









# STARTUP COMPENDIUM

Under NM-ICPS of DST (Govt. of India)



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### **About IHFC**

IHFC was established partnering with the Department of Science and Technology (DST), Ministry of Science and Technology, Govt. of India under National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS). This brings together 3 major pillars of success from Academia, Government and Industry. IHFC has 4 mandates under its 4 verticals: The mandates are R&D, Entrepreneurship and Start-ups, Skills and Training, and International Collaborations in below verticals.

Propel innovation across India by serving as a dynamic launchpad for R&D for product development.

| Incubate and accelerate startups, guiding them towards developing products and solutions that contribute to the vision of an Atmanirbhar Bharat.

| Torch bearers for developing an unique STEM driven curriculum across different educational boards and provide essential skills and training empowering youth in STEM in area of Robotics and Cobotics.

| Foster international collaborations across the world to drive forward the future of Innovation in India.

| Developing state of the art infrastructure such as Drone Technology Park (DTP) and Medical Cobotics Centre (MCC) for R&D and development of indigenised products and solutions for India.

1

### Co-working & Co-Location Space

- •Office space with modern amenities
- •Co-Location for Startups.

# WHAT DO WE DO FOR A START UP

2

# Training and Workshops

- •Business model development
- Marketing and sales strategies
- Financial planning and management
- Legal and compliance guidance

3

### Support in Tech Development

- Access to labs and R&D facilities
- •Collaboration with research institutions and universities

4

### Mentoring

- Diagnose challenges to startups
- Define Improvement areas
- •Identify Mentoring Needs
- •2 dedicated Mentors (Internal + External) for each startup.
- •IHFC Team SPOC to coordinate.

5

### **Help in Fundraising**

- •Investor pitch preparation
- Investor connects and networking events

### 6

### **Market Access**

- Market research and analysis
- •Connections with potential customers and partners
- •Export assistance and international market entry

#### 7

### Business Support Services

- •Approvals / Certifications
- •Trials / Testing
- Accounting and bookkeeping support
- Legal and intellectual property services
- •HR & talent acquisition support
- Marketing and PR

#### 8

# Soft Credits from Corporate Partners

- •Cloud credits
- •Software tools and licenses
- Discounts on services and products

#### 9

### Networking Opportunities

- •Industry meetups and conferences
- Networking events with corporates and industry leaders

#### 10

# Opportunities for Showcasing

- •Participation in demo days and pitch events
- Exhibitions and trade shows
- •Online and offline promotional activities



### OUR START UP ECOSYSTEM







Articulus

















and Humanity Pvt

Ltd.























Mirasim







(Retro Panda Labs)







Seianmai Tech



Novae Avenue (Papli Labs)

(Pjovae Avenue™















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#### **ARKA AEROSPACE**

KA AEROSPACE PRIVATE LIMITED

TRL Level: 9

### **About**

Arka Aerospace designs highly adaptable unmanned aerial vehicles (UAVs) for both commercial and defense sectors. Its advanced drone solutions optimize logistics, surveillance, and other mission-critical tasks with exceptional versatility and reliability. Leveraging cutting-edge technology, Arka Aerospace aims to redefine UAV performance, bridging gaps in complex operational requirements and ensuring safety.

**SECTOR - UAVS DRONES** 

### The Problem

Existing UAVs often fall short in delivering the versatility and reliability demanded by diverse commercial and defense applications. Many solutions lack adaptability for missions such as logistics, surveillance, and rapid deployment, creating operational inefficiencies. This gap hinders effective resource utilization, compromises mission success, and raises safety concerns for critical operations.

### The Solution

Arka Aerospace addresses these challenges by developing high-impact UAVs that excel in commercial logistics and defense missions. Their adaptive platforms integrate advanced materials, sensors, and Al-driven capabilities, ensuring seamless performance under varying conditions. This flexible architecture enhances operational efficacy, reduces risk, and meets the evolving demands of modern aerial deployments.

### Leadership

#### Suraj Bonagiri

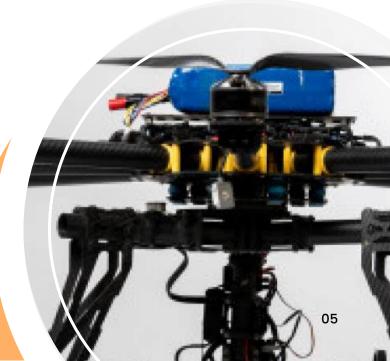
Founder Suraj Bonagiri, Founder of Arka Aerospace and Ph.D. graduate from IIIT Hyderabad, specializes in robotics with a focus on novel UAV mechanisms and control systems.





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## **Articulus**

#### **ARTICULUS SURGICAL**

TRL Level: 5

### **About**

Articulus Surgical creates accessible robotic systems for minimally invasive surgeries in the abdomen and pelvis. By integrating advanced robotics and flexible procedural options, Articulus Surgical aims to expand patient access to precise, safe, and costeffective treatments. Its technology simplifies surgical workflows and reduces postoperative complications, greatly benefiting healthcare providers globally.

SECTOR - MEDTECH

### The Problem

Many patients worldwide lack access to advanced minimally invasive surgical procedures due to high costs, limited availability, and complexities in operating conventional robotic systems. Such constraints hamper healthcare providers' ability to deliver optimal patient outcomes. The resulting inefficiencies prolong recovery times, significantly increase risks, and further strain healthcare resources globally.

### The Solution

Articulus Surgical delivers affordable, modular robotic systems for minimally invasive abdominal and pelvic surgeries. By prioritizing portability, intuitive interfaces, and scalable design, these solutions broaden accessibility for healthcare facilities of various sizes. This approach streamlines procedures, significantly lowers overall costs, and improves patient outcomes, revolutionizing surgical care in underserved regions.

### Leadership

#### Saurya Mishra

Founder Saurya Mishra, Founder & CEO of Articulus Surgical and an IIT Kharagpur alumnus, is revolutionizing surgical outcomes with ondemand robotics and sustainable healthcare solutions.



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**Year of Onboarding** at IHFC - 2021



90 cm

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#### **ALPHOENIX**

TRL Level: 5

### **About**

At "Alphoenix Design Pvt.Ltd." We provide custom design and development of high-efficiency BLDC motors for different sectors like EVs, Aviation and Drones, Industrial machinery and Household appliances. We've designed our motors in such a way that its manufacturing process would reduce material waste of motors by 70% and increase efficiency by 5-8%. Our flagship motors provide an efficiency of around 92%-95%. The motor will be manufactured with the capability to utilize CRGO (Cold-Rolled Grain-Oriented) material in its construction. Our radial flux motors can provide such efficiency with easy manufacturing processes. Utilizing our new motor makes it feasible to achieve an efficiency rating exceeding 95%.

### The Problem

Working in the area of developing highefficiency BLDC (Brushless DC) motors for diverse applications including drones, ebicycles, industrial, robotics, and household appliances.

#### SECTOR - MEDTECH

### The Solution

Alphoenix Design envisions a world where every electic motor embodies efficiency and sustainbility. We drive the next generation of BLDC moters, setting benchmarks for performance and environmental impact. Inspiring positive change globally, we foster a future where technology and sustainbility seamlessly coexist, leaving a lasting legacy of innovation and eco-conscious design.

### Leadership

#### **Pranav Patel**

Founder & CEO Pranav Patel is the Founder and CEO. He had done BE in Mechanical Engineering and worked on Product design and R&D for 3 years in Petpooja startup further 1 year in entrepreneurship. He is also the GTU Robocon



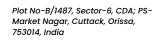
#### **Dhrumee Patel**

Co-founder, Marketing and HR activity

Dhrumee Patel is the Cofounder, Marketing and HR activity. He has done Diploma in ICT and worked as HR coordinator for 1 year in Petpooja.

