





# Deep Dive

**April 2025** 









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### **Foreword**

Dear Innovators, Entrepreneurs, and Technology Enthusiasts,

It is a pleasure to extend my warm greetings to all readers of Deep Dive, iTNT Hub's flagship monthly newsletter. In today's rapidly evolving digital landscape, DeepTech innovation serves as the bedrock of transformative change, driving new possibilities across industries and economies. At Meity Startup Hub (MSH), we are committed to fostering a robust ecosystem for technology-driven startups by providing strategic support, funding opportunities, and access to world-class incubation networks.

Through flagship initiatives such as SAMRIDH, TIDE 2.0, Digital India GENESIS, and IDEA, we enable startups to develop innovative solutions in areas like artificial intelligence, cybersecurity, blockchain, and IoT, ensuring India's leadership in emerging technologies. MSH is dedicated to fostering India's DeepTech and digital startup ecosystem by supporting innovation, entrepreneurship, and emerging technologies, in collaboration with incubators, accelerators, and investors across regions to nurture startups across various domains.

iTNT Hub, our sister department funded by MeitY, plays a crucial role in this mission by fostering deep-tech entrepreneurship in Tamil Nadu, encouraging collaboration between academia, industry, and the startup community. MSH and iTNT Hub have been actively collaborating for key initiatives to strengthen the DeepTech ecosystem in the region.

As you all know, the three-day Startup Mahakumbh 2025 in Delhi from April 3 to 5 was a grand success. At the MSH DeepTech Arena at Startup Mahakumbh 2025 one of the most anticipated sessions came from the dynamic leadership of Ms. Vanitha Venugopal, CEO of iTNT Hub, with her stellar team. The session illuminated Tamil Nadu's fast-emerging role in India's DeepTech movement, centred around the theme: "Tamil Nadu's Deep Tech Rise – Innovations Powering Bharat."

Representing a thriving innovation ecosystem in the South, Ms. Venugopal articulated how Tamil Nadu is fostering a fertile ground for deeptech startups, applied research, and cross-sector innovation, all while building meaningful collaborations at scale. A couple of months ago, in January 2025, at the Innovation Arena by iTNT Hub at UmagineTN 2025, MSH showcased 20 innovative DeepTech startups before prospective stakeholders for investment and market access.

Deep Dive is more than just a newsletter, it is a platform for knowledge exchange, thought leadership, and showcasing breakthrough innovations. It highlights the incredible strides being made in DeepTech, offering valuable insights and inspiration to those shaping the future of technology.

I encourage you to actively engage with this ecosystem, leverage the opportunities that iTNT Hub and MeitY Startup Hub provide, and contribute to India's DeepTech revolution. Together, we can build a future driven by innovation, excellence, and global impact.

Happy reading!



Panneerselvam Madanagopal CEO, MeitY Startup Hub



## **IT&DS** Department

#### **Announcements 2025-26**



The Hon'ble Minister for Information Technology & Digital Services (IT&DS) Dr. Palanivel Thiaga Rajan made six new announcements during the demand for grants session before the Tamil Nadu Assembly on April 25, 2025. This includes the "Technology Product Design Scheme" to be implemented by iTNT Hub, solidifying the foundation stone for the Government's support to strengthen the Deep and Emerging Tech landscape of the State, in the march towards "Innovate In Tamil Nadu" and "Build The Future".

Earlier that day, the Hon'ble Minister for IT&DS met the Hon'ble Chief Minister of Tamil Nadu, Thiru. M.K. Stalin along with the heads of the departments under the IT&DS Department.

Thiru. Brajendra Navnit, I.A.S., Principal Secretary, IT & DS Department; Thiru. M. Govinda Rao, I.A.S., Chief Executive Officer, Tamil Nadu e-Governance Agency; Tmt. P. Ramana Saraswathi, I.A.S., Managing Director, Tamil Nadu FibreNet Corporation; Thiru. K.P. Karthikeyan, I.A.S., Managing Director, Electronics Corporation of Tamil Nadu Limited;

and Tmt. Deepana Visveswari, I.A.S., Executive Director, Electronics Corporation of Tamil Nadu Limited; Thiru. Srutanjay Narayanan, I.A.S., Joint Chief Executive Officer, TNeGA; Dr. R. Vaithiyanathan, I.A.S., Managing Director, Tamil Nadu Arasu Cable TV Corporation Limited; Thiru. Jeeva, Head of Tamil Nadu Cable TV operators and Employees Welfare Association; and Tmt. Vanitha Venugopal, Chief Executive Officer, Tamil Nadu Technology Hub were among those present on the occasion.





#### **Announcements**

#### 1. Creation of 50 New Aadhar Enrollment Centres

ELCOT is one of the Aadhaar enrollment agencies in Tamil Nadu. At present ELCOT has established 266 Aadhaar Enrollment Centres covering 38 District Collectorates, 14 Municipal Corporation Headquarters, 34 Municipal Zonal Offices, 112 Municipalities, 31 Block Development Offices, 14 Town Panchayat and 23 centres at other locations. To make Aadhaar services more accessible and convenient for the people, it is proposed to set up 50 more Aadhaar Enrollment Centres in the offices of local bodies across the State of Tamil Nadu based on demand assessment.

