

राष्ट्रीय रक्षा उत्पादन अकादमी, नागपुर

NATIONAL ACADEMY OF DEFENCE PRODUCTION, NAGPUR

A Unit of Munitions India Limited, Govt. of India Enterprise, Ministry of Defence, Accredited by CBC,
New Delhi.



सिद्धिपूर्वं प्रबन्धनम्
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MANTRA

August 2024 Vol. 01 Issue 01 Pages 22

“Nurturing Excellence - Shaping Tomorrow’s Leaders”



“Training is Costly but not to Train is Costlier”

- Pandit Jawaharlal Nehru



FROM THE DESK OF CHIEF GENERAL MANAGER

Mantra

In the ever-evolving landscape of the 21st century, transformational leadership is no longer just an ideal—it is a vital necessity. As organizations across the globe race towards achieving global leadership, it is the small, yet significant, transformations driven by modern tools and agile practices that will ultimately determine success.



The corporatization of the Ordnance Factories marks a pivotal step in this direction, providing the flexibility needed to align with the vision of Atma Nirbhar Bharat. A Viksit Bharat in defense can only be realized when our leaders embody versatility, adapting their leadership styles to the dynamic needs of their teams and organizations, all while nurturing a sense of pride and forward-looking vision.

Just as a golfer must choose the right club for each shot, today's leaders must skillfully select and adapt their approaches to foster an environment where innovation and growth can thrive. In agile settings, transformational leaders leverage a clear, compelling vision, crafting a sense of shared purpose that resonates deeply with each team member. These leaders excel not only in creating strong emotional connections that foster collaboration and trust but also in embracing democratic dialogue. They value diverse perspectives, yet are unafraid to set high standards and lead by example, driving their teams toward exceptional performance.

The essence of transformational leadership lies in balancing empowerment with strategic vision—mastering this balance is what enables leaders to navigate the complexities of the modern business world. This issue of Mantra magazine is dedicated to exploring such ideas in technology and management, ideas that have the power to unlock our collective potential and propel us to new heights. At NADP, we firmly believe that nothing matters more in the world than the power of ideas—ideas that are mightier than the sword. With this belief, we are reviving Mantra as a platform for academic exploration, sharing best practices, and crafting an empowering vision for self-reliance.

Our commitment at NADP remains steadfast: we are dedicated to the cause of capacity building for Atma Nirbhar Bharat in the domain of defense production management. Through excellence in education, training, research, and consultancy, and by forging strong partnerships and collaborations, we aim to empower a new generation of leaders. Let this humble initiative guide us to become better Karmayogis, combining wisdom, knowledge, and information with purposeful action. We hope you find inspiration and insight within these pages. Happy reading!

Dr J P Dash, IOFS
Chief General Manager
15-08-2024

 **EDITOR'S NOTE**

Dear Readers,

I am delighted that our classical in-house magazine “MANTRA” has made a new beginning, my heartiest welcome to all the esteemed readers. I also congratulate our editorial team for their sincere efforts in bringing out the first edition of E-Magazine of NADP, your guide to personal and professional growth.



At NADP, we are dedicated to shaping the leaders of tomorrow. In today’s dynamic business environment, effective management skills are more crucial than ever, and our mission is to provide you with the tools and knowledge to excel. This magazine reflects our commitment to your professional development, offering a blend of expert advice, real-world articles with a blend of technology and management, latest defence news, and filled with some ideas and vision of future management executives.

Whether you’re a seasoned professional or just beginning your journey in the field, we hope that the content within these pages inspires you to strive for excellence and take your career to new heights. Whether you’re just starting out or looking to advance your career, our goal is to provide you with the resources and inspiration to achieve your ambitions. We hope that the content within these pages not only informs you but also motivates you to take the next step in your learning journey.

Thank you for being part of our community of learners and leaders. Together, we are shaping a future where effective management drives success.

To your continued growth and success!

Happy learning!

