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Mon, 26 July 2021 3:23PM

Strengthening the defence manufacturing sector

DRDO has taken the following measures for strengthening the industry to reduce the timelines from development to induction:-

- Accessibility of DRDO Test Facilities to Indian Industry.
- Identification of Development-cum-Production Partner/ Production Agency/ Lead System Integrator (DcPP/ PA/ LSI) for early integration of industry.
- Technology Development Fund (TDF) has been implemented to provide support for design and development of technologies/ prototypes, indigenisation of imported systems/ components and new systems especially by MSMEs/ Start-ups.
- Simpler Transfer of Technology (ToT) Policy to encourage industries
- Free access of DRDO patents to industries
- Identified 108 exclusive systems for development by industry which will not be taken by DRDO
- DRDO is focused to carry out R&D work on critical & advanced technologies that industries cannot do.

Measures proposed to be taken for strengthening the Ordnance Factories and DPSUs to meet countries defence requirements are as follows:-

- To carve out a future growth path, a visioning exercise and study has been commissioned for DPSUs for restructuring and reforming them to become cost competitive and efficient.
- DPSUs have been encouraged to work as aggregators and maximize outsourcing from indigenous sources. Over the last 2 years, the vendor base of DPSUs/OFB has increased substantially from 8000 to 12878 as on 30.06.2021.
- Disinvestment of DPSUs is being pursued.
- Focus on modernization of production facilities through higher CAPEX. Further, following roadmap is being implemented by the OFB/DPSUs for technology modernization:
    1. Investing in Industry 4.0 technologies in areas of Manufacturing, Supply Chain & other broader digital transformation initiatives.
    2. Focusing on emerging areas of Artificial Intelligence, Data Fusion, Web Technologies, Data Analytics, 3D Printing, Networking and Cyber Security. These technologies are now being incorporated into Products and Systems at the design stage itself.
    3. Change in the traditional ToT based manufacturing approach to a more proactive Co-development and Co-Production approach.
    4. Increased software based testing for reducing the time and efforts that go in testing of products.

- Promoting IP culture in DPSUs through Mission Raksha Gyan Shakti. So far, 32,799 officers and staff of DPSUs/ OFB/DGQA have been trained in IPRs and 2,417 IPs have been filed and 981 IPs have been granted/registered.
- For 2021-22, the allocation for Domestic procurement has been enhanced compared to previous years and is planned to be about 64.09 % i.e. Rs. 71,438.36 Crore of the allocated amount for military modernization.
- Ministry of Defence has notified two 'Positive Lists' for Indigenisation comprising of 209 items on 28.08.2020 and 31.05.2021 respectively, for which there would be an embargo on the import beyond the timeline indicated against them.
- An indigenization portal namely SRIJAN has been launched in August 2020 for DPSUs/OFB/Services with an industry interface to provide development support to MSMEs/Startups/Industry for import substitution. So far, more than 10,945 Defence items, which were earlier imported, have been displayed on the portal. Private industry has expressed interest in indigenising more than 2400 items.
- To enhance functional autonomy, efficiency and unleash new growth potential and innovation in Ordnance Factories, the Cabinet Committee on Security (CCS) in its meeting held on 29.07.2020 had approved to convert Ordnance Factory Board (OFB), a subordinate office of Ministry of Defence, into one or more than one 100% Government owned corporate entities, registered under the Companies Act, 2013. The Cabinet in its meeting held on 16.06.2021, has now, inter-alia, approved to convert the production units of OFB into 07 DPSUs with 41 units.
- The Government has enhanced FDI in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route. The obligatory government approval for existing FDI approval holders / current defence licensees for change in equity /shareholding pattern up to 49% FDI has been replaced with mandatory declaration for the same within 30 days of change of equity / shareholding pattern. These reforms are likely to attract foreign investment in Defence & Aerospace sector.
- Reforms in Offset policy have been included in DAP 2020, higher multipliers have been assigned for Transfer of Technology (ToT) to DPSUs/OFB.
- In order to promote indigenous design and development of defence equipment 'Buy {Indian-IDDM (Indigenously Designed, Developed and manufactured)}' category has been accorded top most priority for procurement of capital equipment.
- Department of Defence Production has notified 46 items under the latest Public Procurement Order 2017 notified by Department for Promotion of Industry and Internal Trade (DPIIT), for which there is sufficient local capacity and competition and procurement of these items shall be done from local suppliers only irrespective of the purchase value.

Services are the primary stakeholders in DRDO projects. They are involved right from the conceptualization of the project through peer reviews, design reviews i.e. Annual Joint reviews, Joint reviews & bi-annual reviews and a three tier project monitoring mechanism as per DRDO procedure for all Mission Mode (MM) projects undertaken by DRDO.

Also, a number of collegiate interaction meetings between DRDO and Users are being held for specific requirements/ issues as and when required.

Moreover, DRDO, OFB, DPSUs and Armed Forces being part of the same Ministry regularly interact with each other for the design development and production of Defence equipment as per the requirements of Defence Forces.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Dr Banda Prakash in Rajya Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1739055

Press Information Bureau
Government of India

Ministry of Defence

Mon, 26 July 2021 3:24PM

Indigenously manufacturing defence products

The Government has taken several policy initiatives and reforms to promote indigenisation and self-reliance in defence manufacturing, under Atmanirbhar Bharat Mission in the defence sector. Important policy initiatives are as under:-

- Ministry of Defence has notified a 'First Positive Indigenisation list' of 101 items on 21 Aug 2020 and '2nd Positive Indigenisation list' of 108 items on 31 May 2021 for which there would be an embargo on the import beyond the timelines indicated against them. This is a big step to promote indigenisation in defence sector. This offers a great opportunity to the Indian defence industry to manufacture these items using their own design and development capabilities to meet the requirements of the Indian Armed Forces. These lists include some high technology weapon systems like artillery guns, assault rifles, corvettes, sonar systems, transport aircrafts, light combat helicopters (LCHs), radars, wheeled armoured platform, rockets, bombs, armoured command post vehicle, armoured dozor and many other items to fulfill the needs of our Defence Services.
- SRIJAN portal to promote indigenization was launched on 14 Aug 2020. As on date 10940 items, which were earlier imported, have been displayed on the portal for indigenisation. The Indian industry has shown interest for indigenization of 2880 displayed items so far. DPSUs/OFB interact with these industries to facilitate indigenization of the items as per extant procedures.
- 1776 components & spares have been indigenised in the year 2020-21 as a result of efforts of indigenisation by DPSUs, OFB & SHQs through their own process of indigenisation (In-house, Make-II & Other than Make-II).
- DPP-2016 has been revised as Defence Acquisition Procedure (DAP)-2020, which is driven by the tenets of Defence Reforms announced as part of 'Aatmanirbhar Bharat Abhiyan'.
- In order to promote indigenous design and development of defence equipment 'Buy {Indian-IDDM (Indigenously Designed, Developed and Manufactured)}' category has been accorded top most priority for procurement of capital equipment.
- The 'Make' Procedure of capital procurement has been simplified. There is a provision for funding upto 70% of development cost by the Government to Indian industry under Make-I category. In addition, there are specific reservations for MSMEs under the 'Make' procedure.
- Procedure for 'Make-II' category (Industry funded), introduced in DPP 2016 to encourage indigenous development and manufacture of defence equipment has number of industry friendly provisions such as relaxation of eligibility criterion, minimal documentation, provision for considering proposals suggested by industry/individual etc. So far, 58 projects relating to Army, Navy & Air Force, have been accorded 'Approval in Principle'.
- The Government of India has enhanced FDI in Defence Sector up to 74% through the Automatic Route and up to 100% by Government Route.
- An innovation ecosystem for Defence titled "Innovations for Defence Excellence (iDEX)" has been launched in April 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.

- Reforms in Offset policy have been included in DAP 2020, with thrust on attracting investment and Transfer of Technology for Defence manufacturing, by assigning higher multipliers to them.
- Government has notified the 'Strategic Partnership (SP)' Model in May 2017, which envisages establishment of long-term strategic partnerships with Indian entities through a transparent and competitive process, wherein they would tie up with global Original Equipment Manufacturers (OEMs) to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.
- Government has notified a 'Policy for indigenisation of components and spares used in Defence Platforms' in March 2019 with the objective to create an industry ecosystem which is able to indigenize the imported components (including alloys & special materials) and sub-assemblies for defence equipment and platform manufactured in India.
- Government has established two Defence Industrial Corridors, one each in the States of Uttar Pradesh and Tamil Nadu. The investments of Rs 20,000 Crore have been envisaged in Defence corridors of Uttar Pradesh and Tamil Nadu by year 2024. So far, investment of approx. Rs 3342 Crore have been made in both the corridors by public as well as private sector companies. Moreover, the respective State Governments have also announced their Aerospace & Defence Policies to attract private players as well as foreign companies including Original Equipment Manufacturers (OEMs) in these two corridors.
- An Inter-Governmental Agreement (IGA) on "Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other material related to Russian/Soviet Origin Arms and Defence Equipment" was signed in Sep 2019. The objective of the IGA is to enhance the "After Sales Support" and operational availability of Russian origin equipment currently in service in Indian Armed Forces by organizing production of spares and components in the territory of India by Indian Industry by way of creation of Joint Ventures/Partnership with Russian Original Equipment Manufacturers (OEMs) under the framework of the "Make in India" initiative.
- Defence Products list requiring Industrial Licences has been rationalised and manufacture of most of parts or components does not require Industrial License. The initial validity of the Industrial Licence granted under the IDR Act has been increased from 03 years to 15 years with a provision to further extend it by 03 years on a case-to-case basis.
- Department of Defence Production has notified 46 items under the latest Public Procurement Order 2017 notified by Department for Promotion of Industry and Internal Trade (DPIIT), for which there is sufficient local capacity and competition and procurement of these items shall be done from local suppliers only irrespective of the purchase value.
- Defence Investor Cell (DIC) has been created in Feb-2018 in the Ministry to provide all necessary information including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector. As on date, 1182 queries had been received and addressed by Defence Investor Cell.
- Technology Development Fund (TDF) has been created under DRDO to promote self reliance in Defence Technology through participation of Public/Private industries especially MSMEs and startups.
- For the year 2021-22, the allocation for domestic procurement has been enhanced compared to previous year and is about 64.09% i.e. Rs. 71438.36 Crore of the allocated amount for military modernization.

