview with Bloomberg Technology that the new models are twice as likely to answer questions correctly. This refers to how often models generate incorrect information as answers, as happens with similar AI chatbots.

Additionally, she said Anthropic was working on the challenges that businesses face when integrating AI into their workflows.

What is Claude 3?

Claude is a group of large language models (LLMs) developed by Anthropic. The chatbot is capable of handling text, voice messages, and documents. Reviews by The Indian Express have shown that the chatbot is capable of generating faster, contextual responses compared to its peers.

Among the new releases, Claude 3 Opus is the most powerful model, Claude 3 Sonnet is the middle model that is capable and price competitive, and Claude 3 Haiku is relevant for any use case that requires instant responses.

Claude Sonnet powers the Claude.ai chatbot for free at present and users only need an email sign-in. However, Opus is only available through Anthropic’s web chat interface and if a user is subscribed to the Claude Pro service on the Anthropic website. It is available for \$20 a month.

All new models come with a 2,00,000-token window, signifying possibly better performance, accuracy and the capacity to input more information in a user prompt.

How did Claude 3 perform?

Based on the comparison of Claude 3 with its peers, it seems the Anthropic may have caught up with OpenAI. It had surpassed many AI models with the launch of its GPT-4 Turbo.

However, this analysis is purely based on the benchmark scores that Anthropic shared in its announcement. Several experts have suggested that the presentation of AI benchmarks is quite likely to be cherry-picked by the makers.

Claude 3 reportedly demonstrates advanced performance across cognitive tasks such as reasoning, expert knowledge, mathematics, and language fluency. Despite the lack of consensus over whether LLMs can really “know” or “reason,” the AI research community commonly uses these terms.

The company says that the Opus model exhibits “near-human levels of comprehension and fluency on complex tasks.”

While this is a big claim, the scores show that Claude 3 Opus has shown some near-human performance on specific benchmarks. However, this doesn’t mean that Opus possesses general intelligence like humans.

Claude 3 vs GPT-4

Claude 3 Opus has surpassed GPT-4 on as many as 10 AI benchmarks, which include MMLU (undergraduate level knowledge), HumanEval (Coding), HellaSwag (common knowledge), and GSM8K (grade school maths).

On the benchmark scores, Claude 3 beats its peers narrowly. For example, in the five-shot MMLU trial, Claude 3 secured 86.8 per cent while GPT-4 obtained 86.4 per cent.

On the other hand, significant gaps can also be seen like in Multilingual Maths (MGSM) Claude 3 scored 90.7 per cent, while GPT-4 closed at 74.5 per cent.

While these scores look great on paper, how they translate for users is difficult to predict. Moreover, experts say that LLM benchmarks should be treated with caution. Even though one cannot gauge their ease of use, the scores in themselves are significant as they overtake GPT-4.

Claude 3 has also shown improvements in terms of analysis, forecasting, content creation, multilingual conversations, code generation, etc. Anthropic claimed that the new model family also comes with enhanced vision capabilities, allowing Claude 3 to process photos, charts, and diagrams, much like GPT-4V.

Limitations of Claude 3

According to those who had early access to the model, Claude 3 performs well in tasks such as answering factual questions and optical character recognition (OCR), meaning the ability to extract text from images. Reportedly, the new model is good at following instructions and completing tasks like writing Shakespearean sonnets.

However, it struggles with complex reasoning and mathematical problems at times. It also exhibited biases in its responses, such as favouring a certain racial group over others.

In the past too, other AI models have faced similar problems. Google’s AI chatbot Gemini was criticised after it showed racial bias and historical inaccuracies. It refused to generate images of white individuals and depicted those individuals as people of colour.

Anthropic has emphasised the safety features of Claude 3, especially its refusal to generate harmful or illegal content.

The company was also among the first to bring about Constitutional AI. Developers laid down a set of values that the system must follow so that it undertakes politically and socially responsible actions.

As of now the Claude 3 is the most expensive model on the market, but Anthropic has plans to release affordable versions soon. Based on the early reports, benchmarks, and confidence from the AI community, Claude 3 seems to be a significant step forward in the development of LLMs.

<https://indianexpress.com/article/explained/explained-sci-tech/anthropic-new-claude-3-ai-model-comparison-gpt-9197032/>



Tue, 05 Mar 2024

Astronomers improve Supercomputer Simulations to Study Formation of Galaxies

Cosmological simulations are an important tool for scientists to better understand the universe, and examine the accuracy of various theories. The predictions from such simulations are limited by the resolution of the simulations, as well as a number of embedded assumptions, including the dynamics of the interstellar medium and the life cycles of stars.

Over the past decade, simulations have improved considerably, allowing scientists to better understand how galaxies are formed. To reduce the errors and improve the accuracy of the simulations, a team of 160 researchers from 60 academic institutions around the world have now presented the largest comparison of simulations so far.

The effort has resulted in a series of three papers published in *The Astrophysical Journal*, exploring the formation of galaxies of similar size as the Milky Way. The papers examine the assembly of the galaxy and the formation of its halo, satellite galaxies that orbit a large galaxy, eventually merging with it, and the similarities as well as differences in the circumgalactic medium in the various simulations.

The researchers have also resolved a long standing problem in astrophysics known as the ‘missing satellites problem’ which is a discrepancy between observations and simulations on satellite galaxies orbiting larger galaxies.

The research has revealed that the crucial factor in more accurate simulations is the modelling of the gas surrounding the galaxies, rather than the number and distribution of stars.

Lead researcher Santi Roca-Fàbrega says, “To make progress towards a theory of galaxy formation, it is crucial to compare results and codes from different simulations. We have now done this by bringing together competing code groups behind the world’s best galaxy simulators in a kind of supercomparison. The work has been going on for the past eight years and has entailed running hundreds of simulations and using a hundred million hours of supercomputing facilities.”

<https://www.news9live.com/science/astronomers-improve-supercomputer-simulations-to-study-formation-of-galaxies-2457510>