2. To promote inclusive and accessible digital governance, e-Sevai and departmental self-service offerings will be integrated into a unified citizen interface on WhatsApp, enabling seamless and quick access to government services.

The Tamil Nadu e-Governance Agency (TNeGA) is spearheading the statewide implementation of the e-Sevai project, a flagship initiative that ensures seamless digital access to government services for citizens. Currently, 34,843 operational e-Sevai Centres across Tamil Nadu are delivering 260 Government-to-Citizen (G2C) services, making public service delivery more accessible and efficient.

As part of its continued commitment to enhance citizen convenience, TNeGA is now expanding its service delivery channels by launching government services on WhatsApp at a cost of Rs. 3.85 Crore. In Phase I, 50 citizen-centric services will be rolled out on the WhatsApp platform.

This initiative is designed to provide user-friendly, accessible, and cost-efficient service experience, enabling citizens to access key services such as utility bill payments and other essential offerings directly from their mobile phones— eliminating the need for physical visits to service centres.

By leveraging WhatsApp, TNeGA aims to significantly improve accessibility, inclusivity, and efficiency in public service delivery.

3. To enhance transparency and efficiency in service delivery, a secure and scalable Generic e-KYC platform—available on both mobile and web—will be implemented to verify beneficiaries and citizens across government schemes.

All government departments implementing Aadhaar-linked welfare schemes require e-KYC of beneficiaries. To enable this, a Generic e-KYC Mobile App is being developed, offering consent-based, secure, and user-friendly authentication via face, fingerprint, iris, and OTP, in self-service or assisted modes, on both Android and iOS.

A complementary Web Platform will offer e-KYC service to the departments, integrating with the mobile app through a simple onboarding process. This platform can be used for schemes like Old Age Pension (OAP), Scholarships, CMCHIS, and for identity verification needs across departments—ensuring a unified and secure e-KYC framework for Tamil Nadu.

## 4. Enhancing Tamil Digital Library with Multimedia Content

The Tamil Digital Library is making significant strides in providing digital access to printed information about Tamil Nadu's history, literature, culture, politics, and society. To further enrich this digital archive, it's essential to incorporate multimedia content, including audio-visual materials, tapes, gramophone records, and rare images scattered across various locations.

These multimedia documents contain valuable recordings of rare historical events, speeches by leaders, oral histories, and folklore. By digitizing these contents using modern technology, we can ensure their preservation and make them accessible to future generations through the Tamil Digital Library. The estimated cost for this project is Rs. 50 lakh for the year 2025-26.



#### 5. Skill Training on Language Technology for Tamil Literature and Linguistics Students

The Tamil Virtual Academy will offer a Skill Training Program on Language Technology under Naan Mudhalvan Scheme, to equip students pursuing Tamil Literature and Linguistics with cutting-edge technological skills. This initiative will provide hands-on training in Natural Language Processing (NLP), Al-driven translation tools, speech recognition, text analytics, and other emerging language technologies.

By integrating traditional Tamil studies with modern computational methods, this program will empower students with industry-relevant expertise and it will enable them to contribute effectively to the growth of Tamil in the digital space, ensuring its continued relevance and prominence in the modern era.

#### 6. Technology Product Design Scheme

Deep Tech and Emerging Tech startups predominantly develop hardware products that involve design, and engineering among other resource-intensive processes. complex, Government is keen to promote 'Made in Tamil Nadu' and to support these intricate manufacturing aspects it is important to bring together design expertise and advice and provide cost-effective solutions on real time design problems.

To facilitate new product development, continuous improvement, and value addition in hardware product design, the Government will roll out a "Deep Tech Hardware Product Design Scheme". Under the PPP model, 75% subsidy, to a maximum of Rs. 15 Lakh per startup will be given to help their product development with better design aesthetics and eventual commercialization.

#### Hon'ble Minister Lauds iTNT Hub



Addressing Ministers, legislators and heads of political parties at the Demand for Grants session of the Information Technology & Digital Services Department, the Hon'ble Minister Dr. Palanivel Thiaga Rajan lauded iTNT Hub and its role in shaping the Deep and Emerging Tech Innovation ecosystem of Tamil Nadu. Here are excerpts from his speech:

iTNT Innovation and Technology Hub of Tamil Nadu was established when I was the Finance Minister. In coordination with the then IT Minister Thiru. Mano Thangaraj we together sought funding from the Union Government and created iTNT Hub. The Hub is functioning efficiently. We request the Centre to allocate additional funding and announce further plans for the Hub that is expanding at a high rate.

The DeepTech startup innovation centre has signed MoUs with foreign universities and incubators and is functioning as a Hub for resources for startups. It has a number of patents from various universities and colleges and research institutes in a platform called the JIGSAW which functions as a resources allocation and sharing for the startups.



## 'Tamil Nadu Technology Transfer

#### **Facilitation Centre for Deeptech Innovations' by iTNT**



In a major leap towards commercialisation of technology and bridging the industry - academia gap in the fast evolving Deep Tech ecosystem, the Government of Tamil Nadu issued a Government Order (G.O.(Ms) No.58), for the project 'Tamil Nadu Technology Transfer Facilitation Centre for Deeptech Innovations'. The Tamil Nadu Innovation Initiatives (TANII) has sanctioned Rs. 3.46 Crore to establish the technology transfer centre by Tamil Nadu Technology (iTNT) Hub.

