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समाचार पत्रों से चयित अंश Newspapers Clippings

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DRDO Technology News



Press Information Bureau
Government of India
Ministry of Defence

Fri, 27 Aug 2021 6:10PM

Raksha Mantri Shri Rajnath Singh addresses Defence Institute of Advanced Technology meeting in Pune;

RM: DIAT working to provide pool of technologists for indigenisation of defence manufacturing
Key Highlights:

- **DIAT working towards self-reliance in critical defence technologies**
- **Schools of quantum technology, robotics and automation opened**
- **Residence facility for married PhDscholars/international students/visiting faculty**

Raksha Mantri Shri Rajnath Singh visited Defence Institute of Advanced Technology (DIAT), a deemed to be University, for its 6th General Body Meeting on 27th August 2021. He is Chairman & Chancellor of the Institute. Speaking on the occasion, he said, it is a matter of great pride that DIAT has been contributing towards nation building by conducting advanced courses in science and technology related to defence and national security.

Shri Rajnath Singh said, “The vision of our honourable PM is to make our nation self-reliant – ‘Atmanirbhar Bharat’. Towards this, we have initiated several steps for indigenisation of defence technologies and manufacturing in the country. These initiatives require large pool of technologists armed with skills of future warfare.”

Raksha Mantri expressed happiness that DIAT has taken proactive role in this direction by opening new schools in the areas of Quantum Technology, Robotics and Automation and Defence Technology. Such augmentation with eminent professors of Indian origin and collaboration with recognised foreign institutes will transform the institute into a frontier technology centre. He also mentioned that DIAT has started interdisciplinary research and teaching programme in the area of Quantum Technologies and Robotics. He also witnessed some demonstrations in these technologies.



Raksha Mantri expressed satisfaction that DIAT has been conducting online certificate courses for the benefit of the young engineering professionals in Artificial Intelligence and Cyber Security which are the preliminaries for future information security and war-gaming. “It is heartening to note that 1,500 young professionals have already been trained by DIAT,” he added. These steps lead to self-reliance in critical defence technologies. In recent years, intake of students in M Tech, MSc and PhD are continuously increasing with better quality of students. Books, patents and paper publications are increasing, exhibiting the academic growth of the institute.

After the GBM, Raksha Mantri addressed DIAT faculty, students and staff. He said that DIAT is in process of collaborating with eminent professors of Indian origin from recognised foreign institutes which will take our institute closer towards making it into a frontier technology institute in these areas. Raksha Mantri congratulated DIAT for taking a lead for self-reliance in these critical technologies.

Speaking about uniqueness of the DIAT, which also conducts various short-term specialised courses like Missile technology, cyber security, cryptology for our defence services, Shri Rajnath Singh said, “DIAT has conducted several International workshops. Armed Forces and DRDO Scientists are continuously updated through such workshops and getting regular doctoral and post-graduate degrees from this University.”

Speaking about academic excellence of the DIAT, Raksha Mantri said, “DIAT faculty members are pioneers in their domain and I am also informed that 03 professors of DIAT are ranked in the top two per cent bracket in the world. I congratulate them and wish many more to achieve this distinction.

Raksha Mantri inaugurated newly constructed married accommodation for PhD scholars/international students/visiting faculty on the campus. After the inauguration of the hostel he witnessed demonstration of free space optical communication project of DIAT.

Shri Rajnath Singh praised DIAT and Defence Research and Development Organisation (DRDO) for coming forward during the time of crisis of country during the pandemic. In this time DIAT acquired nine patents in combating COVID-19 and productionized these technologies industry partners.

Secretary, Department of Defence Research & Development and Chairman, DRDO Shri G Satheesh Reddy, DIAT Vice Chancellor Dr C P Ramanarayanan, senior faculty members, senior civil & military officials and scholars were also present on the occasion.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1749625>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Fri, 27 Aug 2021 6:10PM

रक्षा मंत्री श्री राजनाथ सिंह ने पुणे में उन्नत रक्षा प्रौद्योगिकी संस्थान की बैठक को संबोधित किया;

रक्षा मंत्री: संस्थान रक्षा विनिर्माण के स्वदेशीकरण के लिए प्रौद्योगिकीविद प्रदान करने के लिए काम कर रहा है

प्रमुख बातें:

- उन्नत रक्षा प्रौद्योगिकी संस्थान महत्वपूर्ण रक्षा प्रौद्योगिकियों में आत्मनिर्भरता की दिशा में काम कर रहा है
- क्वांटम प्रौद्योगिकी, रोबोटिक्स और ऑटोमेशन स्कूल खोले गए
- विवाहित पीएचडी विद्वानों/ अंतरराष्ट्रीय छात्रों/ विजिटिंग फैकल्टी के लिए निवास की सुविधा

रक्षा मंत्री श्री राजनाथ सिंह ने दिनांक 27 अगस्त 2021 को उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी), एक डीम्ड विश्वविद्यालय का इसकी छठी आम सभा की बैठक के लिए दौरा किया। वह संस्थान के अध्यक्ष और कुलाधिपति हैं। इस अवसर पर बोलते हुए उन्होंने कहा कि यह है बड़े गर्व की बात है कि संस्थान रक्षा और राष्ट्रीय सुरक्षा से संबंधित विज्ञान और प्रौद्योगिकी में उच्च स्तरीय पाठ्यक्रम संचालित करके राष्ट्र निर्माण में योगदान दे रहा है।



श्री राजनाथ सिंह ने कहा, "हमारे माननीय प्रधानमंत्री की दृष्टि हमारे देश को आत्मनिर्भर भारत बनाने की है। इस दिशा में हमने देश में रक्षा प्रौद्योगिकियों और विनिर्माण के स्वदेशीकरण के लिए अनेक कदम उठाए हैं। इन पहलों के लिए भविष्य में युद्ध के कौशल से लैस प्रौद्योगिकीविदों के बड़े समूह की आवश्यकता है।"

रक्षा मंत्री ने प्रसन्नता व्यक्त की कि उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) ने क्वांटम प्रौद्योगिकी, रोबोटिक्स व ऑटोमेशन तथा रक्षा प्रौद्योगिकी के क्षेत्रों में नए स्कूल खोलकर इस दिशा में सक्रिय भूमिका निभाई है। भारतीय मूल के प्रख्यात प्रोफेसरों के साथ इस तरह की प्रगति और मान्यता प्राप्त विदेशी संस्थानों के सहयोग से यह संस्थान एक अग्रणी प्रौद्योगिकी केंद्र में बदल जाएगा। उन्होंने यह भी उल्लेख किया कि उन्नत रक्षा प्रौद्योगिकी संस्थान



(डीआईएटी) ने क्वांटम प्रौद्योगिकियों और रोबोटिक्स के क्षेत्र में अंतःविषय अनुसंधान और शिक्षण कार्यक्रम शुरू किया है। उन्होंने इन तकनीकों में कुछ प्रदर्शन भी देखे।

रक्षा मंत्री ने संतोष व्यक्त किया कि उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) आर्टिफिशियल इंटेलिजेंस और साइबर सुरक्षा में युवा इंजीनियरिंग पेशेवरों के उपयोग हेतु ऑनलाइन प्रमाणपत्र पाठ्यक्रम संचालित कर रहा है जो भविष्य की सूचना सुरक्षा और युद्धशास्त्र के लिए आवश्यक हैं। उन्होंने कहा, "यह जानकर खुशी हो रही है कि उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) द्वारा 1,500 युवा पेशेवरों को पहले ही प्रशिक्षित किया जा चुका है।" यह कदम महत्वपूर्ण रक्षा प्रौद्योगिकियों में आत्मनिर्भरता की ओर ले जाते हैं। हाल के वर्षों में बेहतर गुणवत्ता के साथ एमटेक, एमएससी और पीएचडी में छात्रों की संख्या लगातार बढ़ रही है। पुस्तकें, पेटेंट और पेपर प्रकाशन बढ़ रहे हैं, जो संस्थान की अकादमिक प्रगति को प्रदर्शित करते हैं।

जीबीएम के बाद रक्षा मंत्री ने उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) संकाय, छात्रों और कर्मचारियों को संबोधित किया। उन्होंने कहा कि उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) मान्यता प्राप्त विदेशी संस्थानों के भारतीय मूल के प्रख्यात प्रोफेसरों के साथ सहयोग करने की प्रक्रिया में है जो हमारे संस्थान को इन क्षेत्रों में एक अग्रणी प्रौद्योगिकी संस्थान बनाने की दिशा में और करीब ले जाएगा। रक्षा मंत्री ने इन महत्वपूर्ण प्रौद्योगिकियों में अग्रणी स्थान हासिल करने के लिए उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) को बधाई दी।

उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी), जो हमारी रक्षा सेवाओं के लिए मिसाइल प्रौद्योगिकी, साइबर सुरक्षा, क्रिप्टोलॉजी जैसे विभिन्न अल्पकालिक विशेष पाठ्यक्रम भी संचालित करता है, की विशिष्टता के बारे में बोलते हुए श्री राजनाथ सिंह ने कहा, "संस्थान ने कई अंतर्राष्ट्रीय कार्यशालाओं का आयोजन किया है। सशस्त्र बलों और डीआरडीओ के वैज्ञानिकों को इस तरह की कार्यशालाओं के माध्यम से लगातार अपडेट किया जाता है और इस विश्वविद्यालय से नियमित डॉक्टरेट और स्नातकोत्तर उपाधि प्राप्त की जाती है।"

उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) की अकादमिक उत्कृष्टता के बारे में बोलते हुए, रक्षा मंत्री ने कहा, "संस्थान के संकाय सदस्य अपने क्षेत्र में अग्रणी हैं और मुझे यह भी सूचित किया गया है कि उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) के 03 प्रोफेसरों को दुनिया में शीर्ष दो प्रतिशत वर्ग में स्थान दिया गया है। मैं उन्हें बधाई देता हूँ और इस उपलब्धि को हासिल करने के लिए और भी बहुत से लोगों की कामना करता हूँ।

रक्षा मंत्री ने परिसर में पीएचडी विद्वानों/अंतर्राष्ट्रीय छात्रों/ विजिटिंग फैकल्टी के लिए नवनिर्मित वैवाहिक आवास का उद्घाटन किया। छात्रावास के उद्घाटन के बाद उन्होंने उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) की मुक्त अंतरिक्ष ऑप्टिकल संचार परियोजना का प्रदर्शन देखा।

श्री राजनाथ सिंह ने महामारी के दौरान देश के संकट के समय में आगे आने के लिए उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) और रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) की प्रशंसा की। इस समय में उन्नत रक्षा प्रौद्योगिकी संस्थान (डीआईएटी) ने कोविड-19 का मुकाबला करने के लिए नौ पेटेंट हासिल किए और उद्योग भागीदारों के साथ मिलकर इन प्रौद्योगिकियों का उत्पादन किया।

इस अवसर पर रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष श्री जी सतीश रेड्डी, डीआईएटी के कुलपति डॉ सी पी रामनारायण, वरिष्ठ संकाय सदस्य, वरिष्ठ नागरिक और सैन्य अधिकारी एवं गणमान्य लोग भी उपस्थित थे।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1749697>

DIAT's the way forward: Def Min Rajnath Singh in Pune

Union Defence Minister Rajnath Singh said that Defence Institute of Advanced Technology (DIAT) in Pune must get its recognition as an institute of “national importance” for its noteworthy research and academic contribution to the nation

By Nadeem Inamdar

Pune: Union Defence Minister Rajnath Singh said that Defence Institute of Advanced Technology (DIAT) in Pune must get its recognition as an institute of “national importance” for its noteworthy research and academic contribution to the nation.

Singh was addressing students and researchers at the DIAT in Pune on Friday.

He further said that DIAT was working to provide a pool of technologists for indigenisation of defence manufacturing in the country.

“DIAT is playing a key role in identifying technologies for the future and training manpower. It is a matter of great pride that DIAT has been contributing towards nation building by conducting advanced courses in science and technology related to defence and national security,” he said.

DIAT is a deemed university of the Defence Research and Development Organisation (DRDO) and Singh was on a day-long visit to the institute. He later visited the headquarters of the Southern Command and the Army Sports Institute (ASI).

Singh said, “The vision of our PM Narendra Modi is to make our nation self-reliant – ‘Atmanirbhar Bharat’. Towards this, we have initiated several steps for indigenisation of defence technologies and manufacturing in the country. These initiatives require a large pool of technologists armed with skills of future warfare.”

He expressed satisfaction that DIAT has been conducting online certificate courses for the benefit of young engineering professionals in Artificial Intelligence and Cybersecurity. “It is heartening to note that 1,500 young professionals have already been trained by DIAT,” he added.

The defence minister also addressed DIAT faculty, students and staff. Singh said, “DIAT has conducted several international workshops. Armed Forces and DRDO Scientists are continuously updated through such workshops and getting regular doctoral and post-graduate degrees from this University. DIAT faculty members are pioneers in their domain and I am also informed that three professors of DIAT are ranked in the top two per cent in the world in their fields. I congratulate them and wish many more achieve this distinction.”

Singh also inaugurated a newly constructed married accommodation for PhD scholars and international students, including visiting faculty, at the campus.

Singh praised DIAT and Defence Research and Development Organisation (DRDO) for helping the country during the pandemic. DIAT acquired nine patents related to Covid-19.

Secretary, Department of Defence Research and Development and Chairman, DRDO, G Satheesh Reddy, DIAT vice-chancellor Dr C P Ramanarayanan, senior faculty members, senior civil and military officials and scholars were also present.

<https://www.hindustantimes.com/cities/others/diats-the-way-forward-def-min-rajnath-singh-in-pune-101630080269175.html>

'A Sense of Pride': Defence Minister heaps praise on DRDO for technological advancements

Defence Minister Rajnath Singh has said it is not possible to make India a superpower without advanced technology. He is proud of DRDO's contributions

By Vidyashree S

Defence Minister Rajnath Singh on Friday, August 27, said that India can become a superpower with the adaptation of advanced technology. The Defence Minister is in Pune to visit some key defence establishments including the Defence Institute of Advanced Technology (DIAT), the headquarters of the Southern Command of the Indian Army and the Army Sports Institute (ASI).

Speaking at DIAT, the Minister said, "It is not possible to make India a superpower without advanced or niche technology. We feel a sense of pride when we think of institutions like the DRDO".

Pune visit's schedule

At DIAT, the Defence Minister is scheduled to chair the General Body meeting of the institute. He would interact with the faculty and students, and also inaugurate a few newly constructed facilities.



Credit: PTI

According to the officials, Defence Minister will review the operational preparedness at the Headquarters of the Southern Command. Singh will be briefed by the top brass in presence of Army Chief General MM Naravane and Southern Army Commander Lieutenant General JS Nain.

He will also felicitate the Olympians from services at the Army Sports Institute in Pune, as stated by the Ministry of Defence on Sunday. Many from the Armed Forces who represented India in Tokyo Olympics will be present on the occasion. Also, gold medalist javelin thrower Neeraj Chopra will be present. Singh will also interact with the aspiring sportsmen of ASI and troops during his visit. During his visit, he is also slated to name the stadium in the campus as 'Neeraj Chopra Army Sports Institute, Pune Cantonment'.

DRDO's Chaff Technology

On August 25, the DRDO informed that its latest advanced Chaff technology provides safety to the fighter jets of the Indian Air Force. It also helps with passive jamming against infra-red and radar threats. With the help of the Pune-based facility of the DRDO, the Defence Laboratory in Jodhpur has developed advanced chaff material and chaff cartridges.

Addressing the media, the Director of Defence Lab in Jodhpur Ravindra Kumar had said, 'In today's electronic warfare, survivability of fighter aircraft is of prime concern because of advancement in modern radar threats. To ensure the survivability of aircraft, CounterMeasure Dispensing System (CMDS) is used which provides passive jamming against Infra-Red and radar threats.'

<https://www.republicworld.com/india-news/general-news/a-sense-of-pride-defence-minister-heaps-praise-on-drdo-for-technological-advancements.html>

Achieving advancement in technology can make India superpower: Defence Minister Rajnath Singh at DIAT

"Some initiatives have been started by the defence ministry to make progress in research and innovation through collective efforts from armed forces, industries and academia," said Defence Minister Rajnath Singh

Edited By Shipra Parashar

Highlights

- 1. Rajnath Singh said that the Centre has allocated Rs 1,000 crore for iDEX.**
- 2. Besides that, the government has also allocated Rs 500 crore to push research and innovation in aerospace and defence by supporting 300 startups.**

New Delhi: Defence Minister Rajnath Singh on Friday (August 27, 2021) said that if India achieves advancement in technology, it can become a superpower.