**S A N Murthy, IOFS
General Manager &
Editor-in-Chief
15-08-2024**



S A N MURTHY, IOFS

General Manager



LOITER MUNITION

INTRODUCTION

A loitering munition, also known as a suicide drone, kamikaze drone, or exploding drone, is a kind of aerial weapon with a built-in warhead that is typically designed to loiter around a target area until a target is located, then attack the target by crashing into it. Loitering weapons are different from cruise missiles, because cruise missiles do not wait(loiter) over the target area. They are different from UCAVs in that a loitering weapon is intended to be used in an attack and has a built-in warhead. Ammunition refers to the projectiles fired from a weapon, while munitions refer to the weapons themselves, the components used to make the weapons, or the materials used to make the ammunition. A loitering munition, with its advanced deployment, target acquisition and attack capabilities, can loiter above and around a target area for some time, searches for targets, and attacks once a target is located. Loitering munitions enable faster reaction times against concealed or hidden targets that emerge for short periods without placing high-value platforms close to the target area, and also allow

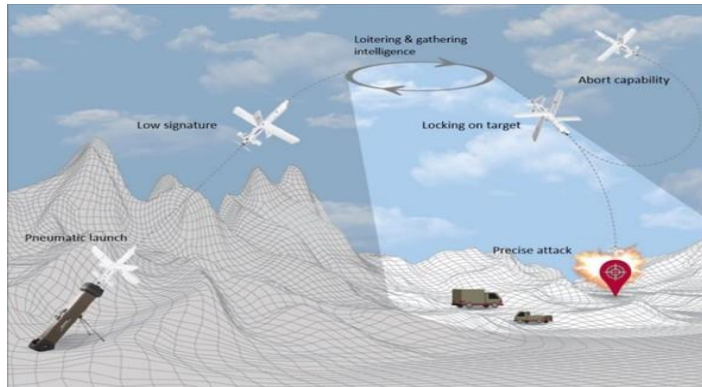
more selective targeting as the actual attack mission can be aborted, if required. The smart loitering systems' unique cruciform aerodynamic configuration enables beyond line-of-sight capabilities and high levels of maneuverability. Its advanced data-link and real-time intelligence deliver up-to-the-minute situational awareness to all military echelons – from the individual soldier to central command – for tactical, operational and strategic targets.

1. Loitering Munition Configuration

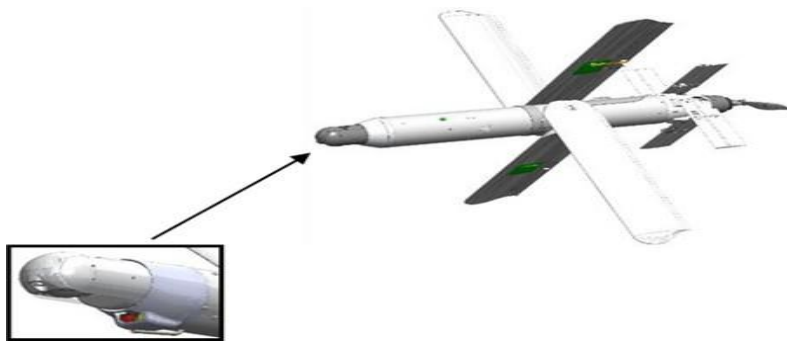
It's worth mentioning here that the engagement time of the system (launch-surveillance- engagement/abort, as the case may be) with regard to target designated for loitering munition is considerably high as compared to the engagement time of FCS for direct firing targets available on armored vehicles. Loitering munition is not alternate or replacement of Guided missile FCS available on board, it is only an additional tactical weapon on board.

2. Concept

The operational concept of the proposed Loitering Munition System, depicting loitering munition launch tube, loitering munition



(with electro-optical pedestal, guidance system, war-head, emergency parachute), loitering path, target engagement along with possible abort (as the case may be) is portrayed as under



3. Brief Technical Details

Loitering munition solution designed to meet the complex requirements of the modern battlefield. It incorporates a wide range of advanced, cost-effective technologies to enable high-precision terminal engagement with minimal collateral damage. Suitable for deployment from air, land and sea, it features high-speed transit flight and low-speed loitering, depending on the tactical or strategic needs of the mission. Automated flight to target areas allow user-friendly control; final targets are visually selected ensuring full mission control. The solutions incorporate advanced airborne guidance, navigation systems, abort and recovery capabilities, fully integrated with high-speed data links.