According to the G.O. the Principal Secretary, Information Technology and Digital Service Department forwarded the proposal of the Chief Executive Officer, Tamil Nadu Technology (iTNT) Hub on the Project 'Tamil Nadu Technology Transfer Facilitation Centre for Deeptech Innovations' under TANII. The details of the Tamil Nadu Technology Transfer Facilitation Centre (TNTTFC) is as follows:

The TNTTFC aims to establish a state-wide hub to bridge the gap between academic institutions, research organizations and industries. It will facilitate the efficient transfer of deep-tech innovations to commercial entities, ensuring that Tamil Nadu's leading IP and research ecosystem translates into economic and societal benefits.

This initiative will provide a centralized platform for technology commercialization, including IP management, licensing and market analysis. The TNTTFC will actively support startups, MSMEs, and researchers in scaling and commercializing innovative technologies through structured funding, training and mentorship programs.

The Centre will act as a catalyst for deep-tech growth by fostering industry partnerships, policy interventions and global collaborations. It will address systemic challenges such as fragmented networks, regulatory barriers and commercialization hurdles, enabling Tamil Nadu to compete at an international level in fields like Al, semiconductors, biotechnology and clean energy.

The Tamil Nadu Technology Transfer Facilitation Centre will strengthen Tamil Nadu's position as a DeepTech innovation hub, contributing to global advancements and reinforcing the state's leadership in economic growth.

The State Planning Commission appraised the project 'Tamil Nadu Technology Transfer Facilitation Centre for Deeptech Innovations' under the Tamil Nadu Innovation Initiatives Schemes 2024-2025 (Round II) and recommended the same to the Government.

The Government after careful consideration accepted the recommendation of the State Planning Commission and accord administrative sanction for the project 'Tamil Nadu Technology Transfer Facilitation Centre for Deeptech Innovations' for a total cost of Rs. 3,45,66,000 for a period of three years from 2024-2025 to 2026-2027 under the Tamil Nadu Innovation Initiatives Scheme.

Excited! Stay tuned for exciting updates from iTNT Hub on TNTTFC to benefit academia, startups and industry.





### IT&DS

#### Minister's Diary

#### 1. Receives Hon'ble Prime Minister of India

As designated by the Hon'ble Chief Minister of Tamil Nadu, Thiru. M.K. Stalin, the Hon'ble Minister for IT&DS Dr. Palanivel Thiaga Rajan served as the Minister in waiting for the Hon'ble Prime Minister Shri. Nadrenda Modi at the Madurai Airport as he travelled from Ramanathapuram to Delhi. The Hon'ble Prime Minister inaugurated India's first vertical lift sea bridge – the Pamban Bridge connecting Rameswaram.



#### 2. Book Release by Hon'ble CM of Tamil Nadu



Hon'ble Chief Minister of Tamil Nadu Thiru. M.K. Stalin released the commemorative anthology "Dravida Araneriyaalar Thamizhavel P.T. Rajan – Vazhve Varalaaru" at Kalaivanar Arangam, Chennai. It was on the occasion of the 133rd birth anniversary of Thamizhavel P.T. Rajan – grandfather of Dr. Palanivel Thiaga Rajan – was the First Minister of the erstwhile Madras Presidency, who devoted his life to Tamil service, religious reform, and social upliftment.

Amidst his demanding schedule, the Hon'ble Chief

Minister graced the occasion and recalled Thamizhavel P.T. Rajan's contributions to various departments like Cooperation, Public Works, and Registration, which shaped Tamil Nadu's development. The first copy of the book was received by Hon'ble Justice (Retd.) Thiru. C.T. Selvam, grandson of Sir A.T. Pannirselvam, a close friend and ideological compatriot of Thamizhavel P.T. Rajan.

Copies were also received by Mr. N. Ram, Director, The Hindu Publishing Group, and Thiru. Venu Srinivasan, Chairman, TVS Group, and eminent figures from families who have long shared close ties with the family.



## 3. Hosts Hon'ble CM of Kerala & Ministers

Dr. Palanivel Thiaga Rajan hosted the Kerala Chief Minister Thiru. Pinarayi Vijayan (accompanied by his family), Hon'ble Speaker of the Kerala Legislative Assembly, Thiru A. N. Shamseer, Finance Minister Thiru. K.N. Balagopal (his former GST Council colleague), Minister for Public Works & Tourism Thiru. P.A. Mohammad Riyas, and CPI (M) senior leaders Thiru. Prakash Karat and Tmt. Brinda Karat, at his Madurai residence. The senior leaders were in Madurai for their Party's Annual Conference.



#### 4. SES office Inaugurated in Chennai



Dr. Palanivel Thiaga Rajan inaugurated the new office of SES – a global satellite-based content and connectivity solutions provider – in Cyber City, Chennai, alongside Her Excellency Mrs. Peggy Frantzen, Ambassador of Luxembourg to India, in the presence of Mr. Adel Al-Saleh, CEO of SES Luxembourg, and Mr. Seturaman Mahalingam, the Hon. Consul of Luxembourg in Chennai.