There are 6 (six) Ordnance Factories and one Manufacturing Unit of BEL in Tamil Nadu at present. Moreover as reported by the Government of Tamil Nadu, there are 35 major private companies which manufacture products for defence. These are supported by MSMEs, numbering about 250. After announcement of defence corridor in Tamil Nadu, about 30 more companies have expressed their intentions to set up/expand manufacturing units.

Industrial development is a continuous process. Thus, the Government of Tamil Nadu has not fixed any target date for completion.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri A Vijayakumar in Rajya Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1739058

Tue, 27 July 2021

Satheesh Reddy, the missile man of India facilitated

Buddha Prasad said Sateesh Reddy is known as the Missile Man of India and hoped DRDO would achieve many milestones under the able leadership of Satheesh Reddy

Telugu writers and other prominent people including doctors and educationists participated in the get-together organised by the Krishna District Writers Association and felicitated G Satheesh Reddy, chairman of the Defence Research and Development Organisation (DRDO).

The writers greeted one another and joyfully spent about two hours. Former Deputy Speaker of Andhra Pradesh Assembly Mandali Buddha Prasad, Telugu writers Association district general secretary Dr GV Purna Chand, Dr Samaram, Dr MC Das, State Information Commissioner Ilapuram Raja, Dr Palaparti Syamalanand, writers, poets and others participated in the event.

The writers and poets praised the services of Sateesh Reddy to the DRDO and nation.

Mandali Buddha Prasad speaking on the occasion, said three prominent Telugu people --the Supreme Court Chief Justice NV Ramana, Vice-President M Venkaiah Naidu and DRDO Chairman G Satheesh Reddy -- love Telugu language and Telugu literature. He said all Telugu people are proud of the achievement of Satheesh Reddy.

He said Satheesh Reddy Vijayawada, Vijayawada News, Andhra Pradesh, Andhra Pradesh NewsVijayawada, Vijayawada News, Andhra Pradesh, Andhra Pradesh Newsas born in a small hamlet in Nellore district and reached to the position of Chairman of DRDO with dedication and hard work.

Buddha Prasad said Sateesh Reddy is known as the Missile Man of India and hoped DRDO would achieve many milestones under the able leadership of Satheesh Reddy.

Dr Samaram, Dr MC Das, Dr GV Purna Chand and others spoke on the occasion and recalled the achievement of Sateesh Reddy. They said all developed nations like the US, the UK and other countries have recognised the outstanding talent of Satheesh Reddy and awarded fellowships.

Vijayawada Press Club president Nimmaraju Chalapati Rao and others felicitated Satheesh Reddy. Due to Covid pandemic, the cultural associations have stopped hosting the events in the city for a long time. Satheesh Reddy thanked the writers association and other guests attended the event.

https://www.nyoooz.com/news/vijayawada/1597274/satheesh-reddy-the-missile-man-of-india-facilitated/

THE ECONOMIC TIMES

Tue, 27 July 2021

DRDO to fund incubation centres working on defence-related problems: Sateesh Reddy

Synopsis

He said fresh B.Tech graduates would be provided a financial assistance of up to Rs one crore each for setting up incubation centres that could find solutions to defence-related problems.

The Defence Research and Development Organisation would fund incubation centres that work on defence-related problems, its Chairman G Sateesh Reddy has said.

The DRDO would also collaborate with universities on long-term projects, under the Directed Research Programme, for two or three decades, he said.

Sateesh Reddy, who was on a three-day visit to his home state, interacted with SRM University-AP Pro-Vice Chancellor D Narayana Rao, Vice-Chancellor V S Rao, scientists and faculty of the university.

He said fresh B.Tech graduates would be provided a financial assistance of up to Rs one crore each for setting up incubation centres that could find solutions to defence-related problems.

"If these fresh graduates could rope in an industry as a partner, we can then extend financial assistance up to Rs 10 crore," he added.

DRDO has also started joint PhD programmes with universities and institutions across the country, wherein the defence body's scientists would act as co-guides.

Research scholars enrolled for the programme would get an opportunity to work in DRDO labs during the tenure, Sateesh Reddy said.

The country's premier defence research organisation has also started M.Tech programmes in defence technologies jointly with the universities.

Apart from completing the course in the university, the students would get to do their project work in DRDO labs in the second year.

SRM Pro-Vice Chancellor Narayana Rao said the DRDO was ready to collaborate with their university on a few projects relevant to their needs.

https://economictimes.indiatimes.com/news/defence/drdo-to-fund-incubation-centres-working-on-defence-related-problems-sateesh-reddy/articleshow/84757409.cms

Tue, 27 July 2021

रक्षा संबंधी समस्याओं पर काम करने वाले इनक्यूबेशन केंद्रों को वित्तीय मदद देगा DRDO, अध्यक्ष जी सतीश रेड्डी ने किया ऐलान

डीआरडीओ अध्यक्ष ने कहा कि बीटेक कर चुके छात्रों को इनक्यूबेशन केंद्रों की स्थापना के लिए प्रत्येक को एक करोड़ रुपये तक की मदद दी जाएगी ताकि रक्षा संबंधी समस्याओं का समाधान निकाला जा सके।

Edited By: अदिति शर्मा

रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) के अध्यक्ष जी सतीश रेड्डी ने कहा है कि रक्षा संबंधी समस्याओं पर काम करने वाले इनक्यूबेशन केंद्रों को वित्तीय मदद दी जाएगी। उन्होंने कहा कि डीआरडीओ दो या तीन दशकों के लिए निर्देशित अनुसंधान कार्यक्रम के तहत लंबी अवधि की परियोजनाओं पर विश्वविद्यालयों के साथ भी सहयोग करेगा। अपने गृह राज्य के तीन दिवसीय दौरे पर आए रेड्डी ने एसआरएम विश्चविद्यालय-आंध्र प्रदेश के प्रति कुलपति डी नारायण राव, कुलपति वी एस राव, वैज्ञानिकों और विश्वविद्यालय के संकाय सदस्यों से बातचीत की।

डीआरडीओ अध्यक्ष ने कहा कि बीटेक कर चुके छात्रों को इनक्यूबेशन केंद्रों की स्थापना के लिए प्रत्येक को एक करोड़ रुपये तक की मदद दी जाएगी ताकि रक्षा संबंधी समस्याओं का समाधान निकाला जा सके।

स्टार्ट-अप व्यवसाय को विकसित करने में मदद करने वाले संस्थानों को 'इन्क्यूबेशन सेंटर' कहा जाता है। इसके तहत स्टार्ट-अप को व्यापारिक और तकनीकी सुविधाएं, वित्तीय मदद, प्रयोगशाला की सुविधा जैसी सहायता प्रदान की जाती है।

रेड्डी ने कहा कि अगर बीटेक कर चुके छात्र उद्योग में भागीदार के रूप में काम कर सकते हैं, तो उन्हें 10 करोड़ रुपये तक की वित्तीय सहायता प्रदान की जा सकती है। डीआरडीओ ने देश के कुछ विश्वविद्यालयों और संस्थानों के साथ संयुक्त पीएचडी कार्यक्रम भी शुरू किया है, जिसमें रक्षा संगठन के वैज्ञानिक सह-मार्गदर्शक के रूप में कार्य करेंगे। रेड्डी ने कहा कि कार्यक्रम के लिए नामांकित शोधार्थियों को कार्यकाल के दौरान डीआरडीओ की प्रयोगशालाओं में काम करने का अवसर मिलेगा। एसआरएम के प्रति कुलपति नारायण राव ने कहा कि डीआरडीओ उनकी जरूरतों के लिए प्रासंगिक कुछ परियोजनाओं पर उनके विश्वविद्यालय के साथ सहयोग करने के लिए तैयार है।

आकाश-एनजी मिसाइल का सफल परीक्षण

इससे पहले DRDO ने बालासोर में ओडिशा के तट से आकाश-एनजी मिसाइल (Akash-NG Missile) का तीन दिनों में दूसरी बार सफल परीक्षण किया। DRDO के अधिकारी ने बताया कि 30 किमी की मारक क्षमता वाली वायु रक्षा मिसाइल सिस्टम का पिछले तीन दिनों में यह दूसरा सफल ट्रायल है। सतह से हवा में मार करने वाली आकाश एनजी मिसाइल का दोपहर 11.45 बजे सफलतापूर्वक परीक्षण किया गया। इस मिसाइल का इस्तेमाल भारतीय वायु सेना द्वारा एयर स्ट्राइक के लिए किया जाएगा।

https://www.tv9hindi.com/india/drdo-will-provide-financial-assistance-to-incubation-centers-working-on-defense-related-problems-said-chairman-g-satheesh-reddy-753138.html

THE HINDU

Tue, 27 July 2021

DRDO Chief evinces interest in collaborating with SRM University

Presentation on computational materials project impresses G. Satheesh Reddy

By P. Samuel Jonathan

Guntur: Defence Research and Development Organisation (DRDO) Chairman G. Satheesh Reddy was felicitated by SRM University Pro Vice-Chancellor D. Narayana Rao and Vice-Chancellor V.S. Rao on Monday.