He was also worked in Marketing and was HR head for 2 years in mekanism.







**Year of Onboarding** at IHFC - 2023

Kolkata



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### **AYUDYOG**

AYUDYOG

TRL Level: 6

### **About**

Ayudyog's MetaspeQ device leverages AI and near-infrared spectroscopy to transform pharmaceutical quality control. Its compact, cost-effective solution provides rapid testing of raw materials and finished products, minimizing reliance on lab methods. By accelerating turnaround and reducing environmental impact, Ayudyog aims to modernize QA processes for a safer, more efficient industry.

**SECTOR - AI QUALITY CONTROL** 

### The Problem

Pharmaceutical companies often rely on lengthy, expensive lab tests for quality control, generating chemical waste and prolonging critical production cycles. This inefficiency increases operational costs, delays market release, and poses environmental hazards. The industry urgently needs faster, more sustainable methods to maintain rigorous standards and ensure patient safety at scale.

### The Solution

Ayudyog's portable near-infrared spectrometer, powered by AI, offers rapid pharmaceutical testing that cuts costs and reduces waste. By delivering real-time data on raw materials and finished products, it enables proactive quality management. The system's eco-friendly design and streamlined workflow improve operational efficiency, maintain high standards, and promote sustainable drug production.

### Leadership

#### Subhadip Banerjee

Founder

Dr. Subhadip Banerjee, Co-Founder of MetaspeQ and a postdoctoral researcher, leverages AIpowered spectroscopy and natural product studies to drive sustainable innovations in quality control across pharmaceuticals, food, and medicinal plants.

15 Nandalal Mitra Lane Tollygunge

#### **Dilip Sing**

Founder

Dr. Dilip Sing, Co-Founder of MetaspeQ and a PhD in Engineering, specializes in advancing spectroscopy-based technologies like the NIR spectrometer to revolutionize quality control across industries such as pharmaceuticals, food, and natural products.



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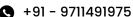








www.botlabdynamics.com





### BOTLAB

BOTI AB DYNAMICS PRIVATE LIMITED

TRL Level: 9

### **About**

Botlab Dynamics pioneers swarm drones technology, delivering synchronized aerial displays and solutions for large-scale industrial applications. Their advanced coordination algorithms enable fleets of drones to operate in unison, offering a new level of spectacle and efficiency. By merging art and engineering, Botlab significantly redefines drone-based entertainment and practical operations worldwide.

### The Problem

Organizations struggle with large-scale drone coordination, hindering visually striking displays and truly efficient operations in sectors like entertainment and industry. Existing solutions are fragmented, relying on manual control or basic automation. This limitation restricts creativity, slows industrial processes, and heightens operational risks, preventing drones from reaching their full collective potential.

#### SECTOR - DRONE TECHNOLOGY

### The Solution

Botlab Dynamics introduces swarm drone solutions that orchestrate hundreds of drones simultaneously through advanced algorithms and centralized management. This technology powers captivating light shows for events and enables efficient industrial operations, such as inspections and surveys. By harnessing real-time data, Botlab's approach reduces labor, elevates safety, and expands drone capabilities.

### Leadership

#### Tanmay Bunkar

Founder
Tanmay Bunkar, CEO of
BotLab Dynamics and IIT
Delhi alumnus, specializes in
building UAVs since 2010 and
leads innovations in
autonomous drone
technologies recognized with
accolades such as the SSI
Vikram Award and iDEX
Fellowship.



Website

Building No. 1/6, M.I.G.Nanakheda Extension, Yojana No-2, Ujjain, Indore, Madhya Pradesh, 456010, India

#### Sarita Ahlawat

Founder

Dr. Sarita Ahlawat, Co-Founder and Managing Director of BotLab Dynamics, specializes in drone technology innovation and leads cutting-edge research as the Head of Living Science Group, leveraging her PhD in Microbiology from the University of Illinois at Chicago.



Pitch Deck/Portfolio

Year of Onboarding at IHFC - 2021





http://bwise.co.in



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REDMOUNTAIN SOIL PRIVATE

TRL Level: 5



### **About**

Bwise (REDMOUNTAIN) develops IoT-enabled hive monitoring devices to boost beekeeping productivity and sustainability. By delivering real-time data on temperature, humidity, and colony health, its technology prevents hive losses and supports more efficient honey production. This solution not only increases yields but also aids pollinator conservation crucial for global agriculture.

SECTOR - AGRITECH/IOT

### The Problem

Beekeepers face unpredictable hive conditions, disease outbreaks, and environmental shifts that cause high colony losses. Conventional monitoring methods rely on sporadic, manual checks, leading to delayed intervention and reduced honey yields. With pollinators critical to agriculture, the industry needs consistent, data-driven insights to ensure hive health and productivity.

### The Solution

Bwise's wireless hive monitoring system collects key metrics—temperature, humidity, hive weight, and activity levels—in real time. An Al-driven platform analyzes this data, sending alerts and recommendations to beekeepers via a user-friendly interface. By enabling proactive care and minimizing losses, Bwise enhances beekeeping sustainability and strengthens overall pollinator ecosystems.

### Leadership

#### Srujan Kotum

Founder

Srujan Kotum, founder of Leorganica, innovates sustainable beekeeping with IoT-enabled solutions like the "Bwise Smart Bee Box," blending technology and transparency to support bees, beekeepers, and ethical honey production.



Website



Pitch Deck



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Year of Onboarding at IHFC - 2022

#### **CYRAN AI SOLUTION**

YRAN AI SOLUTIONS PRIVATE

TRL Level: 4

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CONGRATULATIONS

M/S CYRAN AI SOLUTIONS, DELHI M/S THERANAUTILUS PVT. LTD., BENGALURI M/S SYNTHERA BIOMEDICAL PRIVATE LIMITED, I UNI M ILTI NANO SENSE TECHNOLOGIES PRIVATE LIMIT D. M/S NOCCARC ROBOTICS PRIVATE LIMITED, PU NE

> National Award for Technology Start Ur

### **About**

Cyran AI Solutions focuses on AI-driven cyberphysical security, delivering comprehensive hardware-software safeguards for critical systems. By merging advanced analytics, machine learning, and robust threat detection, Cyran ensures integrated protection against cyber threats and physical vulnerabilities. Its solutions address growing concerns over infrastructure integrity, data privacy, and operational resilience across industries.

SECTOR - AI & CYBER-PHYSICAL SECURITY

### The Problem

Conventional security measures often overlook the complexity of cyber-physical systems, leaving hardware-software integrations susceptible to breaches. Fragmented tools and outdated protocols fail to detect sophisticated threats targeting embedded devices, industrial machinery, and critical networks. This shortfall compromises both data integrity and operational safety, endangering organizational stability and stakeholder trust.

### The Solution

Cyran Al Solutions delivers end-to-end security platforms, unifying Al-driven analytics, real-time threat detection, and robust access controls. By integrating hardware and software risk mitigation under one framework, it identifies vulnerabilities proactively and defends critical infrastructure. This holistic approach fortifies operations, protects sensitive data, and ensures resilient performance in complex environments.

### Leadership

#### Manan Suri

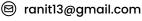
Founder

Manan Suri, a globally recognized innovator and Associate Professor at IIT Delhi, specializes in semiconductor non-volatile memory and unconventional computing hardware, with notable achievements including two MIT TR35 honors, 25+ patents, and the founding of CYRAN AI Solutions.