He said this while addressing students and researchers here at the Defence Institute of Advanced Technology (DIAT), a deemed university of the Defence Research and Development Organisation (DRDO).

Singh said that Prime Minister Narendra Modi is committed to taking the country on the path of progress in research and innovation.

"Some initiatives have been started by the defence ministry to make progress in research and innovation through collective efforts from armed forces, industries and academia and it can happen only through mutual understanding and by sharing knowledge and best practices," he said.

Singh said that the defence ministry has created a platform called "iDEX" (innovation for defense excellence) to engage and attract new talent and to get field experience and inputs from the armed forces personnel from the field as it has got security importance.

He added that the Centre has allocated Rs 1,000 crore for iDEX. Besides that the government has also allocated Rs 500 crore to push research and innovation in aerospace and defence by supporting 300 startups, he added.

Talking about his recent visit to Nagpur and giving example of successful delivery of one lakh hand grenades produced by a private player to the Indian Army in five months, Singh said that the firm had exported similar hand grenades to Indonesia at a higher cost.

The Indian cost for each hand grenade is Rs 3,400 and the company exported similar grenades to Indonesia at over Rs 7,000 apiece, he said.

"My point is that if we achieve advancement in technology, India can become a superpower. It can become a super economic power," he said.

Singh also appreciated the efforts of the institutes for taking nine patents in the COVID research area.

<https://zeenews.india.com/india/achieving-advancement-in-technology-can-make-india-superpower-defence-minister-rajnath-singh-at-diat-2388926.html>



(Credits: ANI)

सुपरपावर की रेस: राजनाथ सिंह ने कहा- उन्नत तकनीक हासिल किए बिना भारत महाशक्ति नहीं बन सकता

सार

केंद्रीय रक्षा मंत्री राजनाथ सिंह ने कहा कि रक्षा मंत्रालय ने सैन्य बलों, उद्योगों व शिक्षाविदों के साझा प्रयास के जरिये अनुसंधान व नवाचार में प्रगति करने की कुछ पहल शुरू की हैं

विस्तार

पुणे: केंद्रीय रक्षा मंत्री राजनाथ सिंह ने शुक्रवार को कहा कि यदि हम उन्नत तकनीक तैयार करने की उपलब्धि हासिल कर लें, तब ही भारत एक सुपरपावर बन सकता है। उन्होंने कहा, इसीलिए प्रधानमंत्री नरेंद्र मोदी देश को शोध और नवाचार में प्रगति के पथ पर ले जाने के लिए प्रतिबद्ध हैं।

राजनाथ यहां रक्षा उन्नत तकनीक संस्थान (डीआईएटी) में छात्रों और शोधकर्ताओं से बात कर रहे थे। डीआईएटी रक्षा अनुसंधान व विकास संगठन (डीआरडीओ) का डीम्ड विश्वविद्यालय है। उन्होंने कहा, रक्षा मंत्रालय ने सैन्य बलों,



रक्षा मंत्री राजनाथ सिंह - फोटो : ANI

उद्योगों व शिक्षाविदों के साझा प्रयास के जरिये अनुसंधान व नवाचार में प्रगति करने की कुछ पहल शुरू की हैं। यह केवल आपसी समझ और ज्ञान व सर्वोत्तम प्रथाएं साझा करने से ही संभव हो सकता है।

उन्होंने कहा, रक्षा मंत्रालय ने आईडीईएक्स (इनोवेशन फॉर डिफेंस एक्सीलेंस) नाम का प्लेटफॉर्म स्थापित किया है ताकि नई प्रतिभाओं को सुरक्षा बलों के जवानों से अनुभव व इनपुट साझा करने में मदद मिल सके। इस परियोजना के लिए केंद्र सरकार ने 1,000 करोड़ रुपये आवंटित किए हैं। इससे इतर सरकार ने एयरोस्पेस व रक्षा के क्षेत्र में नवाचार व शोध के लिए भी 500 करोड़ रुपये आवंटित किए हैं, जिनसे 300 से ज्यादा स्टार्टअप कंपनियों की मदद की जा रही है।

रक्षा मंत्री ने नागपुर की एक निजी कंपनी की तरफ से पांच माह के अंदर भारतीय सेना को एक लाख से ज्यादा हथगोले डिलीवर करने का जिफ्र किया और कहा, यह कंपनी वही हथगोले इंडोनेशिया को निर्यात करती थी। लेकिन भारत को लागत 3400 रुपये प्रति हथगोला पड़ रही है, जबकि इंडोनेशिया को 7000 रुपये प्रति हथगोला के हिसाब से निर्यात किया गया है। उन्होंने कहा, मेरा मुद्दा यह है कि तकनीक में उन्नति हासिल करने से भारत एक आर्थिक सुपर पावर बन सकता है।

<https://www.amarujala.com/india-news/rajnath-singh-said-india-cannot-become-a-superpower-without-acquiring-advanced-technology>

Defence research, technology growing increasingly popular among students: DRDO Chief

Reddy was speaking on the sidelines of the launch of a one-year post-graduate diploma in Defence Technologies, jointly conducted with the Department of Defence and Strategic Studies, Savitribai Phule Pune University

Pune: There is a lot of interest among young students to pursue defence research, technology and allied studies in the country in recent years, said Dr G Satheesh Reddy, chairman of the Defence Research and Development Organisation (DRDO), on Friday.

Reddy was speaking on the sidelines of the launch of a one-year post-graduate diploma in Defence Technologies, jointly conducted with the Department of Defence and Strategic Studies, Savitribai Phule Pune University.

Starting this year, DRDO and All India Council for Technical Education (AICTE) have also launched an M.Tech programme in Defence Technologies. So far, 42 engineering institutes have decided to offer this two-year course.



Dr G Satheesh Reddy

“Compared to a few years ago, when most students opted for Information Technology and Communication, there is a lot of interest shown by students in pursuing defence studies and research. With the constant push for ‘Make in India’, there is now an atmosphere... wherein a lot of defence technology, industries and start-ups are being developed, making students keen on this subject,” said Reddy.

The PGD offered by SPPU will have a student intake capacity of 40, all of whom will be selected on merit following an entrance test. The course, open for all science graduates including engineers, is expected to start some time in October.

On the changing trend and the new-found attraction towards pursuing defence as an academic subject, Reddy, who is also the secretary of the Department of Defence and R&D, said, “Defence technology as a subject was not being taught anywhere. The idea of introducing the M.Tech course is to develop required skillsets in students who can then opt either for R&D, industry or design and development, thus creating... skilled manpower and eco-system. With over 40 institutes rolling out the M.Tech course within a very short span of its announcement, this itself is an indication, and it would not have been possible unless there was interest shown by the students.”

With growing emphasis on indigenously-developed materials and technology for defence purposes, the DRDO plans to fund 500 PhD scholars solely for defence-related research. Over 300 institutions and eight Centres of Excellence at various national institutes are also working on DRDO sponsored projects, which are futuristic in nature.

“The defence sector and the industry have taken a quantum jump... academia has played a major role in this,” Reddy said.

Sharing the growing numbers, the DRDO Chairman said that in India, at present, there are more than 2,000 industries involved in tier I and II tasks — in developing systems and subsystems for the defence sector. In addition, there are over 10,000 industries working in tier III — supplying components and required parts. There are also many start-ups which are now working on defence technologies.

<https://indianexpress.com/article/cities/pune/defence-research-technology-growing-increasingly-popular-among-students-drdo-chief-7474392/>

Standing Committee on Defence visits Eastern Naval Command and NSTL

The Parliamentary Standing Committee on Defence (SCOD) has visited the Eastern Naval Command (ENC), here today at Visakhapatnam. Jai Oram, Chairman of Standing Committee on Defence along with 18 member delegation comprising of Members of Parliament, Officials from Lok Sabha Secretariat and Ministry of Defence were briefed on the role and operational activities of the ENC. The team interacted with Vice Adm Ajendra Bahadur Singh, AVSM, VSM, Flag Officer Commanding-in-Chief, ENC.



The team was given a guided tour of indigenously build Stealth Multi-role Frigate INS Satpura. The team also visited various facilities of Naval Dockyard, Visakhapatnam and reviewed the operational preparedness of the Indian Navy on the Eastern seaboard. The SCOD members paid homage to the naval personnel who made the supreme sacrifice, in the line of duty to the nation at the 'Smaram Sthal' Memorial in Naval Dockyard.

Later, the SCOD team visited Naval Science and Technological Laboratory (NSTL), the DRDO Laboratory at Visakhapatnam. The team was briefed by Director NSTL Dr. Y Sreenivas Rao. The SCOD team visited various facilities of the Lab and reviewed ongoing major R&D initiatives including the innovations and indigenisation projects of the lab.

<https://newsonair.com/2021/08/28/standing-committee-on-defence-visits-eastern-naval-command-and-nstl/>

How DRDO's electro-optical system will help detect rouge drones

Over the past few years, the use of small drones in the civilian sector has increased, but it has also raised the specter of threats by rough elements and terrorists

With the Indian government further opening up the skies for the use and manufacture of unmanned aerial vehicles (UAV) by the civilian sector, there is also an increased threat perception regarding the use of small drones to carry out illegal activities and create law and order problems by rouge elements and terrorists carrying out attacks on military and civilian targets. The Government of India's open sky policy for UAVs can be safeguarded if strong anti-drone measures are put in place. With this objective, the Defence Research and Development Organisation (DRDO) is developing a new electro-optical system to track such flying objects. The Dehradun-based Instruments Research and Development Establishment (IRDE) is undertaking the project. This is the second project by DRDO to help develop a surveillance system for tracking drones.

Requirements of the system

The DRDO sources were quoted saying in one of the reports that the system, which will be developed by IRDE, must be capable for detecting four-foot long UAVs, flying at speeds up to 300 kmph from a distance of 3 km and drones of the size of one-foot and flying at 70 kmph from a distance of 2 km. This system will also employ thermal imagers, high-resolution video cameras, laser illuminators and laser rangefinders to detect and track drones. The new tracking system will have the capability to be integrated with existing air-defense radars and other surveillance systems.

Why we need electro-optical system?

Due to the small size with low operating altitude and speeds of small drones, existing air-defense systems and standalone equipment are ineffective in detecting UAVs encroaching into restricted airspaces. A combination of systems that can detect the electromagnetic and Radio Frequency (RF) emissions generated due to the communication between the drone and its remote controller, reflection of microwaves, infrared and visible light with the help of optical instruments are essential for detecting, tracking, and identifying drones.

Over the past few years, the use of small drones in the civilian sector has increased significantly. They are being used extensively for carrying out commercial or personal activities like aerial survey or photography. With the advancement in the technology, the threat of drones being used by terror groups, rogue elements, or hostile nations has also increased manifold.

Terror groups have intruded into sensitive airspace with the help of small drones. In June this year two drones were used to trigger explosions inside the Indian Air Force Station in Jammu in which traces of RDX were later detected. In March, a Pakistani drone intruded into Indian airspace over Anupgarh in Sri Ganganagar district of Rajasthan that was eventually shot down by the Indian Air Force. In July, the Border Security Force (BSF) foiled an attempt by a quadcopter to across the International Border (IB) in the Arnia sector of Jammu. These incidents highlight the threats posed by small UAVs that are operated by hostile nations, non-state actors, and criminals.

The new drone policy

With the new Drone Rules, 2021, doing away with security clearance requirement for operating and registration of small drones, the need to have a robust surveillance and tracking system is even more imperative. The new rules have ushered in a liberalized regime for UAVs that is expected to fuel growth in this sector. Several state agencies and private companies are testing Beyond Visual Line of Sight (BVLOS) operations for drone-based delivery of goods. Given the increase in the use of small drones in multiple areas, DRDO's electro-optical system will prove to be essential in the coming times to safeguard the country's civilian airspace.

<https://www.geospatialworld.net/article/gis-how-drdo-electro-optical-system-to-help-detect-rouge-drones/>

BrahMos missile manufacturing unit in UP to provide 15,000 jobs

The BrahMos missile manufacturing project in Uttar Pradesh's Defence Corridor will provide direct employment to about 500 engineers and technicians and create thousands of other jobs

By Abhishek Mishra

Lucknow: Uttar Pradesh is soon going to play an important role in the defence sector. In fact, there is a plan to produce the next generation of BrahMos missile in Lucknow, the capital of the state. The state government will make available land and other facilities for this. The BrahMos Aerospace will manufacture the next generation BrahMos missile at the Lucknow node of the UP Defence Corridor.

The project will provide direct employment to about 500 engineers and technicians. Apart from this, 5,000 people will get indirect employment. With the establishment of ancillary units related to the defence industry, about 10,000 people will get employment.

Dr Sudhir Kumar Mishra, Chief Executive Officer and Managing Director of BrahMos Aerospace met CM Yogi Adityanath on Tuesday. He told the Chief Minister that there is a plan to produce 100 missiles of BrahMos in Lucknow in the next three years under the Uttar Pradesh Defence Industrial Corridor. At present, these missiles are being manufactured in Nagpur and Hyderabad in the country.

About 200 acres of land would be required for the production of next generation BrahMos missiles. An investment of about Rs 300 crore will be required to complete this project. Civil construction work will start within three months from the date of availability of land.

With the construction of BrahMos missile in Lucknow, Uttar Pradesh will move fast towards becoming the country's aerospace and defence hub. Lucknow will be established on the global map in the manufacturing sector. More than 200 industrial units involved in manufacturing of various systems and sub-systems of BrahMos missile will also set up their production units near the project site.

Speaking to India Today, Satish Mahana, UP Minister of Industrial Development said the land acquisition process in Lucknow has begun.

“BrahMos missile project is a big achievement for UP. On the instructions of the Chief Minister, there is a plan to lay the foundation stone of this project by September-end, when the land acquisition process and documentation will be completed,” said Satish Mahana.

Defence expert retired brigadier Umesh Kumar Chopra said the BrahMos supersonic cruise missile is being designed, developed and produced by BrahMos Aerospace, a joint venture between DRDO and the Russian government's NPOM. He said the missile flies at three times the speed of sound (2.8 Mach) and has a range of 290 km. The missiles have also been exported to the Philippines, Vietnam and other countries in the Middle East.