loitering munitions are a hybrid of drones and missiles, unique because they can't be easily classified as either. Unlike traditional missiles or rockets, they can be launched from land, sea, or air. They're versatile, usable from portable systems, vehicles, and various aircraft types. They are also much cheaper than anti-tank guided missiles (ATGMs) and can return to base if they don't find a target, saving costs using AI. Moreover, these munitions have a small radar footprint, making them hard to detect compared to cruise missiles. They're becoming increasingly important in modern warfare and are being adopted by countries like India to bolster their security and readiness for future conflicts.

4. Present Scenario

The Indian Armed Forces strengthens its domestic defence industrial base by purchasing the ALS-50 loitering munition. The Indian Air Force (IAF) has inducted the ALS loitering munition. The ALS-50 is an advanced weapon system with a unique vertical take-off and landing (VTOL) capability, versatility and adaptability, which allow it to engage air defence systems, ground and naval targets. The system is produced domestically by the Mumbai-based Tata Group, Tata Advance Systems Limited (TASL) had recently successfully delivered the Advanced Loitering System-50 (ALS-50), or 'Suicide Drone,' loitering munition to the Indian Air Force (IAF). The ALS-50's induction demonstrates India supporting its domestic defense industry. OFMK/ AVNL is exploring Integration of Loitering Munition in the existing BMP turret to substantially improve its fire power capability in respect of targets which are much beyond the Line-of-Sight, and which hitherto was not achievable. A Vision a subsidiary of M/s Aditya group also started manufacturing LM indigenously in collaboration with Vision of Israel Indian Army receives first batch of 'Nagastra-1' suicide drones: A new era in warfare

The Indian Army's acquisition of the Nagastra-1 aligns with a global trend toward drone-based warfare. Underscoring the growing importance of drone technology in modern warfare, the Indian Army has taken delivery of its first batch of indigenously developed "suicide drones," dubbed "Nagastra-1." These high-tech drones, designed for precision strikes on enemy targets, represent a significant leap forward in India's defense capabilities. Manufactured by Economic Explosives Limited (EEL), a subsidiary of Solar Industries, the Nagastra-1 is a type of "loitering munition."



5. World scenario

Here are some examples of loitering munitions from different countries:

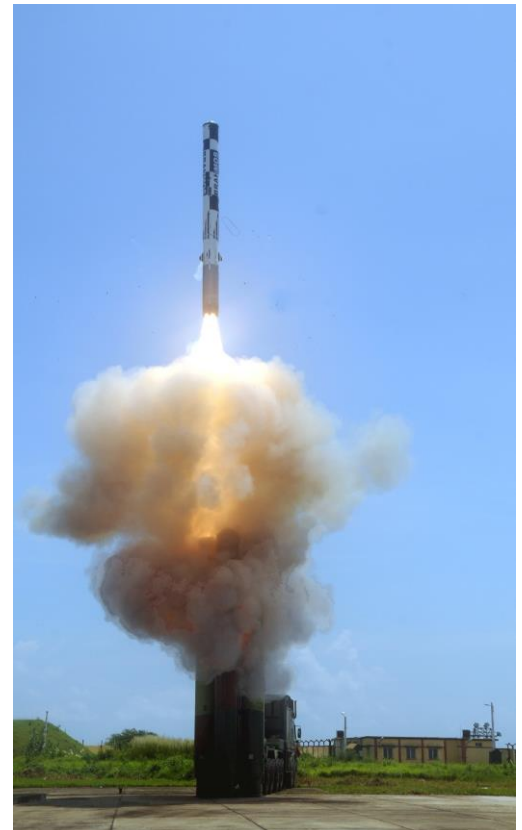
1. **United States:** Switchblade (also known as the AeroVironment Switchblade).
2. **Israel:** Harop (manufactured by Israel Aerospace Industries).
3. **Turkey:** Bayraktar TB2 UAV (while not exclusively a loitering munition, it can carry and deploy them).
4. **China:** CH-901 (developed by China Aerospace Science and Technology Corporation).
5. **South Korea:** Kamikaze (produced by Hanwha Defense).
6. **Russia:** Forpost (developed by Kalashnikov Concern).





