



# Transport AND Mobility





## Shri Narendra Modi

**Hon'ble Prime Minister** 

**Startups** are the engines of exponential growth, manifesting the power of innovation. Several big companies **today** are startups of **yesterday.** 

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They were born with a spirit of enterprise and adventure kept alive due to hard work and perseverance and **today** have become shining **beacons** of **innovation.** 

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change.

transport sector.





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भारत सरकार

#### MESSAGE

The automotive sector is one of the principal drivers of India's economic growth. It contributes to 49 percent of manufacturing GDP and 7.2 percent of India's GDP generating 40 lakh jobs. By 2025, India is expected to emerge as the world's third-largest passenger vehicle market. Rapid urbanization and the rising aspirations of the middle-classes are creating opportunities for entrepreneurs to innovate new technologies and business models. These have the potential to double the share of the automotive sector in India's GDP in the coming decade. This combination of urban expansion and rapid innovation will inevitably drive significant change in the transport and mobility sector.

With the emergence of e-commerce and last-mile delivery mechanisms, the connectivity between places, goods, and people has become seamless by leveraging digital technologies. The fusion of operational innovation with technology-induced entrepreneurship is poised to disrupt various challenges in the mobility sector. Emerging technologies, such as electric vehicles (EVs), multi-application drones, shared mobility & connectivity platforms, and autonomous ground vehicles, will reduce the burden of traffic in congested areas and radically transform the mobility systems by integrating the concepts of safety and climate

Technology drivers such as artificial intelligence (AI), machine learning (ML), advanced manufacturing methods, and satellite communication can accelerate the growth of startups. Emerging technologies will enable them to identify social, economic, and technological trends in the mobility space and adapt user-centric approaches. This will transform the entire value chain in the transport sector.

Atal Innovation Mission through its Atal Incubation Centres, which are spread across the country, has been supporting the transition of conventional transport methods to futuristic mobility solutions. This book is an excellent example of how the product and service innovations in the transport & mobility sectors have been supported by the AIM startup ecosystem. I give my best wishes to all the entrepreneurs mentioned in this book for their commendable innovation and their unwavering willpower to bring a positive change to our

The idea of "Make in India" is to usher the country into self-reliance and make India a hub for manufacturing for the world. India's mobility startups will be critical in fulfilling this goal. My best wishes to everyone contributing to this national movement.

Khina

(Rajiv Kumar)



अमिताभ कांत Amitabh Kant मुख्य कार्यकारी अधिकारी **Chief Executive Officer** 



The last decade has been pivotal for India in transforming the global value chains of transportation and mobility sectors. With technology being prioritized, several innovative business models have evolved to make mobility available, accessible, and affordable. However, the rate of urbanization has been exponentially growing and it is expected that by 2035, 17 Indian cities will feature in the world's top 20 fastest growing cities. These challenges create an opportunity to build public transportation systems that are connected, clean, and convenient to move people in a cost-efficient and sustainable manner.

The Indian government has flagged off various programs like Pradhan Mantri Gram Sadak Yojana (PMGSY), Kisan Rail, and UDAN (Ude Desh ka Aam Nagrik) to build robust infrastructure and bridge the last mile connectivity for efficient logistics. The introduction of Faster Adoption and Manufacturing of Hybrid and EV (FAME) and Production Linked Incentive (PLI) schemes in line with the National Electric Mobility Mission Plan aims at accelerating the adoption of EVs for the urban commute. The continuous policy interventions supported by the rising investments from private stakeholders can drive India to be the global auto R&D hub. The/3C framework: Clean, Convenient, and Congestion-free approach will enable intelligent mass transit systems, sharing, and mobility platforms to adopt green modes of seamless cooperative transport technologies.

to making a better tomorrow.





#### भारत सरकार नीति आयोग, संसद मार्ग, नई दिल्ली-110 001

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#### Message

The behavioral preference of Indian commuters for public transport is uniquely placed compared to other developing countries to reap the benefits of shared mobility solutions. These models will be a critical catalyst for the growth of public transportation systems. Emerging technologies like 5G, edge computing, and blockchain are enabling the sector to progress even further by changing the R&D landscape in India, and powering innovation in the transportation and mobility ecosystem.