<https://www.indiatoday.in/india/story/brahmos-missile-manufacturing-unit-up-provide-15000-jobs-1846302-2021-08-28>



The BrahMos manufacturing unit in UP is expected to provide employment to 15,000 people (File photo)

बालाकोट जैसी एयर स्ट्राइक अब होगी आसान, पता नहीं चलेगा किस देश के लड़ाकू विमान थे

By Gajendra Singh Dahiya

- डीआरडीओ जोधपुर सुपर चैफ टेक्नोलॉजी विकसित करने में जुटा
- लड़ाकू विमान को पूरा ढक लेगा फाइबर, राडार कुछ भी नहीं देख सकेगा, दुश्मन देश में मिसाइल व बम की तरह छोड़ा जाएंगे फाइबर्स
- दुनिया में अब तक किसी भी देश के पास नहीं है तकनीक

जोधपुर. अमरीका व रूस सहित समूचे विश्व की वायुसेना इस समय सुपर चैफ टेक्नोलॉजी विकसित करने में जुटी है। भारतीय वायुसेना भी इस दौड़ में शामिल है। भारत में इसकी कमान रक्षा अनुसंधान एवं वैज्ञानिक संगठन (डीआरडीओ) यानी रक्षा प्रयोगशाला जोधपुर कर रहा है। सुपर चैफ टेक्नोलॉजी के बाद बालाकोटा जैसे एयर स्ट्राइक काफी आसान होगी। दुनिया में अब तक बना कोई भी राडार पता नहीं लगा पाएगा कि लड़ाकू विमान कब और कहां आए और कैसे निकल गए। संभवतः अगले दो साल में भारत यह तकनीक विकसित करके सबसे शक्तिशाली वायुसेना बना लेगा।

इस समय लड़ाकू विमान सहित हवा में उड़ती हुई कोई भी चीज को राडार अपनी माइक्रोवेव तरंगों से पहचान लेता है और प्रतिक्रिया स्वरूप उस पर राडार जनित मिसाइल से हमला करके हवा में ही नष्ट कर देता है। राडार से लड़ाकू विमानों को बचाने के लिए पूरे विश्व की वायुसेना इस समय चैफ टेक्नोलॉजी का इस्तेमाल कर रही है। इसमें राडार विमान को देखने के बाद उस पर मिसाइल हमला तो करता है लेकिन चैफ जैसे अदृश्य बादलों के कारण मिसाइल रास्ता भटक जाती है और विमान बच जाता है। चैफ का इस्तेमाल करने के लिए लड़ाकू विमान के पायलट को बहुत कम समय मिलता है। साथ ही कई मिसाइल हमलों में उसका बचना संभव नहीं होता है।

क्या है सुपर चैफ टेक्नोलॉजी

इस तकनीक में हवा में ऐसे चैफ फाइबर्स छोड़े जाएंगे जो राडार की माइक्रोवेव तरंगों को परावर्तित करने की बजाय उसको अवशोषित कर लेंगे। ये फाइबर्स करोड़ों की संख्या में अधिक समय तक हवा में तैरते रहेंगे ताकि राडार से लगातार आने वाली माइक्रोवेव को सोखते रहें। एक तरह यह लड़ाकू विमान को पूरा ढक लेगा। इस दौरान विमान दुश्मन देश की वायु सीमा में दाखिल हो जाएगा। राडार इसे देख नहीं पाएगा और विमान अपना काम करके निकल जाएगा।

मिसाइल अथवा बम की तरह फायर करना होगा

एडवांस चैफ फाइबर्स को लड़ाकू विमान से मिसाइल अथवा बम की तरह फायर करना होगा। धमाके से एक साथ निकले करोड़ों फाइबर्स एक सुरक्षित गलियारा बना लेंगे। लगातार आगे बढ़ते के लिए एडवांस चैफ फाइबर्स की लगातार फायरिंग करनी पड़ेगी। इसी गलियारे से लड़ाकू विमान गुजरता रहेगा। राडार पर स्क्रीन साफ होने अथवा किसी तरह के सिग्नेचर नहीं होने से किसी भी देश के पास यह सबूत नहीं रहेगा कि किसी अन्य देश के लड़ाकू विमानों ने उसकी सीमा में घुसपैठ की है।



<https://www.patrika.com/jodhpur-news/air-strike-like-balakot-will-now-be-easy-7036713/>



Sat, 28 Aug 2021

Indian Fighter Jets to be equipped with same missiles as F-35 Lightning II, Eurofighter Typhoon

By Nitin J Ticku

India has successfully designed, manufactured, and tested several missiles under the aegis of BrahMos Aerospace. Now, India will establish another global missile development facility that will give it access to the same missiles as have been integrated with F-35 Lightning II and Eurofighter Typhoons.

European defense giant MBDA and India's Bharat Dynamics Limited (BDL) recently signed an agreement, under which the latter will assemble, integrate and test an Advanced Short Range Air-to-Air Missile (ASRAAM), according to reports.

Under the new pact, MBDA will transfer "equipment, knowledge, and training" to establish the new facility, which will be focused initially on MBDA's Advanced Short Range Air-to-Air Missile (ASRAAM).

It has been integrated with the Eurofighter Typhoon, F/A-18, Tornado, and F-35 Lightning II aircraft. It is used by the British Royal Air Force and Royal Australian Air Force and has also been ordered by India.



The BrahMos missiles on display at International Maritime Defence Show, St. Petersburg, 2007.

The ASRAAM was selected by India under a \$250M contract announced in 2014. The missile will equip the Indian Air Force's SEPECAT Jaguar fighter fleet.

MBDA will assist BDL to set up a facility within the latter's existing one in Telangana, as a part of the agreement for "final assembly, integration and test" (FAIT). The licensing agreement to support the set up of the joint FAIT was signed by the two companies on August 17.

The facility will also provide for assembly, integration, and testing of the CAMM missile, a part of the company's Sea Ceptor naval air defense system. It is a next-generation missile designed for air, land, and sea environments.

The CAMMs have supersonic speed and is a highly effective and easily deployable local area air defense system. Its compact design and lightweight allow multiple missiles to be carried by conventional wheeled vehicles.

This missile is being offered to the Indian Navy to fulfill its short-range surface-to-air missile requirement. BDL has said that the construction facility will start immediately, while operations will begin in 2022-23.

MBDA is a European developer and manufacturer of missiles. It was formed as a joint venture by a merger of the guided-missile divisions of Airbus, Leonardo, and BAE Systems in December 2001, according to published reports.

The BrahMos

The name "BrahMos" is derived from the Indian and Russian rivers Brahmaputra and Moskva, respectively. BrahMos Aerospace was established as a joint venture between India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyeniya (NPOM).

The company focuses on designing, developing, producing, and marketing the BrahMos. The missile that flies at Mach 2.8 — almost three times the speed of sound — is considered the world's fastest supersonic cruise missile.

The missiles use a propulsion system powered by either rockets or engines. Some even use hybrid technology. It also has a guidance system that maintains the missile's desired flight path by using an altitude control mechanism.

India has successfully tested all three variants of the missile — from land, air, and sea — thereby ensuring its deployment by all three services.

The BrahMos missiles are a crucial addition to India's arsenal and will be of strategic importance in dealing with China's pressure in the geopolitically significant Indian Ocean Region (IOR). Last December, the missiles were tested back-to-back in this region, most likely as a message to China.

'Self-Reliance' In Defense Production

These two partnerships between Indian companies and original equipment manufacturers (OEMs) play an extremely important role in helping India achieve self-reliance under the Modi government's "Atmanrbhar Bharat" and "Make in India" initiatives.

Receiving technical knowledge and manufacturing know-how from other countries is also likely to help other indigenous programs. For instance, the MBDA collaboration is expected to help out DRDO's Next-Generation Close Combat Missile (NGCCM) project.

At the same time, the upcoming facility for manufacturing the next-gen BrahMos missile which could come up in Uttar Pradesh is likely to have a booster impact in the region. This will help generate employment in the region.

The BrahMos aerospace already has facilities in Hyderabad, Nagpur, and Bilani, where orders valued at Rs 35,000 crore have already been placed by the Indian armed forces.

The IAF has also shown interest in acquiring 400 BrahMos Next Generation missiles. The venture is also seeing a possibility of Rs 10,000 crore worth of export orders in the next five years.

<https://eurasianimes.com/indian-fighter-jets-missiles-as-f-35-lightning-ii-eurofighter-typhoons/>

Nigerian envoy to India presents letter of credence to Indian President

The Nigerian High Commissioner to the Republic of India, Ahmed Sule, has presented his Letter of Credence to the President of India, Shri Ram Nath Kovind.

The presentation which took place through video conference, included presentations from the Apostolic Nuncio of the Holy See to India, Archbishop Leopoldo Girelli; Ambassador of the Republic of Austria to India, Mrs Katharina Wieser and the Ambassador of the Republic of Korea to India, Mr Chang Jae-bok.

In his remarks, Sule conveyed the good wishes of President Muhammadu Buhari to the President of India.

Sule also used the occasion to call for increased bilateral relations between India and Nigeria, particularly in the areas of economy and security.

‘During the presentation ceremony, I used the opportunity to convey the fraternal greetings of HE President Muhammadu Buhari to the President of India and extend on behalf of the people of Nigeria, best wishes to the Government and people of India.

‘I mentioned that Nigeria and India enjoy very warm and friendly bilateral relations spanning several decades and being the biggest economy in Africa, the country has huge investment opportunities in areas such as agriculture, mining, manufacturing, energy, information and communication technology and pharmaceuticals.

‘I invited Indian companies to take advantage of Nigeria’s endowed potentials and invest.

‘I also used the opportunity to reiterate the need to sustain the Joint Defence Consultative Committee meeting between Nigeria and India in furtherance of our mutual Defence cooperation, as well as the Joint Development of Mine detector between our Defence Ministries through the Defence Research and Development Organisation (DRDO), India, and the Defence Research and Development Bureau of Nigeria,’ Sule said.

Sule further emphasised that such collaboration should be sustained and encouraged by both sides.

‘I also talked about the recent Dialogue on Counter-Terrorism at the National Security Advisers level, the first to be hosted by India with any African country as a welcome development.

‘Lastly, I requested for continued collaboration with the relevant government authorities of India to explore other areas of mutual cooperation between our countries,’ Sule also said.

Speaking earlier, President Kovind said Nigeria is India’s largest trading partner in Africa and expressed satisfaction with the level of bilateral cooperation between Nigeria and India at various fora.

The President of India also used the ceremony to convey his good wishes to President Buhari and recalled his visit to India in 2015 as memorable.

He added that two Nigerian presidents were alumni of Wellington Defence College, India and reaffirmed the deep-rooted relationship between India and Nigeria.



President Kovind congratulated the envoys on their appointment and conveyed his good wishes to them for a successful tenure in India.

President Kovind added that India's engagement at the United Nations and other multilateral fora has resulted in mutually beneficial partnerships.

He stated that India remains committed to a just and equitable global order, keeping in mind, the interests of the developing countries and under-represented.

<https://www.sunnewsonline.com/nigerian-envoy-to-india-presents-letter-of-credence-to-indian-president/>



Sun, 29 Aug 2021

RPT: Review - Might and Fury: Army-2021 Forum ends on high note in Moscow

By Muhammad Irfan

Moscow (UrduPoint News / Sputnik - 29th August, 2021) From experimental weapons and next-generation drones to acoustic-thermal reconnaissance systems, the seventh edition of Russia's Army forum, which took place in the Moscow Region this week, not only showcased cutting-edge military technologies but also gave observers a glimpse into the future of aerospace and defense.

The Army-2021 defense industry forum started on August 22 and ran through Saturday in Patriot Congress and Exposition Center, as well as at the Kubinka airfield and the Alabino training ground. More than 1,500 enterprises, including from 12 foreign countries, exhibited their products. In total, the forum showcased over 28,000 exhibits from industrial enterprises for open inspection.

The forum has long been a platform for signing military contracts, and this one has not become an exception. Russia has managed to sign over \$2.3 billion worth of contracts with China, India, Myanmar and other countries. The contracts with India are known to be related to land equipment, while contracts with China cover naval equipment.

India has traditionally been a frequent guest at the Russian forum. The Indian delegation this year included Ambassador in Moscow Bala Venkatesh Varma and defense ministry officials, as well as the Defence Research and Development Organization (DRDO), which develops advanced chaff technology for the Indian air force.

"We are offering indigenously developed products like Anti Tank Guided Missiles Nag and Helina, Astra, artillery gun ATAGS, the surface to air missile Akash, some radars etc. We intend to make people aware about indigenously developed products," a DRDO representative told Sputnik.

According to the official, the advanced chaff technology safeguarding Indian fighter jets has been developed entirely in India.

Detecting Enemies Via Thermal, Sound Reconnaissance

One of the key novelties showcased at the Army-2021 forum was an acoustic-thermal reconnaissance system under the name Penicillin. Produced by Rostec subsidiary Ruselectronics Holding, the system is capable of detecting the positions of artillery, mortars and multiple launch rocket systems of the enemy.

"We look forward to a great interest in Penicillin.

Negotiations are already underway with several potential foreign customers," Director for International Cooperation and Regional Policy of Rostec State Corporation, Viktor Kladov, told Sputnik.

According to Kladov, Penicillin is superior to analogs by that it detects enemy artillery not using radar but by a combined application of thermal and sound reconnaissance.

"The system captures acoustic and thermal signals from shots and explosions, gives out the exact coordinates of the location of the guns and puts them on an electronic map of the area both with the help of an operator and in an automated mode," he explained.

Attack helicopter flew over 3,000 miles for Army Forum

Russian Helicopters, another Rostec subsidiary, presented its brand new Mi-171Sh helicopter, which flew from the East Siberian city of Ulan-Ude to partake in the forum. It took the helicopter 3,000 miles and five days to reach the Patriot Park near Moscow.

"The helicopter acquired additional features to effectively support airborne assault operations," the company said.

Mi-171Sh Storm, designed to carry out counterterrorist missions, is equipped with a new rotor system, an integrated flight and navigation system, and an improved combination of weapons and defense systems.

Apart from Mi-171Sh, the company presented the BAS-200 unmanned aerial vehicle that can carry up to 110 Pounds.

"BAS-200 is capable of performing flights for up to 4 hours at altitudes up to 3,900 meters (2.4 miles)," the company added.

The Kalashnikov defense company presented a brand new S-8L guided missile compatible with combat drones. This rocket can destroy targets both single and group, mobile and stationary. The missile has a semi-active laser homing head, a high-explosive fragmentation warhead, a range of up to 6 kilometers (3.7 miles).

Kalashnikov also premiered the PPK-20 submachine gun at the Army-2021 forum. It is intended for pilots of the Russian Aerospace Forces but will also be available for export.

"PPK-20 has a telescopic stock for firing from the left and right shoulders, a collimator sight, a Picatinny rail, and an infrared beam," Kalashnikov deputy general director Denis Fesenko told reporters.

<https://www.urdupoint.com/en/world/rpt-review-might-and-fury-army-2021-forum-1337469.html>

Mhow: With PM Cares fund, work on oxygen plant at Manpur Hospital starts

The plant has been erected on the garden premises of this health centre, which is 20 kilometres from the Mhow tehsil headquarters

A full-fledged oxygen plant has come up at Manpur Hospital with PM Cares fund. This is good news for residents of a small town called Manpur, of Mhow tehsil. This oxygen plant has come up with state-of-the-art technology at the Manpur Community Health Centre. The plant has been erected on the garden premises of this health centre, which is 20 kilometres from the Mhow tehsil headquarters.

For the first time, such a project is being executed under any central government scheme. Before this plant, there was only one oxygen plant in Mhow tehsil, which was at Mhow Civil Hospital, also called Madhyabharat Hospital. That plant was prepared in just 60 days' time under the leadership of then Mhow SDM Abhilash Mishra when the corona pandemic spread to Mhow as almost all parts of the country. The central ministry of health and the National Highway Authority of India (NHAI) jointly executed this project, in which PM Cares has provided the funds.



Medical officer of the Manpur Health Centre Dr RS Tomar told Free Press that the work had been executed at a very fast pace and the most modern oxygen plant with a capacity of 500 litres has been established here. Block medical officer Yogendra Singh said this plant would be a boon for people living near Manpur. Mhow SDM Akshat Jain said the plant had been set up at a cost of approximately Rs 50 lakh. It is manufactured by Gaztron Engineering Pvt. Ltd. The plant uses technology developed by the DRDO.

According to sources in the health department of Indore district, the oxygen generation plant installed at the Manpur Community Health Centre is the first in the whole of Indore division, which is a matter of pride for the people of Mhow and Manpur.