Raksha Mantri Shri Rajnath Singh laid the foundation stone for Defence Technology & Test Centre and BRAHMOS Manufacturing Centre, established by Defence Research & Development Organization (DRDO) in Lucknow, Uttar Pradesh on December 26, 2021. The foundation for the two units was laid in the presence of Uttar Pradesh Chief Minister Shri Yogi Aditya Nath. A first of its kind Defence Technologies & Test Centre (DTTC), over approximately 22 acres is being set up to accelerate the growth of the defence and aerospace manufacturing clusters in Uttar Pradesh Defence Industrial Corridor (UP DIC). It will consist of the following six subcenters:

1. Deep-Tech Innovation & Startup Incubation Centre
2. Design & Simulation Centre
3. Testing & Evaluation Centre
4. Centre for Industry 4.0/Digital Manufacturing
5. Skill Development Centre
6. Business Development Centre



Defence Technology & Test Centre (DTTC), Lucknow was inaugurated by Hon'ble RM in the august presence of Hon'ble CM of UP on 11th March 2024. DTTC is the part of UPDIC and will assist industries on S&T consultancy, skill development, testing and incubation of new technologies. Raksha Mantri exudes confidence that they will play a pivotal role in bolstering national security, defence production & economy. The units will generate revenue, provide employment opportunities to the youth & help in achieving 'Atmanirbhar Bharat Bharat': RM Defence Technology & Test Centre (DTTC) established under the aegis of DMSRDE, is a premier center of DRDO mandated to support Indian Defence Industries and Startups with following vision & mission.



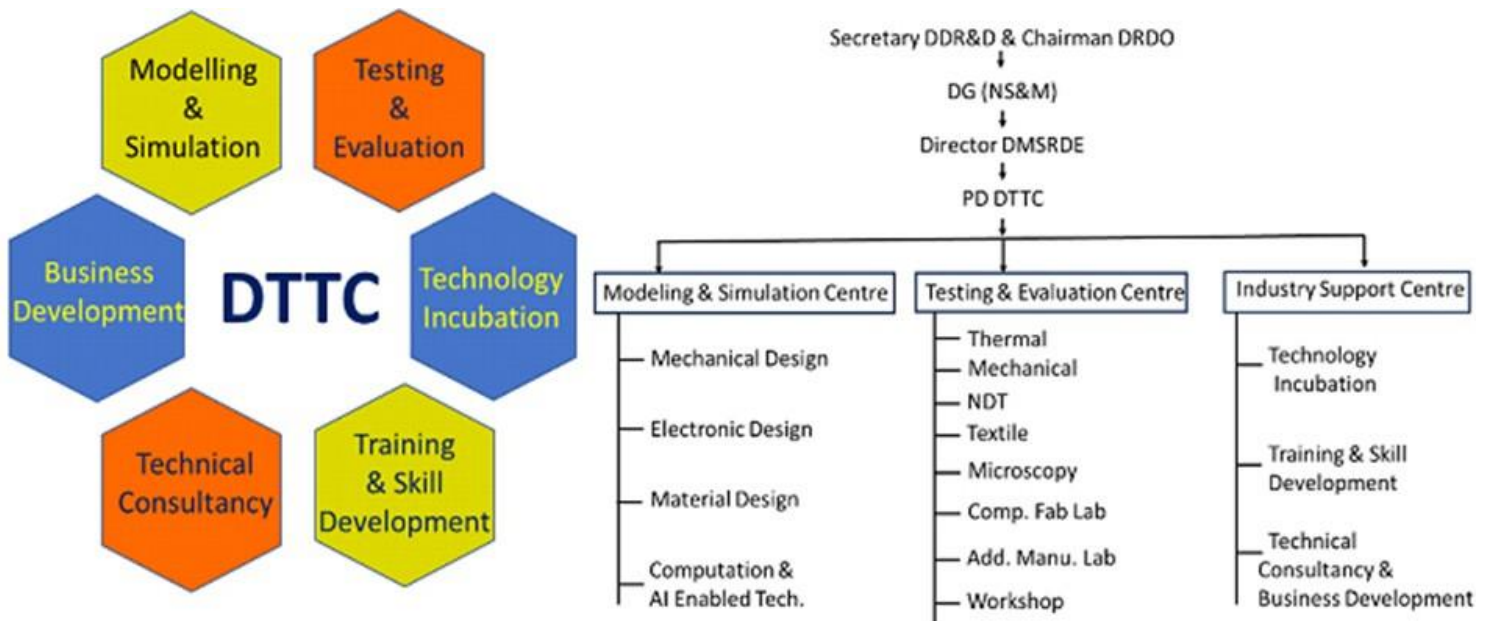
Vision:

Empowering the Indian defence industries through state-of-the-art technologies and systems.

Mission:

- Establishment of modeling and simulation facilities for the optimized design of materials, mechanical and electronic systems, computation & AI enabled technologies
- Creation of test and evaluation facilities for materials, components and sub-systems
- Development of an ecosystem for industry support through linkage with DRDO labs, training & skill development, technology incubation and technical consultancy.

Key Technical Areas & Management Structure:



Contact Details:

Defence Technology & Test Centre
 Kanpur Road, Amausi, Lucknow –
 226008, INDIA Email: director.dmsrde@gov.in;

Source: PIB & DRDO websites

Note: This is issued to the email addressee
 “nadp@nic.in” c/o ITC for publication in
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ARTICLES

EXCITED TO ANNOUNCE OVER 100 COUNTRIES TURNING TO INDIA FOR DEFENSE EQUIPMENT.

LOKMAT TIMES

Over 100 countries seeking defence equipment from India

NADP's joint pact with VNIT, signing of MoU with DIAT, Pune

WASIM QURESHI
LOKMAT NEWS NETWORK
NAGPUR

India's recent policy shift in the defence sector has enabled it to support other nations.

Earlier, India imported defence products from 85 countries, but now it has expanded its imports to over 100 countries. With the advanced technology and accuracy, the demand for Indian defence products is rapidly increasing.

It is anticipated that soon the number of countries purchasing defence products from India may exceed 150.

However, to achieve this, there is a growing need to enhance support of skilled individuals. In order to strengthen the concept of a 'atma nirbhar Bharat' (self-reliant India), a collaborative agreement is being signed with institutions which can contribute to this endeavor. This will result in creation

of a large workforce in the country, dedicated to producing high-quality defence products.

On 1 May, the National Academy of Defence Production (NADP) entered into a joint agreement with the Visvesvaraya National Institute of Technology (VNIT). NADP is known for its exceptional management training programs, while VNIT specialises in technology-based research. By joining forces, both the organizations will be able to conduct research effectively. Additionally, undergraduate and postgraduate students from VNIT will have the opportunity to engage in internships instead of traditional studies for a few semesters.

This will enable them to earn while they continue their education. It is worth noting that three months ago, Nagpur took the initiative to implement policy changes aimed at reducing defence product imports and increasing exports.

“ There have been previous collaborations, but now a corporate agreement has been signed. VNIT is an autonomous institution and we have a team of experienced individuals specialising in chemical engineering, explosives, drones, and other fields. With the signing of the fresh Memorandum of Understanding (MOU), significant changes will be seen starting from the upcoming semester in July.

- Dr. Pramod Padole, Director, VNIT

“ We provide education in management and VNIT in technology. We are engaged in various projects and our research is expanding regularly. In this backdrop, we will offer internships to VNIT students, providing them with employment opportunities alongside their studies. In the near future, we are planning to sign an MoU with the Defence Institute of Advanced Technology, Pune.

- J P Dash, CGM, NADP

Nagpur Main
Page No. 11 May 04, 2024
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STUDENTS CORNER



All students of 1st batch of PGDM (BM) of NADP, Nagpur have achieved internship placements with both national & international corporates, marking a significant milestone in their academic journey. This is the first course in the country with a focus on Defence.