The innovative products and solutions from the startups incubated at Atal Innovation Mission in the fields of Electric and Connected vehicles, Auto Ancillaries, and Drone tech have been instrumental in contributing to the National Mission for Sustainable Habitat. I congratulate all the entrepreneurs of Atal Innovation Mission whose innovations have been published in the third edition of "Innovations For You", which focuses on Transport and Mobility solutions. I am sure their innovative solutions today will contribute

Nm



#### डॉ. चिंतन वैष्णव

#### Dr. Chintan Vaishnav Tel : +91 1123096580

E-mail : chintan.vaishnav@gov.in



By 2027, the Indian shared mobility industry is likely to witness nearly four-fold growth with revenues of \$42.85 billion at a CAGR of 25.3%. Further, India will become the third-largest car market in the world with 7.4 million vehicles by 2025. To propel this economic growth, the technology drivers of transport & mobility sector such as drive trains, intelligence driven by AI & ML techniques, advanced manufacturing methods, efficient battery technologies and new models of mobility as a service (MaaS) must make a significant contribution.

With technology being prioritized, several innovative business models have evolved to make mobility available, accessible, and affordable. Emerging technologies, such as electric vehicles (EVs), multi-application drones, shared mobility & connectivity platforms, and autonomous ground vehicles, will reduce the burden of traffic in congested areas and has the potential to radically transform the mobility systems.

Rapid urbanization and concomitant challenges like pollution and traffic congestion have already placed the focus on innovative transport & mobility solutions. However, efficiently managing the rapidly changing transport & mobility landscape in a sustainable manner is the biggest challenge in front of various stakeholders across the transport & mobility value chain. These challenges create an opportunity to build mobility systems that are connected, clean, and convenient to move people in a cost-efficient and sustainable manner.

With a vision to establish India as a global hub for startups, Atal Innovation Mission since its inception is working towards creating and promoting a culture of innovation and entrepreneurship across the length and breadth of our country. Atal Innovation Mission through its Atal Incubation Centers and Atal New India Challenge has been supporting the transition of conventional transport methods to futuristic mobility solutions through its startups. This book is an excellent example of how the product and service innovations in the transport & mobility sector have been supported by the AIM startup ecosystem. I hope that this compilation inspires other entrepreneurs and young minds across the country to create new, disruptive and innovative products, services and solutions which can pave a path for a sustainable future.

Heartiest Congratulations to all the innovators and many out there who are passionately working towards solving the Transport & Mobility puzzle for a better tomorrow.





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Dr. Chintan Vaishnav





## About Atal Innovation Mission

Atal Innovation Mission (AIM) is Government of India's flagship initiative to create and promote a culture of innovation and entrepreneurship across the length and breadth of our country. AIM's objective is to develop new programs and policies for fostering innovation in different sectors of the economy, provide platforms and collaboration opportunities for different stakeholders, and create an umbrella structure to oversee the innovation & entrepreneurship ecosystem of the country.



## About Atal Incubation Centres

To create an ever-evolving ecosystem of start-ups and entrepreneurs, Atal Innovation Mission has been establishing business incubators called Atal Incubation Centres, also known as AICs, at universities, institutions and corporates among others. These business incubators are institutions that are geared towards speeding up the growth and success of startups and early-stage companies by providing technological facilities and advice, initial growth funds, network and linkages, co-working spaces, lab facilities, mentoring, and advisory support.

By establishing Atal Incubation Centres, AIM hopes to achieve a holistic ecosystem stretched along the length and breadth of our country. The idea is to bring all aspiring and motivated start-ups spread across varied topographies under the umbrella of innovation ecosystem. Thereby, fulfilling the objective of 'World Class Incubation'.