<https://www.freepressjournal.in/indore/mhow-with-pm-cares-fund-work-on-oxygen-plant-at-manpur-hospital-starts>

DRDO on Twitter



DRDO @DRDO_India · 4h

On the occasion of #NationalSportsDay, DRDO lauds the efforts and achievements of sportspersons of the Nation. They are an inspiration for #NewIndiaFitIndia #KheloIndia #Run4India



रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · 3h

हमारे समर्थन, और सेनाओं के विश्वास ने HAL को 'तेजस' के निर्माण की ओर आगे बढ़ने की ऊर्जा प्रदान की। आज HAL को हमारी सेनाओं से, एकमुश्त लगभग 50 हजार करोड़ का order दिया गया है। यही नहीं, इस aircraft के लिए हम तो हम, बाहर के देश भी इसके आयात में अपनी रुचि दिखा रहे हैं: रक्षा मंत्री



रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · 3h

विदेशी कंपनियों के सामानों की जिस quality से हम प्रभावित होते हैं, वह quality एक दिन में नहीं बनी। उसमें भी बड़ा समय लगा और उन्हें अपने देश का बराबर support मिला। हमारे HAL का उदाहरण लें, इसने भी पहले दिन ही 'तेजस' का निर्माण नहीं कर लिया: रक्षा मंत्री



रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Aug 27

मुझे बताया गया, कि DIAT ने कई अंतरराष्ट्रीय कार्यशालाएँ आयोजित की हैं। सशस्त्र बलों और DRDO के वैज्ञानिकों को इस तरह की कार्यशालाओं के माध्यम से लगातार अपडेट किया जाता है: रक्षा मंत्री श्री @rajnathsingh



रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · 3h

रक्षा मंत्रालय सेना के modernisation के प्रति सक्रियता से कार्य कर रही है। इसके लिए Arjun Main Battle Tank, Light Utility Helicopter शामिल करने, Armoured Fighting Vehicles के counter measure systems विकसित करने के साथ, सेना की Air Defence guns को भी modernise किया जा रहा है: RM



रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Aug 27

मैं समझता हूँ कि DIAT faculty members अपने क्षेत्र में अग्रणी हैं, और मुझे यह भी सूचित किया गया है कि DIAT के 03 प्रोफेसरों को दुनिया में शीर्ष 2% ब्रैकेट में स्थान दिया गया है: रक्षा मंत्री श्री @rajnathsingh



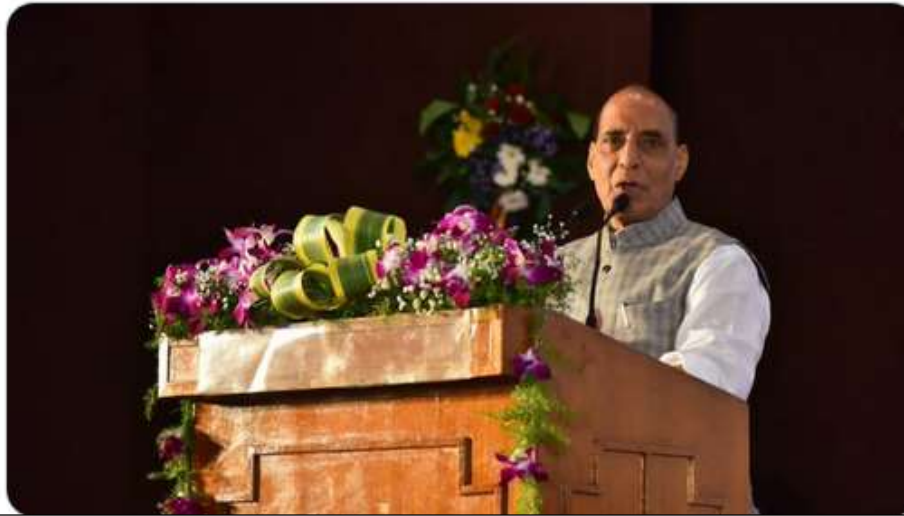
रक्षा मंत्री कार्यालय/ RMO India @DefenceMinIndia · Aug 27

मुझे बताया गया, कि DIAT ने कई अंतरराष्ट्रीय कार्यशालाएँ आयोजित की हैं। सशस्त्र बलों और DRDO के वैज्ञानिकों को इस तरह की कार्यशालाओं के माध्यम से लगातार अपडेट किया जाता है: रक्षा मंत्री श्री @rajnathsingh



रक्षा मंत्री कार्यालय/ RMO India  @DefenceMinIndia · Aug 27

Raksha Mantri Shri @rajnathsingh addressing the students and faculty of Defence Institute of Advance Technology in Pune.



रक्षा मंत्री कार्यालय/ RMO India  @DefenceMinIndia · Aug 27

Raksha Mantri Shri @rajnathsingh inaugurated infra projects at the Defence Institute of Advance Technology (DIAT) campus in Pune today.



 **Rajnath Singh** ✓
@rajnathsingh

Addressing the students of Defence Institute of Advance Technology in Pune. Watch



Rajnath Singh
Addressing the students of Defence Institute of Advance Technology in Pune. Watch

1:09 PM · Aug 27, 2021

 **Republic** ✓ @republic · Aug 27

'A sense of pride': Defence Minister heaps praise on DRDO for technological advancements



'A sense of pride': Defence Minister heaps praise on DRDO for techno...
Defence Minister Rajnath Singh has said it is not possible to make India a superpower without advanced technology. He is proud of DRDO's
republicworld.com

Defence Strategic: National/International



Press Information Bureau
Government of India

Ministry of Defence

Sat, 28 Aug 2021 4:09PM

Raksha Mantri Shri Rajnath Singh dedicates to the nation indigenously built Indian Coast Guard Ship 'Vigraha'

Describes it as a perfect example of successful public-private partnership to achieve 'Aatma Nirbhar Bharat'

Government leaving no stone unturned to develop a powerful military & a self-reliant defence industry, says Raksha Mantri

Stresses on the need to remain vigilant amid changing regional scenario

Raksha Mantri Shri Rajnath Singh dedicated to the Nation, indigenously built Coast Guard Ship 'Vigraha' in Chennai on August 28, 2021. Terming it an important step towards achieving 'AatmaNirbhar Bharat', the Raksha Mantri said the ship is a perfect example of a successful partnership between public and private sectors to realise the dream of self-reliant India as envisioned by Prime Minister Shri Narendra Modi and also a reflection of the significant improvement in India's coastal defense capability. Saying that public-private partnership is the way forward to achieving 'Aatmanirbhar Bharat', he highlighted that for the first time in the history of Indian defence, contracts for not one or two, but seven vessels have been signed with a private sector company. And more importantly, within seven years of signing this agreement in 2015, not only launch but also the commissioning of all these seven vessels has been completed today.

On the changing global security environment, Shri Rajnath Singh stated that countries around the world are strengthening their military power and the Government, through various reforms, is ensuring that India is not left behind. "We are leaving no stone unturned to develop a strong & powerful military and a self-reliant defence industry," he stressed. He listed out some of the reforms including simplification of the process of licensing in the defence sector, accelerating the AoN and RFP processes, emphasizing on exports, encouraging private sectors, establishing defence corridors, promulgation of the new Defence Acquisition Procedure 2020.

The Raksha Mantri exuded confidence that due to these reforms India will soon become a defence manufacturing hub which will cater to not just the domestic needs but to the whole world. He reiterated the Government's resolve to move in that direction on the 75th anniversary of Independence that is being celebrated as 'Azadi ka Amrit Mahotsav' across the country.

Saying that the economic, political and trade relations between countries are constantly fluctuating, the Raksha Mantri stressed that India cannot remain untouched by these developments as "our interests are directly linked to the Indian Ocean". He described the Indian Ocean region as a key route not just for India but for the entire world as it is home to more than two-thirds of the oil

shipments, one-third of bulk cargo and over half of container traffic. With the continuously changing regional scenario, Shri Rajnath Singh emphasised the need to remain vigilant at all times. "We, as a nation, must keep our guards high during these times of uncertainties and upheavals around the world," he said.

The Raksha Mantri lauded the efforts of Coast Guard towards realising the vision of SAGAR (Security and Growth for All in the Region) envisaged by the Prime Minister with focus on spirit of friendship, openness, dialogue and co-existence with the neighbours with keen sense of duty as its core.

Shri Rajnath Singh recalled the Indian Coast Guard's role in extending help to neighbouring countries in line with the spirit of inclusiveness. He hailed the role of Coast Guard in providing pro-active help in saving Very large crude carrier MT 'New Diamond' last year, and the cargo ship MV 'X-Press Pearl'. He also commended the efforts of Coast Guard for its assistance provided to Mauritius during the oil spill from the 'Wakashio' motor vessel.

ICGS Vigraha will be based at Visakhapatnam and operate on India's Eastern Seaboard under the Operational and Administrative Control of the Commander, Coast Guard Region (East). ICGS Vigraha is commanded by Commandant PN Anoop has complement of 11 Officers and 110 men.

The 98 meters OPV has been designed and built indigenously by M/s Larsen & Toubro Ship Building Ltd., and is fitted with advanced technology Radars, Navigation and Communication Equipment, Sensor and Machinery capable of operating in tropical sea conditions. The vessel is armed with a 40/60 Bofors gun and fitted with two 12.7 mm Stabilised Remote Control Gun (SRCG) with Fire Control System. The ship is also equipped with Integrated Bridge System (IBS), Integrated Platform Management System (IPMS), Automated Power Management System (APMS) and High-Power External Firefighting (EFF) system. The ship is designed to carry one Twin Engine Helicopter and four high speed boats for Boarding Operation, Search and Rescue, Law Enforcement and Maritime Patrol. The ship is also capable of carrying limited pollution response equipment to contain oil spill at sea. The ship displaces approx. 2200 tons (GRT) and is propelled by two 9100 KW diesel engines to attain a maximum speed of 26 knots with endurance of 5000 nm at economical speed.

The ship, on joining the Coast Guard Eastern fleet, will be deployed extensively for EEZ surveillance and other duties as enshrined in the Coast Guard Charter, to safeguard the maritime interests of India. The Indian Coast Guard with this ship joining the fleet, will have 157 Ships and 66 Aircraft in its inventory.

The event was also attended by Shri T Thennarasu, Minister for Industries of Tamil Nadu, General M M Naravane, Chief of Army Staff, Director General Krishnaswamy Natarajan, Director General Indian Coast Guard, Additional Director General VS Pathania, Coast Guard Commander (Eastern seaboard), Inspector General AP Badola Commander Coast Guard Region (East), Commandant PN Anoop, Commanding Officer, ICG Vigraha.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1749896>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 28 Aug 2021 4:09PM

रक्षा मंत्री श्री राजनाथ सिंह ने भारतीय तटरक्षक के स्वदेश निर्मित जहाज़ 'विग्रह' देश को समर्पित किया

'आत्मनिर्भर भारत' की प्राप्ति के लिए इसे सफल सार्वजनिक-निजी भागीदारी का आदर्श उदाहरण बताया

एक शक्तिशाली सैन्य और आत्मनिर्भर रक्षा उद्योग के निर्माण में सरकार कोई कसर नहीं छोड़ रही है: रक्षा मंत्री

बदलते क्षेत्रीय परिदृश्य के बीच सतर्क रहने की जरूरत पर जोर

रक्षा मंत्री श्री राजनाथ सिंह ने दिनांक 28 अगस्त, 2021 को चेन्नई में स्वदेश निर्मित तटरक्षक पोत 'विग्रह' राष्ट्र को समर्पित किया। इसे 'आत्मनिर्भर भारत' की प्राप्ति की दिशा में एक महत्वपूर्ण कदम बताते हुए रक्षा मंत्री ने कहा कि यह जहाज प्रधानमंत्री श्री नरेन्द्र मोदी द्वारा परिकल्पित आत्मनिर्भर भारत के सपने को साकार करने के लिए सार्वजनिक और निजी क्षेत्रों के बीच सफल साझेदारी का एक आदर्श उदाहरण है और भारत की तटीय रक्षा क्षमता में महत्वपूर्ण सुधार का प्रतिबिंब भी है। यह कहते हुए कि सार्वजनिक-निजी भागीदारी 'आत्मनिर्भर भारत' को प्राप्त करने का मार्ग है, उन्होंने इस बात पर प्रकाश डाला कि भारतीय रक्षा के इतिहास में पहली बार एक या दो नहीं बल्कि सात जहाजों के अनुबंधों पर एक निजी क्षेत्र की कंपनी के साथ हस्ताक्षर किए गए हैं और इससे भी महत्वपूर्ण बात यह है कि 2015 में इस समझौते पर हस्ताक्षर करने के सात वर्षों के भीतर न केवल लॉन्च बल्कि इन सभी सात जहाजों की कमीशनिंग भी आज पूरी हो गई है।

बदलते वैश्विक सुरक्षा परिवेश पर श्री राजनाथ सिंह ने कहा कि दुनिया भर के देश अपनी सैन्य शक्ति को मजबूत कर रहे हैं और सरकार विभिन्न सुधारों के माध्यम से यह सुनिश्चित कर रही है कि भारत पीछे न रहे। उन्होंने जोर देकर कहा, "हम एक मजबूत और शक्तिशाली सेना और आत्मनिर्भर रक्षा उद्योग विकसित करने में कोई कसर नहीं छोड़ रहे हैं।" उन्होंने रक्षा क्षेत्र में लाइसेंसिंग की प्रक्रिया को सरल बनाने, एओएन और आरएफपी प्रक्रियाओं को तेज करने, निर्यात पर जोर देने, निजी क्षेत्रों को प्रोत्साहित करने, रक्षा गलियारों की स्थापना, नई रक्षा अधिग्रहण प्रक्रिया 2020 की घोषणा समेत कुछ सुधारों का उदाहरण दिया।

रक्षा मंत्री ने विश्वास व्यक्त किया कि इन सुधारों के कारण भारत जल्द ही एक रक्षा विनिर्माण केंद्र बन जाएगा जो न केवल घरेलू जरूरतों को बल्कि पूरी दुनिया की जरूरतों को भी पूरा करेगा। उन्होंने देश भर में 'आजादी का अमृत महोत्सव' के रूप में मनाए जा रही स्वतंत्रता की 75वीं वर्षगांठ पर इस दिशा में आगे बढ़ने के सरकार के संकल्प को दोहराया।

यह कहते हुए कि देशों के बीच आर्थिक, राजनीतिक और व्यापारिक संबंध लगातार उतार-चढ़ाव वाले रहे हैं, रक्षा मंत्री ने जोर देकर कहा कि भारत इन घटनाओं से अछूता नहीं रह सकता क्योंकि "हमारे हित सीधे हिंद महासागर से जुड़े हुए हैं।" उन्होंने हिंद महासागर क्षेत्र को न केवल भारत के लिए बल्कि पूरी दुनिया

के लिए एक महत्वपूर्ण मार्ग बताया क्योंकि यह दो-तिहाई से अधिक तेल शिपमेंट, एक तिहाई थोक माल और आधे से अधिक कंटेनर यातायात का केंद्र है। लगातार बदलते क्षेत्रीय परिदृश्य के साथ श्री राजनाथ सिंह ने हर समय सतर्क रहने की आवश्यकता पर बल दिया। उन्होंने कहा, "हमें, एक राष्ट्र के रूप में, दुनिया भर में अनिश्चितताओं और उथल-पुथल के इस समय में अपनी सतर्कता का स्तर ऊंचा रखना चाहिए।"

रक्षा मंत्री ने मित्रता, खुलेपन, संवाद और पड़ोसियों के साथ सह-अस्तित्व की भावना पर ध्यान केंद्रित रखते हुए प्रधानमंत्री द्वारा परिकल्पित सागर (सिक्योरिटी एंड ग्रोथ फॉर ऑल इन द रीजन) के दृष्टिकोण को साकार करने की दिशा में अपने कर्तव्य का विशेष ध्यान रखने वाले तटरक्षक के प्रयासों की सराहना की।

श्री राजनाथ सिंह ने समावेश की भावना के अनुरूप पड़ोसी देशों को सहायता प्रदान करने में भारतीय तटरक्षक की भूमिका को याद किया। उन्होंने पिछले साल वेरी लार्ज क्रूड कैरियर एमटी 'न्यू डायमंड' और मालवाहक जहाज एमवी 'एक्स-प्रेस पर्ल' को बचाने में सक्रिय सहायता प्रदान करने में तटरक्षक की भूमिका की सराहना की। उन्होंने 'वाकाशियो' मोटर पोत से तेल रिसाव के दौरान मॉरीशस को प्रदान की गई सहायता के लिए तटरक्षक बल के प्रयासों को भी सराहा।

आईसीजीएस 'विग्रह' विशाखापत्तनम में स्थित होगा और कमांडर, तटरक्षक क्षेत्र (पूर्व) के संचालन तथा प्रशासनिक नियंत्रण के तहत भारत के पूर्वी समुद्र तट पर संचालित होगा। आईसीजीएस विग्रह की कमान कमांडेंट पीएन अनूप के पास है और इसमें 11 अधिकारी तथा 110 जवान हैं।