Professor of Physics, SRM University, Ranjit Thapa made a presentation on the Computational Materials Genome project to Dr. Satheesh Reddy.

He emphasised the importance and significance of the Computational Materials Genome project and how it is useful to accelerate the design, development, discovery of new functional materials many times as fast and at a fraction of cost compared to the existing traditional methods.

During his presentation, he explained the development of catalysts using QM/ML approaches, development of explosophores, computational fluid dynamics on external aerodynamics on Earth and Mars.

Dr. Satheesh Reddy, impressed with the presentation, suggested they contact DRDO-Young Scientist Laboratory related to Smart Materials in Hyderabad for experimental collaborations. He advised Dr. J. Sathya Pramod, Associate Professor of the Department of Mechanical Engineering. to discuss computational models with scientists who are working on hypersonic wind tunnels deployed in DRDL, Hyderabad.

Professor of Chemistry Vinod Kumar has presented the proposal on foams based on Aluminium and Magnesium. He has explained processing, structure, morphology, and applications of these metal forms. Dr. Satheesh Reddy advised him to look into titanium-based metal forms also. Later, Dr. Jasvider Singh presented his work on cardiovascular stents fabricated by solvent cast 3D printing. Dr. Satheesh Reddy evinced keen interest and he asked to send him the copy of the presentation and other details for further study.

Dr. Satheesh Reddy while explaining the initiatives of the DRDO, said that the DRDO will fund incubation centres which work on defence-related problems by freshly graduated B.Tech students with a financial assistance of up to ₹1 crore. Further, if the new graduates could rope in an industry as a partner, the DRDO would provide financial assistance of upto ₹10 crore.

Further, the DRDO has also started joint Ph.D programmes with the universities/institutions in India. DRDO scientists will act as co-guides and registered Ph.D students will get an opportunity to work in DRDO labs during the tenure.

DRDO has also started M.Tech programmes in Defence Technologies jointly with the universities. In this programme, students will complete course work in the university and in the second year, students can do their project work in the DRDO labs.

DRDO is also interested in supporting long-term projects with the universities under the Directed Research programme which could be supported by DRDO for a long-term of two or three decades.

https://www.thehindu.com/news/national/andhra-pradesh/drdo-chief-evinces-interest-in-collaborating-with-srm-university/article35551201.ece

जागरण

Tue, 27 July 2021

कुवि के यूआइईटी में डिफेंस टेक्नोलाजी इंजीनियरिग में मास्टर डिग्री, युवाओं की थी मांग

कुरुक्षेत्र विश्वविद्यालय का यूआइईटी संस्थान भारत सरकार के रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) के साथ मिलकर डिफेंस टेक्नोलाजी इंजीनियरिग में मास्टर डिग्री करवाएगा।

कुरुक्षेत्र: कुरुक्षेत्र विश्वविद्यालय का यूआइईटी संस्थान भारत सरकार के रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) के साथ मिलकर डिफेंस टेक्नोलाजी इंजीनियरिग में मास्टर डिग्री करवाएगा। डिफेंस टेक्नोलाजी की यह डिग्री युवाओं को रोजगार, उद्यम लगाने एवं आत्मनिर्भर भारत की तरफ बढ़ने में सहयोग प्रदान करेगी।

कुरुक्षेत्र विश्वविद्यालय के डीन इंजीनियरिग एंड टेक्नोलाजी एवं यूआइईटी निदेशक प्रोफेसर सीसी त्रिपाठी ने बताया कि अखिल भारतीय तकनीकी शिक्षा परिषद एवं डीआरडीओ के साथ समझौते के बाद एआइसीटीई के दिशा-निर्देश के अनुसार 24 विद्यार्थियों को प्रतिवर्ष दाखिला दिया जाएगा। इसके लिए नई दिल्ली अखिल भारतीय तकनीकी शिक्षा परिषद् ने इसकी मान्यता भी दे दी है। प्रोफेसर त्रिपाठी ने यह भी बताया कि संस्थान में हुई बोर्ड आफ स्टडी की मीटिग में इसका सिलेबस और स्कीम भारत सरकार के डीआरडीओ विभाग के माध्यम से तैयार की गई गाइडलाइन के अनुसार होगा।

ब्लेंडिड मोड में चलेगा कोर्स

यूआइईटी की यूजी एवं पीजी की बोर्ड आफ स्टडीज की बैठक में 24 जुलाई की बैठक में इस प्रोग्राम को ब्लेंडिड मोड में चलाने का निर्णय लिया गया है। इस प्रोग्राम के विषय संस्थान के शिक्षक एवं डिफेंस लैब के वैज्ञानिक पढ़ाएंगे।

बैठक की संयोजिका डा. रीटा दहिया ने बताया कि इस कोर्स से जहां संस्थान को फायदा होगा। वहीं भारत सरकार के रक्षा क्षेत्र में तकनीक को अधिक से अधिक मजबूत किया जा सकेगा। इसमें चार सेमेस्टर के साथ 80 क्रेडिट बेस पर आधारित होगा। डा. रीटा ने बताया कि इसमें स्पेशलाइजेशन विषय जो कांबेट व्हीकल इंजीनियरिग, एयर स्पेस टेक्नोलाजी, नेवल टेक्नोलाजी, कम्युनिकेशन एंड सेंसर टेक्नोलाजी, डायरेक्टेड एनर्जी टेक्नोलाजी, हाई एनर्जी मैटीरियल टेक्नोलाजी पर आधारित होगा। इसके लिए 2021 से 2022 सत्र दाखिले के लिए यूआइईटी संस्थान ने सभी प्रकार की तैयारियां पूरी कर ली हैं। हरियाणा में कुरुक्षेत्र एक मात्र ऐसा विश्वविद्यालय होगा जिसमें डिफेंस टेक्नोलाजी में इंजीनियरिग की मास्टर डिग्री हो पाएगी।

https://www.jagran.com/haryana/kurukshetra-uiet-will-conduct-a-masters-degree-in-defense-technology-21868704.html

THE HINDU

Tue, 27 July 2021

HAL ready to export LCA-Tejas, Mark-2 getting ready

Involvement of private partners would bring down costs, says CMD

Hyderabad: Light Combat Aircraft-Tejas, the indigenous fighter plane being made by Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF), has got foreign countries interested and the public sector unit is confident of getting one such contract soon, said Chairman and Managing Director R. Madhavan on Monday.

LCA-Tejas Mark 2, the second generation fighter prototypes are underway in association with the DRDO's Aeronautical Development Agency (ADA). "We expect the first prototype to be ready by next year-end. It will be lengthier and is under design stage with structural and systems plans in place. It will take one year for the ground runs and the then flight trails will start to be completed by 2026-27," he said.

Interacting with the media after taking charge of the first central fuselage for LCA-Tejas Mark 1, the CMD said HAL was simultaneously working on twin-engine version for the Indan Navy and the Advanced Medium Combat Aircraft (AMCA). Altogether, the production plan is 100 other Mark 2 version fighter planes and 120 fighter jets of other versions.

Involving the private partners will bring cost advantage in the future and the technologies being developed is being made available for civilian sector too. "We are also looking at enhancing our production number of different helicopters because the demand for civilian use, especially by the States, as these have proved to be extremely useful during natural calamities like floods for rescue and relief operations. They can also be used for transporting patients needing immediate medicare," he explained.

Helicopters like the Light Utility (LUH) and Light Combat (LCH) are being made for the Army and the Air Force while the Indian Multi Role Helicopter (IMRH) of 10-12 tonnes with a capacity to carry 24 passengers is in the design stage, said Mr. Madhavan.

HAL is in a pretty comfortable position financially with dues of up to ₹34,400 crore collected from the government and the other customers. "Pending payments is an issue in the past. We are now clocking 6% growth rate and double digit profit rate. We are also aiming to have ₹1 lakh crore purchase order basket," he added.

https://www.thehindu.com/news/national/telangana/hal-ready-to-export-lca-tejas-mark-2-getting-ready/article35541408.ece

TheDefensePost

Tue, 27 July 2021

New combat system upgrade for Indian 'Tabar' guided-missile frigate

By Joe Saballa

The Indian Navy has made several upgrades to its "Tabar" guided-missile frigate as seen in photos during deployments in the Mediterranean and Europe.

India's Tabar guided-missile frigates seen sailing. Photo: Indian Ministry of Defence

The naval ship is now equipped with a new electronic warfare system built by Indian defense firm Bharat Electronics. According to a report by *Janes*, the new system has been installed to replace an older Russian electronic warfare system.

The Tabar now features the Varuna electronic support measures suite developed by India's Defence Electronics Research Laboratory. The system is capable of identifying low probability of conventional and intercept radars. It can also monitor up to 500 radar emitters in a dense environment.