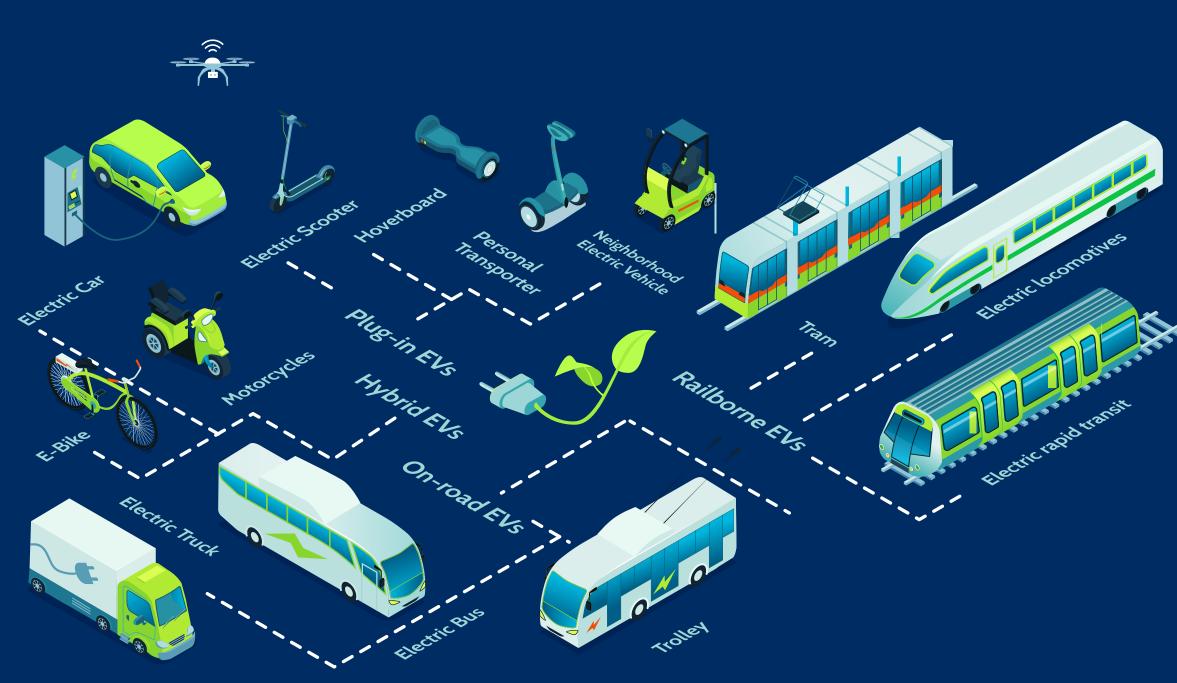
A special mention to the team of AIM supporting Atal Incubation Centres – Manglesh Yadav, Rohit Gupta, Anish Somani, Vinay Garg, Garima Ujjainia, Prithvi Sai Penumadu, Ashish Pandey and Rajeev Kumar, to support the Indian startup ecosystem and achieve its ultimate goal of becoming #WorldClass.

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# STARTUPS AND THEIR INNOVATIONS



## **UNMANNED AERIAL VEHICLES/DRONES**

An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft without any human pilot. UAVs were originally developed for military missions but the continuous innovations in the UAV sector has extended its applications to monitor forest fires, aerial photography, product deliveries, agriculture, policing and surveillance, infrastructure inspections, and potentially becoming flying taxis.

























### **BonV** Aerospace

AIC Name **AIC CV Raman** Founder/Co Founder Satyabrata Satapathy Type Product Stage MVP Target Market **Domestic and International** 

> IP Status NA



BONV Technology is enabling carbon free smart aerial mobility bringing new dimensions to speed, safety and sustainability in goods & people transportation. We are a technological company pioneering autonomous electric air mobility and we bring you an electric vertical takeoff landing (e-VTOL) vehicle and its ecosystem to provide end to end solutions for our customer.

#### **Societal Relevance**

Our technology aims to bring high positive impact to lives of people and ecology at the same time. The solution aims to provide on-demand, on-time logistics service to villages in hilly regions giving huge positive impetus to the economy, further saving lives in distant places through emergency medical deliveries and evacuations.

The eVTOL's are carbon free and economical as compared to other modes of aerial mobility thus sustainable. In comparison to road based transportation which is always affected by heavy congestion, bad infrastructure & disruptions, thus it becomes costlier & time consuming. The world annually loses \$ 300BN due to congestion on roads and contributes 23% of total greenhouse gas emissions.

#### Major achievements/Awards/Recognitions

- HDFC CSR Social Impact Grant
- Indian Institute of Technology (IIT) , Mandi, Himachal Pradesh Backed Venture
- Indian Army Design Bureau (ADB) Selected Strategic Startup
- Recognized By Headstart Network Foundation, Business Finland Startup Program & FICCI, India
- Backed by Headstart Investment Circle





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## Cerebrospark **Innovations LLP**

AIC Name **AIC MIT ADT Incubator Forum** 

#### Founder/Co Founder

Mr. Mihir Manik Kedar & Mr. Ganesh Santosh Thorat

> Type **Product and Service**

> > Stage

Commercialized

Target Market **Domestic and International** 

> IP Status Filed

Using Chinese drones can be a security threat which is very much risky as the data can be accessed by the Chinese companies and can be misused. Cerebrospark Innovations LLP build indigenous drones which are totally reliable in case of security which eliminates the risk of data misuse. Cerebrospark Innovations drones majorly focus in customization, the drones are built according to the consumer's requirement. Cerebrospark Innovations drones are compatible for various application as per the use. Our drones are built by keeping DGCA rules and regulations in concern. The Product CS PRIDE- A completely India-built smart, affordable, and light-weight Nano Category Drone that needs no permissions to fly. It is the 1st BLDC Nano Category Drone in India made by the young team at CerebroSpark Innovations There is no service center in India for drones. We provide 24/7 drone service so that consumer can reuse it Our drones are affordable in market which can be used by common public.CUSTOMIZED DRONES MANUFACTURING :CSI builds special drones as per the requirements and applications of the client. DRONE SERVICE FOR PHOTOGRAPHY SURVEILLANCE is addon services to pride our product.