कुल 98 मीटर लंबाई वाले ओपीवी को मैसर्स लार्सन एंड टुब्रो शिप बिल्डिंग लिमिटेड द्वारा स्वदेशी रूप से डिजाइन और निर्मित किया गया है, और यह उन्नत प्रौद्योगिकी रडार, नेविगेशन तथा संचार उपकरण, सेंसर और मशीनरी से सुसज्जित है जो उष्णकटिबंधीय समुद्री परिस्थितियों में काम करने में सक्षम है। पोत 40/60 बोफोर्स तोप से लैस है और अग्नि नियंत्रण प्रणाली के साथ दो 12.7 मिमी स्थिर रिमोट कंट्रोल गन (एसआरसीजी) से सुसज्जित है। जहाज इंटीग्रेटेड ब्रिज सिस्टम (आईबीएस), इंटीग्रेटेड प्लेटफॉर्म मैनेजमेंट सिस्टम (आईपीएमएस), ऑटोमेटेड पावर मैनेजमेंट सिस्टम (एपीएमएस) और हाई-पावर एक्सटर्नल फायरफाइटिंग (ईएफएफ) सिस्टम से भी लैस है। जहाज को बोर्डिंग ऑपरेशन, खोज और बचाव, कानून प्रवर्तन और समुद्री गश्त के लिए एक ट्विन इंजन हेलीकॉप्टर और चार हाई स्पीड नौकाएं ले जाने के लिए डिजाइन किया गया है। जहाज समुद्र में तेल रिसाव को रोकने के लिए सीमित प्रदूषण प्रतिक्रिया उपकरण ले जाने में भी सक्षम है। जहाज लगभग 2200 टन वजन विस्थापित करने में सक्षम है और 9100 किलोवाट के दो डीजल इंजनों द्वारा संचालित किया जाता है ताकि किफायती गति पर 5000 नॉटिकल माइल की एंड्योरेंस के साथ 26 समुद्री मील प्रति घंटे की अधिकतम गति प्राप्त की जा सके।

तटरक्षक बल के पूर्वी बेड़े में शामिल होने पर तटरक्षक चार्टर में निहित ईईजेड निगरानी और अन्य कर्तव्यों के लिए बड़े पैमाने पर भारत के सामुद्रिक हितों की रक्षा के लिये जहाज को तैनात किया जाएगा। इस जहाज के बेड़े में शामिल होने पर भारतीय तटरक्षक की सूची में 157 जहाज और 66 विमान होंगे।

इस कार्यक्रम में तमिलनाडु के उद्योग मंत्री श्री टी थेनारासु, थल सेनाध्यक्ष जनरल एम एम नरवणे, महानिदेशक भारतीय तटरक्षक बल कृष्णस्वामी नटराजन, अतिरिक्त महानिदेशक वी.एस. पठानिया, तटरक्षक कमांडर (पूर्वी समुद्री तट) एपी बडोला, कमांडर तटरक्षक क्षेत्र (पूर्व) कमांडेंट पीएन अनूप- कमांडिंग ऑफिसर, आईसीजी विग्रह भी उपस्थित थे।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1750031>



Commanders' Conference at Eastern Air Command

Air Chief Marshal RKS Bhaduria PVSM AVSM VM ADC, Chief of the Air Staff (CAS) visited Headquarters Eastern Air Command (EAC) at Shillong from 26 to 27 Aug 21 for the Commanders' Conference of EAC. On arrival, CAS was received by Air Marshal Amit Dev AVSM VSM ADC, Air Officer Commanding-in-Chief, Eastern Air Command.

The two day conference reviewed the progress of operational goals set for the Command and highlighted discussions on ways and means to optimise full spectrum combat readiness. While addressing the Commanders, CAS highlighted the increasing importance of Eastern Air Command in the overall strategic perspective. He expressed satisfaction at the buildup and strengthening of capability and infrastructure at various stations including Advanced Landing Grounds (ALGs) in the Eastern sector.

CAS urged the Commanders to enthuse the younger air warriors to put their training and skills to full use in their assignments to upgraded and new generation systems and weapon platforms. He appreciated the contribution of all personnel of EAC in their consistent efforts to improve their operational output backed by a strong maintenance and administrative support system.

CAS awarded trophies to Stations for achieving excellence in the fields of Operations, Maintenance and Administration. Air Force Station Tezpur was awarded the trophy of 'Best Flying Station – Pride of EAC' and Air Force Station Salua was declared the 'Best Non-Flying Station'.



<https://pib.gov.in/PressReleasePage.aspx?PRID=1749578>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Fri, 27 Aug 2021 4:54PM

पूर्वी वायुसेना कमान में कमाण्डरों का सम्मेलन

एयर चीफ मार्शल आरकेएस भदौरिया, पीवीएसएम एवीएसएम वीएम एडीसी, वायु सेना प्रमुख ने पूर्वी वायुसेना कमान के कमांडरों के सम्मेलन के लिए दिनांक 26 से 27 अगस्त 2021 तक शिलांग में मुख्यालय पूर्वी वायु कमान (ईएसी) का दौरा किया। आगमन पर उनका स्वागत एयर मार्शल अमित देव एवीएसएम वीएसएम एडीसी, एयर ऑफिसर कमांडिंग-इन-चीफ, पूर्वी वायुसेना कमान द्वारा किया गया।

दो दिवसीय सम्मेलन ने कमान के लिए निर्धारित अभियानगत लक्ष्यों की प्रगति की समीक्षा की और युद्ध के दृष्टिकोण से तैयारी के समस्त आयामों अधिकतम स्तर पर ले जाने के तरीकों तथा साधनों पर चर्चा कर प्रकाश डाला। कमांडरों को संबोधित करते हुए वायुसेना प्रमुख ने समग्र रणनीतिक परिप्रेक्ष्य में पूर्वी वायुसेना कमान के बढ़ते महत्व पर प्रकाश डाला। उन्होंने पूर्वी क्षेत्र में उन्नत लैंडिंग ग्राउंड (एएलजी) समेत विभिन्न स्टेशनों पर क्षमता और बुनियादी ढांचे के निर्माण तथा मज़बूती पर संतोष व्यक्त किया।

वायुसेना प्रमुख ने कमांडरों से युवा वायु योद्धाओं को नई पीढ़ी के सिस्टम और हथियार प्लेटफार्मों का उपयोग करते हुए अपने असाइनमेंट के दौरान प्रशिक्षण तथा कौशल को उन्नत बनाने का आग्रह किया। उन्होंने एक मजबूत रखरखाव और प्रशासनिक सहायता प्रणाली द्वारा सपोर्ट किए गए अपने अभियानगत आउटपुट में सुधार के लिए पूर्वी वायुसेना कमान के सभी कर्मियों के निरंतर प्रयासों के योगदान की सराहना की।

वायुसेना प्रमुख ने संचालन, रखरखाव और प्रशासन के क्षेत्र में उत्कृष्टता हासिल करने के लिए स्टेशनों को ट्रॉफीप्रदान की। वायु सेना स्टेशन तेजपुर को 'बेस्ट फ्लाइटिंग स्टेशन- प्राइड ऑफ ईएसी' ट्रॉफी से सम्मानित किया गया और वायु सेना स्टेशन सलुआ को 'बेस्ट नॉन फ्लाइटिंग स्टेशन' घोषित किया गया।



<https://pib.gov.in/PressReleasePage.aspx?PRID=1749716>

Mon, 30 Aug 2021

Raksha Mantri Rajnath Singh delivers keynote address at Defence Services Staff College, Wellington

New Delhi: Raksha Mantri Shri Rajnath Singh visited Defence Services Staff College (DSSC), Wellington on August 28-29, 2021. The Raksha Mantri was given a detailed update on the professional military education being imparted at DSSC. He appreciated the transformative changes made in the training of the young officers from India & abroad at the Institute and aligning the professional military education imparted to them to deal with the emerging challenges to national security. He also interacted with the officers of Armed Forces. Chief of Army Staff, General Manoj Mukund Naravane Lieutenant General MJS Kahlon were present on the occasion.



Delivering a keynote address to the 77th Staff Course, Shri Rajnath Singh said India is ready to face the changing security dynamics of the world due to the reforms taken by the Government, emphasising that the Armed Forces need to be fully equipped and prepared at all times. “We will continue to strengthen our military and ensure that we are a step ahead to deal with any challenges arising out of the changing global security environment,” he added.

Listing out some of these reforms and describing them as those for the future, the Raksha Mantri said the appointment of Chief of Defence Staff (CDS) and setting up of Department of Military Affairs will go a long way in continuously bolstering the security infrastructure. “The decisions have directly linked our Armed Forces to governance as they now have direct involvement in all processes. The appointment of CDS has provided stability to the Joint Chiefs of Staff Committee as now there is a permanent and single point advisor to the government on important issues of defence and security,” he said.

On the creation of Joint Commands, Shri Rajnath Singh termed the decision as another major structural reform, the progress of which is progressing rapidly, he said. “With the formation of Integrated Theater Commands, Armed Forces will have to develop Integrated Operational Concepts and Doctrines to fight jointly. I think DSSC can prove to be a good platform for brain storming on this issue,” he added.

The Raksha Mantri termed Army Headquarters Restructuring as an important part of defence structural reforms. “The aim to increase the teeth to tail ratio of our army, bring decentralisation in decision making and create a future oriented leaner force. Integration of ‘DGMO’ and ‘DGMI’ under Deputy Chief of Strategy is one such example. This integration at the Headquarter level will bring great precision in our operational planning,” he added.

Shri Rajnath Singh also spoke about renaming Master General of Ordinance into Master General of Sustenance and consideration of ‘Integrated Battle Groups (IBGs)’ that will pave way for quicker decision making. “Integrated battle groups will be new groups to fight unified against the enemies. The idea of ‘Tour of Duty’ will turn into a game changing reform in the future making the Armed Forces more agile. Permanent commission for women officers in defence is a step to increase the role of women in national security,” he said.

On the modernisation of Armed Forces, the Raksha Mantri said, the induction of Rafale ended the long wait for Next Generation Aircraft. He added that Arjun Main Battle Tank, Light Utility Helicopter, developing counter measure systems for Armored Fighting Vehicles and modernisation of Air Defence guns are other steps taken to modernise our military.

To achieve 'AatmaNirbhar Abhiyan' as envisioned by Prime Minister Shri Narendra Modi, Shri Rajnath Singh said several steps have been taken to promote self-reliance in defence manufacturing. These include setting up of Defence Industrial Corridors in Uttar Pradesh & Tamil Nadu; notifying two Positive Indigenisation Lists; launch of Defence Acquisition Procedure (DAP) 2020 and transfer of technology free of cost from Defence Research & Development Organisation and unveiling of Innovation for Defence Excellence (iDEX) to encourage innovation and technology development in defence.

Highlighting the role of Hindustan Aeronautics Limited, the Raksha Mantri said HAL has been given a one-time order of about Rs 50,000 crore from the Armed Forces in addition to the export orders. The percentage of domestic procurement in the fund allocated for defence modernisation has been increased to 64.09 per cent. Shri Rajnath Singh called for proactive involvement of the Armed Forces, saying that active participation from the defence services is needed for these reforms to bear fruit.

The Raksha Mantri also stated that, ever since Independence, some evil forces have resorted to various methods to try and create an atmosphere of instability in the country, but the Armed Forces have ensured that the unity and integrity of the country is maintained. "When our neighboring country realised that it cannot fight a front-war with us, it resorted to proxy war and made terrorism an integral part of its state policy. This was a major paradigm shift in the challenges faced by our country. Keeping these changes in mind, we made major changes to our security related policies. Under a new dynamic, we developed a pro-active attitude against the menace of terrorism," he added.

Referring to the cross-border strikes on terror camps, Shri Rajnath Singh said these strikes changed the reactionary mindset into proactive mindset. "Despite the challenges on India's border, the people are now confident that there will be no compromise on national security. There is a strong belief that India would not only end terror on its own land, but if needed it would not hesitate to end terrorism anywhere else. This change defines a new era of national security in India," he added.

On the 2020 Galwan Valley incident, the Raksha Mantri said the unilateral attempt to change the status-quo at the Northern border was also dealt with a new dynamic. "Our soldiers displayed bravery as well as restraint, when required, to thwart enemy plans," he said, lauding the exemplary courage of the Indian Army personnel, under the leadership of Chief of Army Staff General M M Naravane, for effectively dealing with the situation at the Northern border. He assured the Nation that the security forces are fully committed to face any enemy, at any time, in any situation and protect the country in every way. Shri Rajnath Singh also paid tributes to the soldiers who laid down their lives in the service of the Nation.

Sharing his insights on cyber warfare and biological attacks, Shri Rajnath Singh said the perception of linking national security to geographical boundaries has changed and the alignment & re-alignment of global powers add to the already changing security challenges. He stated that the Government is making all efforts to develop capabilities to deal with these new and emerging threats to national security.

Terming the situation in Afghanistan as challenging, the Raksha Mantri said the changing equations have forced every country to think on its strategy. "QUAD, a group of India, Australia, America and Japan, has been formed under this background," he added. Shri Rajnath Singh stressed on the need to view every dimension of national security in one frame in this new era and expressed hope that DSSC will train and equip the future officers of the Armed Forces to deal with these challenges. He exuded confidence that the officers will be trained in a way that they will give a befitting reply to any kind of challenge facing the country.

Shri Rajnath Singh also asserted that India, despite its capabilities, has never attacked any country till date and has always considered the whole world as its family. This is the spirit of our neighborhood first policy, he said, adding that India has always been proactive in helping the neighboring countries in humanitarian relief work during disasters. He, however, made it clear that while India believes in peace, it has always been ready at all fronts to protect the self-respect and interest of its people and ensure their security. He reiterated the Government's resolve to protect the country from all kinds of external and internal threats.

The Raksha Mantri appreciated the unique role of DSSC in nurturing the future leadership of the three Services of India and the officers from friendly foreign countries. He complimented the student officers for having been selected after a rigorous selection process to train at the DSSC and encouraged them to make most of this unique opportunity to widen their mental horizons and understanding of warfare.

<https://indiaeducationdiary.in/raksha-mantri-rajnath-singh-delivers-keynote-address-at-defence-services-staff-college-wellington/>

Outlook

Sun, 29 Aug 2021

India must remain vigilant to rule out security threats, Says Defence Minister amid Afghan unrest

The defence minister said the government is leaving no stone unturned to develop a strong and powerful military and a self-reliant defence industry

Defence Minister Rajnath Singh said on Saturday that in order to face the probable repercussions of the uncertain and anarchic security scenario of Afghanistan, India must keep its guard up.

In light of the drastically changing regional scenario he emphasized on the fact that there is a need to remain vigilant at all times and also mentioned that developments around the world deeply affects India.

In an address after dedicating an indigenously-built Coast Guard ship here, he also delved into the emerging challenges in the Indian Ocean, a region that has been witnessing increasing rivalry between India and China.

"Changes happening around the world often become a matter of concern for us. We, as a nation, must keep our guards high during these times of uncertainties and upheavals around the world," the defence minister said with elaborating further.

His comments came in the backdrop of increasing concerns in the Indian security establishment over the possibility of terror spillover from Afghanistan into Jammu and Kashmir through Pakistan and rise in terrorist activities, particularly by groups such as Lashkar-e-Taiba and Jaish-e-Mohammed.

Chief of Defence Staff Gen Bipin Rawat on Wednesday said contingency plans are in place to firmly deal with any possible terrorist activity flowing out of Taliban-controlled Afghanistan into India.

"Today the world is changing very rapidly. Economic, political, and trade relations between countries are constantly fluctuating. Nothing can be said about the next news coming from another country," Singh said.



'In such a situation, today we have great scope to make full use of our capabilities', said Rajnath Singh

"Obviously, our country can not remain untouched by these developments. This applies all the more to a country like ours, being a country whose interests are directly linked to the Indian Ocean," he said.

The Indian Ocean, a key geostrategic space and considered the backyard of the Indian Navy, is witnessing a rising Chinese military footprint forcing the Indian Navy to expand its presence. Singh described the Indian Ocean region as a key route not just for India but for the entire world as it is home to more than two-thirds of the oil shipments, one-third of bulk cargo and over half of the container traffic.

"And as I just mentioned, today's changing world certainly impacts these areas as well. As such, we need to be vigilant at all times," he said.

The defence minister said the government is leaving no stone unturned to develop a strong and powerful military and a self-reliant defence industry.

Singh said in view of global security reasons, border disputes, and maritime dominance, countries around the world are moving towards modernising and strengthening their military power.

He said the demand for military equipment is increasing continuously, noting reports suggest that in the next one or two years, the expenditure on security around the world is going to reach USD 2.1 trillion and it is expected to increase manifold in the next five years.

"In such a situation, today we have great scope to make full use of our capabilities, take advantage of policies, and move towards making the country an indigenous shipbuilding hub," he said.