To augment the new combat system, the guided-missile frigate has new radars and an active towed array sonar system believed to be from German marine electronics firm Atlas Elektronik.

The Navy has also reportedly replaced the ship's Garpun Bal radar with a Terma Scanter radar set to be utilized for Tabar's surface-to-surface missile system.

Tabar Maritime Exercises

Last month, the Indian Navy deployed the frigate in Africa and Europe for friendly port visits. Another such goodwill visit is the upcoming 325th Russian Navy Day celebrations in St. Petersburg. The ship has already arrived in Russia and will remain for five days.

The Indian ship also participated in a two-day exercise with France's Aquitaine and four Rafale fighter jets. The activity consisted of various operations, including anti-submarine and air defense drills.

The Tabar will participate in continued marine exercises with friendly nations to enhance military cooperation.

Other Military Upgrades

Aside from recent developments in the Indian Navy, the country is strengthening its armed forces through construction of technical facilities.

On Sunday, Defence Research and Development Organisation (DRDO) Chairman G. Sateesh Reddy inspected the ongoing construction work of a missile testing range in Andhra Pradesh. Being built on a 154-hectare site, the facility will have a control center, launch pads, and state-of-the-art communications systems.

"At least 1,000 people are working on building the project. The works are progressing at a brisk pace," Sateesh said during his visit.

https://www.thedefensepost.com/2021/07/26/india-tabar-frigate-upgrade/

COVID 19: DRDO's Contribution

Hindustan Times

Tue, 27 July 2021

O2 Audit: Around 20% of oxygen plants announced during second wave operational

The Centre announced new plants will be set up across the country after the April-May peak of Covid-19 triggered an unprecedented shortage of medical oxygen, with reports suggesting there may have been hundreds of deaths nationwide during this period because the gas was in short supply

By Chetan Chauhan

New Delhi: The Union government has sanctioned 1,222 pressure swing absorption (PSA) plants that act as oxygen generators for hospitals, and of these, 245 – roughly a fifth – have been commissioned in different regions till July 20, the Union health ministry told parliament last week.

The Centre announced new plants will be set up across the country after the April-May peak of Covid-19 triggered an unprecedented shortage of medical oxygen, with reports suggesting there may have been hundreds of deaths nationwide during this period because the gas was in short supply.

A hospital employee wearing protective gear as a precaution against the spread of the new coronavirus, transports oxygen tanks.(AP)

In October 2020, during the first wave of Covid-19 cases, the central government invited tenders for 162 PSA oxygen plants -- by April 2021, only 33 of these were operational, according to a tweet by the Union health ministry on April 18.

In the aftermath of the second wave, the government first announced on April 26 that 551 plants will be set up using the PM Cares funds. These were in addition to an unnamed number that were to be funded by central ministries and public sector units (PSUs).

On June 14, a statement by the ministry of science and technology quoted Defence Research & Development Organisation (DRDO) secretary C Satish Reddy as saying that the number of PSA plants to be set up under PM Cares was 850. DRDO has been executing some of the PSA plants projects, while for the rest, the government has floated tenders.

In a statement by the Prime Minister's Office on July 9, officials told the new cabinet that in all, over 1,500 PSA plants were set to be installed in the country. Altogether, these will support 400,000 beds, the statement added but without specifying by when these would be installed -- the Prime Minister directed officials to ensure it is done at the earliest.

According to officials in the health ministry, who asked not to be named, an additional 250 PSA plants are expected to be installed by August 15 and the remaining from the lot of 1,222 sanctioned will be commissioned by the end of the year.

The July 23 statement by the health ministry to parliament also states that the number of plants to be set up by central ministries and PSUs in addition to the 1,222 is 351, and that the states have separately informed the Union government that they are setting up 1,023 plants on their own.

The health ministry's reply in parliament said the 1,222 plants will together account for a capacity of around 1,771MT a day – which comes to about a fifth of the peak 9,690MT liquid medical oxygen dispatched by the Centre to states in a single day in the April-May period.

Officials in other states indicated that the number of plants they are working on may be higher than for which information has been shared with the Centre. Uttar Pradesh, which got 127 plants from the Centre, has sanctioned 414 PSA plants on its own and 145 of them have become operational, an official said.

Rajasthan, which got 51 from the Centre, sanctioned 429 plants on its own and of them 280 are operational, according to the state government.

Similarly, health department officials in Maharashtra said the state planned 462 PSA plants and of them 98 are operational.

According to projects.datameet.org, a portal that tracked reports about deaths due to oxygen shortage or disruption in hospitals in April and May this year, 619 people may have died during the crisis.

The government in its response to parliament said oxygen supply for medical purposes increased to 9,690 metric tonnes in May 2021 from 5,770 in August 2020.

The health ministry informed Parliament on July 23 that on July 15, 1,244 liquid medical oxygen tankers were available in the country as compared to 225 in March 2020.

The ministry also said that in 2019-20, it released ₹1,113 crore to states under National Health Mission for Covid management, apart from ₹15,000 crore given under Covid Emergency Response and Health System Preparedness package. The phase two of the package of ₹23,132 crore (including state contribution) has also been approved, the ministry said.

https://www.hindustantimes.com/india-news/oxygen-audit-around-20-of-oxygen-plants-announced-during-second-wave-operational-101627327540465.html

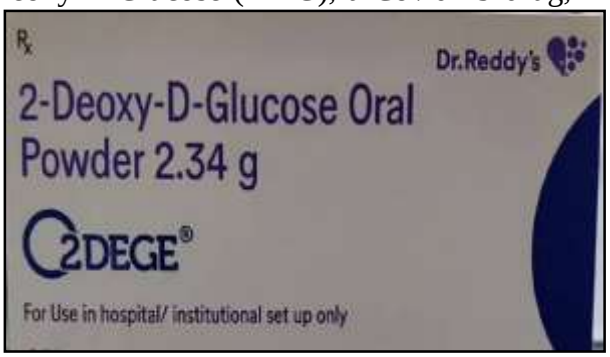
The Indian EXPRESS

Tue, 27 July 2021

Pune: BDR Pharma announces deal with DRDO to make Covid-19 drug in India

In a statement issued on Monday, Dharmesh Shah, CMD, BDR Pharmaceuticals, said they had secured a licence from the DRDO. The product will be priced competitively and it will be available in powder form in a sachet that can be consumed orally after dissolving it in water, the statement added

Pune: BDR Pharmaceuticals, a generic pharmaceutical company, has signed a licence agreement with the Defence Research and Development Establishment (DRDE) and Institute of Nuclear Medicine and Allied Sciences (INMAS) of the Defence Research and Development Organisation (DRDO) to manufacture, distribute and market 2-Deoxy-D-Glucose (2-DG), a Covid-19 drug, in India.



The drug is available in powder form in a sachet, and can be taken orally after dissolving in water. (File photo)

Last month, the Drugs Controller General of India (DCGI) approved the oral medication for emergency usage as adjuvant therapy in mild to severe Covid-19 patients.

While the DRDE in Gwalior had produced 2-DG, its clinical trials were carried out in collaboration with Dr Reddy's Laboratories by INMAS. After receiving positive responses in phase-II and phase-IIb trials, the DCGI permitted 2-DG phase-III trials in November 2020.

The phase-II trial, which lasted from December 2020 to March 2021, enrolled 220 patients. The medicine was discovered to speed up the recovery of Covid-19 patients in hospitals and lessen the need for supplementary oxygen in them.

In a statement issued on Monday, Dharmesh Shah, CMD, BDR Pharmaceuticals, said they had secured a licence from the DRDO. The product will be priced competitively and it will be available in powder form in a sachet that can be consumed orally after dissolving it in water, the statement added.

BDR has applied to the DCGI for restricted emergency use authorisation to manufacture 2-DG to treat Covid-19 patients in India. For the development of 2-DG, the DRDO has recently signed agreements with four major Indian generic medicine producers.

https://indianexpress.com/article/cities/pune/pune-bdr-pharma-announces-deal-with-drdo-to-make-covid-19-drug-in-india-7423434/

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Tue, 27 July 2021

BDR Pharma inks license agreement with DRDO to produce COVID-19 drug 2-DG

BDR Pharma has inked a pact with the Defence Research and Development Establishment (DRDE) and the Institute of Nuclear Medicine and Allied Sciences (INMAS) of the DRDO for manufacturing, distribution, and marketing of 2-DG in the country

BDR Pharma on Monday said it has inked a licensing pact with the Defence Research and Development Organisation (DRDO) to manufacture, distribute, and market COVID-19 drug 2-Deoxy-D-Glucose (2-DG) in the country.

BDR Pharma has inked a pact with the Defence Research and Development Establishment (DRDE) and the Institute of Nuclear Medicine and Allied Sciences (INMAS) of the DRDO for manufacturing, distribution, and marketing of 2-DG in the country.

Last month, the Drugs Controller General of India (DCGI) had approved the oral medication for emergency usage as adjuvant therapy in mild to severe COVID-19 patients.

"We are pleased to secure a license from the DRDO and add 2-Deoxy-D-Glucose to our COVID product offering. This arrangement aims to ensure that this drug reaches as many eligible Indian patients as possible who are suffering from the devastating pandemic.

"Our aim is to ramp up the availability of successful treatment and coordinate manufacturing so that there is no scarcity of drugs to give to people fighting the disease," BDR Pharmaceuticals CMD Dharmesh Shah said in a statement.