The Hon'ble Minister took pride in stating that no other State in India combines the scale and quality of human capital the way Tamil Nadu does. "With over a century of commitment to inclusive education and universal access, we have cultivated a robust talent pool that powers diverse sectors — from advanced manufacturing to deep-tech innovation," he said.

Today, Tamil Nadu is fast emerging as a hub not just for engineering and professional services, but also for satellite component manufacturing and other range of products. Our leadership in critical technologies continues to draw global recognition, and we remain committed to deepening these partnerships as we shape the future from right here in Tamil Nadu, he added.



#### 5. Australian Delegation

The Hon'ble Minister for IT&DS met an Australian delegation led by Mr. Brendan Dowling, Ambassador for Cyber Affairs & Critical Technology, at his camp office in Chennai. The delegation included Ms. Silai Zaki, Australian Consul-General for Tamil Nadu, Andhra Pradesh, Kerala, Puducherry, Andaman & Nicobar Islands & Lakshadweep, Mr. Abdul Ekram, Trade & Investment Commissioner – South Asia, Ms. Nish Perera, First Secretary – Cyber and Critical Technology, Ms. Kat Knapp, Vice Consul, along with other senior officials. With



Tamil Nadu's growing leadership in emerging technologies, digital public infrastructure, and cybersecurity frameworks, the deliberations looked forward to deepening engagements with Australia in critical technologies, innovation, and cyber resilience.





## Kauvery Hospital's

#### **CSR Contribution to iTNT Hub**



Dr. Aravindan Selvaraj, Executive Director and Co-Founder of Kauvery Hospitals, extended support to the iTNT Hub through their CSR initiatives for the third consecutive year. He handed over the cheque for the contribution of Rs. 15 Lakh to the Hon'ble Minister for IT&DS Dr. Palanivel Thiaga Rajan.

"Such continued contributions are essential for fostering innovation and development in Tamil Nadu, and it's great to see such a strong commitment to strengthen the local innovation ecosystem," the Hon'ble Minister said. iTNT Hub extends our heartfelt gratitude to Dr. Aravindan Selvaraj for supporting iTNT Hub through

their CSR initiatives, now for consecutive years. Our wholehearted thanks to our Hon'ble Minister Dr. Palanivel Thiaga Rajan for being a champion of Deep & Emerging Tech innovation by fostering research and development in Tamil Nadu. Such unwavering support plays a vital role in nurturing innovation, empowering Deep and Emerging Tech startups, and building a vibrant entrepreneurial ecosystem in Tamil Nadu.

We're proud to have partners like Kauvery Hospital who believe in the power of ideas and the impact of collaboration. Together, we're shaping the future of innovation in the State and beyond.

#### **iTNT Hub's CSR Partners**





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### **iTNT** Hub

#### x Startup Mahakumbh

#### Collaborate. Innovate. Transform



iTNT Hub was part of the Startup Mahakumbh - spearheaded by India's foremost Startup Ecosystem Leaders and led by FICCI in collaboration with ASSOCHAM, IVCA, nasscom, Bootstrap Foundation, and other key industry stakeholders, with support from the National Startup Advisory Council (NSAC), DPIIT, and Startup India - from April 3 to 5, 2025.



The event, India's biggest showcase of the best talents and stakeholders in the startup ecosystem convergence at New Delhi marked a pivotal moment for India's burgeoning startup landscape. It was a powerful alliance that brought together the nation's most dynamic talents and key stakeholders, creating a crucible for groundbreaking ideas and strategic partnerships.

iTNT Hub provided an opportunity to its PATHFINDER incubation and iAccelerate acceleration portfolio startups on the big stage. At the Deep Tech Innovation Arena by MeitY Startup Hub, iTNT Hub CEO Ms. Vanitha Venugopal addressed the gathering and shed light on the state's fast-emerging role in India's deeptech movement, centred around the theme: "Tamil Nadu's Deep Tech Rise – Innovations Powering Bharat."





Representing a thriving innovation ecosystem, Ms. Venugopal articulated how Tamil Nadu is fostering a fertile ground for DeepTech startups, applied research, and cross-sector innovation, all while building meaningful collaborations at scale.

Ms. Vanitha Venugopal and team collaborated with key national and international stakeholders to shape a dynamic and inclusive startup ecosystem. Their efforts focused on unearthing emerging talent and fostering global partnerships that bring meaningful innovation and international collaboration that fuel "Innovate In TN" & "Build The Future".



The discussions with Mr. S. Krishnan, I.A.S, MeitY Secretary, focused on expanding incubation in priority sectors along with startup engagement through national hackathons and support systems. Another key meeting was with Mr. K.K. Singh, MeitY Joint Secretary, on establishing a tech mentorship program, aligning with IP Catalyst programs, setting up a Technology Transfer Office, and exploring research commercialization best practices with Sweden and Finland.

The CEO held discussions with Ms. Wafa Balaswad, Director - Freezone Operations, and Mr. Mohammed Bani Hammad, Director - Business Development, Sharjah Research and Technology Innovation Park, Mr. Prasad Shetty, Vice President, ISBA, and VP Portfolio & Operations SINE, IIT Bombay, regarding the iAccelerate cohorts, policy alignment, investor connects, and participation in iTNT's IP Conclave.