The defence minister also said that the Indian Coast Guard has made its mark at the international level by playing a leading role in coastal security as well as in maritime crises, and disasters.

<https://www.outlookindia.com/website/story/india-must-keep-its-guard-up-in-view-of-uncertainties-upheavals-of-current-times-rajnath/393005>



Sat, 28 Aug 2021

India's aspiration to become regional power can't rely on borrowed strength: CDS Bipin Rawat

Chief of Defence Staff Bipin Rawat said the segregated nature of the defence commercial industry ecosystem in India restricts its capacity to manufacture defence equipment

New Delhi: India's aspiration to become a regional power can't rely on borrowed strength and the nation's wars have to be won with indigenous equipment and technology, Chief of Defence Staff Bipin Rawat said on Friday.

Addressing an event held by the Institution Of Electronics and Telecommunication Engineers, he said the segregated nature of the defence commercial industry ecosystem in India restricts its capacity to manufacture defence equipment.

"We cannot be import-dependent if we have to fight and win future wars. Indigenisation, therefore, is the way forward and we in the armed forces are fully committed to it," Rawat said.

"Our nation's aspiration of becoming a regional power cannot rely on borrowed strength... India's wars have to be won with Indian solutions," he said.



Chief of Defence Staff Bipin Rawat

The pervasiveness of information and the pace of technological change is transforming the very character of warfare and providing innovative ways of warfare that would be non-contact (no physical contact) in particular, the Chief of Defence Staff said.

"It includes information operations, stealing of intellectual property rights, economic inducements -- all backed up by propaganda in the time of fake news to justify their actions," he added.

"The air defence capabilities of our armed forces are at the cusp of modernisation with acquisition of Rafales, S-400, ballistic missile defence system, Akash weapon system and progressive replacement of the legacy air defence systems that we have in our inventory today," Rawat noted.

However, keeping in mind the macro-economic parameters and socio-economic requirements of India, the best solutions have to be found through acquisitions and optimisation or up-gradation of legacy systems and through indigenous manufacturing, he said.

"We will be able to use our economics or the budgetary allocations made to the armed forces in a better way if we develop our systems indigenously," the Chief of Defence Staff mentioned.

The pursuit of disruptive technologies such as artificial intelligence, robotics, nanotechnology, big data analysis, drones, autonomous unmanned systems, militarisation of space, cyber warfare, quantum communications along with the manipulation of social media are all leading to new threats further complicating the security environment today, Rawat said.

Enabling technologies such as artificial intelligence and quantum computing are being used to produce sophisticated autonomous weapons that will accelerate the pace of combat, he mentioned.

"While these technologies keep shaping the contours of the threat, they also provide with us an opportunity to acquire new military capabilities to our strategic advantage."

Rawat said the military value of the ballistic missiles will increase over the next decade with the production of hypersonic gliders and alternative warheads that are capable of breaking into increasingly powerful missile defence systems. The armed forces must be prepared for a future conflict with this changed character of warfare, he added.

<https://www.indiatvnews.com/news/india/india-s-aspiration-to-become-regional-power-cant-rely-on-borrowed-strength-cds-bipin-rawat-729609>



Sat, 28 Aug 2021

Binaries of peace and conflict becoming less relevant: Navy Chief

Delivering a lecture at the United Service Institution of India, Singh said, "What we are seeing today is, some states applying a land-centric approach and territorial mindset to the basic idea of global commons, attempting to seek greater domination and control."

By Krishn Kaushik

New Delhi: States today are applying "land-centric approach" of a territorial mindset to maritime domain, and actors are using different methods to remain below the threshold of conflict, diffusing the binary of war and peace, Indian Navy chief, Admiral Karambir Singh, said on Friday.

Delivering a lecture at the United Service Institution of India, Admiral Singh said, "What we are seeing today is, some states applying a land-centric approach and territorial mindset to the basic idea of global commons, attempting to seek greater domination and control."

He said: "We are transitioning to a period of busy peace, where the binaries of peace and conflict are becoming less relevant. We were earlier used to the idea of war or peace, but this is more diffused now, with actors using diverse playbook of actions and counter-actions within this

continuum on a day-to-day basis, whilst mostly remaining below the threshold of conflict.” Autocratic powers, the Navy chief said, enjoy a “natural advantage within this competition continuum, applying all the leverages in focussed manner; something we can call sharp power to undermine and weaken the very sources of power of a democracy”, including “attacking (a) free media, social media, election processes, financial institutions,” and thus “turning strengths of democratic nations into weaknesses”.

Talking about the importance of the Indo-Pacific, he said that its value lies “not in its constituent area, but in its core underlying idea itself,” and called it the “centre of gravity of global interactions”. “India has the privilege of being at the core of this defining idea of our times,” the Navy chief said.



Indian Navy chief Admiral Karambir Singh

“Given a predominant maritime orientation, there is a natural tendency for nations to engage, to collaborate,” he said. “With seas as the lifelines of global trade and prosperity, and nearly 50 per cent of global trade passing through the Indo-Pacific, most nations within and beyond...have a core interest in keeping the Indo-Pacific free for commerce.”

He said this is why some concepts, such as like-minded partners, free and open and inclusive seas, have gained greater currency. “We have to be aware of the evolving nature of competition and contestation in the region,” he said.

Speaking about India’s advantages in the region, Admiral Singh said that its “cultural and civilisation footprint is deeply embedded throughout the Indo-Pacific — from the eastern coast of Africa to East Asia. Add to that our very vibrant diaspora.” These links, carried outward by the water of the Indo-Pacific in the past, are “important linkages and leverages for India’s soft power”.

“Indo-Pacific also offers us the opportunity to break the mould of a land-centric, border-focussed nation that hitherto has been our dominant approach. This border-focussed approach limits us from truly harnessing our fullest potential, of expanding our geostrategic gaze and influence into the wider globe. The waters of the Indo-Pacific offer such opportunity, to move outwards and seek India’s rightful place in global affairs.”

He said “safe and secure seas” are imperative to secure India’s and the region’s interest. Developing interoperability with other larger and developed navies will “help us collectively respond to a situation when needed” and also learn best practices, he said.

Admiral Singh said, “We...aim to be a preferred security partner (in the region and) build trust with like-minded navies.”

Indian Navy’s focus continues to be on developing a “future proofed Balanced Fleet, with Blue water and Brown water capability”, for which it is “laying impetus to unmanned systems in a big way”, Singh said. He mentioned that the “road map for the next 10 years is under way”, and that in space and cyber domains, “our aim is to do more”, as India has “limited capability” there at the moment.

For maritime domain awareness, he said, several steps are needed, including “persistent surveillance” for which, he said, “we are leveraging assets with long legs” including P8I surveillance aircraft of the Navy, HALE drones and satellites. “Mission Based Deployments also help in this...eventually, the aim is to leverage our central location and geography, as also our software prowess,” the Navy chief said”.

He also said that “breaking silos in the maritime domain is an important part of this”, and creation of the National Maritime Security Coordinator is a step in this direction.

<https://indianexpress.com/article/india/binaries-of-peace-and-conflict-becoming-less-relevant-navy-chief-7474622/>

BDL on path of developing weapons with AI-based tech

Start-ups to help it in this endeavour

Hyderabad: BDL has started undertaking development of next generation weapons systems for the Armed forces with Artificial Intelligence technologies with active participation of start-ups. This is in view of the rapid strides being made by countries across the globe in this arena, said chairman and MD Commodore Siddharth Mishra (retd.) on Friday.

The defence ministry public sector giant is also setting up new manufacturing units in its Kanchanbagh premises here such as 'Seeker Facility Centre', 'Warhead Production Facility' and 'High Temperature Carbon Composite manufacturing facility'.

The Konkurs Missile test equipment and Konkurs Launcher test equipment have been developed in-house as an indigenous substitute to the foreign equipment imported earlier by the Indian Army to make the country 'Atmanirbhar' in defence, he told the visiting the Parliamentary Standing Committee on Defence led by Jual Oram.

The committee's visit is to study 'Modernisation of defence public sector undertakings' and it was apprised about the current product range, manufacturing facilities and modernisation initiatives being undertaken by the firm like the other futuristic technologies of Industry 4.0, Robotics and so on, to supply advanced weapons for the Armed forces.

Mr. Mishra explained about the indigenisation efforts being made for products currently being manufactured under collaboration with foreign countries as the MPs team visited the in-house R&D and manufacturing facilities of Akash and Medium Range Surface to Air Missile divisions. Start-ups and medium, small and micro enterprises too are being supported to work in this direction. Indigenisation of a few components and sub-assemblies of anti-tank guided missiles and underwater weapons has been successfully completed, he said.

<https://www.thehindu.com/news/cities/Hyderabad/bdl-on-path-of-developing-weapons-with-ai-based-tech/article36146088.ece>

Mahindra Defence Systems bags ₹1,349.95 cr contract to manufacture integrated anti-submarine warfare defence suite

MDS won the bid which was through an open tender put out by the Ministry of Defence (MoD) with the systems fielded put through exhaustive and detailed trials at sea to prove their capability, Mahindra and Mahindra said in a statement

By Elizabeth Roche

New Delhi: Mahindra and Mahindra Ltd on Friday said its group firm, Mahindra Defence Systems Limited (MDS) had bagged a contract worth ₹1,349.95 crore for manufacturing of Integrated Anti-Submarine Warfare Defence Suite (IADS) for modern warships of Indian Navy.

MDS won the bid which was through an open tender put out by the Ministry of Defence (MoD) with the systems fielded put through exhaustive and detailed trials at sea to prove their capability, Mahindra and Mahindra said in a statement.

"IADS is a high-end underwater equipment that uses latest technology. It is designed to detect and protect warships from underwater threats. It is a versatile system capable of operations from all sizes of warships - small, medium, and large. The complex array of sensors in water undertakes surveillance, and provides inputs for signal processing and analysis, to enable necessary action," the statement said.

Mahindra Defence will be supplying 14 IADS systems for the Indian Navy warships, it added.

Commenting on the development, Mahindra Defence Systems Ltd Chairman SP Shukla said, that the contract was the "first major contract with the private sector meant for underwater detection and protection from threats. This contract once again epitomises the success of the Atmanirbhar Bharat initiative."

The Ministry of Defence in its statement concurred.

"The contract with an Indian firm under the 'Buy and Make (Indian)' category of defence procurement is an important boost to India's 'Atmanirbhar Bharat' mission and provides a major fillip to indigenous defence industry in technology development and production. The system will enhance anti-submarine warfare capability of Indian Navy," the Ministry said.

The Modi government since taking office in 2014 has stressed on making India a hub for defence hardware manufacture. India is one of the world's top defence hardware buyers in the world according to the Stockholm International Peace Research Institute.

"The IADS comes with an integrated capability for detecting enemy submarines and torpedoes at extended ranges as well as diverting incoming torpedoes fired by enemy submarines," the Ministry said.

"The MoD has continued to demonstrate its resolve to augment the 'Make in India' initiative of the Government and the resolve of the country to become 'Atmanirbhar' in advance technologies with induction of multiple equipment through home-grown defence industry," the Ministry statement added.

<https://www.livemint.com/companies/news/mahindra-defence-systems-bags-rs-1-349-95-cr-contract-to-manufacture-integrated-anti-submarine-warfare-defence-suite-11630072930723.html>



Mahindra Defence will be supplying 14 IADS systems for the Indian Navy warships (REUTERS)

IAF signs emergency deal for 70,000 AK-103 assault rifles with Russia

New Delhi: At a time when terrorist groups operating in India are likely to get weapons left behind by American troops in Afghanistan, the Indian Air Force (IAF) has signed a deal for acquiring 70,000 AK-103 assault rifles from Russia under emergency provisions to replace its existing inventory of INSAS rifles.

The India Air Force has a requirement of over 1.5 lakh new assault rifles and the new AK-103 rifles expected to come within the next few months into the service would strengthen its capability to tackle terrorist attacks in a much better way.

"The contract worth around Rs 300 crore was signed last week under emergency provisions to buy 70,000 AK-103 assault rifles from Russia. The weapons would be first provided to troops in field areas like Jammu and Kashmir, Srinagar along with sensitive air bases," government sources said.

The remaining part of the requirement would be met after India and Russia sign a deal to produce the more advanced AK-203 together within India. The contract for the AK-203 assault rifles is being processed under the Army which requires around 6.5 lakh of these rifles to strengthen its troops' firepower.

A small portion of the IAF requirement was met by the acquisition of around 4,000 Sig Sauer assault rifles that have been procured as part of a larger contract by the Indian Army.

In the last couple of years especially after the Chinese aggression on the Eastern Ladakh front, Indian defence forces have hastened the speed of modernisation of basic weapon systems as troops open the front have already been provided with 1.5 lakh American Sig Sauers along with over 16,000 Negev Light Machine Guns.

The AK-103 assault rifles are already in the existing inventory of the Marine Commandos of the Indian Navy which uses them in operations in the Kashmir valley where they are deployed in the Wular lake.

The emergency procurements of the Indian armed forces have allowed them to fill the critical gaps in their preparedness in war-fighting. The forces have been given the freedom to choose the weapons they want to buy and these can be acquired under the route which allowed them to get deliveries within one year.

The AK-103 is an upgraded version of the legendary and deadly AK-47. The rifles would also be provided to the Garud special forces who are deployed across the country at airbases.

The requirement for upgraded personal weapons has been felt by the IAF for a long time but the process gained speed post-Pathankot attack in 2016. The IAF now also lays a lot of stress on the personal combat capabilities of its troops along with using their technical abilities.

<https://timesofindia.indiatimes.com/india/iaf-signs-emergency-deal-for-70000-ak-103-assault-rifles-with-russia/articleshow/85711884.cms>

Second batch of Indian specialists undergo S-400 missile training as delivery nears

As India and Russia eye on the delivery of the S-400 Triumf Air Defence System, the training of the Indian specialists moves according to the plan on how to operate the S-400 system. Over 100 personnel of the Indian Army Force (IAF) were sent to Russia in the last week of January and in the recent development, the first group of Indian specialists has completed the training, while the second part of the training is underway. According to a statement by Almaz-Antey, Vyacheslav Dzirkaln, deputy CEO of Almaz-Antey during the Army 2021 International Military-Technical Forum, “As for the training, the first group of Indian specialists completed the training. The second group is undergoing training.”



The S-400 system that is meant for India is undergoing the process of production and trials in Russia. In the fourth quarter of this year, Russia will commence the delivery of the first regimental set of long-range air defence systems S-400. In October 2018, India inked a contract of \$5.43 billion with Russia for five S-400 regiments.

S-400 systems: What is India expected to get?

Sophisticated S-400 Triumf ‘SA-21 Growler’ is known as Russia’s most advanced long-range surface-to-air missile (SAM) system. The ‘Triumf’ interceptor-based missile system has the capability to detect and destroy incoming hostile aircraft, high and low targets and even drones at ranges of up to 400km. These systems are built to destroy aerial threats, unmanned aerial vehicles (UAV) as well as cruise and ballistic missiles within the range of 400km at an altitude of up to 30km. The system is also equipped to simultaneously engage 36 targets. An upgraded version of the S-300, the S-400 is said to be twice as effective and can easily be deployed within five minutes.

In 2019, the first tranche of payment of around \$800 million had been made by India to Russia for the surface-to-air missile defence systems. S-400 will act as game changers and booster dose for the Indian Air Force, as stated by former IAF Chief Air Chief Marshal B.S. Dhanoa on various occasions.

<https://newsonair.com/2021/08/27/second-batch-of-indian-specialists-undergo-s-400-missile-training-as-delivery-nears/>

Beijing likely to expand its N-capabilities: US report

By Ajay Banerjee

New Delhi: China may expand its nuclear arsenal, while the nuclear missile capabilities of the People's Liberation Army (PLA) represent one strongest investment in warfare, says a report of the US Army.

Titled "Chinese tactics" dated August 2021, it is part of the "Army Techniques Publication" of the US Army and it has been put online in public.

The US report said China's nuclear strategy could be described as a minimal deterrence approach, possessing only the nuclear capability necessary to deter a nuclear attack. "Future modernisation accompanied by an expansion of the nuclear force, however, is a clear possibility," the US report said.

China is not a signatory to the Intermediate-Range Nuclear Forces Treaty, and thus it is free to develop short and medium range missiles of all types.