The company thinks that by widening and deepening the identification and development of COVID-19 therapy options, this collaboration can address more unmet medical needs, he added.

The product would be priced competitively and will be available in powder form in a sachet that can be consumed orally after being dissolved in water, the drug maker noted.

The Mumbai-based company noted that it has already applied to the Drug Controller General of India (DCGI) for restricted emergency use authorisation to manufacture Drug 2-DG to treat COVID-19 patients in India.

For the development of 2-DG drugs, the DRDO has recently signed agreements with four major Indian generic medicine producers.

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The Phase-II trial, which lasted from December 2020 to March 2021, enrolled 220 patients.

The medicine was discovered to speed up the recovery of COVID-19 patients in hospitals and to lessen the need for supplementary oxygen in COVID-19 patients.

https://www.moneycontrol.com/news/india/bdr-pharma-inks-license-agreement-with-drdo-to-produce-covid-19-drug-2-dg-7224931.html

Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Mon, 26 July 2021 7:18PM

INS Tabar participates in Navy day celebrations of the Russian Navy

INS Tabar reached St Petersburg, Russia on 22 Jul 21 to participate in the 325th Navy Day celebrations of the Russian Navy. On 23 Jul, Mr D B Venkatesh Varma, Ambassador of India to the Russian Federation visited the ship and was briefed by the Commanding Officer regarding the present deployment. The Ambassador conveyed his appreciation for the role played by the Indian Navy in guarding our sea frontiers and in further strengthening the friendly India-Russia relations.

Vice Admiral Sergei Yeliseyev, Deputy Commander of Russian Navy's Baltic Fleet visited Tabar on 23 Jul 21. He was received onboard with a Guard of Honor. He expressed deep appreciation to the Indian Navy for participation of the ship in the important event for the Russian Federation Navy (RuFN). He conveyed that the two Navies have strong bilateral relations and wished for more frequent mutual interactions. The Commanding Officer presented the Admiral with the ship's crest on conclusion of the visit.

On 24 Jul, The Commanding Officer, Captain Mahesh Mangipudi, paid homage at the historic Piskaryovskoye Memorial Cemetery in St Petersburg.

On 25 Jul, the 325th Navy Day of the Russian Navy, the ship joined the column of ships in Naval Parade reviewed by Mr Vladimir Putin, the President of Russian Federation. Over 50 ships, motor boats, submarines, 48 airplanes and helicopters of the naval aviation took part in the parade.

Post Navy Day celebrations, Tabar will participate in Exercise INDRA scheduled to be held on 28 and 29 Jul 21 in the Baltic Sea with two Russian Navy ships.

https://pib.gov.in/PressReleasePage.aspx?PRID=1739195

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Mon, 26 July 2021 7:18PM

आईएनएस तबर ने रूस के नौसेना दिवस समारोह में भाग लिया

आईएनएस तबर 22 जुलाई 2021 को रूसी नौसेना के 325वें नौसेना दिवस समारोह में भाग लेने के लिए सेंट पीटर्सबर्ग, रूस पहुंचा। 23 जुलाई को रूस में भारत के राजदूत श्री डी बी वेंकटेश वर्मा ने जहाज का दौरा किया और उनको वर्तमान तैनाती के बारे में कमांडिंग ऑफिसर द्वारा जानकारी दी गई। राजदूत ने देश की समुद्री सीमाओं की रक्षा करने और भारत-रूस के बीच मैत्रीपूर्ण संबंधों को और मजबूत करने में भारतीय नौसेना द्वारा निभाई गई भूमिका की प्रशंसा व्यक्त की।

रूसी नौसेना के बाल्टिक फ्लीट के डिप्टी कमांडर वाइस एडमिरल सर्गेई येलिसयेव ने 23 जुलाई 2021 को तबर का दौरा किया। जहाज पर उनका स्वागत गार्ड ऑफ ऑनर के साथ किया गया। उन्होंने रूस की नौसेना (आरयूएफएन) के लिए इस महत्वपूर्ण कार्यक्रम में पोत की भागीदारी के लिए भारतीय नौसेना की सराहना की। उन्होंने बताया कि दोनों नौसेनाओं के बीच मजबूत द्विपक्षीय संबंध हैं और उन्होंने और कामना की कि दोनों पक्षों के बीच सहयोग अधिक पारस्परिक हो। इस यात्रा के समापन पर कमांडिंग ऑफिसर ने एडमिरल को जहाज का क्रेस्ट भेंट किया।

24 जुलाई को, कमांडिंग ऑफिसर, कैप्टन महेश मंगीपुडी ने सेंट पीटर्सबर्ग में ऐतिहासिक पिस्कारियोवस्कॉय मेमोरियल सीमेट्री में श्रद्धांजलि अर्पित की।

25 जुलाई को रूसी नौसेना के 325वें नौसेना दिवस पर यह जहाज रूस के राष्ट्रपति श्री व्लादिमीर पुतिन द्वारा समीक्षा की गई नौसेना परेड के जहाजों के स्तंभ में शामिल हुआ। इस परेड में 50 से अधिक जहाजों, मोटर नौकाओं, पनडुब्बियों, 48 हवाई जहाजों और नेवल एविएशन के हेलीकाप्टरों ने भाग लिया।

नौसेना दिवस समारोह के बाद तबर रूसी नौसेना के दो जहाजों के साथ बाल्टिक सागर में 28 और 29 जुलाई 2021 को होने वाले अभ्यास इंद्रा में भाग लेगा।

https://pib.gov.in/PressReleasePage.aspx?PRID=1739236

Press Information Bureau
Government of India

Ministry of Defence

Mon, 26 July 2021 9:59PM

Indian Naval Ship Talwar in Mombasa to participate in exercise Cutlass Express 2021

Indian Naval Ship Talwar is participating in Exercise Cutlass Express 2021, being conducted from 26 July 2021 to 06 August 2021 along the East Coast of Africa. The exercise is an annual maritime exercise conducted to promote national and regional maritime security in East Africa and the Western Indian Ocean. The 2021 edition of the exercise involves participation of 12 Eastern African countries, US, UK, India and various international organisations like International Maritime Organisation (IMO), United Nations Office on Drugs and Crime (UNODC), Interpol, EurEuropean Union Naval Forc (EUNAVFOR), Critical Maritime Routes Indian Ocean (CRIMARIO) and EUCAP Somalia. Indian Navy is participating in the exercise in a 'trainer role'.

The exercise focusses on East Africa's coastal regions and is designed to assess and improve combined maritime law enforcement capacity, promote national and regional security and increase interoperability between the regional navies. As part of the exercise, the Indian Navy, together with other partners, shall undertake training of contingents from various participating countries in various fields across the spectrum of maritime security operations. Information sharing and information flow between various partner countries with respect to maritime domain awareness is also a key focus of the exercise and participation of India's Information Fusion Centre – Indian Ocean Region (IFC-IOR) would contribute in achieving the same.

As part of the exercise, the ship is visiting Mombasa, Kenya, wherein various other professional interactions are also planned with the Kenya Navy. The ship, during its stay at Mombasa, will also host a number of events to build stronger bridges of friendships with Kenya, Indian community and host of other partners in addition to the Cutlass Express participants.

India's commitment to the countries along East Coast of Africa and the Western IOR is further going to be strengthened with the visit of INS Talwar and is in keeping with India's stated policy towards maritime cooperation in the Indian Ocean region and vision SAGAR (Security and Growth for All in the Region).

https://pib.gov.in/PressReleasePage.aspx?PRID=1739270

Press Information Bureau
Government of India

Ministry of Defence

Mon, 26 July 2021 3:20PM

Private players in defence manufacturing sector

The Defence Industry sector, which was hitherto reserved for the public sector, was opened up to 100% for Indian private sector participation in May, 2001. As on date, 333 Private companies have been issued a total of 539 Industrial Licenses. Out of these, 110 companies have reported commencement of production.

Further, following measures have been taken by the Government to promote private sector participation in Defence sector –

- Out of the total Capital Acquisition Budget for the year 2021-22, 64.09% has been earmarked for domestic capital procurement.
- Defence capital outlay has been increased by 18.75 % in the budget of 2021 – 22.
- DPP-2016 has been revised as Defence Acquisition Procedure (DAP)- 2020, which is driven by the tenets of Defence Reforms announced as part of 'Aatmanirbhar Bharat Abhiyan'.
- In order to promote indigenous design and development of defence equipment 'Buy {Indian-IDDM (Indigenously Designed, Developed and Manufactured)}' category has been accorded top most priority for procurement of capital equipment.
- **Positive indigenisation list**: Ministry of Defence has notified a 'Positive indigenisation list' of 209 items for which there would be an embargo on the import beyond the timeline indicated against them. This would offer a great opportunity to the Indian defence industry to manufacture these items using their own design and development capabilities to meet the requirements of the Armed Forces in the coming years.
- The 'Make' Procedure of capital procurement has been simplified. There is a provision for funding upto 70% of development cost by the Government to Indian industry under Make-I category. In addition, there are specific reservations for MSMEs under the 'Make' procedure.
- Procedure for 'Make-II' category (Industry funded), introduced in DPP 2016 to encourage indigenous development and manufacture of defence equipment has number of industry friendly provisions such as relaxation of eligibility criterion, minimal documentation, provision for considering proposals suggested by industry/individual etc. So far, 58 projects relating to Army, Navy & Air Force, have been accorded 'Approval in Principle'.
- The Government of India has enhanced FDI in Defence Sector up to 74% through the Automatic Route for companies seeking new defence industrial license and up to 100% by Government Route wherever it is likely to result in access to modern technology or for other reasons to be recorded.
- An innovation ecosystem for Defence titled Innovations for Defence Excellence (iDEX) has been launched in April 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.
- To give a major boost to development of innovative defence technology and support a growing Startup base in the country, MoD has earmarked Rs 1000 crore during 2021 – 22 for the procurement from the iDEX Startups.
- Department of Defence Production, Ministry of Defence has also approved a scheme for Innovation in Defence Excellence (iDEX) during current year worth Rs 498 crore for 5 years.