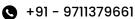


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#### **DTECH**

TRL Level: 5

### **About**

DTECH focuses on disruptive disaster risk reduction technologies, exemplified by its COBRA snake robot for collapsed-structure search and rescue. With hyper-redundant mobility and advanced sensing, COBRA navigates tight spaces inaccessible to conventional tools. By localizing victims quickly, DTECH enhances emergency response, cutting reliance on expensive imported devices.

**SECTOR - ROBOTICS & DISASTER TECH** 

### The Problem

Search and rescue operations in collapsed buildings and disaster sites are highly manual, risky, and slow. Existing technologies are either basic or prohibitively expensive imports. Navigating narrow crevices and locating survivors accurately presents significant challenges. This limits timely rescues, increases exposure to hazardous conditions, and strains emergency response capabilities.

### The Solution

DTECH's COBRA robot combines hyper-redundant locomotion, 3-axis thermal imaging, and coordinate-sharing capabilities to pinpoint victims in complex debris fields. Its adaptable design traverses small crevices, assisting rescue teams where traditional tools fail. By offering indigenous, cost-effective innovation, COBRA reduces foreign dependence, bolsters efficiency, and advances India's disaster management technology.

### Leadership

#### Ranit Chatterjee

Founder

Ranit Chatterjee, PhD, is a disaster management professional, entrepreneur, and academician. Currently the CEO of RIKA India and RIKA Institute, he also serves as Visiting Faculty at Rashtriya Raksha University and a Technical Expert at CDRI. A Kyoto University alumnus with a doctorate in Disaster
Management, Ranit has expertise in integrated risk management, disaster response, and feasibility studies. He contributes to international initiatives, including advisory roles at the United Nations Office for Disaster Risk Reduction (UNDRR).





Delhi

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#### **ENORD**

Creating Ease

TRL Level: 9



### **About**

ENORD develops advanced drones with AI Pilot™ technology for various inspection tasks. Leveraging intelligent navigation and automated decision-making, ENORD's UAVs enable faster, safer, and more precise data collection. By integrating sensors, real-time analytics, and adaptive flight planning, the company aims to transform how industries approach inspection, monitoring, and surveillance missions.

### The Problem

Industries requiring routine inspections—such as infrastructure, energy, and agriculture—often rely on manual or semi-automated processes that are time-consuming and error-prone. Limited drone intelligence restricts versatility and precision, leading to incomplete data capture. This gap prolongs inspection cycles, raises costs, and exposes personnel to potentially hazardous conditions.

#### **SECTOR - INSPECTION DRONES**

### **The Solution**

ENORD's AI Pilot™ drones automate navigation, hazard avoidance, and data collection, reducing human intervention and elevating accuracy. Advanced sensor fusion supports real-time analytics, providing actionable insights across diverse terrains. By offering high-performance, versatile UAVs, ENORD enhances operational efficiency, minimizes risks, and delivers comprehensive intelligence for mission-critical inspection needs.

### Leadership

#### **Muhammad Anas**

Founder

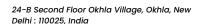
Muhammad Anas, Founder & CEO of Enord, is a visionary entrepreneur and technocrat revolutionizing drone technology with Alon-edge solutions, securing patents, accolades, and strategic partnerships to advance drone applications in GPS-denied environments.



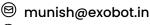
#### Zain Saeed

Founder

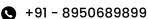
Zain Saeed, Co-founder and COO of Enord, leads India's first AI on-edge drone tech startup, revolutionizing drone capabilities in GPS-denied environments while driving innovation, operational excellence, and strategic partnerships.







www.exobot.in







#### **EXOBOT**

**EXOBOT DYNAMICS PRIVATE LIMITED** 

TRL Level: 6

### **About**

Exobot designs advanced, affordable bionic limbs for upper-limb amputees. Backed by institutions like AIC IIT Delhi and BIRAC, it aims to democratize prosthetic technology. Its Carbon Hand, weighing just 300g, boasts features such as hybrid mind control and active thumb/wrist movement, providing functional, customizable solutions for underserved markets globally.

**SECTOR - REHABILITATION ROBOTICS** 

### The Problem

A vast global population needs assistive devices, yet most prosthetics are too expensive, heavy, or technologically limited. Many amputees—particularly in low-income regions—lack access to functional solutions that restore fine motor skills. This disparity leaves millions with reduced independence, hampering daily activities and overall quality of life.

### The Solution

Exobot's Carbon Hand offers a lightweight, high-capacity bionic limb with mind-control capability, active thumb/wrist movement, and tiered pricing. Its robust design replicates natural motions and supports up to 15–20kg loads. By combining affordability with advanced robotics, Exobot broadens prosthetic accessibility and helps transform the lives of upper-limb amputees worldwide.

### Leadership

#### **Munish Kumar**

Founder

Munish Kumar, Founder and CEO of Exobot Dynamics, is revolutionizing assistive technology with advanced bionic limbs and wearable robotics, leveraging his expertise in mechanical engineering and innovation.



Pitch Deck





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### **About**

FEMACARE innovates in women's health through a full-stack care delivery model, anchored by a groundbreaking nonhormonal IUD. Clinically validated and patentpending, this technology offers dual protection against unintended pregnancies and HIV/STIs. By combining accessibility, discretion, and cost-effectiveness, FEMACARE aims to transform reproductive health outcomes in underserved global communities.

**SECTOR - HEALTHCARE** 

### The Problem

Millions of women in low- and middle-income countries need comprehensive reproductive healthcare, including reliable contraception and protection from STIs/HIV. Hormonal methods can cause side effects, while current barrier solutions lack consistent dual coverage. These constraints elevate maternal mortality risks and limit women's autonomy over family planning and disease prevention.

### The Solution

FEMACARE's non-hormonal IUD employs electrospun technology that delivers active pharmaceutical agents for simultaneous contraception and HIV/STI protection. This femalecontrolled, fully reversible device offers ease of use, minimal side effects, and broad accessibility. By empowering women with a single solution, FEMACARE aims to reduce unintended pregnancies and improve sexual health outcomes.

### Leadership

#### Charu Sharma

Founder

Charu Sharma, cofounder of Femacare and AyuScholar, is a 2X entrepreneur and MS in Obstetrics and Gynecology, innovating women's health with cutting-edge MedTech solutions in collaboration with IIT-Bombay.



#### Sachin Bhardwaj

Founder

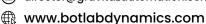
Dr. Sachin Bhardwaj, an Ayurveda MD, entrepreneur, and clinical researcher, is the Founder & CEO of Ayuscholar Education Pvt. Ltd. and Femacare, where he integrates traditional medicine with innovation in med-tech solutions for reproductive health.

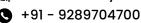






director@gravitazautomation.com







### GRAVITAZ

TRL Level: 7

### **About**

Gravitaz Automation develops a 5-axis CNC system featuring Pneumatically Configurable Polishing (PCP) for precision finishing. Their elastomeric tools enable uniform polishing of flat and freeform surfaces, targeting dies, molds, and implants. By merging engineering innovation with simulation, Gravitaz brings scalable automation in multidimensional facet according to industries needs which empowering them to compete globally.

### The Problem

Labor-intensive polishing processes often yield inconsistent finishing, which relies heavily on skilled labor and time-consuming manual work. Complex geometries pose further challenges, driving up manufacturing costs. In fields like optics, manufacturing, and medical implants, where high precision, repeatability, and scalability are required, conventional polishing methods struggle to achieve them without excessive human intervention or high error rates.