The PLA employs several types of missiles as its primary precision deep-strike capability to target high-value assets, including air and seaports, supply depots, and command and communication nodes. These missiles represent a significant element of the Chinese strategy of denying access.

More-advanced missiles are designed specifically to engage hardened or mobile high-value assets, such as aircraft carriers and missile systems of other countries.

Chinese capabilities represent one of the PLA's strongest investments in system warfare, as nuclear missiles asymmetrically destroy or neutralise assets that traditionally required force-on-force methods to effectively attack, said the US report.

The People's Liberation Army Rocket Force (PLARF) operates most of China's nuclear arsenal through a fleet of 60-70 intercontinental ballistic missile (ICBMs) – meaning with ranges in excess of 5,500 km.

China at present does not possess an immediate second-strike nuclear capability, said the US report.

In nuclear strategy 'second strike capability' is an assured capability of an armed force to respond to a nuclear attack with its own nuclear weapons. And a submarine launched nuclear weapons is considered the most reliable and potent form of second strike.

The US report argues that with China's substantial investment in nuclear missile capabilities, it is unlikely that China will ever voluntarily downgrade its conventional missile-strike capability. "The PLARF's conventional missile force is the world's largest and among the world's most technologically advanced and most capable," said the report.

<https://www.tribuneindia.com/news/world/beijing-likely-to-expand-its-n-capabilities-us-report-303710>



China may expand its nuclear arsenal, while the nuclear missile capabilities of the People's Liberation Army (PLA) represent one strongest investment in warfare, says a report of the US Army.



Press Information Bureau
Government of India

Ministry of Electronics & IT

Fri, 27 Aug 2021 7:19PM

QSim is the gateway for Indian scientists to take us in direction of future demands of computing power, MoS IT Shri Rajeev Chandrasekhar

QSim – Quantum Computer Simulator Toolkit launched today

Toolkit to enable Researchers and Students to carryout research in Quantum Computing in a cost effective manner

Shri Rajeev Chandrasekhar, Minister of State for Electronics & Information Technology, launched QSim – Quantum Computer Simulator Toolkit, to enable Researchers and Students to carryout research in Quantum Computing in a cost effective manner here today. Shri Ajay Prakash Sawhney, and senior officers from the Ministry of Electronics & Information Technology also attended the event. Prof. K. Vijay Raghavan, Principal Scientific Advisor to Govt. of India, Prof. Govindan Rangarajan, Director, IISc Bangalore, Prof. Ajit Kumar Chaturvedi, Director, IIT Roorkee, Ms. Debjani Ghosh, President, NASSCOM, Dr. Sudhir Kamat, DG (MED&COS), DRDO and many other dignitaries joined the event virtually.



QSim is an outcome of the project “Design and Development of Quantum Computer Toolkit (Simulator, Workbench) and Capacity Building”. This is one of the first initiatives in the country to address the common challenge of advancing the Quantum Computing research frontiers in India. This project is being executed collaboratively by IISc Bangalore, IIT Roorkee and C-DAC with the support of Ministry of Electronics and Information Technology (MeitY), Government of India.

Addressing the event, Shri Rajeev Chandrasekhar said that we are coming to an era where conventional computing power growth through the traditional means of silicon and semiconductor is drawing to a close and now we are going to see the next generation of computing power growth comes from a combination of software new architectures, system redesign and new system paradigms and that is where the quantum computing comes and is clearly going to be the cutting edge of the future demands of computing power. QSim is the Gateway for Indian scientists to take us in that direction.

Shri Chandrasekhar further added that as a nation we have come a long way as a community of scientists. He expressed his happiness that QSim is the result of collaborative efforts of research and development which in his view is a way to grow our technological capabilities. He said that we have a tremendous amount of talent in this country. The future of our Nation's technological capabilities will be driven to a large extent by how effectively we work in a collaborative manner and pick and assemble the best brains from across the country to create the technologies of the future. The Ministry of Electronics and IT is determined to help our country grow its technological capabilities. With

collaborative model of working India can reach greater heights in terms of technology leadership of the world.

Speaking on the occasion, Shri Ajay Prakash Sawhney said that QSim is a very initial step and this would be strengthened by the Mtech program that has already been launched by IISc Bangalore. Taking the lead from IISc Bangalore other institutes might also like to join that because strength that we have in India is of human resource and with this strength we may go deeper and deeper into any technology whatsoever.

QSim, the toolkit launched today, allows researchers and students to write and debug Quantum Code that is essential for developing Quantum Algorithms. Quantum systems are highly sensitive to disturbances from environment, even necessary controls and observations perturb them. The available and upcoming Quantum devices are noisy and techniques to bring down the environmental error rate are being intensively pursued. QSim allows researchers to explore Quantum Algorithms under idealized conditions and help prepare experiments to run on actual Quantum Hardware. QSim can serve as an important educational / research tool providing an excellent way to attract students / researchers to the field of Quantum Technology and provides a platform to acquire the skills of 'programming' as well as 'designing' real Quantum Hardware.

QSim - Feature Highlights

- Intuitive UI: QSim offers a robust QC Simulator integrated with a GUI based Workbench allowing students / researchers to create Quantum programs, visualize the instant circuit generation and simulated outputs.
- Simulate noisy Quantum logic circuits: Helps simulate Quantum circuits with and without noise and test how well various algorithms work with imperfect quantum components. This is essential to simulate real-life conditions.
- Pre-loaded Quantum algorithms and Examples: QSim comes loaded with Quantum programs and algorithms providing a head start to the users. E.g. QFT, Deutsch Jozsa, Grovers and so on.
- Integrated with HPC: The quantum simulations are performed on powerful HPC resources allowing multiple users to submit jobs simultaneously with different QuBit configurations.

QSim - Offering Models

- PARAM SHAVAK QSim - Standalone system with Quantum Simulator in a box
- PARAM QSim Cloud - Available on cloud using HPC infrastructure PARAM SIDDHI AI (developed and deployed under NSM program)

<https://pib.gov.in/PressReleasePage.aspx?PRID=1749667>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Fri, 27 Aug 2021 7:19PM

क्यूसिम भारतीय वैज्ञानिकों के लिए कंप्यूटिंग क्षमता की भविष्यगत मांगों की दिशा में ले जाने वाला एक प्रवेश द्वार है: केंद्रीय इलेक्ट्रॉनिक और सूचना प्रौद्योगिकी राज्यमंत्री श्री राजीव चंद्रशेखर

क्यूसिम-क्वांटम कंप्यूटर सिम्युलेटर टूलकिट को लॉन्च किया गया

*लागत प्रभावी तरीके से क्वांटम कंप्यूटिंग में अनुसंधान के लिए
शोधकर्ताओं और छात्रों को सक्षम बनाने हेतु टूलकिट*

केंद्रीय इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी राज्यमंत्री श्री राजीव चंद्रशेखर ने आज क्यूसिम-क्वांटम कंप्यूटर सिम्युलेटर टूलकिट को लॉन्च किया। इसका उद्देश्य शोधकर्ताओं और छात्रों को क्वांटम कंप्यूटिंग में लागत प्रभावी तरीके से अनुसंधान करने में सक्षम बनाना है। कार्यक्रम में इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय के सचिव श्री अजय प्रकाश साहनी और वरिष्ठ अधिकारी भी शामिल हुए। इसके अलावा कार्यक्रम में सरकार के प्रधान वैज्ञानिक सलाहकार प्रो. के.विजय राघवन, आईआईएससी बेंगलुरु के निदेशक प्रो. गोविंदन रंगराजन, आईआईटी रुड़की के निदेशक प्रो. अजीत कुमार चतुर्वेदी, नैसकॉम की अध्यक्ष सुश्री देबजानी घोष, मेड एंड सीओएस, डीआरडीओ के महानिदेशक डॉ. सुधीर कामत और कई अन्य गणमान्य व्यक्ति वर्चुअल माध्यम से शामिल हुए।

क्यूसिम "क्वांटम कंप्यूटर टूलकिट (सिम्युलेटर, कार्यक्षेत्र) और क्षमता निर्माण के डिजाइन और विकास" परियोजना का एक परिणाम है। यह भारत में क्वांटम कम्प्यूटिंग अनुसंधान सीमाओं को आगे बढ़ाने की आम चुनौतियों का समाधान निकालने की दिशा में देश की प्रथम पहलों में से एक है। यह परियोजना भारत सरकार के इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय के सहयोग से आईआईएससी बेंगलुरु, आईआईटी रुड़की और सी-डेक के समन्वय से निष्पादित की जा रही है।

कार्यक्रम को संबोधित करते हुए, श्री राजीव चंद्रशेखर ने कहा कि हम एक ऐसे युग में आ रहे हैं, जहां सिलिकॉन और सेमीकंडक्टर के पारंपरिक साधनों के माध्यम से पारंपरिक कंप्यूटिंग क्षमता का विकास बढ़ रहा है और अब हम अगली पीढ़ी में कंप्यूटिंग क्षमता विकास को एक संयोजन के रूप में देखेंगे। उन्होंने कहा कि सॉफ्टवेयर के नए आर्किटेक्चर, सिस्टम रीडिजाइन और नए सिस्टम प्रतिमानों के साथ ही क्वांटम कंप्यूटिंग जुड़ी है और स्पष्ट रूप से कंप्यूटिंग क्षमता की भविष्यगत मांगों के अत्याधुनिक होने की संभावनाओं को देखते हुए क्यूसिम भारतीय वैज्ञानिकों के लिए इस दिशा में ले जाने का प्रवेश द्वार है।

श्री चंद्रशेखर ने कहा कि एक राष्ट्र के रूप में वैज्ञानिक समुदाय के तौर पर लंबा सफर तय किया है। उन्होंने प्रसन्नता व्यक्त की कि क्यूसिम, अनुसंधान और विकास के सहयोगात्मक प्रयासों का परिणाम है। उन्होंने कहा कि यह हमारी तकनीकी क्षमताओं को विकसित करने का एक तरीका है। उन्होंने कहा कि हमारे पास देश में जबरदस्त प्रतिभा है। हमारे राष्ट्र की तकनीकी क्षमताओं का भविष्य काफी हद तक इस

बात से प्रेरित होगा कि हम एक सहयोगी तरीके से कैसे प्रभावी ढंग से इस क्षेत्र में कार्य करते हैं और भविष्य की प्रौद्योगिकियों के निर्माण के लिए देशभर से सर्वश्रेष्ठ प्रतिभाओं का चयन करते हुए उन्हें एकत्रित करते हैं। उन्होंने कहा कि इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी मंत्रालय देश के भीतर अपनी तकनीकी क्षमताओं को विकसित करने में सहायता के लिए दृढ़ संकल्पित है। उन्होंने कहा कि कार्य करने के सहयोगी मॉडल के साथ भारत दुनिया में प्रौद्योगिकी नेतृत्व की दिशा में अधिक ऊंचाइयों हासिल कर सकता है।

इस अवसर पर अपने संबोधन में श्री अजय प्रकाश साहनी ने कहा कि क्यूसिम एक बहुत ही प्रारंभिक कदम है और इसे एमटेक कार्यक्रम द्वारा मजबूत किया जाएगा, जिसे आईआईएससी बेंगलुरु द्वारा पहले ही लॉन्च किया जा चुका है। आईआईएससी बेंगलुरु के नेतृत्व से प्रेरणा लेते हुए अन्य संस्थान भी इसमें शामिल होना पसंद कर सकते हैं क्योंकि भारत में उपस्थित मानव संसाधन की शक्ति का उपयोग किसी भी तकनीक के अन्वेषण को और अधिक गहन स्तर तक ले जाने में सहायता प्रदान कर सकता है।

आज लॉन्च की गई क्यूसिम की टूलकिट शोधकर्ताओं और छात्रों को क्वांटम कोड लिखने और डीबग करने की अनुमति प्रदान करती है, जो क्वांटम एल्गोरिदम विकसित करने के लिए आवश्यक है। क्वांटम सिस्टम पर्यावरण से होने वाली समस्या के प्रति अत्यधिक संवेदनशील होते हैं और यहां तक कि इस पर आवश्यक नियंत्रण और अवलोकन करने में भी सक्षम हो सकते हैं। उपलब्ध और आगामी क्वांटम डिवाइस के माध्यम से पर्यावरणीय त्रुटि की दर को कम करने की तकनीकों का गहनता से अनुसरण किया जा रहा है। क्यूसिम शोधकर्ताओं को आदर्श परिस्थितियों में क्वांटम एल्गोरिदम का पता लगाने और वास्तविक क्वांटम हार्डवेयर के साथ प्रयोग हेतु तैयार करने में मदद करने की अनुमति देता है। क्यूसिम, क्वांटम प्रौद्योगिकी के क्षेत्र में छात्रों/शोधकर्ताओं को आकर्षित करने के लिए एक उत्कृष्ट माध्यम प्रदान करने के मामले में एक महत्वपूर्ण शैक्षिक/अनुसंधान उपकरण के रूप में कार्य कर सकता है और 'प्रोग्रामिंग' के कौशल के साथ-साथ वास्तविक क्वांटम हार्डवेयर को 'डिजाइन' करने के लिए एक मंच प्रदान करता है।

क्यूसिम की विशेषताएं -

सहज ज्ञान युक्त यूआई: क्यूसिम एक जीयूआई आधारित कार्यक्षेत्र के साथ एकीकृत एक मजबूत क्यूसी सिम्युलेटर प्रदान करता है, जो छात्रों/शोधकर्ताओं को क्वांटम प्रोग्राम बनाने और इन्सटैंट सर्किट जनरेशन और सिम्युलेटेड आउटपुट पर विचार करने की पेशकश करता है।

सिम्युलेट नॉइजी क्वांटम लॉजिक सर्किट: यह क्वांटम सर्किट को शोर के साथ और बिना शोर के अनुकरण करने में मदद करता है और उनका परीक्षण भी करता है कि विभिन्न एल्गोरिदम अपूर्ण क्वांटम घटकों के साथ यह कितने बेहतर तरीके से कार्य करते हैं, जो वास्तविक जीवन की स्थितियों का अनुकरण करने के लिए यह आवश्यक है।

प्री-लोडेड क्वांटम एल्गोरिदम और उदाहरण: क्यूसिम क्वांटम प्रोग्राम्स और एल्गोरिदम से संपन्न यह सुविधा उपयोगकर्ताओं को एक शुरुआती मार्ग प्रदान करती है। उदाहरण के तौर पर क्यूएफटी, ड्यूश, जोशा, ग्रोवर्स और अन्य।

एचपीसी के साथ एकीकृत: क्वांटम सिम्युलेशन शक्तिशाली एचपीसी संसाधनों पर किया जाता है, जिसमें कई उपयोगकर्ता अलग-अलग क्यूबिट कॉन्फिगरेशन के साथ एक साथ कई कार्यों को कर सकते हैं।

क्यूसिम- ऑफरिंग मॉडल्स: पीएआरएएम एसएचएवीएके क्यूसिम- एक बॉक्स में क्वांटम सिम्युलेटर के साथ स्टैंडअलोन सिस्टम पीएआरएएम क्यूसिम क्लाउड- एचपीसी इन्फ्रास्ट्रक्चर परम सिद्धि एआई (एनएसएम कार्यक्रम के अंतर्गत विकसित और स्थापित) का उपयोग करते हुए क्लाउड पर उपलब्ध।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1749870>

ISRO tests Gaganyaan service module propulsion system

By Chethan Kumar

Bengaluru: As part of its preparations for the ambitious India's first human spaceflight mission (Gaganyaan), the Indian Space Research Organisation (Isro) on Saturday said it successfully conducted a hot test of the system demonstration model (SDM) of the service module propulsion system.

"...The first hot test of the SDM of the Gaganyaan Service Module Propulsion System was for a duration of 450 seconds at Isro Propulsion Complex (IPRC) in Mahendragiri, Tamil Nadu. The system performance met the test objectives and there was a close match with the pre-test predictions," Isro said.



The space agency added that a series of hot tests are planned to simulate various mission conditions as well as off-nominal conditions in the coming months.

The service module is part of the Gaganyaan Orbital module and is located below the crew module and remains connected to it until re-entry.

"The service propulsion system consists of a unified bi-propellant system consisting of five 440-N thrust engines and 16 100-N reaction control system (RCS) thrusters with MON-3 and MMH as Oxidizer and Fuel respectively," Isro said.