#### Societal Relevance

Our vision is to make drones available and accessible to every Indian tech enthusiast who can bring in his creativity to put it to fair use. We facilitate a working model that will make your imagination fly!!

#### Major achievements/Awards/Recognitions

- technology association (TITA).
- - Invited by IIT Madras for 'SHAASTRA 2020'
- Winner in FOF Hackathon 2020 by PCMC.

cerebrospark@gmail.com



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UNMANNED AERIAL VEHICLES/DRONES



Top 7 young change makers across India selected by United Nations India and UNICEF.

Top 5 in one million second online Corona hackathon 2020 conducted by Telangana information

Top 2 change makers across India selected by The Indian Express.

Best women entrepreneur award in innovation category by 10000 startups India.





## **Digantara Research & Technologies Pvt Ltd**

AIC Name **EIC SID** 

Founder/Co Founder

Anirudh N Sharma, Rahul Rawat

Type Product Stage MVP

Target Market **Domestic and International** 

> IP Status Filed

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Website

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Digantara is developing a two-pronged system to address the difficulties of space operations and situational awareness. The goal is to simplify operations for satellite operators and other space stakeholders (Defence, Insurance Companies, Commercial Space Companies). Space MAP - Space Mission Assurance Platform - will be as powerful and sophisticated as Google Maps, serving as a foundational layer for space operations and astrodynamics. The purpose of S-MAP is to provide a one-stop solution for all space operations via a data feedback loop, i.e. gathering data from all data sources (telescopes, radars, Digantara satellites, GPS, and star trackers) for Space Situational Awareness.

#### **Societal Relevance**

Our mission assurance platform is revolutionary.

We are completely changing the way mission design and mission operations are carried out. Digantara's SCOT enabled satelite constellation can track 100X more objects in real time.

This provides our stakeholders with incredible analytics that are meaningful towards protecting their space assets. Through this, we elevate space governance.

#### Major achievements/Awards/Recognitions

- •
- Runners-up at Quest Ingenium 2019 by Quest Global •
- Astronautical Congress 2018, Bremen.
- Research Organization (ISRO)
- •
- programme.
- •
- •



Top 8 space ideas of the world at International Astronautical Congress 2019, Washington D C.

Research papers at International Astronautical Congress 2019, Washington D C and International

• Winner of Altair Optimization Contest 2019 by Altair India 5. Best student research 2017 by Indian Space

RFI provided by Defence Space Agency for SSA Services after physical meeting at IISc

Venture Catalyst : Invited by Australian govt. To set up a Subsidiary in Australia and help in boosting the Space ecosystem in Australia. Stipend of \$10K AUD for acceleration & funding up to \$4M AUD post

ISRO ARISE (ATAL Challenges) : Finalist | DD in Progress for 50 Lac. Grant

Selected by Govt. of Finland to Set up a Subsidiary in Finland, January 2020





AIC Name **AIC Jyothy Institute of Technology Foundation** 

Founder/Co Founder

Uthra M P & Maheswari M

Type **Product and Service** 

> Stage **In-Pipeline**

Target Market Domestic

> IP Status NA



Fly at Mach Innovations Pvt. Ltd. is a group of young, dynamic engineers and a knowledgeable workforce that will provide a new viewpoint to UAV applications in Agriculture, Security Surveillance, Industry, and Disaster Relief. Our products includes Drone and Docking station for the same. These charging station can act as wireless charging station and shelter to the drone. Charging stations fleet can also be maintained and it is customizable for all the drones depending on the size

#### **Societal Relevance**

Fly at Mach Innovations has young dynamic engineers and knowledgeable workforce will provide a brandnew set of eyes towards innovations in agriculture which will allow them to increase the crops yield.





Website

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## Garudaastra Aeroinventive **Solutions Pvt Ltd**

AIC Name AIC MUJ

#### Founder/Co Founder

Shwetha Yeluri, Sanjeev Adla, Shivadurga Madhav Gella

> Type **Product and Service**

> > Stage MVP

Target Market Domestic

> IP Status NA



The Startup has developed autonomous, and unconventional proprietary UAV that is capable of carrying 75 kgs cargo payload over a 50 km range. It provides aerial transportation services to deliver supplies at ship platforms, large warehousing platforms, and offshore platforms.