#### **SECTOR - SWARM TECHNOLOGY**

### The Solution

Gravitaz's PCP technology uses a 5-axis CNC machine coupled with elastomeric tools for automated precision polishing. A MATLAB-based simulation simplifies program generation, enabling accurate control of tool paths. This integrated approach reduces labor, boosts consistency, and scales production efficiently, revolutionizing traditional polishing workflows across diverse manufacturing sectors.

### Leadership

#### Dr. Onkar Chawla

Co-Founder With a strong background in Industry 4.0 technologies, Dr. Onkar Chawla currently leads the Automation division at Gravitaz Automation.

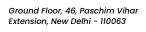
#### Dr. Tarun Verma

Co-Founder

Dr. Tarun Verma currently leads the design fabrication and simulation division at Gravitaz Automation.



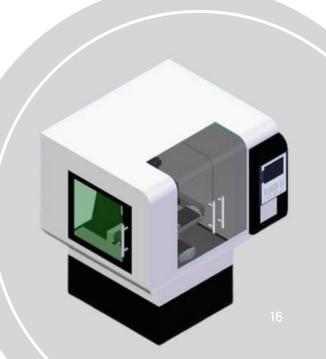






**Year of Onboarding** 

at IHFC - 2024



📍 Bengaluru

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IVF PRECISIONS PRIVATE LIMITED

TRL Level: 7



### **About**

IVF Precisions innovates in fertility preservation through Vitri Kr™, a vitrification device designed for egg, sperm, and embryo storage. Its patented safety features minimize fertility loss and user errors. By enhancing the reliability of IVF procedures, IVF Precisions aims to improve patient success rates and reduce treatment costs in reproductive medicine.

SECTOR - INDUSTRY-SPECIFIC DRONES

### The Problem

Conventional IVF vitrification devices often incur 20-30% fertility loss, carry safety risks in liquid nitrogen storage, and remain prone to operator errors. These shortcomings elevate costs, lower success rates, and jeopardize patient outcomes. Clinics need more reliable, user-friendly solutions that safeguard stored materials and streamline assisted reproductive treatments.

### The Solution

Vitri Kr™, IVF Precisions' disruptive device, features a patented triangular body, extended cap, dual safety locks, and user-focused design to ensure error-free operation and higher fertility retention. By eliminating common vitrification pitfalls, Vitri Kr™ helps clinics offer more consistent, successful IVF treatments, ultimately improving accessibility and reducing financial burdens.

### Leadership

#### **Ashok Reddy**

Founder

Dr. B. Ashok Reddy, co-founder of IVF Precisions in Bengaluru, specializes in biomedical preclinical technologies. With a Ph.D. in Chromatin Remodeling from Erasmus University and postdoctoral experience in Montreal, he has expertise in molecular biology and cancer biology. His career spans research roles at Liveon Biolabs and Baylor Scott & White Health, with numerous publications and awards like the FRQS and CSIR Fellowships.

#### Sravan Payeli

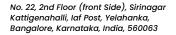
Founder

Sravan K. Payeli, Head of Innovation at IVF Precisions, is a scientist and inventor specializing in IVF medical technologies, ergonomics, robotics, and AI, with expertise in cellular biology, human physiology, and embryology.



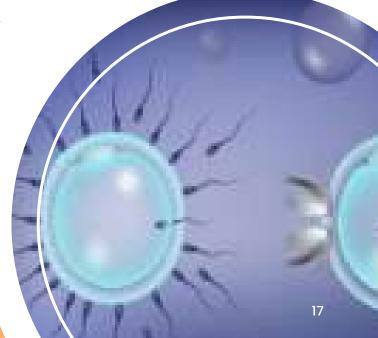


Pitch Deck





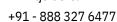
Year of Onboarding at IHFC - 2020





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## JET AEROSPACE DRONE

TRL Level: 9

DRONE HUB

### **About**

"Global Drone Hub TM" - Jet Aerospace is the one and only Aerospace Organization providing complete solutions for all requirements in academics and industries under Drone & Aerospace Sector. We outsource Wholesale high quality products and equipment for Government Tenders and Drone Lab Setup & Requirements. We are in association with Leading International Companies, Universities (IIT's, NIT's, SRM, VIT-Chennai, Sharda University, Anna University, Sathyabama, Etc.), with the mission to accomplish high quality knowledge & Innovation in Research.

#### SECTOR - AUTONOMOUS PAINT SPRAYING DRONE

### The Problem

Traditional painting methods, whether manual or machine-assisted, can be time-consuming, labor-intensive, and prone to inefficiencies or inconsistencies. Additionally, working in hard-to-reach areas, such as high-rise buildings and bridges, poses safety risks to workers. An autonomous drone with paint spraying capabilities offers a promising solution to improve productivity, ensure safety, and achieve uniform application of paint.

### **The Solution**

The Autonomous Paint Spray Drone ensures precise and uniform paint application with minimal overspray. It autonomously navigates different surfaces, avoids obstacles in real time, and adapts to varying geometries and textures. The system maintains consistent quality under different environmental conditions, ensures operational safety, and complies with relevant regulations. The design is scalable, energy-efficient, and versatile for industrial applications such as construction. It supports various paint types and optimizes coverage to minimize material waste and time. Traditional Spraying Drones carry Tank to lift liquids. Our drones are tethered, therefore drone is made lighter and atlower cost. Drone will be autonomous, therefore the labour need not be skilled to operate this drone.

### Leadership

#### Mr.Balakannan Jayachandran

Chairman & Managing Director

Mr. Balakannan Jayachandran, he is the Chairman and Managing Director of Jet Aerospace, located at Kerala, Tamilnadu & Haryana. He has Ph.D in Aerospace Engineering with Specialisation in Drones & Flight Controllers and has enormous knowledge and skills in Design, Manufacturing, UAV & Drone Technology.



Jet Aerospace (Global Drone Hub) Kanjikode Industrial Aera, Palakkad, Kerala - 678623. Branch: Haryana, Tamilnadu, Kerala.

#### Ms. Krithiga RS

CEC

Ms. Krithiga RS, CEO of Jet Aerospace located Kerala, Tamilnadu & Haryana. She has Ph.D in Aerospace Engineering with Specialisation in Drones & Ground Control Station (GCS). She has tremendous knowledge in the field of Drone technology& its related application.



Year of Onboarding at IHFC - 2025

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AIDOKO AUTOMATION SOLUTIONS PRIVATE LIMITED

TRL Level: 9

### **About**

Kaidoko harnesses AI, cognitive psychometrics, and behavioral analysis to deliver personalized learning solutions. Its adaptive platform pinpoints individual strengths, weaknesses, and interests, offering customized educational paths. By providing deep psychological insights, Kaidoko empowers students to excel, while equipping educators and policymakers with data-driven strategies for improving overall learning outcomes.

**SECTOR - EDUCATIONAL APPS** 

### The Problem

Traditional education often employs a one-sizefits-all approach that overlooks individual student needs. This leads to disengagement, unaddressed learning gaps, and limited skill development. Educators and policymakers also struggle to obtain actionable insights into students' cognitive and psychological profiles, hampering their ability to design effective, evidence-based interventions for holistic student growth.

### The Solution

Kaidoko's Al-powered platform personalizes learning by analyzing cognitive abilities, behaviors, and emotional traits. It offers targeted recommendations and supports introspection, helping students discover aptitudes and interests. Educators gain detailed analytics to refine teaching methods, while policymakers receive macro-level data for strategic planning, closing the gap between standardized curricula and individual potential.