The SDM, consisting of five 440-N engines and eight 100-N thrusters, was realised (designed) to qualify the propulsion system performance in ground. A new test facility was established at IPRC, for testing the SDM, Isro added.

As reported earlier by STOI, Isro had in July conducted another long-duration hot test of the liquid propellant engine of the GSLV MkIII, the launch vehicle to be used for Gaganyaan.

The third long-duration hot test of the liquid propellant Vikas Engine for the core L110 liquid stage of the human rated GSLV MkIII vehicle, was fired for a duration of 240 seconds and the performance met the test objectives and the engine parameters were closely matching with the predictions.

<https://timesofindia.indiatimes.com/india/isro-tests-gaganyaan-service-module-propulsion-system/articleshow/85715953.cms>

सफलता की ओर बढ़ते कदम: गगनयान मिशन से पहले इसरो को मिली बड़ी कामयाबी, जानें क्या है पूरा मामला

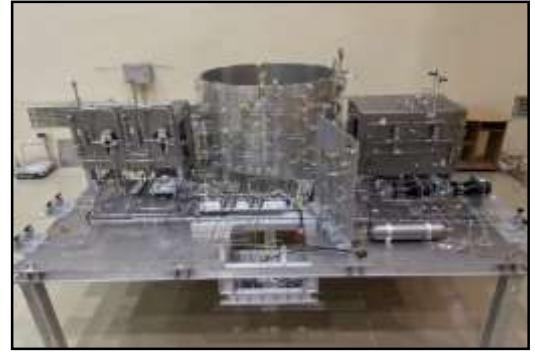
सार

परीक्षण तमिलनाडु के महेंद्रगिरी में इसरो प्रोपल्शन कॉम्प्लेक्स में किया गया। इसरो के मुताबिक, सिस्टम ठीक तरीके से काम कर रहे हैं। यह हमारे अनुमान के मुताबिक काम कर रहा है।

विस्तार

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) ने शनिवार को गगनयान सर्विस मॉड्यूल प्रोपल्शन सिस्टम के सिस्टम डिमॉन्स्ट्रेशन मॉडल (एसडीएम) का पहला हॉट टेस्ट सफलतापूर्वक किया। यह टेस्ट तमिलनाडु के महेंद्रगिरी में इसरो प्रोपल्शन कॉम्प्लेक्स में किया गया।

इसरो के मुताबिक, सिस्टम ठीक तरीके से काम कर रहे हैं। यह हमारे अनुमान के मुताबिक काम कर रहा है। इसके अलावा अलग-अलग स्थितियों में ऐसे कई परीक्षण करने की योजना बनाई गई है। इसमें परिस्थितियां भी अलग-अलग रखी जाएंगी।



पिछला मिशन सफल नहीं हो पाया था

इससे पहले 15 अगस्त से ठीक पहले इसरो का EOS-03 उपग्रह का प्रक्षेपण नाकाम रहा था। इससे इस मिशन को करारा झटका लगा था। इंजन में खराबी के कारण इसरो का महत्वाकांक्षी मिशन पूरा नहीं हो सका था। इसे अंतरिक्ष से धरती की निगरानी करनी थी, इसीलिए इसे भारत की सबसे तेज आंखें भी कहा जा रहा था, लेकिन मिशन अधूरा ही रहा गया।

इसरो ने श्रीहरिकोटा स्थित सतीश धवन अंतरिक्ष केंद्र से 12 अगस्त की सुबह 5 बजकर 43 मिनट पर जीएसएलवी-एफ 10 के जरिए धरती पर निगरानी रखने वाले उपग्रह EOS-03 का प्रक्षेपण शुरू किया था। पहले दो चरण में ये कामयाबी के साथ आगे बढ़ा, लेकिन तीसरे चरण में इसके क्रायोजेनिक इंजन में खराबी आ गई थी।

साल का पहला मिशन फरवरी में हुआ था

इससे पहले 28 फरवरी को इसरो ने साल के पहला मिशन को सफलतापूर्वक अंजाम दिया था। भारत का रॉकेट 28 फरवरी को श्रीहरिकोटा अंतरिक्ष केंद्र से पहली बार ब्राजील का उपग्रह लेकर अंतरिक्ष रवाना हो हुआ था। ब्राजील के अमेजोनिया-1 और 18 अन्य उपग्रहों को लेकर भारत के पीएसएलवी (ध्रुवीय उपग्रह प्रक्षेपण यान) सी-51 ने श्रीहरिकोटा अंतरिक्ष केंद्र से उड़ान भरी थी। इस अंतरिक्ष यान के शीर्ष पैनल पर प्रधानमंत्री नरेंद्र मोदी की तस्वीर उकेरी गई थी।

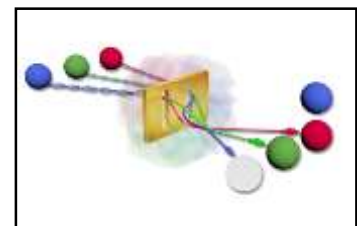
<https://www.amarujala.com/india-news/isro-successfully-conducted-the-first-hot-test-of-system-demonstration-model-of-gaganyaan-mission?pageId=2>

Nanoscale systems for generating various forms of light

For decades, scholars have believed that the quantum statistical properties of bosons are preserved in plasmonic systems, and therefore will not create different form of light.

This rapidly growing field of research focuses on quantum properties of light and its interaction with matter at the nanoscale level. Stimulated by experimental work in the possibility of preserving nonclassical correlations in light-matter interactions mediated by scattering of photons and plasmons, it has been assumed that similar dynamics underlie the conservation of the quantum fluctuations that define the nature of light sources. The possibility of using nanoscale system to create exotic forms of light could pave the way for next-generation quantum devices. It could also constitute a novel platform for exploring novel quantum phenomena.

In new findings published in *Nature Communications*, researchers from Louisiana State University and four collaborating universities have introduced a discovery that changes a paradigm in quantum plasmonics by demonstrating the potential of metallic nanostructures to produce different forms of light.



Multiparticle scattering in plasmonic systems. Credit: LSU

Their paper, "Observation of the Modification of Quantum Statistics of Plasmonic Systems," written by collaborators from the University of Alabama in Huntsville, Tecnológico de Monterrey, Universidad Nacional Autónoma de México and Universidad Autónoma Metropolitana Unidad Iztapalapa, demonstrates that the quantum statistics of multiparticle systems are not always preserved in plasmonic platforms. It also describes the first observation of the modified quantum statistics. Lead authors, LSU postdoctoral researcher Chenglong You and LSU graduate student Mingyuan Hong, show that optical near fields provide additional scattering paths that can induce complex multiparticle interactions.

"Our findings unveil the possibility of using multiparticle scattering to perform exquisite control of quantum plasmonic systems," You said. "This result redirects an old paradigm in the field of quantum plasmonics where the fundamental physics uncovered in our discovery will provide a better understanding of the quantum properties of plasmonic systems, and unveil new paths to perform control of quantum multiparticle systems."

Research pursued by the Experimental Quantum Photonics Group at LSU that resulted in these new findings was conducted in Assistant Professor Omar Magaña-Loaiza's Quantum Photonics Laboratory. "We engineered metallic nanostructures, fabricated in gold, to produce different kinds of light," Hong said. "Our nanoscale platform exploits dissipative plasmonic near fields to induce and control complex interactions in many-body systems of photons. This capability allows us to control at will the quantum fluctuations of multiphoton systems."

The possibility of engineering light with different quantum mechanical properties has enormous implications for multiple quantum technologies.

"For example, our platform enables the reduction of the quantum fluctuations of multiphoton systems to boost the sensitivity of protocols for quantum sensing," Magaña-Loaiza said. "In our lab, we will exploit this exquisite degree of control to develop quantum simulations of light transport. This will enable the eventual design of better and more efficient solar cells."

More information: Chenglong You et al, Observation of the modification of quantum statistics of plasmonic systems, *Nature Communications* (2021). DOI: [10.1038/s41467-021-25489-4](https://doi.org/10.1038/s41467-021-25489-4)

Journal information: [Nature Communications](https://phys.org/news/2021-08-nanoscale.html)
<https://phys.org/news/2021-08-nanoscale.html>

Novel physics gives rise to the highest coherence for microscopic lasers

By Tine Naja Berg

Scientists from DTU have shown that a Fano laser, a new type of microscopic laser, has fundamental advantages compared to other types of lasers. The discovery can be important for many future applications, such as integrated photonics, interfacing of electronics and photonics, and optical sensors.

An increasing fraction of the global energy consumption is used for information technology, and photonics operating at very high data rates with ultra-low energy per bit has been identified as a key technology to enable sustainable growth of capacity demands.

However, existing laser designs cannot just be scaled down to reach the goals for next-generation integrated devices, and fundamental discoveries in the field of nanophotonics are therefore needed.

Supported by a Villum Center of Excellence, NATEC, a newly established DNRF Center of Excellence, NanoPhoton, and an ERC Advanced Grant, scientists from DTU are exploring the physics and applications of a new class of photonic devices using a phenomenon known as Fano interference. This physical effect offers an opportunity for realizing ultrafast and low-noise nanolasers (called Fano lasers), optical transistors, and quantum devices working at the level of a single photon.

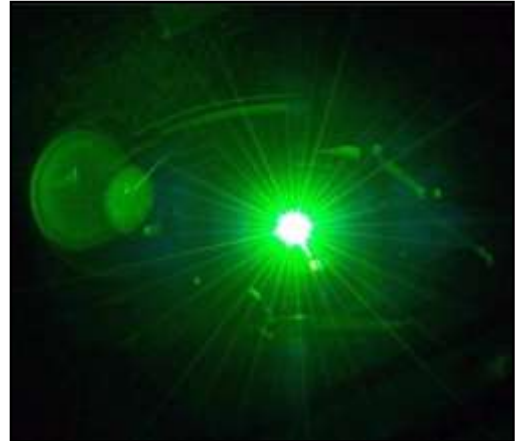
Now, the DTU scientists have shown that the coherence of a Fano laser can be significantly improved compared to existing microscopic lasers. The result has been published in *Nature Photonics*.

"The coherence of a laser is a measure of the purity of the color of the light generated by the laser. A higher coherence is essential to numerous applications, such as on-chip communications, programmable photonic integrated circuits, sensing, quantum technology, and neuromorphic computing. For example, coherent optical communication systems transmit and detect information using the phase of light pulses, leading to a tremendous information capacity" says Jesper Mørk, Professor at DTU Fotonik and Center Leader of NATEC and NanoPhoton.

Jesper Mørk further explains: that "the Fano laser, with a size of a few microns (one micron is one-thousandth of a millimetre), operates in an unusual optical state, a so-called bound-state-in-the-continuum, induced by the Fano resonance. The existence of such a state was first identified by some of the early pioneers of quantum mechanics, but evaded experimental observation for many years. In the paper, we show that the characteristics of such a bound-state-in-the-continuum can be harnessed to improve the coherence of the laser."

"The observation is somewhat surprising," adds lead author and senior researcher at DTU Fotonik, Yi Yu, "since a bound-state-in-the-continuum is much less robust than the states commonly used in lasers. We show in our paper, experimentally as well as theoretically, that the peculiarities of this new state can be used to advantage."

Yi Yu continues that "to achieve the goal we have developed, in collaboration with Professor Kresten Yvind's group at DTU Fotonik, an advanced nanotechnology platform, called Buried Heterostructure Technology. This technology allows realizing small, nanometer-sized regions of active material, where the light generation takes place, while the remaining laser structure is



Credit: ORNL

passive. It is the physics of Fano resonance combined with this technology that eventually enables the suppression of quantum noise, leading to the highest measured coherence for microscopic lasers."

This new finding may lead to the use of Fano lasers in integrated electronic-photonic circuits, in particular in new generations of high-speed computers. In today's computers, electrical signals are used for logic operations as well as for transmitting data between different parts of the computer. However, due to ohmic losses, a lot of energy is wasted in the transmission. The primary role of the Fano laser will be to convert the electrical data to light signals, which then are transmitted within the computer almost without loss – just as it is done in optical fibres on the internet today. The long-term perspective is to get much faster computer chips with minimal energy consumption.

More information: Yi Yu et al, Ultra-coherent Fano laser based on a bound state in the continuum, *Nature Photonics* (2021). [DOI: 10.1038/s41566-021-00860-5](https://doi.org/10.1038/s41566-021-00860-5)

Journal information: *Nature Photonics*
<https://phys.org/news/2021-08-physics-highest-coherence-microscopic-lasers.html>



Sun, 29 Aug 2021

Researchers develop novel analog processor for high performance computing

Analog photonic solutions offer unique opportunities to address complex computational tasks with unprecedented performance in terms of energy dissipation and speeds, overcoming current limitations of modern computing architectures based on electron flows and digital approaches.

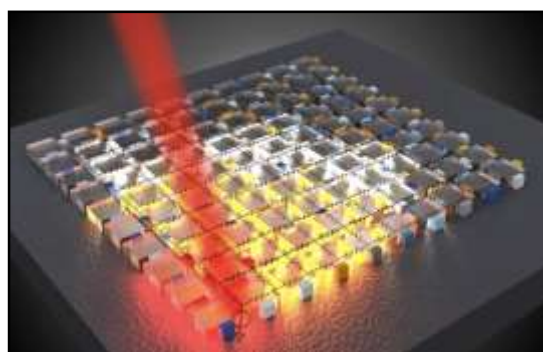
In a new study published today in the journal *Nature Communications Physics*, researchers led by Volker Sorger, an associate professor of electrical and computer engineering at the George Washington University, reveal a new nanophotonic analog processor capable of solving partial differential equations.

This nanophotonic processor can be integrated at chip-scale, processing arbitrary inputs at the speed of light.

The research team also included researchers at the University of California, Los Angeles, and City College of New York.

More information: Mario Miscuglio et al, Approximate analog computing with metatronic circuits, *Communications Physics* (2021). [DOI: 10.1038/s42005-021-00683-4](https://doi.org/10.1038/s42005-021-00683-4)

Journal information: *Communications Physics*
<https://phys.org/news/2021-08-analog-processor-high.html>



Researchers at the George Washington University have developed a nanophotonic analog accelerator to solve challenging engineering and science problems, known as partial differential equations, in fractions of a second. Credit: Mario Miscuglio

Sun, 29 Aug 2021

Covid-19: Delta variant increases risk of hospitalisation, read details

The research also found that the risk of getting hospitalised in an emergency situation was also 1.5 times more in case of the Delta variant in comparison to the infection caused by the Alpha variant

Patients of Coronavirus infected by its Delta variant are at double the risk of hospitalisation in comparison to those infected by the Alpha variant, as per an analysis of over 40000 Covid-19 cases in England. The study which was conducted by The Lancet Infectious Diseases journal zeroed in on these patients who had contracted Coronavirus during March 29 and May 23 this year, the Indian Express reported. The research also found that the risk of getting hospitalised in an emergency situation was also 1.5 times more in case of the Delta variant in comparison to the infection caused by the Alpha variant.

Talking about the salience of the research, Dr Gavin Dabrera, one of the study's lead authors and a consultant epidemiologist at the National Infection Service, Public Health England was quoted as saying that the research has confirmed what was long guessed. Dr Dabrera said that the delta variant was more dangerous and put more people at risk of hospitalisation than the alpha variant. Dabrera also emphasised on the fact that most patients analysed during the study had not been vaccinated before they got Coronavirus.

The delta variant which was first reported in India in December last year has spread to most parts of the world and also become the leading variant for most infections in recent times. Earlier studies on the variant had also found the variant to be not only more lethal but also rapidly transmissible.

It is pertinent to note that all 40000 patients of Coronavirus who were part of the study had been genome sequenced to determine the variant they had got infected from. The researchers after taking into account age, ethnicity, vaccination status and other variable factors reached the conclusion that the delta variant was 2 times more likely to make patients severely ill needing hospitalisation.

Dr Anne Presanis, who is another lead author of the study and a senior statistician at the MRC Biostatistics Unit, University of Cambridge was quoted as saying that the study had highlighted the fact that the delta variant can impose a greater burden on the health care system in the absence of full vaccination and urged people to get fully vaccinated at the earliest.

<https://www.financialexpress.com/lifestyle/health/covid-19-delta-variant-increases-risk-of-hospitalisation-read-details/2319524/>