#### **Societal Relevance**

fighters, medical emergencies etc.





Website

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Helping the society by providing UAV's which can carry 75 Kg payload. These can be used in helping fire







#### AIC Name

**Codissia Defence Innovation** and Atal Incubation Centre

> Founder/Co Founder Nandakumar.M

> > Туре Product

Stage Commercialized

Target Market **Domestic and International** 

> IP Status NA



Unmanned areial Vechical & Friend or for identifier for Infantry forces, IAF had inducted Friend or Foe in which import cost saving of 6Cr INR Import substitution for IAF.

#### **Societal Relevance**

With a Mission to provide next generation state of art technology "Make In India" UAV drones and surveillance equipments for law enforcement agencies and security forces, Garudan is dedicated in designing in technologies which are technologically competitive in the world.

#### Major achievements/Awards/Recognitions

Indian army had inducted our drone and IAF had inducted Friend or For for infantry forces







Website

(14)

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## Mano Aircraft P Ltd

#### AIC Name

**Codissia Defence Innovation** and Atal Incubation Centre

Founder/Co Founder Pranesh Muruganandham

> Туре Product

> > Stage MVP

Target Market **Domestic and International** 

> IP Status NA



Composite Light Sport Aircraft manufacturing for defence and commercial customers

#### Major achievements/Awards/Recognitions

sport aircraft





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UNMANNED AERIAL VEHICLES/DRONES



Got Requirement from Indian Navy and working on Pilot Project (demo) 1. India's first composite built light





## **Nevar Systems Private Limited**

#### AIC Name

**AIC Pondicherry Engineering College Foundation** 

> Founder/Co Founder Naresh Kumar M.

Type **Product and Service** 

> Stage **In-Pipeline**

Target Market **Domestic and International** 

> IP Status NA



Nevar Systems originated in 2020 at Puducherry, with the aim of developing end-to-end drone solutions including the entire hardware and software stack. The founders have strong technical backgrounds in distinctive domains blended together to work towards a common goal, creating reliable eVTOL drone solutions for mapping and surveying. Nevar Systems eVTOL drones provide reliable solutions to work in complex environments to collect geospatial data aiding professionals in humanitarian aid, surveying, and engineering. It empowers the geospatial ecosystem by providing real-time near-human level perception; integrates into analytical workflows, driving data exploration, and automates the entire process of creating insights from large amounts of data.

#### **Societal Relevance**

Efficient water management, Remote surveillance and monitoring

#### Major achievements/Awards/Recognitions

Acquisition of 30 Sq Km Aerial Data Acquisition project from PWD - Tamil Nadu, PSDCL 150 Acre HD Aerial Maps for low income settlement areas in Puducherry UT, Highway Construction Monitoring 300 KM project for NHAI, Diversion of Flood Surplus water from Mettur Dam - TN PWD



Website

(18)





## **Tsalla Aerospace Technologies Pvt. Ltd.**

AIC Name **EIC SID** 

Founder/Co Founder Dr TSS Narayana, Vinayak Tsalla

> Type **Product and Service**

> > Stage MVP

Target Market Domestic

> IP Status Filed

Tsalla Aerospace Technologies Pvt Ltd is a startup dedicated to the development of Unmanned Aerial Systems which caters to the needs of civil and military applications including intelligence, surveillance, reconnaissance, humanitarian aid, organ transport and combat operations.

With focus on research, design, development, manufacture and integration of Unmanned Aerial Systems, our core competency is developing sustainable military and industrial grade products with certain redundant systems. Our products are an outcome of years of experience combined with innovation and continuous experimentation.

With in-house design and manufacturing capabilities, we are uniquely positioned to offer complete design, prototyping and production service for those with specific requirements. We offer greater performance, higher reliability and excellent quality.

#### Societal Relevance

With a vision to incubate innovative ideas and to develop all encompassing 'design to build' capabilities, resources and skills, so India is self-reliant in UAS technology within a short span of time.

And a mission to develop a variety of Unmanned Aerial Systems which cater to the needs of: civil applications such as helping rescue teams and humanitarian aid delivery during natural calamities, quick delivery of medicines to inaccessible locations, human organ transport during medical emergencies; military applications like intelligence, surveillance, reconnaissance, and combat operations.