### Leadership

#### **Anish Batra**

Founder

Anish Batra, Co-Founder of Kaidoko and former AWS developer at Amazon, leverages expertise in AI, data science, and cognitive psychology to build innovative, scalable solutions, with a strong focus on operations, customer satisfaction, and applying cutting-edge technology to real-world challenges.



Website

#### **Guneet Sethi**

Founder

Guneet Singh Sethi, Co-Founder of Kaidoko and affiliated with IHFC and NASSCOM 10,000 Startups, is a technology innovator with expertise in AI and machine learning, focused on developing intelligent solutions and personalized automation systems.



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### Kineshia Robotics Pvt. Ltd.

GraspMan

TRL Level: 9



### **About**

Kineshia Robotics Pvt. Limited incorporated on 11 September 2021 is a spinoff company from IIT Madras, engaged in the design and development of innovative robotics products.

**SECTOR - ROBOTICS** 

### The Problem

Current academic labs require separate, expensive equipment for each robotics experiment—resulting in high costs, space constraints, and limited flexibility.

### The Solution

•GraspMan is a unique, all-in-one modular platform that integrates locomotion, manipulation, control, and path planning experiments—eliminating the need for multiple costly setups.

•It is a cost-effective, scalable solution designed to reduce academic lab expenses while enabling advanced, hands-on learning and research.

### Leadership

#### Dr.T Asokan

Founder

Professor at Engineering Design Dept., IIT Madras More than 30 years of experience in robotics. Published more than 150 papers in international journals and has 26 patents.

#### Dr. Nagamanikandan

Founder

Assistant
Professor at
IITDM
Kancheepura
m
Specialized in
the
mechanism
design, mobile
manipulation

#### Dr.C Karthik

Founder

Assistant Professor at IITDM Kancheepuram Specialized in the design of mechanism design, product design, surgical robotics

#### Dr.Thiyagarajan

Founder

Assistant Professor at IITDM Kancheepuram Specialized in the mechanism design, mobile manipulation



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TRL Level: 9

### **About**

Kelvin 6K pioneers 3D printing and robotic technologies to revolutionize construction efficiency. Its rapid-build methods enable cost-effective solutions for housing, especially in underserved regions. By merging design flexibility with automated processes, Kelvin 6K reduces labor-intensive steps and shortens project timelines, aiming to reshape the future of affordable construction worldwide.

**SECTOR - CONSTRUCTION ROBOTICS** 

### The Problem

Housing shortages persist in many regions due to traditional building methods that are slow, laborintensive, and expensive. Conventional construction struggles to meet growing demand for affordable homes while maintaining quality. These limitations not only inflate costs but also prolong project cycles, leaving lower-income communities with limited, substandard housing options.

### The Solution

Kelvin 6K leverages 3D printing and robotics to streamline the construction process, significantly cutting build times and material waste. Its technology fabricates durable, cost-effective structures that scale for both residential and commercial needs. By automating key steps, Kelvin 6K makes housing more accessible, addressing global demands for efficiency and affordability.

### Leadership

#### Pradeepkumar Sundarraj

Founder

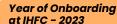
Pradeepkumar Sundarraj, founder of Kelvin6k, is pioneering sustainable housing with innovative concrete 3D printing technology that halves construction time and cuts material and labor costs by 30%, drawing on expertise from leading institutions like the German Aerospace Center and NREL

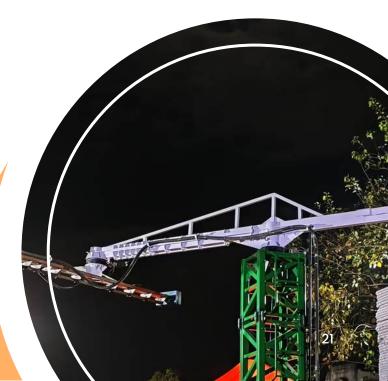




Pitch Deck



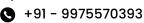






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### LIGHTRAY **TECHNOLOGIES** TRL Level: 5

### **About**

Think Next

Lightray is a forward-looking technology company driven by a passion for innovation, safety, and real-world impact. Founded by a team of engineers and problem-solvers, we believe in using artificial intelligence to build practical solutions that improve everyday life. At Lightray, we are committed to delivering meaningful change through accessible, smart, and human-centered technologies. We aim to lead with purpose, learn continuously, and create a safer, smarter future for all.

SECTOR - ARTIFICIAL INTELLIGENCE, AUTOMOBILE

### The Problem

Motorcycle riders face a high risk of accidents due to limited visibility, blind spots, and lack of safety features. Unlike cars, most two- wheelers don't have systems that warn riders about nearby vehicles or road dangers. This makes it hard to detect collisions early, especially in crowded or fast-moving traffic. There is a need for a smart, affordable safety solution designed specifically for motorcycles.

### The Solution

Lightray's Al-powered safety system helps motorcycle riders stay more aware and confident on the road. It uses smart cameras and AI to detect lanes, nearby vehicles, and distances in real time, giving early warnings to avoid blind spots and potential collisions. The system works seamlessly with our Al-enabled glasses, which provide gentle audio alerts—keeping riders informed without distraction. Compact, affordable, and easy to install on any bike, Lightray brings intelligent safety and peace of mind to every ride, no matter the traffic or weather.

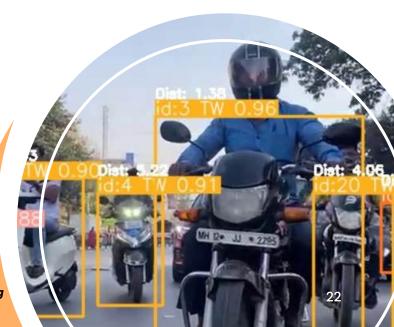
### Leadership

**Aashish Bharude** 

Founder



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#### **MEIYUR TECHNOLOGIES**

A Division of MESDL

TRL Level:



### **About**

Meiyur Technologies, Chennai, is a Startup company focused on Drones, Autonomous Systems and Robotics, duly registered in the Startup India Initiative. The company focuses on contemporary Technologies, Products, and Services. The next decade will see technological interventions in every sphere of activity. The Company intends to work in Technologies that offer innovative, technically challenging Projects.

**SECTOR - AUTONOMOUS SYSTEMS** 

### The Problem

Application of AI and Deep Learning
Technologies for Disease Identification in
plants using Drones: The traditional present
technologies are more perception- based and
requires the presence of an agricultural
specialist intervention, at various stages of the
life cycle of Disease Identification. In contrast, we
have used machine Learning and deep learning
Technologies and adopted a fully automated
process with minimal human intervention.

### The Solution

Adopting Advanced Computer vision technologies and using high-precision digital cameras for data collection and deploying deep learning techniques for precise disease identification, we have achieved a significantly higher benchmarking for Disease identification accuracy at 3.59% from the traditional 8 % global average.

### Leadership

#### Prof.M. K. Padmanabhan

Founder

The project was executed by Prof.M. K. Padmanabhan, who hasa PhD in Aerospace Engineering from IIT Bombay and specialises in the Application of Autonomous Systems in various domains, ably supported by a team of IT/ITES professionals.



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Year of Onboarding at IHFC - 2022

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# **M** mountford

Mountford Health Pvt. Ltd. TRL Level: 4

### **About**

Mountford Health is a medical technology company developing intelligent airway management systems to improve the safety, speed, and accessibility of tracheal intubation. With a focus on reducing skilldependence in critical care procedures, the company is building Al-assisted and robotic solutions designed for deployment in ICUs, ambulances, and military field settings. Mountford combines clinical insight with expertise in embedded systems, AI, and medical device design to deliver scalable products tailored for the needs of diverse healthcare environments.