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NADP'S INAUGURAL PGDM(BM) BATCH ACHIEVES 100% INTERNSHIP PLACEMENT SUCCESS



Internship Placements offered by Leading National and International Corporations

#InternshipMilestone #BigOpportunities #PGDM

TRAINING ACTIVITIES

BUSINESS PROCESS RE-ENGINEERING (BPR) IN SUPPORT OF ERP IMPLEMENTATION FROM 02ND APRIL TO 04TH APRIL 2024 AT AFK PUNE



TRAINING ACTIVITIES

MDP ON “03RD PARTY AUDIT OF PROACTIVE DISCLOSURE AS PER SECTION (4) OF RTI ACT. 2005” ON 05TH APRIL 2024, AT NADP PREMISES.



APEX LEVEL TRAINING PROGRAMME & BUSINESS MEET – 2024 HELD ON 12TH TO 14TH APRIL 2024 AT HOTEL GEM PARK, OOTY



TRAINING ACTIVITIES

ORIENTATION COURSE FOR AWM PROMOTEE WAS HELD FROM 22ND APRIL TO 03RD MAY, AT NADP



MDP ON “NEW LABOUR CODES AND CONTRACT WORKERS MANAGEMENT” FROM 20TH MAY 2024 TO 21ST MAY 2024 AT NADP PREMISES



TRAINING ACTIVITIES

MDP ON “INDUCTION TRAINING PROGRAMME OF JWM(SG) TO BE DESIGNATED AS DIVISIONAL OFFICER” FROM 03RD TO 07TH JUNE 2024 AT NADP PREMISES



MDP ON “LATEST TRENDS IN AMMUNITION AND EXPLOSIVE MANUFACTURING” FROM 11TH JUNE TO 14TH JUNE 2024 AT NADP PREMISES



TRAINING ACTIVITIES

MDP ON “WORKSHOP ON LOGISTICS MANAGEMENT FOR AMMUNITION & EXPLOSIVE” FROM 18TH JUNE 2024 TO 20TH JUNE 2024 AT NADP PREMISES



MDP ON “NEGOTIATION SKILLS” FROM 20TH JUNE 2024 TO 21ST JUNE 2024 AT OFMK PREMISES





TRAINING ACTIVITIES

MDP ON “BOOTCAMP ON TPM & LEAN MANAGEMENT” FROM 24TH TO 28TH JUNE 2024 AT AMMUNITION FACTORY KHADKI, PUNE



CERTIFICATION COURSE ON CYBER SECURITY (ISMS LEAD AUDITOR) FOR ISMS - ISO/IEC 27001:2022 VER2.2 FROM 24TH JUNE TO 28TH JUNE 2024 AT NADP PREMISES



WHAT'S NEW

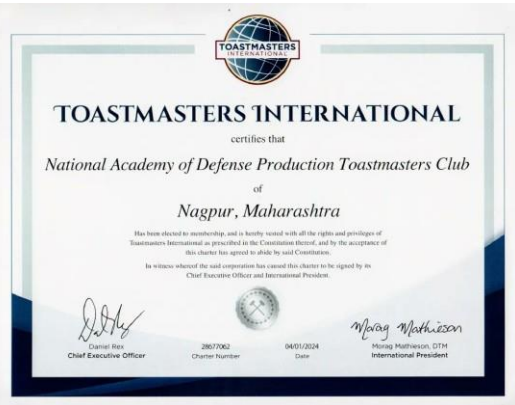


NADP & SMMCA join hands! Dr. Avinash Deshmukh, Director of SMMCA, spearheads the MOU signing for a collaboration to help SMMCA to tap to the training expertise and explosive building design skills.



Powering Collaboration: VNIT and NADP Join Hands for Innovation for Training, Education & Research. In a groundbreaking move towards innovation and excellence, VNIT and NADP have inked a Memorandum of Understanding (MoU) to foster a robust institutional linkage.

 **WHAT'S NEW**



NADP partnering with Toastmasters to groom its PGDM Students for communication & leadership Nagpur, India - May 10, 2024 - NADP announced its ground-breaking partnership with Toastmasters International to revolutionize the education experience for PGDM students.



NADP, Nagpur and DIAT, Pune signed a MoU to strengthen collaboration in defence education and research. This collaboration marks a significant step forward in advancing education and training in defence technologies.