#### Major achievements/Awards/Recognitions

DST Nidhi Prayas Innovation Award

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Website

(20)







## **Urbanmatrix Technologies**

AIC Name **EIC Amrita TBI** 

Founder/Co Founder **Rishabh Verma** 

Type **Product and Service** 

> Stage Commercialized

Target Market **Domestic and International** 

> IP Status NA



UrbanMatrix originated in 2019 at India's top engineering institute: IIT Madras. They are a group of passionate engineers who love flying robots. The founders have strong technical backgrounds with several patents and papers published under their names along with 'Best Entrepreneur Award' from IIT Madras and 'Certificate of Excellence' from DRDO.Commercialisation of drones began in 2013 with DJI Phantom and has grown multi-folds since. UrbanMatrix have expertise in designing and manufacturing industrial drone systems along with world-class proprietary software infrastructure. It allows enterprises to not only control and manage drones but also effortlessly draw functional insights using integrated aerial data processing tools

#### **Societal Relevance**

#### Reliable

Research and Development is at the heart of UrbanMatrix. MatrixOS (Proprietary on-board Operating System) ensures safety and reliability in every single flight

#### End-to-end

Integration of aerial data within the workflow can be a challenging task. UrbanMatrix provides a complete solution ensuring seamless integration of aerial data within your workflow

#### Easy

Planning and execution of aerial missions has never been easier. Thanks to UrbanMatrix's portable LaunchPad with features like 1-click NPNT approvals

#### Scalable

UrbanMatrix offers a unique set of solutions that are designed to help you scale your operations effortlessly



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Website

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## **Vellon Space Private Limited**

#### AIC Name

**Codissia Defence Innovation and** Atal Incubation Centre

Founder/Co Founder

Ajaykumar JK

Туре **Product and Service** 

> Stage MVP

Target Market **Domestic and International** 

> IP Status Filed



Vellon Space private limited is a two year old Indian private commercial small satellite launch service provider and space transportation company located at India's first defence incubation center CDIIC, Coimbatore (TN). The company designs and develops an end-to-end small satellite launch vehicle - RUDRA Series. The vehicle can be customised for any launch mission. The company designs and develops its first launch vehicle Rudra 1 which is India's first high altitude launch vehicle. The firm plans to design and build affordable space launch vehicles dedicated to micro and nano-satellites around the world.

#### Major achievements/Awards/Recognitions

- India's first High Altitude launch platform
- Recognised space tech startup from ISRO/INSPACE





Website

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# ELECTRIC VEHICLES (EV)

India is the fifth largest car market in the world and has the potential to become one of the top three in the near future. The current trajectory of adding ever more vehicles running on expensive imported fuel and cities suffering from infrastructure bottlenecks and intense air pollution creates the need for electric mobility transition. This section highlights the innovations of Electric vehicle manufacturers with solutions ranging from micro-mobility to E-bikes. Batt: RE: RE:charge | RE:start | RE:lax



R/PTEE



















Detachable LFP Range Guick Charge Battery Bo Kilometers 3 hr o min

## Battreelectric Mobility Private Limited

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder
Nishchal Choudhary

Type Product

Stage **Commercialized** 

Target Market **Domestic** 

IP Status **NA** 



Electric 2W for urban consumers which is affordable, aspirational and easy to use. This is specifically designed for middle income urban consumers to bring down the cost of travel and pollution from the transport sector while increasing EV adoption

#### **Societal Relevance**

Batt:RE is ideated and incubated with the purpose of achieving performance sustainably, we let you drive sustainably – without compromising on performance. Our technologies not only help to save the planet, but also give you more enjoyment on every ride.





Website

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## Catalystgreen **Private Limited**

AIC Name AIC Pinnacle Entrepreneurship Forum

> Founder/Co Founder Mustafa Karampurwala

> > Туре Product

> > > Stage MVP

Target Market **Domestic and International** 

> IP Status NA



Catalyst green is a micro mobility business accelerator platform and wants to enable entrepreneurs to start their micro mobility business in a few simple steps and let them choose the various business bundles and focus on what they are good at and what they want to be good at.

#### **Societal Relevance**

Green initative which aligns to Green India policy





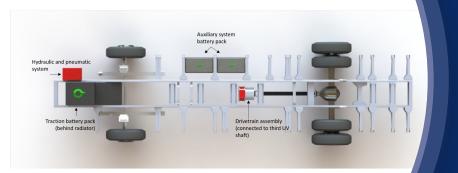
Website

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### **CellProp Pvt Ltd**

AIC Name **AIC Sangam Innovation Foundation** 

> Founder/Co Founder Nakul Kukar, Paras Kaushal

> > Type **Product and Service**

> > > Stage Commercialized

> > > > Target Market Domestic

> > > > > IP Status Filed



Cell Propulsion is an electric mobility company based in Bangalore, India that designs and develops electric power trains and autonomous electric mobility solutions for multiple modes of transportation.