SECTOR - HEALTHCARE

### The Problem

Safe airway intubation is a time-critical, lifesaving procedure that remains highly skilldependent. In many Indian healthcare settings especially Tier 2/3 hospitals, ambulances, and military zones-trained specialists are unavailable, leading to delays, failed intubations, and preventable deaths. Existing tools offer visibility but lack intelligent guidance, leaving frontline responders unsupported in high-stress situations.

### The Solution

Mountford Health's innovative robotic intubation system is designed to reduce the clinical skill threshold required for safe and effective tracheal intubation. Leveraging real-time anatomical landmark recognition, precision-controlled endoscopic articulation, and embedded intelligence, the system aims to automate key steps of the procedure. This innovation enables rapid, consistent airway access—even in high-stress, resource-limited settings—broadening the scope of who can perform life-saving intubation.

### Leadership

#### Dr. Abdul Khalique Ansari

Founder and CEO

Dr. Abdul Ansari is the Founder and CEO of Mountford Health Pvt. Ltd. He is a clinician-innovator with deep interdisciplinary experience at the intersection of critical care medicine, medical technology, and health innovation management. He holds a medical degree with hands-on clinical experience in ICUs, emergency medicine, and cardiology, giving him direct exposure to the systemic challenges in airway management and trauma care across India.



Pitch Deck

at IHFC - 2024

Mountford Health Pvt. Ltd., Medical Cobotics

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# **NAWE ROBOTICS**

NAWE ROBOTICS PRIVATE LIMITED

TRL Level: 5

### **About**

Nawe Robotics builds robotic-assisted rehabilitation systems that bolster physiotherapy outcomes and alleviate therapist fatigue. By automating repetitive exercises with precise control, Nawe's solutions support targeted patient recovery plans. Emphasizing user comfort, data tracking, and continuous feedback, the company aims to modernize rehab processes for hospitals, clinics, and home-care environments.

**SECTOR - REHABILITATION ROBOTICS** 

### The Problem

Physiotherapy often relies on manual, repetitive exercises that strain therapists and yield inconsistent results. Limited technological support makes it difficult to maintain optimal therapy intensity and track patient progress, prolonging recovery. As patient volumes rise, healthcare providers need innovative, scalable solutions to ensure consistent treatment quality and better outcomes.

### The Solution

Nawe Robotics develops robotic-assisted rehab devices that automate repetitive motion, reduce therapist workload, and standardize exercise protocols. Equipped with sensors for real-time feedback, these systems track patient performance and adjust difficulty levels as needed. By integrating data analytics, Nawe delivers personalized therapy, enabling faster recoveries and improved quality of care.

### Leadership

#### **Amarnath Harikumar**

Founder

Amarnath H, Co-Founder of Nawe Robotics, specializes in product development, systems modeling, and robotics innovation. With a B.Tech in Engineering Physics from NIT Calicut, his expertise includes designing autonomous systems and leading engineering teams. Amarnath is also published in IEEE Xplore for his work on autonomous underwater vehicles and has a strong passion for advancing robotics and human-machine interfaces.

#### Jubin Mathew

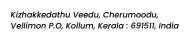
Founder

Jubin Mathew, cofounder at Nawe Robotics and an alumnus of NIT Calicut, is a robotics enthusiast specializing in product design, control systems, and system integration, with a focus on developing innovative hardware solutions and rehabilitation devices.





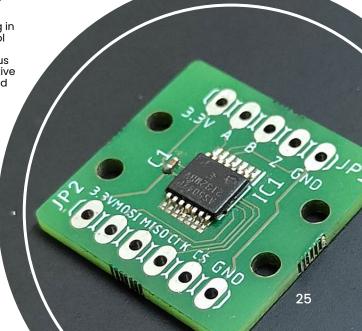
Pitch Deck





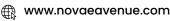
**Year of Onboarding** 

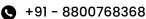
at IHFC - 2020





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### **NOVAE AVENUE**

(Pjovae Avenue™

PAPLI LABS PRIVATE LIMITED

TRL Level: 9

### **About**

Novae Avenue offers 4G-enabled dash cameras with GPS tracking and real-time video streaming to bolster fleet management and vehicle security. Tailored for the Indian market, its solutions provide cloud-based incident response, enabling swift action and reducing losses. By combining advanced telemetry with user-friendly interfaces, Novae Avenue elevates road safety standards.

**SECTOR - AR DEVICES** 

### The Problem

Standard dash cameras in India lack real-time connectivity, GPS tracking, and seamless data storage. As a result, fleet operators and private vehicle owners struggle to capture and act on crucial incident data promptly. This shortcoming compromises driver safety, increases liability risks, and limits efficient oversight of large-scale vehicle fleets.

### The Solution

Novae Avenue's connected dash cameras integrate 4G, GPS tracking, and cloud-based event monitoring. Real-time video streaming and incident alerts allow managers to respond quickly to on-road emergencies, theft, or accidents. By delivering continuous data analytics, Novae Avenue improves fleet security, reduces risks, and fosters a safer driving environment.

### Leadership

#### **Pradyum Gupta**

Founder

Pradyum Gupta, an engineer turned entrepreneur and designer, leverages his expertise in computer vision, backend coding, and UX/UI design to drive innovation as the Founder & CEO of Novae Avenue, a startup developing real-time road analytics solutions for safer and more efficient urban mobility.







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LABS INNOVATIVE SOLUTIONS PRIVATE LIMITED

TRL Level: 9



### **About**

Pixuate delivers real-time, Al-driven video analytics to enhance security across industries. Its platform detects threats, monitors activities, and streamlines surveillance operations, enabling faster, data-backed decision-making. By integrating computer vision and machine learning, Pixuate provides robust safety measures that minimize human error and improve overall situational awareness in critical environments.

#### SECTOR - VIDEO ANALYTICS

### The Problem

Many industries lack timely, intelligent video analytics to proactively address security concerns. Conventional surveillance systems often rely on manual monitoring, making them prone to oversight and delayed responses. As threats become more sophisticated, the need for automated, Al-driven solutions increases, ensuring comprehensive coverage and rapid intervention in critical security scenarios.

### The Solution

Pixuate's Al-based video analytics platform processes feeds in real time, identifying anomalies, unauthorized access, or suspicious behavior with high accuracy. It integrates seamlessly with existing surveillance infrastructures, providing actionable alerts and reducing response times. This data-centric approach strengthens security protocols, prevents potential risks, and promotes safer, more efficient surveillance operations.

### Leadership

#### Pratwiraj Palekar

Founder Pratwiraj Palekar, founder of Pixuate, is a deep tech entrepreneur and visionary behind an Al-powered computer vision platform, enabling intelligent automation for global clients like Hindustan Unilever and BigBasket since 2014.

#### Akshata Kari

Founder

Akshata Kari, Co-Founder and CEO of Pixuate, leverages deep-tech video analytics to enhance enterprise safety and security, with a strong background in business development, startup acceleration, and women entrepreneurship.

> **Year of Onboarding** at IHFC - 2012





Prakash Narayan, Srigopal Subbaraman, Veena S, IIMA Ventures, Mumbai Angels, Securia, Sucseed Indovation Fund.





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### **RANCHO LABS**

ANCHOVATION LABS PRIVATE

TRL Level: 9

### **About**

Rancho Labs fosters curiosity-driven learning through interactive educational tools and activities. By emphasizing hands-on experimentation and real-world problem solving, it bridges the gap between theory and practice. Designed for Indian students, the platform nurtures creativity, critical thinking, and innovation, helping learners gain practical skills essential for modern academic and career success.