The scheme aims to benefit 300 new Startups for innovative design and development in defence sector.

- An indigenization portal namely SRIJAN has been launched in August 2020 for DPSUs/OFB/Services with an industry interface to provide development support to MSMEs/Startups/Industry for import substitution.
- Reforms in Offset policy have been included in DAP 2020, with thrust on attracting investment and Transfer of Technology for Defence manufacturing, by assigning higher multipliers to them.
- Government has notified the 'Strategic Partnership (SP)' Model in May 2017, which envisages establishment of long-term strategic partnerships with Indian entities through a transparent and competitive process, wherein they would tie up with global Original Equipment Manufacturers (OEMs) to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.
- Government has notified a 'Policy for indigenisation of components and spares used in Defence Platforms' in March 2019 with the objective to create an industry ecosystem which is able to indigenize the imported components (including alloys & special materials) and sub-assemblies for defence equipment and platform manufactured in India.
- Government has established two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu. The investments of Rs 20,000 Cr have been envisaged in Defence corridors of Uttar Pradesh and Tamil Nadu by the year 2024. So far, investment of approx. Rs 3342 Cr has been made in both the corridors by public as well private sector companies. Moreover, the respective State Governments have also announced their Aerospace &Defence Policies to attract private players as well as foreign companies including Original Equipment Manufacturers (OEMs) in these two corridors.
- An Inter-Governmental Agreement (IGA) on "Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other material related to Russian/Soviet Origin Arms and Defence Equipment" was signed in Sep 2019. The objective of the IGA is to enhance the After Sales Support and operational availability of Russian origin equipment currently in service in Indian Armed Forces by organizing production of spares and components in the territory of India by Indian Industry by way of creation of Joint Ventures/Partnership with Russian Original Equipment Manufacturers (OEMs) under the framework of the "Make in India" initiative.
- Defence Products list requiring Industrial Licenses has been rationalised and manufacture of most of parts or components does not require Industrial License. The initial validity of the Industrial License granted under the IDR Act has been increased from 03 years to 15 years with a provision to further extend it by 03 years on a case-to-case basis.
- Department of Defence Production has notified 46 items under the latest Public Procurement Order 2017 notified by Department for Promotion of Industry and Internal Trade (DPIIT), for which there is sufficient local capacity and competition and procurement of these items shall be done from local suppliers only irrespective of the purchase value.
- Defence Investor Cell (DIC) has been created in Feb-2018 in the Ministry to provide all necessary information including addressing queries related to investment opportunities, procedures and regulatory requirements for investment in the sector. As on date, 1182 queries had been received and addressed by Defence Investor Cell.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Vijay Pal Singh Tomar in Rajya Sabha today.

https://pib.gov.in/PressReleasePage.aspx?PRID=1739049

INDIA TODAY

Tue, 27 July 2021

Indian Army installs cameras, sensors to track Chinese movement in eastern Ladakh

Sources told India Today that the Indian Army has installed PTZ cameras and motion sensors in sensitive areas along the LAC in eastern Ladakh to monitor Chinese activity

By Manjeet Negi

HIGHLIGHTS

- ***Plan to set up surveillance net along LAC had been in play for some time***
- ***Number of PLA tents at Charding Nallah has come down compared to last year***
- ***Indian Army, PLA set to hold 12th round of talks over the Ladakh standoff in the days to come***

New Delhi: De-escalation between the Indian Army and Chinese People's Liberation Army (PLA) in eastern Ladakh is far from complete. Both forces have been engaged in an intense military standoff along the Line of Actual Control (LAC) since May of last year.

The Indian Army has now deployed motion-sensitive cameras and sensors to monitor Chinese activity in forward areas along the LAC. The equipment includes PTZ (pan tilt zoom) cameras and sensors, sources told India Today.

Indian, Chinese troops disengaging from the banks of Pangong lake in eastern Ladakh in February of this year (Photo Credits: PTI)

Such state-of-the-art equipment will not only enable the Indian Army to keep track of the adversary but also send out a timely warning in case of any escalations.

The plan to set up a surveillance net along the LAC had been in play for some time but the military standoff in eastern Ladakh has prompted the top brass to fast-track the process, added sources.

A proposal to use motion-sensitive cameras and sensors along the LAC in eastern Ladakh was even made to the Parliamentary standing committee on Defence a few years ago.

Status of de-escalation in eastern Ladakh

It is only now coming to light that the number of tents set up by the Chinese PLA at Charding Nallah in Demchok in eastern Ladakh has come down. This disputed area is around 10 km from the spot where an escalation was recorded in the summer of last year.

The number of tents, in which PLA men reside as civilians, had gone up to around 10 during the escalation last year.

Even in 2019, the Charding Nallah had become a point of contention when Chinese troops had pitched tents on the spot. The move had resulted in opposition from the Indian side, sources said.

The Charding Nallah is also the area near Demchok sector where Indian troops have been deployed in large numbers to counter any eventuality.

Sources said India and China will further discuss disengagement during the 12th round of talks to be held in the next few days. The Chinese had suggested that the talks be held on July 26.

However, India had sought a different date for the talks since July 26 is celebrated as Kargil Vijay Diwas in honour of the Indian Army's victory over Pakistan in 1999.

https://www.indiatoday.in/india/story/india-china-ladakh-standoff-demchok-tents-cameras-sensors-1832836-2021-07-26

millenniumpost
NO HALF TRUTHS

Tue, 27 July 2021

I-Day prep: IAF set to train police on drone threats

By Abhay Singh

New Delhi: After seeing the recent attacks and threats from drones and other unmanned weaponised flight systems, Delhi Police personnel this year might be getting training from the Indian Air Force to prepare the security plan for the Capital ahead of Independence Day.

Police sources have confirmed the developments and said that the city police has asked two Special Commissioners to prepare a list of police personnel and officers for this training.

"The staff which are being deployed on the rooftop vicinity of the place of the function are to be trained by IAF in visual observation, identification, reporting of the type of aerial objects to the IAF," the police sources told Millennium Post.

Further, the Special CPs were told to provide the list of such police personnel to a senior officer for their training. "We want to impart these skills timely to our personnel which will provide an extra layer in terms of security during Independence Day," one of the sources aware of developments said.

On the intervening night of June 26-27, two explosions took place at the highly secured area of the Indian Air Force (IAF) Station Jammu. The initial probe revealed that drones had dropped explosives on the IAF station.

The Ministry of Home Affairs has now come up with the standing operating procedure (SOP) for handling threats from sub-conventional aerial platforms. It was sent to senior officers for further action.

In the SOP, officers were asked to identify places from where Para Motors can take off. All such open grounds and open fields including in rural Delhi will be kept under watch. "Small flying vehicles are extremely flexible and manoeuvrable. It can be folded into portable packages and reassembled easily. Hence, ground-level intelligence channels at the level of police stations will have to be sensitised," the SOP read.

As per the SOP, if any drone committing a hostile act for dropping bombs or starts firing, Central PCR can order immediate engagements from ground forces as well as from IAF. "IAF will identify between friendly and unknown airborne objects. Firing should be restored by the security person in a manner that a missed bullet does not cause any collateral damage," it added.

Firing at a descending aerial object from rooftops has great potential for collateral damage and avoiding it has been recommended. Instead, the SOP recommends that the information of the descending vehicle be passed on to the nearest picket, QRT so that they can take aimed fire upon the object, which has less potential for collateral damage. This notwithstanding of course that officers to be deployed on the rooftops, QRTs, PCR vans must have been trained by a specialised organisation in the identification of paramotors, paragliders, microlight aircraft, aero models and their features.

http://www.millenniumpost.in/delhi/i-day-prep-iafset-to-train-policeon-drone-threats-447901?infinitescroll=1

The EurAsian Times

Tue, 27 July 2021

SU-75 Checkmate: High possibility that Indian Air Force will opt for Russian stealth jets over Rafales & Gripens – Top Analyst

By Apoorva Jain

Days after Russia unveiled a new 'stealth' fighter jet, the Su-75 'CheckMate', a leading defense analyst sees a high possibility of India acquiring the aircraft, arguing this will not impact the development of the country's indigenous fifth-generation AMCA jet.

Russia showcased the fifth-generation 'stealth' jet at MAKS 21 International Aviation and Space Expo. A single-engine, supersonic fighter jet, the Su-75 boasts advanced stealth technology, something which the other Russian stealth jet, Su-57, lacks.

Several military experts have hinted at the possibility of the Indian Air Force opting for the Su-75 Checkmate.

Russia earlier claimed that countries such as India, China, and Vietnam are among potential buyers of the new light fighter jet. The manufacturer plans to produce 300 single-engine light tactical fighter jets within the next 15 years based on the demand.