#### **Societal Relevance**

Cell Propulsion integrates all the critical attributes of Smart, Electric Mobility, to provide economically viable EV solutions for Intra-city Commercial Vehicle Fleets ranging from 1.5ton LCVs to 20ton Buses and Trucks which aims at Zero Emissions, Zero noise, Zero congestion, Zero accidents.

#### Major achievements/Awards/Recognitions

and its commercialization





Website

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Conducted Pilot with WRI and BMTC (Bangalore) - Electrification of Public Transport:

OEM Perspective on e-Mobility / Winners of UNIDO's FLCTD Challenge - that facilitates identification of innovative low-carbon technologies in India and provides financial support up to US \$50,000 for validation





## NTREPRENEURSHIP CENTRE



## **DELTA X**

AIC Name EIC SID

Founder/Co Founder **Kithir Kareeb Navaz** 

> Туре Product

> > Stage MVP

Target Market Domestic

> IP Status Filed



anywhere with ease.

#### **Societal Relevance**

Integrating micromobility with public transport can create equitable access to mobility by expanding travel options for BIPOC and low-income communities that do not live within walking distance of public transit stations. While transportation electrification is a key solution for reducing emissions, in cities, electrification needs to be combined with better connectivity and equity, in order to drive the most positive impact.

#### Major achievements/Awards/Recognitions

Staratup Karnatka Elevate 2020 Runner





Website

34

35

### JELIN X AUTOMOTIVE

Developing Micro mobility platform with swappable battery. KIX is a portable bike that can be charged





## Elektroforz

AIC Name AIC RNTU Founder/Co Founder Mr. Abhishek Sharma, Surbhi

> Туре Product Stage MVP

Target Market Domestic

> IP Status NA



Elektroforz is into Retrofitting EV bike and converting the vehicles into electric or hybrid model. They are contributing towards clean mobility and achieving Sustainable development Goals.

Elektroforz has launched Raptor 2.0 with 80 KM/H top speed, range of 120KM in single charge and 0-80% charging in just 3 hours. They also convert existing vehicles into complete EV or Hybrid as per the demand of the customer; promoting use of EV in all household.

#### Societal Relevance

• Contributing toward making EV Sector strong



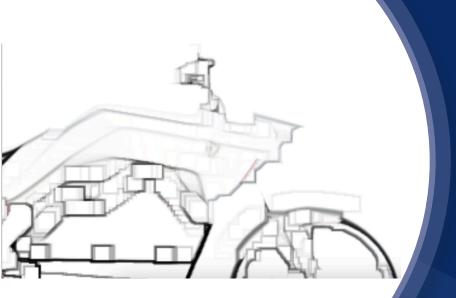


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### **Future Garages**

AIC Name **AIC Bimtech** 

#### Founder/Co Founder

Shashi Pathak, Desh Deepak Dwivedi, **Hitesh Gautam** 

> Туре **Product and Service**

> > Stage MVP

Target Market **Domestic and International** 

> IP Status Provisional



Future Garages is a new EV firm that is designing the next generation of motorcycles to take on Indian roads more effectively, with greater stability control and a strong build. Electric motorcycles will outperform ICE motorcycles in terms of efficiency. Removing gasoline-based ICE reduces unnecessary weight, allowing for more freedom in futuristic design. This also results in less maintenance, i.e. no oil leakage, reduced noise pollution, and environmental pollution.

#### **Societal Relevance**

Developing highest number of safety patents. Complete manufacturing based out of India. Low-cost high performance motorcycle for the masses.

#### Major achievements/Awards/Recognitions



38





Incubated at AIC-BIMTECH, Selected at IIT MANDI Catalyst, recognised by IIT DELHI, IIT MADRAS.

Selected for design prototypinng at DIC, University of Delhi and Espark Vridian Ventures.







## Hulikkal Electro (India) **Private Limited**

AIC Name AIC Raise

Founder/Co Founder Prashant Goel

> Type Product

Stage

Commercialized

Target Market **Domestic and International** 

> IP Status NA

Hulikkal Electro India Pvt. Ltd. (Hulikkal) was incorporated in June, 2012 and is India's first Lithium-Ion battery technology based manufacturer of electric vehicles with a state of the art manufacturing facility and corporate office located at Coimbatore, Tamil Nadu,

Hulikkal entered the Electric Vehicles market after 4 years of extensive research in Electric Bicycles and Scooters segment with its wide range of premium products.

Hulikkal believes in an inclusive growth philosophy encompassing all the stakeholders - the environment, the company, its employees, suppliers, dealers and customers. We are an innovation driven company and intend to have Sales and Service partners across the country and become leading players in all segments that we are present.