**SECTOR - AR DEVICES** 

### The Problem

India's education system emphasizes rote learning and theoretical understanding, limiting students' ability to apply concepts practically. As a result, learners often lack the experiential knowledge to tackle real-world challenges, undermining creativity and problem-solving skills. This focus on exam-based metrics overlooks crucial competencies needed for future societal and economic demands.

### The Solution

Rancho Labs provides experiential learning programs that transform theoretical lessons into tangible, project-based activities. Students engage with hands-on experiments, fostering curiosity, collaboration, and critical thinking. By connecting classroom knowledge to practical applications, Rancho Labs cultivates an innovative mindset, enhances problem-solving abilities, and prepares learners to address emerging real-world challenges.

### Leadership

#### **Anshul Agrawal**

Founder

Anshul Agrawal, an IIT Delhi alumnus and founder of Rancho Labs, specializes in fostering innovation in STEM education, mentoring young minds in robotics, coding, and AI, and has a rich background in entrepreneurship and strategic collaboration.

#### Aman Kumar

Founder

Aman Kumar, co-founder of Rancho Labs and an IIT Delhi alumnus, is dedicated to revolutionizing education through experiential learning in coding, robotics, and AI, impacting over 10,000 parents and 150 schools since 2019.





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TRL Level: 7

### **About**

SeiAnmai Technologies delivers telepresence robots that enable seamless remote interaction for business, healthcare, and personal use. These mobile, high-definition communication platforms minimize travel requirements while preserving face-to-face engagement. By leveraging robust connectivity and intuitive controls, SeiAnmai helps organizations and individuals stay connected without the expense or environmental impact of physical travel.

#### **SECTOR - REMOTE INTERACTION ROBOTICS**

### The Problem

Frequent travel for meetings, inspections, and collaborations increases costs, carbon emissions, and productivity downtime. Standard video conferencing lacks mobility and on-site presence, limiting user engagement. The need for more immersive and interactive remote solutions grows as businesses and individuals seek to reduce expenses and environmental impact while maintaining effective communication.

### The Solution

SeiAnmai's telepresence robots combine live video streaming, autonomous navigation, and user-friendly interfaces. Remote operators can interact with people and environments in real time, moving around spaces as if physically present. This solution cuts travel expenses, reduces carbon footprints, and fosters richer engagement than static video conferencing platforms.

### Leadership

#### Srikrishna

Founder

Srikrishna Sowrirajan, a graduate of NIT Tiruchirappalli, is the Founder and Director of SeiAnmai Technologies, specializing in telepresence robotics and mobile robotics development, with a strong background in engineering and research.



Website



Pitch Dec

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### **About**

Simhatel harnesses advanced AI and robotics for oil and gas pipeline inspections. By deploying drones and autonomous ground vehicles, it provides real-time data analytics and predictive maintenance. Through digitized inspection methods, Simhatel enhances efficiency and safety in industrial operations, reducing downtime, mitigating risks, and preventing costly pipeline failures.

### The Problem

Traditional pipeline inspections rely on manual methods that are time-consuming, hazardous, and prone to human error. As infrastructure ages and demands more rigorous oversight, industries need advanced tools to identify potential failures sooner. Inefficient inspection techniques drive up maintenance costs, elevate safety risks, and threaten continuity of critical operations.

#### **SECTOR - INSPECTION ROBOTICS**

### The Solution

Simhatel's autonomous drones and ground vehicles, equipped with Al-driven sensors, offer rapid, precise pipeline inspections. Its integrated platform digitizes data collection, enabling real-time analytics for proactive maintenance. By shifting from manual checks to automated monitoring, Simhatel improves operational safety, cuts downtime, and helps industries maintain reliable, cost-effective pipeline systems.

### Leadership

#### Amit Shukla

Founder

Dr. Amit Shukla is the Chairperson of the Centre for AI & Robotics (CAIR) at IIT Mandi, with extensive experience in robotics, AI, and control systems. An alumnus of IIT Kanpur and Imperial College London, he has led robotics research globally and founded startups like SIMHATEL and Deep Algorithms.



Website

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### **SYSTEMANTICS** sensible robotics

#### **SYSTEMANTICS**

SYSTEMANTICS INDIA PRIVATE

TRL Level: 9

### **About**

Systemantics develops cost-effective collaborative robotic arms that support human-robot teams in manufacturing and other industrial applications. Their solutions prioritize usability, affordability, and reliability, enabling businesses to automate repetitive tasks efficiently. By integrating safety features and intuitive controls, Systemantics opens new possibilities for industries seeking accessible, advanced robotics.

**SECTOR - COLLABORATIVE ROBOTICS** 

### The Problem

Many manufacturers cannot afford conventional robotics due to high costs, complexity, and limited flexibility. This hinders small and medium enterprises from achieving scalable automation, creating inefficiencies and labor bottlenecks. Without affordable, user-friendly collaborative robots, businesses struggle to improve productivity, adapt to changing market demands, or optimize their operations fully.

### The Solution

Systemantics offers collaborative robotic arms engineered for cost-effectiveness and ease of use. Built with robust safety features and adaptable grippers, these arms accommodate diverse tasks, from assembly to material handling. By lowering the entry barrier for automation, Systemantics empowers businesses to boost output, reduce labor strain, and remain competitive.

### Leadership

#### Ganapati Jagannath Raju

Founder

Jagannath Raju is the CTO of Systemantics India Pvt. Ltd., with over 30 years of experience in robotics and automation. An alumnus of IIT Madras and the University of California, Berkeley, he has made significant contributions to industrial robotics in India, specializing in mechanical engineering and robotic systems.

#### **Pradeep Singh**

Founder

Pradeep Singh, Vice Chairman of Pratham USA and Chairman of Aditi Consulting, is a visionary leader with a legacy of founding and scaling global technology enterprises, actively raising funds for education and addressing systemic challenges in the nonprofit sector.





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# STORY

# THE INNOVATION STORY

EDUNNOVATE TECHNOLOGIES PRIVATE LIMITED

TRL Level: 9

### **About**

The Innovation Story empowers young minds through tech-focused skill-building programs, workshops, and initiatives. By fostering creativity, critical thinking, and hands-on problem-solving, it equips students with the tools to innovate in a rapidly evolving digital landscape. These offerings expand educational horizons, encouraging learners to tackle complex challenges and drive societal progress.

#### **SECTOR - EDUCATIONAL ROBOTICS**

### The Problem

Many educational systems struggle to offer up-to-date tech-based learning opportunities at scale. Students often lack practical skills and real-world exposure, limiting their ability to solve modern problems. Furthermore, resource constraints and traditional curricula hamper broad implementation of technology-driven education, leaving learners unprepared for future workforce demands and innovation pathways.

### The Solution

The Innovation Story provides scalable, tech-driven educational programs that integrate interactive learning experiences, hands-on projects, and digital tools. By collaborating with schools and communities, it tailors content to varied skill levels, ensuring wide accessibility. This approach enriches academic foundations, fosters innovation, and builds student confidence in tackling emerging global challenges.

### Leadership

#### Meenal Subhasis Majumder

Founder

Meenal Majumder, founder of The Innovation Story and a mentor at FIRST, is a STEM education advocate leveraging AI, robotics, and innovation to empower students, with over 15 years of experience in corporate risk management and recognition as a Woodie Flower Finalist for outstanding mentorship.