"Firstly, the aircraft will be oriented toward African countries, India, and Vietnam," Deputy Prime Minister Yuri Borisov told reporters after the aircraft's presentation in MAKS21 International Aviation Expo.

The EurAsian Times reported how at $25-30 million per model CheckMate would cost less than half of Saab Gripen ($85 million), while also being substantially cheaper than the US' F-35 ($115 million) French Dassault Rafale ($115 million) and Russia's Su-57 ($100 million).

This development has raised questions on the future of India's homegrown fifth-generation fighter aircraft, under the Advanced Medium Combat Aircraft (AMCA) program.

IAF's Fighter Strength

According to the World Air Force Directory 2021, the Indian Force is the fourth largest in the world with 672 combat aircraft in active service.

Russian jets — MiG-21, MiG-29, and Su-30 — dominate the IAF fleet. Other fighters are Dassault Mirage 2000 and Dassault Rafales, which have been acquired from France, the Anglo-French SEPECAT Jaguar strike fighter aircraft, and the indigenous lightweight Tejas jets.

The Indian Air Force (IAF) has been operating Russian jets since the 1960s when MiG-21 was first imported in 1963. Since then, more than 800 MiG-21s were acquired by India, forming the backbone of the Indian Air Force.

While a hundred MiG-21s still remain in service, the entire fleet is slated to be retired by 2025, given the number of accidents they have been involved in. According to government estimates, more than 200 pilots have lost their lives while flying the ill-fated jets.

India also operates three squadrons of MiG-29, the first delivery of which was received in 2012. The country recently approved the acquisition of another 21 Russia's MiG-29 fighters for $900 million.

India is the only country that still operates more than a hundred Jaguar aircraft combined in six-squadron strength. In 2019, the IAF shelved the plan to upgrade the fleet by investing in new

engines due to high costs amid reports that "for the price of two such upgrades, we can get one basic Rafale".

The phase-out process is due to begin in 2023-24.

Out of the three squadrons (total 50 jets) of the Kargil success story, Mirage 2000s, two have been upgraded to the latest Mirage 2000-5 Mk version, increasing the life of the jets till 2030.

In the last decade, military experts have cautioned against the aging fleet of IAF jets and the need to procure more numbers to adequately replace the retiring ones.

India placed an order of 36 4.5-generation Rafales, down from earlier 126 that the Indian government had decided to buy.

India also finalized a $6.58 billion deal for 83 indigenous Tejas jets, 73 of them being the improved Mark 1A Light version, with the state-owned defense manufacturer, Hindustan Aeronautics Limited, supplementing the initial order of 40 jets.

Going by pure numbers, the combined strength of Tejas and Rafales is not even half the number required to replace the old and obsolete Jaguar, Mirage, and MiG-21 fighters.

A part of India's efforts to induct more fighters is to increase the present 28 front-line squadron strength to 42, an IAF authorized number that New Delhi considers adequate to fight both Pakistan and China at the same time.

In 2017, Air Force officials had said that India will achieve the desired squadron strength by 2042. But this assessment came before the India-China standoff, which has injected a renewed urgency in the military and dictates many future procurements.

Is India A Potential Buyer Of Su-57 Checkmate?

Abhijit Iyer-Mitra, a senior fellow at the New Delhi-based Institute of Peace and Conflict Studies (IPCS), said that there are very high chances for India to go for the new Russian jet.

"IAF plans to acquire a single-engine jet has been on the anvil for the last 20 years. The MMRCA competition under which India had to acquire 126 fighter jets, initially was for a single-engine jet but was later diverted as Sukhoi Su-30s were failing so badly that India wanted another twin-engine jet," he told The EurAsian Times.

"The second time they did it again with MMRCA 2.0 because Russians did not have a single-engine jet to offer.

"Now that the Russians have a single-engine jet, they could enter it into the new competition and I personally feel it stands a really good chance to win the Indian contract," Iyer-Mitra added.

When asked if the procurement of the new Russian jet would have any consequences on India's AMCA program, Iyer-Mitra said that the AMCA program will remain afloat for years to come irrespective of whether India acquires the CheckMate or not.

In his view, comparing indigenous fighter development with external procurement is pointless since the Indian jets currently under development will not be used for serious combat but only as a supplementary role.

"There's a dichotomy between what the IAF says in public and in private. In private, the IAF knows that the AMCA program will take another 50 years before it takes off but in public, they will continue to pool in more resources to the program for its 'Make-in-India' appeal," he noted.

India's Options

Delineating India's options, Iyer-Mitra listed three single-engine aircraft in the international market that could compete for India's requirement of a lightweight fighter, essentially a replacement of MiG-21s. They are — US F-16, Swedish Saab Gripen, and Russian Su-75.

"While the F-16 is also operated by Pakistan and is towards the end of its life, the problem with Gripen is that it has an American engine, so India will not get any engine technology," he said, adding that despite bad engines and electronics, India may still go with the Russian jet because of its stealth utility and a known commodity.

Iyer-Mitra agreed with the view that the Russian CheckMate is a beneficial bargain against the looming threat of China, as several military experts have suggested.

“The only other option India has is the F-35 but it has not been offered yet. Moreover, there’s no way that a country with S-400 missiles will be offered one. This leaves India with the Su-75 given it is the only visually stealth aircraft which we’ll have access to for a very long time,” he said.

Taking a dig at IAF’s purported lack of foresight, he said, “The IAF lacks planning and future forecasting. Even something as basic as looking at the emerging aircraft and then doing a backward calculation of what the force needs, the IAF didn’t do it,” he said while referring to the option that India could have acted upon, that is to combine the advanced electronics of Gripen with stealth technology, but India didn’t do that as well.

Calling it a “winner” of a plane, Iyer-Mitra looked back at how Russia did not produce single-engine jets for a very long time as they were unsure of the engine performance.

“Now that they’ve overcome the fear of single-engines, it will all depend on the quality. If the engine is proven reliable, then the Russians are in a very good place,” he said.

On being asked how the Russian jet compares with the Chinese J-20 and FC-31, he said that the aircraft is actually a good bet against China.

“Firstly, aerodynamically, it is a much better design and much stealthier, in terms of radar stealth. In terms of infrared stealth too [which is to see heat emission], I suspect it is a better plane.”

“Secondly, despite all flaws with Russian engines, they are still better than the Chinese ones… However, the Chinese jet’s electronics are somewhat better than Russian electronics, given the better grasp they have over the electronics market. But even then, it is a grey territory. For instance, Pakistan prefers Russian electronics over the Chinese ones”.

“The Russian military electronics are better than the Chinese counterparts but they trump them the Russians in the human interface capabilities such as touchscreen,” Iyer-Mitra noted.

He reminded that the US has already tested a prototype of its sixth-generation fighter. On the other hand, India is now operationalizing its first fourth-generation jet and doesn’t even have the first prototype of a fifth-generation.

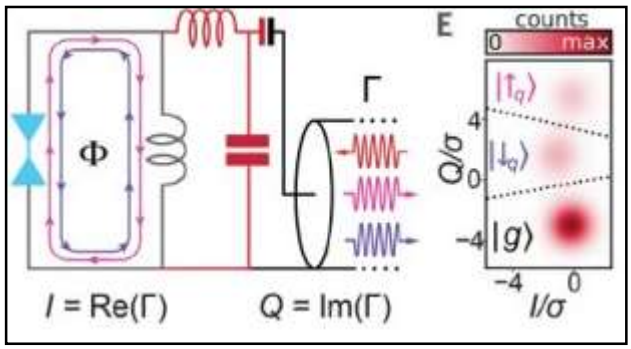
“Mark my words, India’s AMCA jet will be ready when the US F-35 begins to retire,” he added.

https://eurasiantimes.com/su-75-checkmate-high-possibility-that-indian-air-force-will-opt-for-russian-stealth-jets-over-rafales-gripens-top-analyst/

Tue, 27 July 2021

Combining two approaches to advance quantum computing

Quantum computers hold the potential to out-perform all conventional computing systems. Two promising physical implementations for the storage and manipulation of quantum information are the electromagnetic modes of superconducting circuits and the spins of small numbers of electrons trapped in semiconductor quantum dots.



Credit: Yale School of Engineering and Applied Science

A team of researchers led by the lab of Michel Devoret, the Frederick W. Beinecke Professor of Applied Physics, experimentally demonstrated a new quantum bit ("qubit") that fuses these two platforms, with the potential to take on the beneficial aspects of both. The results are published today in *Science*.

The qubit consists of the spin of an individual superconducting quasiparticle trapped in a Josephson junction. Due to a spin-orbit coupling in the junction, the supercurrent flowing through the junction depends on the quasiparticle spin state.

"We were able to show how to harness this spin-dependent supercurrent to achieve both spin detection and coherent spin manipulation," said Max Hays, a Ph.D. student in Devoret's lab, and lead author of the study.

This work also represents a significant advancement to our understanding and control of Andreev levels. Andreev levels are microscopic, electronic states that exist in all Josephson junctions; they are the microscopic origin of the famous Josephson effect, in which a current flows without any voltage. In superconductor-semiconductor heterostructures such as the nanowire junctions investigated in this experiment, Andreev levels are the parent states of Majorana modes (special states in which the two "halves" of an electron are pulled apart). Therefore, this experiment is also important for efforts to perform Majorana-based topological information processing.