## What's Brewing

#### at iTNT Hub?

#### Masterclass: Crafting the Perfect Pitch



Pitching to investors is more than just showcasing a great product, it's about crafting a compelling narrative that makes them believe in your vision. In this insightful masterclass on 2nd April 2025 at iTNT Hub, Mr. Deepak Srinivasan, Associate Director at Standard Chartered Startup Banking, provided a structured approach to building an impactful pitch that resonates with investors.

Successful startups have founding teams with deep technical and domain expertise, strong partner networks, and proven execution ability. Their products are built on breakthrough technologies or unique differentiators, offering clear competitive advantages and scalability for long-term growth. A compelling value proposition that addresses real problems, combined with a large, expanding Total Addressable Market (TAM) and signs of strong customer demand, further positions them for success.

Mr. Srinivasan emphasized that investors don't just invest in products; they invest in stories. A well-crafted pitch goes beyond features and numbers, it creates an emotional connection. The key is to position the startup as a transformative force, not just a business. To craft a compelling pitch, Mr. Srinivasan introduced the Three-Act Deck Structure, a storytelling approach that enhances clarity, engagement, and impact.

#### Act 1 - Setup: Establishing the Premise

This is where you set the stage by defining the problem your startup is solving. The goal is to make investors feel the urgency and importance of the problem.

- The Hook: Start with a relatable story, data point, or real-world challenge.
- The Problem Statement: Clearly articulate the pain point.
- The Opportunity: Show why now is the right time to solve this problem.



Act 2 - Development: The Hope Your Startup Brings
This is where you introduce your solution and highlight
its strengths. The aim is to instill confidence in your
vision.

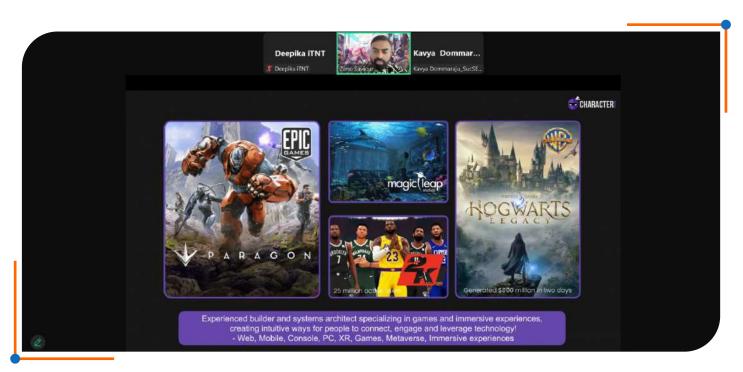
- Your Product/Solution: Explain what your startup does and how it works.
- Core Differentiators: What makes it better, faster, or more efficient than existing alternatives?
- Traction & Validation: Any proof points; customers, revenue, partnerships, or market interest.

Act 3 - The End: Transformation Your Startup Brings
This is the finale where you inspire investors with your
vision for the future.

- Vision for Scale: How does your startup create long-term impact?
- Market Expansion & Monetization: Growth strategies and revenue potential.
- The Ask: What do you need from investors; funding, mentorship, or partnerships?

The masterclass provided founders with a clear framework to refine their pitches and increase their chances of securing funding. By combining storytelling with data, startups can craft pitches that not only inform but also inspire.

#### Successful Completion of iAccelerate 1.0 Virtual Demo Day



98 impactful investor connections were organized in the virtual Demo Days organised by iTNT Hub for the iAccelerate 1.0 Cohort startups from 9th to 11th April 2025, showcasing some of the most promising Deep and Emerging Tech startups.

With participation from leading VCs across the country including Avaana Capital | AdvantEdge | Arali Ventures | Artha Venture Fund | Mumbai Angels | 360 ONE Asset Management | Succeed Indovation | Gruhas VC | Arka VC | T Accelerate | Upsparks Capital | Magnivia Ventures | Inflexor Ventures, the investor-founder meetings served

as a high-impact platform for startups to pitch their innovations and explore strategic funding opportunities.

The Demo Days not only highlighted the ingenuity and potential of our iAccelerate startups but also fostered meaningful connections that would shape the next wave of Deep Tech innovation in India. As we continue to nurture breakthrough ideas, iTNT Hub remains committed to empowering visionary entrepreneurs and building a robust innovation ecosystem that bridges research, technology, and real-world impact.



#### **Pitching Session**



In a step towards creating a consistent avenue for startups to raise investment for their unique and innovative products and services, iTNT Hub conducts pitching sessions where our portfolio startups present their innovations to a panel of Angel investor, Venture capitalist or other Government investment management companies.

This month a promising startup from our iAccelerate portfolio startup - Blunav - presented their unique Airport OS, a cloud-native, modular software solution designed to enhance airport management through digital transformation to a panel consisting of Mr. Janardhan, Principal, TNIFMC and Ms. Pavithra, investment Analyst, TNIFMC.

#### Masterclass: Empathizing with users for Optimum User Experience



The value of UX is unprecedented in this age and time when user experience can deliver a powerful enchantment towards any product or design. Interacting with a product or service can have an impact on the sensitivity to human emotions where empathizing with users becomes key to an enriching aspect of User Experience.