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#### **TSAW DRONES**

TECHNIT SPACE AND AERO WORKS PRIVATE LIMITED

TRL Level: 9

### **About**

TSAW Drones delivers advanced UAV systems customized for defense and space missions. Combining robust hardware design with specialized software, TSAW's drones address niche operational requirements, from high-altitude reconnaissance to orbital deployment support. By bridging technology gaps, the company empowers security forces and researchers to execute targeted aerial solutions with precision.

SECTOR - INDUSTRY-SPECIFIC DRONES

### The Problem

Specialized defense and space missions often require UAVs capable of operating in extreme conditions or performing highly specific tasks. Many existing drones lack the sophistication or customization options needed to support advanced military operations and research. This shortfall hinders mission success, slows innovation, and compromises strategic security initiatives.

### The Solution

TSAW Drones designs custom UAV platforms featuring rugged materials, cutting-edge propulsion, and sensor integrations for defense and space applications. From extended flight endurance to high-resolution imaging, each drone meets mission-specific needs. By tailoring systems to specialized demands, TSAW ensures precise data collection, efficient deployment, and heightened operational effectiveness.

### Leadership

#### Rimanshu Pandey

Founder

Rimanshu Pandey, Founder and CTO of TSAW Drones, leads innovations in drone logistics with technologies like DCIS and HyperPilot, enabling automated, global delivery networks. A graduate of Motilal Nehru National Institute of Technology, he is transforming logistics with sustainable and impactful solutions, earning recognition for advancing healthcare and remote delivery systems.

#### Kishan Tiwari

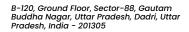
Founder

Kishan Tiwari, Founder and CEO of TSAW Drones, is an innovator in the Advanced Air Mobility ecosystem, developing cutting-edge drone technology for safe, efficient cargo logistics and integrating aerial transportation as the fifth mode of mobility.



Pitch Deck







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### Thumbikkai

Thumbikkai Business Solutions Pvt. Ltd.

TRL Level: 7



### **About**

Thumbikkai Business Solutions Private Limited (Brand Name V SAFE®) is developing India's own smart security solutions, including smart lockers and smart door locks. Unlike many others who rely on imported technology, we design and develop everything in-house—from the hardware (PCBA) to the software (RTOS, mobile app, and cloud platform). This ensures better security, faster performance, and more reliable products, all tailored for Indian homes and businesses.

### The Problem

Traditional security systems in India are often white-labeled imports, lacking real-time intelligence, automation, and seamless integration with smart home ecosystems. Users face several challenges, including:

- High installation costs and complex setup.
- Inefficient energy management, leading to unnecessary power consumption.
- Limited customization, restricting users from adapting solutions to their needs.
- Lack of proactive alerts and Al-powered monitoring, increasing security vulnerabilities.

SECTOR - HOME AUTOMATION & SECURITY TECHNOLOGY

### **The Solution**

Most security products in the market depend on foreign-made hardware and cloud services, which can be expensive and less secure. V SAFE® is different because we are developing:

- Smart door locks and lockers with custom-designed PCBA for high security and performance.
- Our own Real-Time Operating System (RTOS) for smooth and instant operation.
- A mobile app for easy control, remote access, and instant alerts.
- A secure cloud platform to store data safely within India.

By building everything locally, V SAFE® ensures advanced security, affordability, and true independence from foreign technology.

### Leadership

Viknesh Vadivel M.Tech

Founder & CEO

Viknesh Vadivel has 18+ years of experience in Electronics Manufacturing and Semiconductor Fabrication, having worked in India, Singapore, and Brazil in various leadership roles. Passionate about scaling innovative smart security solutions and driving indigenous technology development. Expert in hardware manufacturing and embedded systems, bringing deep technical and industry knowledge.





Pitch Deck

Thumbikkai Business Solutions Pvt Ltd 4th Floor, PL NO.59, Rahuman Nagar, Neelgiri Therkku Thottam, Thanjavur -613004 Tamil Nadu, India

Year of Onboarding at IHFC - 2025



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YTERRA ROBOTIOS PRIVATE LIMITED

TRL Level: 7

### **About**

xTerra Robotics specializes in autonomous legged robots for inspection, security, surveillance, and defense. Its flagship Svan M2 quadruped and related actuators combine state-of-the-art mobility with advanced autonomy software. By collaborating with research institutions and industries, xTerra aims to expand robotic functionality in complex terrains while remaining costeffective and versatile.

**SECTOR - AUTONOMOUS LEGGED ROBOTS** 

### The Problem

India's robotics and AI ecosystem lacks affordable, high-quality platforms for research and industrial applications. Existing options are either prohibitively expensive or fail to address local requirements for mobility, adaptability, and autonomy. As organizations seek to modernize inspection and security, a gap remains for versatile, cost-efficient legged robots with robust capabilities.

### The Solution

xTerra's quadruped robots and supporting hardware merge high-torque actuators, modular designs, and comprehensive autonomy software. The Svan M2 serves as a flexible research platform, while forthcoming variants target industry-specific tasks. Through collaborative R&D, scalable manufacturing, and multi-environment adaptability, xTerra delivers powerful robotic solutions tailored to India's evolving technological landscape.

### Leadership

#### Aditya Rajawat

Founder

Aditya Pratap Singh Rajawat, Co-Founder and CEO of xTerra Robotics, specializes in developing advanced legged robotics solutions for industry and defense. An alumnus of IIT Kanpur with a master's in Mechanical Engineering (Robotics and Control), he previously worked at Jaguar Land Rover as a Motion Control Engineer. Passionate about bridging simulations and real-world applications, Aditya's expertise includes optimization-based planning, control algorithms, and cutting-edge robotics innovation.





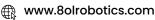
Pitch Deck

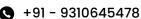


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### **80L / ATOL AERO**

TRL Level: 6



### **About**

8OL Aerospace develops the F8C Flight Controller, a robust platform tailored to industrial, defense, and large-scale drone operations. With intuitive ground control, sensor calibration, and disturbance rejection, the system addresses the limitations of hobbyist-grade or expensive proprietary controllers. By prioritizing affordability and reliability, 80L drives India's growing UAV ecosystem.

SECTOR - INDUSTRY-SPECIFIC DRONES

### The Problem

The F8C Flight Controller by 8OL Aerospace integrates advanced features like intuitive ground control interfaces, online sensor calibration, and robust disturbance rejection. Designed to meet regulatory standards, it brings performance and adaptability at a lower cost. By bridging technological gaps, 80L empowers industries to deploy dependable UAVs for varied missions.

### The Solution

The F8C Flight Controller by 8OL Aerospace integrates advanced features like intuitive ground control interfaces, online sensor calibration, and robust disturbance rejection. Designed to meet regulatory standards, it brings performance and adaptability at a lower cost. By bridging technological gaps, 80L empowers industries to deploy dependable UAVs for varied missions.

### Leadership

#### Harsh Bhardwaj

Founder

Harsh Bhardwaj is the co-founder of 8OL Robotics and founder of the Advanced Robotics Research Team at IIIT-Delhi. Currently pursuing a Bachelor's in Electronics and Communications Engineering, he specializes in UAV control systems, AI, and robotics innovation, with experience from IIT Bombay's e-Yantra and IIITD's robotics projects.

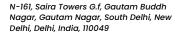
#### Sayan Roy

Founder

Sayan Basu Roy, an Assistant Professor at IIIT Delhi and former SERB SIRE Fellow at MIT, specializes in nonlinear and adaptive control theory, robotics, multiagent systems, and online machine learning for model-free controller design.









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