More information: M. Hays et al, Coherent manipulation of an Andreev spin qubit, *Science* (2021). DOI: 10.1126/science.abf0345

Journal information: *Science*

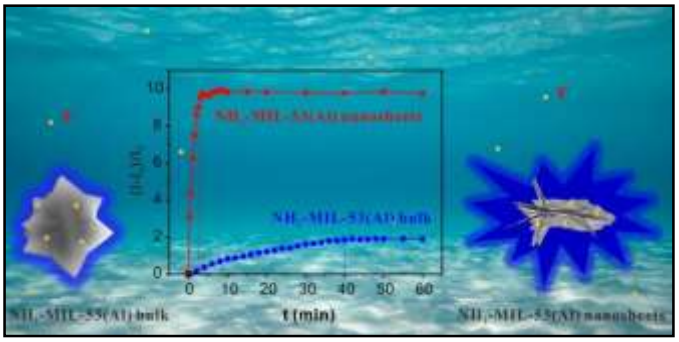
https://phys.org/news/2021-07-combining-approaches-advance-quantum.html

Tue, 27 July 2021

The advantage of 2D metal-organic framework nanosheets in sensing applications

By Zhang Nannan

In recent years, fluorescent metal-organic frameworks (MOFs) have been demonstrated as a promising strategy for constructing sensors. However, most of the research studies on fluorescent MOF sensors have focused on the design and synthesis of three-dimensional (3D) MOF crystals on the order of micrometers and have not exerted the best detection performance of MOF structures. Two-dimensional (2D) MOF nanosheets have the potential to break the limitations of 3D MOFs in sensitivity, response speed etc, due to the ultra-thin morphology, larger specific surface area and more exposed active sites.



Graphical abstract. Credit: LI Xixuan

In a study published in *Dalton Transactions*, a team led by Prof. Xu Weihong from the Hefei Institutes of Physical Science (HFIPS) of the Chinese Acadamy of Sciences (CAS) reported a comparative study about the detection performance of fluorescent 2D metal-organic framework (MOF) nanosheets and 3D bulky MOFs, highlighting the advantages of 2D versions.

In this work, fluorescent 2D NH_2-MIL-53(Al) nanosheets were developed as a fluoride detection sensor. By comparing it with a 3D bulk counterpart, the researchers found it exhibited excellent fluorescence stability, and high selectivity towards fluoride in water through the fluorescence-enhanced sensing behavior.

"The response speed of the nanosheets was as short as 10 seconds," said Prof. Xu, "limit of detection was lower, and linear detection ranges towards fluoride was wider. All performances were better than those of their bulk counterpart."

Additionally, a sensing mechanism was investigated based on the transformation of the NH_2-MIL-53(Al) framework that induced the release of fluorescent ligands resulting in an exceptionally enhanced fluorescence.

More information: Zixuan Li et al, Fluoride sensing performance of fluorescent NH2-MIL-53(Al): 2D nanosheets vs. 3D bulk, *Dalton Transactions* (2021). DOI: 10.1039/D1DT00666E

Journal information: *Dalton Transactions*

https://phys.org/news/2021-07-advantage-2d-metal-organic-framework-nanosheets.html

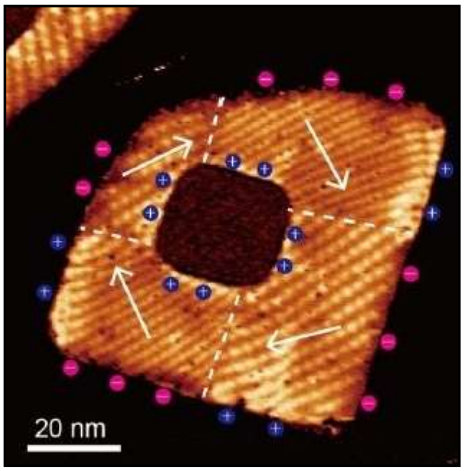
Tue, 27 July 2021

Physicists create polarization vortices in a two-dimensional material

A University of Arkansas research team, in conjunction with researchers at the Max Planck Institute of Microstructure Physics and Beijing Academy of Quantum Information Sciences, has discovered polarization vortices in two-dimensional (2D) ferroelectrics.

University of Arkansas physics postdoctoral research associate John W. Villanova led the theory contribution to the paper which was recently published in *Advanced Materials*.

Experiments were performed at the Max Planck Institute of Microstucture Physics. SnTe/PbTe monolayer lateral heterostructures were produced via molecular beam epitaxial growth, and scanning tunneling microscopy measurements show an atomically sharp interface between the ferroelectric and paraelectric domains.



Scanning tunneling microscope topographic image of a SnTe/PbTe monolayer lateral heterostructure. The paraelectric PbTe monolayer core (dark) is surrounded by a ferroelectric SnTe monolayer, which develops a clockwise polarization vortex within its domains. Credit: Kai Chang/Max Planck Institute of Microstucture Physics

By carefully measuring the electronic band-bending at the edges of the SnTe monolayer, the polarization orientation was deduced to orient in a vortex consisting of four quadrants around the PbTe monolayer core, always with a component which points toward the core. The density functional theory calculations performed at the U of A contextualized the measurements in terms of relative work functions and charge transfer, consistent with the positive bound charge at the SnTe/PbTe monoayer interface.

This engineering of the polarization state in novel 2D lateral heterostructures with in-plane polarization has an eye toward applications.

More information: Kai Chang et al, Vortex-Oriented Ferroelectric Domains in SnTe/PbTe Monolayer Lateral Heterostructures, *Advanced Materials* (2021). DOI: 10.1002/adma.202102267

Journal information: *Advanced Materials*

https://phys.org/news/2021-07-physicists-polarization-vortices-two-dimensional-material.html

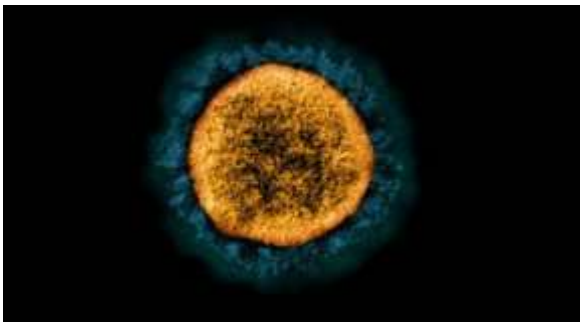
The Indian EXPRESS

Tue, 27 July 2021

New research: Early antiviral response in nose may determine severity of COVID-19

The team also identified infected host cells and pathways associated with protection against infection

Boston: The course of severe COVID-19 may be determined by the body's antiviral response to initial infection, according to a study which opens up new avenues for early drug interventions that could prevent severe disease.



Transmission electron micrograph of a SARS-CoV-2 virus particle (UK B.1.1.7 variant), isolated from a patient sample and cultivated in cell culture. (NIAID)

Researchers from Massachusetts Institute of Technology (MIT) and Harvard University in the US analysed whether the path towards severe disease could start much earlier than expected — perhaps even within the initial response created when the virus enters the nose.

They studied cells taken from nasal swabs of patients at the time of their initial COVID-19 diagnosis, comparing patients who went on to develop mild COVID-19 to those who progressed into more severe disease and eventually required respiratory support. The findings, published in the journal *Cell*, showed that patients who went on to develop severe COVID-19 exhibited a much more muted antiviral response in the cells collected from early swabs, compared to patients who had a mild course of disease.

"Our findings suggest that the course of severe COVID-19 may be determined by the body's intrinsic antiviral response to initial infection, opening up new avenues for early interventions that could prevent severe disease," said study co-senior author Jose Ordovas-Montanes, from Harvard Medical School.

To understand the early response to infection, the team collected nasal swabs from 58 people. Thirty-five swabs came from COVID-19 patients, taken at the time of diagnosis, representing a variety of disease states from mild to severe. Seventeen swabs came from healthy volunteers and six came from patients with respiratory failure due to other causes.

The team isolated individual cells from each sample and sequenced them, looking for RNA that would indicate what kind of proteins the cells were making — a proxy for understanding what a given cell is doing at the moment of collection. Cells use RNA as instructions to make proteins — tools, machinery, and building blocks used within and by the cell to perform different functions and respond to its environment.

By studying the collection of RNA in a cell — its transcriptome — researchers understand how a cell is responding, at that particular moment in time, to environmental changes such as a viral infection. Researchers can even use the transcriptome to see if individual cells are infected by an RNA virus like SARS-CoV-2.

First, the team found that the antiviral response, driven by a family of proteins called interferons, was much more muted in patients who went on to develop severe COVID-19. Second, patients with severe COVID-19 had higher amounts of highly inflammatory macrophages, immune cells that contribute to high amounts of inflammation, often found in severe or fatal COVID-19.

Since these samples were taken well before COVID-19 had reached its peak state of disease in the patients, both these findings indicate that the course of COVID-19 may be determined by the initial or very early response of the nasal epithelial and immune cells to the virus. The lack of strong initial antiviral response may allow the virus to spread more rapidly, increasing the chances that it can move from the upper to lower airways, while the recruitment of inflammatory immune cells could help drive the dangerous inflammation in severe disease.

The team also identified infected host cells and pathways associated with protection against infection — cells and responses unique to patients that went on to develop a mild disease. These findings may allow researchers to discover new therapeutic strategies for COVID-19 and other respiratory viral infections.

https://indianexpress.com/article/technology/science/new-research-early-antiviral-response-nose-severity-covid19-7423041/