The Masterclass on "The Power of UX in Building Scalable Startups" by Mr. Manivannan, Founder of UniqThinq, 25th April 2025, focused on a practical UX process tailored for startups. The Masterclass covered key aspects of UX with pointers to building a UX that is lean, fast, and focused.

Empathize: Talk to 3-5 users to deeply understand their needs, problems, and behavior.

Define: Create user personas and journey maps to clearly articulate the users' pain points and goals.

Ideate: Use creative techniques like Crazy 8s or paper wireframes to rapidly brainstorm and visualize ideas.

Prototype: Build quick, low-fidelity prototypes using tools to bring your ideas to life for early feedback.

Test: Conduct simple tests, like the coffee test, to observe real users interacting with your prototype and gather actionable insights.



#### **Innovation Challenges Update**





Artificial Intelligence is revolutionizing industries by enhancing efficiency, fostering creativity, and solving complex challenges across sectors like healthcare, finance, agriculture, and public services. Recognizing Al's transformative potential, iTNT Hub in collaboration with AWS is conducting the 'Public Sector Innovation Challenge' to empower startups in developing Al-driven solutions for real-world public sector challenges.

This initiative aligns with Tamil Nadu's vision of becoming an Al innovation hub, providing startups with cloud infrastructure, machine learning tools, and data sandboxes to build, test, and scale impactful solutions.

A total of 121 applications were received for this innovation challenge that was launched by the Hon'ble Minister for Information Technology & Digital Services, Dr. Palanivel Thiaga Rajan.

From the pool of 121 applicants, a total of 17 startups were selected based on their solution statements submitted for the innovation challenge. After careful scrutiny 8 startups were given AWS credits to develop the solutions. A physical boot camp will take place on 5th May 2025 and the final pitching is scheduled on 6th May 2025.

iTNT Hub is conducting the 'GoTN Geospatial Grand Innovation Challenge' to drive cutting-edge solutions in agricultural mapping. Geospatial technologies are revolutionizing industries with advanced tools for location intelligence, spatial analytics, and real-time data visualization. This challenge invites startups and student entrepreneurs to leverage geospatial innovation to tackle critical challenges in mapping agricultural landscapes.

The Grand Innovation Challenge was launched by the Hon'ble Minister for Information Technology & Digital Services, Dr. Palanivel Thiaga Rajan, at UmagineTN 2025. From the pool of applications, 30 met the criteria for the innovation challenge and were invited to submit their solution statements. Further developments will be taking place as per the recommendations of the committee members.





#### French Consul General @ iTNT Hub



iTNT Hub hosted delegates from the French Consul, Mr. Etienne Rolland-Piegue, Consul General of France in Pondicherry and Mr. Carl Boulanger, Economic Diplomacy Officer, Bureau de France in Chennai on 29th April 2025. They engaged in discussions with officials from iTNT Hub, Mr. Nikhil Muppavarapu, AVP - Incubation; Mr. Shivendra Kothandaraman, Manager - Innovation Network; and Mr. Ajit Daniels - Manager CSR and to discuss collaborative measures between the two parties.

The meeting marked the beginning of a promising Indo-French partnership aimed at fostering innovation, startup exchange, and deep-tech collaboration across borders. iTNT Hub was invited to participate in the Vivatech Expo that will be taking place in Paris and also engage in a partnership through the Indo-Frech Mobility Conclave. Startup exchange programs and running collaborative innovation challenges were also discussed.







## Founder Stories @ iTNT Hub

#### Kern Luke Agarwal - Carbon Loops



The word 'Humility' comes from the Latin word 'Humilitas' which is derived from the Latin root "Humus", meaning Earth. The Earth with its eternal Humility turns all "waste into value". A work of wonder and a calling that Mother Nature answers with rejuvenation and life. After all the tribulations we have put nature through by accumulating waste of every kind and exploiting natural resources and polluting the environment, nature keeps a steady pace at rejuvenation, sending everything beneath the soil (including humans) for the earth's renewal.

In a step towards mimicking the rejuvenating nature of our planet, Kern Luke Agarwal the Founder and Director of Carbon Loops is creating a wave where waste is no longer the end, but a new beginning. After completing his MBA, Kern Agarwal started working in a bank and soon realised that it was not his calling to continue working in a bank or rather any financial institution. He wanted to be an entrepreneur. Born in a metropolitan city, he ventured into the countryside to explore ways he could give back to nature as much as we take from it. He took organic farming under his radar, with a keen determination to create a more sustainable planet.

Kern started The Urban Farmers in 2014 and went around the city looking for space to start rooftop gardens, where he would grow vegetables through organic practices. He faced difficulties in establishing The Urban Farmers as a successful business. People who provided rooftops space often asked for huge sums of money and some were expecting to turn this into a real estate profitability. When Kern realised profit making was increasingly challenging, he took a deep dive and ventured into organic farming.