We are happy to announce the signing of a significant MOU between NADP and IBS Hyderabad on June 28, 2024. Prof. Venue Gopal Rao and Dr. J.P. Dash formalized this partnership, witnessed by Ms. Vicky Lester and Mr. Sanjib Dutta.



WHAT'S NEW

TheHitavada

Nagpur City Line | 2024-05-16 | Page-5
ehitavada.com

NADP signs MoU with Infosys to access its Springboard e-learning platform

■ Staff Reporter

THE National Academy of Defence Production (NADP) has signed a Memorandum of Understanding (MoU) with Infosys, a global leader in IT services, to onboard NADP trainees and students onto the Infosys Springboard e-learning platform.

This collaboration marks a significant step towards bringing quality digital education to NADP, empowering the next generation of India's workforce. Infosys, with its four decades of experience as a global enterprise, brings a wealth of knowledge and high-quality content

from leading universities and EdTech partners worldwide. The content provided through the Springboard platform is meticulously aligned with the New Education Policy 2020, covering a wide range of subjects, including core academic skills, digital skills, life skills, and behavioural skills.

This partnership offers students a unique opportunity to benefit from Infosys' extensive expertise and resources, free of cost.

The Springboard platform is designed to enhance the educational experience for both students and faculty. For faculty, the platform offers an inte-

grated collaborative environment with engagement tools, polls, mind mapping tools, and access to telemetry. It also includes an AI video-proctored assessment platform, ensuring the integrity and effectiveness of evaluations.

For students, the platform provides a customised landing page with an integrated view of timetables, organisation-wide telemetry, increased engagement, and enhanced visibility of their learning progress.

The ability to blend Infosys Springboard online content with traditional classroom teaching methods allows for a

comprehensive hybrid learning approach, maximising learning outcomes for a Hybrid Learning Model. By integrating e-learning into classroom delivery, NADP plans to offer blended courses that leverage the best of digital and traditional teaching methods.

Moreover, NADP will be getting free access to industry-recognised certifications, enhancing students' or trainees' employability. A mechanism is being created where Infosys will help NADP to develop better e-learning content applying the best practices of the eLearning industry, through their expertise.

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**NADP PARTNERS WITH
INFOSYS TO
REVOLUTIONIZE
EDUCATION WITH
SPRINGBOARD
E-LEARNING PLATFORM**



NADP signs MoU with Infosys to access its Springboard e-learning platform.



AWARDS CORNER



In the heart of NADP lies a sanctuary of growth and beauty—a garden intertwined with the essence of education. NADP wins 4 Rolling Trophies, 1st Runner up Trophy & cash prize from Garden Club



Celebrating Excellence at National Academy of Defence Production, Nagpur! Honored with the Achiever's Award - Shiksha Bharti at the National Conclave on Impactful Sustainable Business Practices, India Habitat Centre, New Delhi.



Honored to receive the Shiksha Bharati Award for building an #AtmanirbharBharat through our PGDM in Defence program! This prestigious recognition fuels our mission to empower future leaders & secure our nation's defence.

AWARDS CORNER



Congratulation Dr. JP Dash from NADP Nagpur on his achievement of being approved for the "BRAND OF THE YEAR AWARD," based on the evaluation by Brandmark Media.

The award presented at the 38th International Summit on June 12, 2024, in Bangkok.



NADP's PGDM Course takes the spotlight at the BW Merit Awards 2024! Proud to be among the best in education. Thank you to everyone who made this possible!

 **CSR ACTIVITIES**

NADP is taking a giant leap towards sustainability in 2024 with our Holistic Sustainability Program, featuring campus bicycles, waste reduction strategies, renewable energy, workshops, and green spaces.



Samvedana, a fundraising charity event for the Dnyanjyoti Niwasi Andha Vidyalaya, Nagpur by conducting an Orchestra by the Visually Challenged People.



“Intuition Workshop” for students of Rashtriya Drushtihin Shikshan & Punarvasan Sanstha Nagpur, in association with Art of Living



Cultural Event



Yoga



Other Cultural Activities



Marathon