The organic farming experience was both eye opening and unsettling at the same time. By acquiring 5 acres in Uthiramerur, about 20 Kilometers from Chengalpattu in 2014, Kern cultivated paddy through organic farming practices. Soon he realised that reviving soil fertility, lost to chemical fertilisers, and acquiring a yield equivalent to inorganic farming was a task that went beyond their acquired knowledge of agriculture. Soil had gradually lost its fertility due to the prolonged use of chemical fertilizers, insecticides, and pesticides through harmful inorganic farming practices. This system was structured in a way that left farmers at a constant disadvantage, keeping them poor and trapped in a cycle of debt.





From the lessons learnt through his organic farming experience, Kern was determined to bring about a business model that will create a more sustainable circular economy addressing a key environmental issue. Later in 2017 Kern started Carbon Loops, converting organic waste into biogas. Realising that cities produce an enormous amount of waste in the process of bringing food from farm to plate, setting up biogas plants became a green initiative that not only convert waste into biogas fuel, but also convert waste into manure.

With over 32 biogas plants spread all over Tamil Nadu, Carbon Loops is creating an impact on the environment. Through this venture, Kern Luke Agarwal has transformed a personal quest for purpose into a movement that redefines waste as a resource and cities as engines of sustainable innovation. With every biogas plant installed, he not only mitigates the mounting problem of urban waste but also powers a circular economy, one that restores soil fertility, reduces greenhouse gas emissions, and empowers communities. His journey from banking corridors to organic fields, and eventually to green energy, stands as a testament to what visionary entrepreneurship can achieve when guided by nature's wisdom and a deep resolve to heal the planet. In turning waste into value, Kern isn't just mimicking nature's resilience, he is actively building a future where human ingenuity works with the Earth, not against it.

Carbon Loops, emerged a winner of the SAAF Cities Program by Villgro and HDFC Bank Parivartan, emerging from a highly competitive pool. Carbon Loop's innovative approach to waste management has secured ₹ 60 Lakh in grant. Earlier this month, Kern Agrawal and Mathews Cherickal, CEO of Carbon Loops, were honoured and awarded by the Hon'ble Union Minister of Commerce and Industry Shri. Piyush Goyal at the Startup Mahakumbh in Delhi, in the presence of Ms. Sonali Rohira, Govt Vertical Head, HDFC Bank and Shri. Amardeep Singh Bhatia, Secretary, DPIIT.



iTNT is excited to support Carbon Loop's journey toward creating cleaner, more sustainable cities through iAccelerate, our flagship acceleration program.





## Founder Stories @ iTNT Hub

#### **Liwaans Amutha - Cosmic Port**



In the quiet town of Thoothukudi, two school friends, Liwaans Amutha and Naveen Velayudham once gazed at the stars, sharing childhood dreams of space and science. Years later, those dreams have evolved into a mission that could redefine India's presence in the global space tech arena.

The story of Cosmic Port is one of relentless ambition, rooted in the passion for space science. What began as casual ideation sessions during their full-time jobs in early 2022 quickly gained momentum. By mid-2022, Liwaans and Naveen reunited with a vision not just to innovate, but to transform.

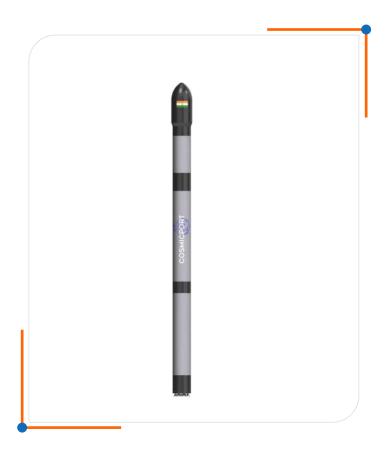
With a strong academic foundation, Liwaans being a mechanical engineer from PSG College of Engineering, Coimbatore, and later his masters in Columbia University, his journey spans across cutting-edge work in thermal fluid sciences, hybrid rockets, and even inventory control systems for the International Space Station. His professional experience at Williams Furnace and semiconductor firm Advantest, coupled with a patent for a dynamically adjusting heater, exemplifies his deep-rooted passion for engineering innovation.

Naveen, with an equally fervent drive for space technology, complements the vision with strategic insight and scientific acumen. Together, they explored ambitious ideas, from ICBMs to UAVs, before ultimately setting their sights on one of the most challenging frontiers in aerospace innovation: launch vehicles.

Liwaans, Founder & CEO started Cosmic Port with Naveen Velayudham, Co-founder and CSO. The space tech startup aims to build India's first Methalox (methane and liquid oxygen) engine, an advanced, cleaner propulsion system used by global pioneers like SpaceX. Starting with a successful test fire of a subscale engine in January 2025, they are now gearing up for full-scale tests, aiming for a 1,000 kN engine by 2026 and an orbital test flight by 2028.

Their flagship launch vehicle, Mac Blue, is designed to carry 600 kg to the sun-synchronous orbit and up to 1,000 kg to the inclined low Earth orbit, perfect for Earth observation and telecom satellites. This is just the beginning. Future plans include scaling to medium and heavy-lift vehicles, lunar exploration, and even human spaceflight missions.

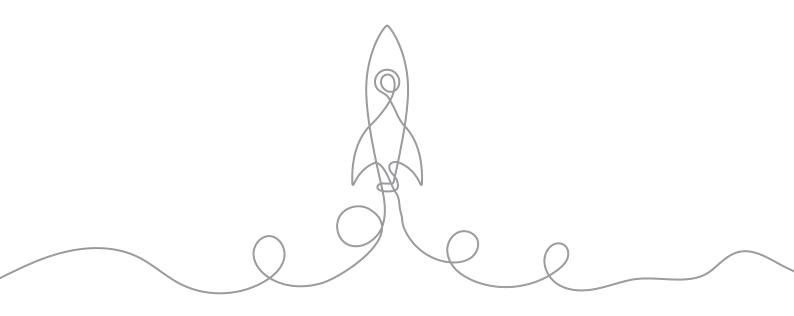




Backed by ₹45 Lakh of personal and family investment, and with advisory support from seasoned ISRO veterans, including a former deputy director of the Launch Vehicle Board, the duo's determination stands tall. Their visits to IPRC Mahendragiri and continuous R&D underscore their commitment to building indigenous capability at par with the world's best.

In a time when India's space sector is poised for exponential growth, Liwaans and Naveen represent the new wave of innovators who dare to dream beyond the sky. Cosmic Port is not just a company, it's a launchpad for India's future in space exploration, powered by passion, persistence, and a promise to take the nation farther than it's ever gone before.

Cosmic Port is part of iTNT Hub, getting incubated under our flagship PATHFINDER cohort.





#### **Events**

#### in April

#### Mahindra AFS Tech Symposium 2025



iTNT Hub CEO Ms. Vanitha Venugopal delivered a lecture on "Strengthening Technology Innovation & Entrepreneurship in Tamil Nadu through Industry-Academia Collaboration" at the Annual Mahindra AFS Tech Symposium 2025 held at the Mahindra Research Valley (MRV) on 10th April 2025. The event aimed to showcase the latest technological trends and innovations in mobility.

Ms. Vanitha Venugopal highlighted the Hub's collaboration with Mahindra and its close association with Mr. Shankar Venugopal – Vice President for Technology Innovation, Intellectual Property, Knowledge Management and Mahindra Technical Academy – to reshape Research to Commercialisation of patented Deep & Emerging technologies.

"Tamil Nadu has always stood tall as a leader in both industry and education. With a vibrant legacy of manufacturing excellence and a dense network of engineering institutions, we have all the ingredients to become a global innovation powerhouse. But the true magic happens when these two worlds – industry & academia – collaborate," she highlighted.

iTNT Hub team also introduced the JIGSAW (Joint Innovation Gateway for Synergistic Startup - Academic - Industry - Investor Work) platform to the researchers and tech experts from Mahindra and urged them to be a part of the network and collaborate with researchers, innovators and startup founders.





### DeepTech Insights

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#### Startups, MSMEs filed 310% more patents in past 5 years

N Ramchander, Joint Controller, Controller General of Patents, Designs and Trademarks, further shared that in about three years over 2.4 million students and faculty across India have been educated about IP rights through the National Intellectual Property Awareness Mission launched in 2021.



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## How India is Empowering Deep Tech Startups: Piyush Goyal's Vision

At the recently held launch of The Bharat Project in Mumbai, Union Minister Piyush Goyal highlighted India's ambition to create 10 lakh entrepreneurs in the next three years and emphasised the crucial role deep tech will play in shaping the country's future.



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#### How N Space Tech is Rewiring India's Space Signals

A wave of young, deep-tech ventures is redefining India's space sector, thanks to ISRO's increasing collaboration with startups and IN-SPACe offering institutional support. From propulsion breakthroughs to payload design, Indian entrepreneurs are no longer just service providers, they're becoming pioneers.



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## IIMA Ventures to increase cheque sizes for pre-seed startups with greater focus on deep-tech space

Early-stage venture capital platform IIMA Ventures plans to double its pre-seed and seed investment cheques up to \$500,000 compared with the usual amounts of \$50,000 to \$200,000, top officials at the firm said.



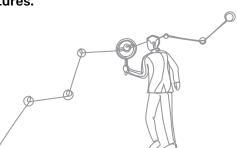
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## From College Projects to Crores: The Rise of Student-Led Startups in India

Gone are the days when college life was only about lectures, assignments, and placement dreams. Today, a new breed of student entrepreneurs is rewriting the rulebook of success, especially in top institutes like the IITs, IIMs, and BITS Pilani, students are transforming dorm-room ideas into scalable ventures.



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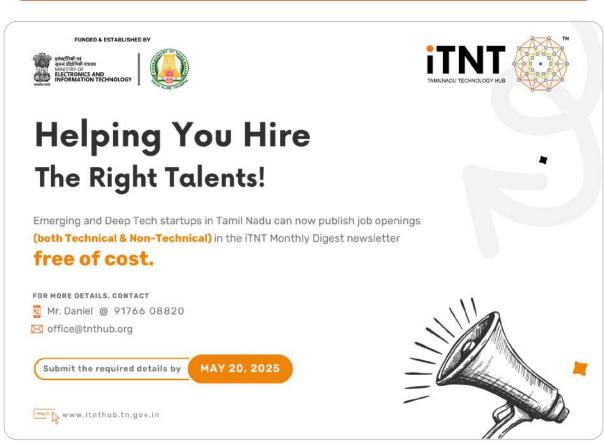




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