We have aligned ourselves with a vision based on an ecological and a socially responsible framework with the idea of becoming a green, clean, economical and a 'Zero Pollution' transportation service provider through its wide range of Electric Vehicles.

#### Societal Relevance

In todays world Electric Vehicles are most relevant to the society as they do not use any fuel, they also cost less and have zero maintenance

Electric Cycles also promote fitness as they help non cyclers to take up cycling, E Cycles are also used for commutation, Recreation and for Fitness. E Cycles are the lowest cost method of motorised mobility, most sold electrc vehicles globally, electric bicycles are used not only by individuals but also by business for delvieries, and for shared mobility in crowded cities

#### Major achievements/Awards/Recognitions

- Lithium Ion Batteries.
- Received grant from EDII, TN.

prashant.goel@hulikkal.com



Website

(40)



Awarded 4 Guinness World Records for Longest Distance travelled on an electric bicycle.

• First Company in India to get ARAI Approval for E Bikes and First in the Country to launch E Bikes with







## nikhil.gonsalves@ingoelectric.com



inGO Electric Pvt Ltd

AIC Name

Type

Product

**In-Pipeline** 

Domestic

IP Status

Filed

Target Market

Stage

**ANIC Winner** 

Founder/Co Founder

**Nikhil Gonsalves** 

Website

(42)



The age of micro-mobility has changed the way we travel. Modern times require modern solutions. In an age where traffic congestion eats away a major chunk of your precious time, inGO's effective micromobility solution helps you travel anywhere faster, safer & seamlessly.

InGO e-scooter has been carefully designed to help commuting feel like a breeze while also paying close attention to the demands of factories, airports, hotels and apartment complexes as well.

inGO's not one, but three smart e-scooters are designed to provide riders with the best experience imaginable. inGO Mini, inGO Flee and inGO Tron are each designed for different situations so that you don't lose out on the most important part - having a joyful ride.

#### **Societal Relevance**

Given the vehicle's easily adoptable frame and platform, the vehicle serves:

- buildings

#### Major achievements/Awards/Recognitions

- Winner Elevate Karnataka •
- Winner IIT-CZC •
- Winner. IIT- Sona Comstar •
- Winner IKP EdEn Nidhi Prayaas
- Altair Best engineered vehicle 2021

ELECTRIC VEHICLES

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• Rural India where fishermen, milkmen, farmers need to carry their items through rough terrain Indian Army and Police where patrolling demands sturdy vehicles and high load carrying abilities Airport use case where Airport staff and employees can move around the towers, satellite





## Krishigati Pvt Ltd

AIC Name **AIC Pinnacle Entrepreneurship Forum** 

> Founder/Co Founder **Tukaram Sonawane**

> > Туре

Product

Stage MVP

Target Market Domestic

> IP Status Filed

> > (44)



Krishigati is aim to provide sustainable and value-added products and services to our marginal farmers with pure intent to make their activities and life easier than existing. Krishigati aims to cut down 20-60 % farming expenditure and contribute to doubling the income of marginal farmers, which is also the initiative/ goal of the Department of Agriculture, GOI.

#### **Societal Relevance**

- Helping to marginal farmer for reduce the overall expenditure about 50%
- Contribute in the Gol mission as doubling the income of marginal farmer
- First ever in the segment of Axleless Vehicle for intercultural operations
- No need for special purpose machinery for each operation
- Time saving, Convenient, efficient and less cost for each intercultural operation.
- Relief from high expenditure and dependency on labors

#### Major achievements/Awards/Recognitions

- Winner at COE Motion, STPI Pune
- •
- Winner at RKVY RAFTAR, CCS NIAM NABI Winer at TiED 2.0, AIC Pinnacle Winner at SISF MITADT Incubation Forum • Winner at NIDHI Prayas, COEP Bhau Incubator Winner at Chunauti 2.0, STPI Bhopal Winner at FASAL 1.0, PDKV-STPI Pune Participated in Agri Expo- 'Krushik-2022' at Baramati ۰ Participated in 'KrushiVishwa-2022' at Sangli Participated in Pune start up Fest 2022 •

ELECTRIC VEHICLES













## **Raptee Energy Pvt Ltd**

AIC Name AIC AU Founder/Co Founder **Dinesh Arjun** Type Product Stage MVP Target Market **Domestic and International** 

> IP Status Filed

Website

(46)

Simply put, there is no electric two-wheeler in the market to compete with petrol powered motorcycles in terms of Performance vs Price quotient. RAPTEE ENERGY's value proposition is to provide an affordable, always connected motorcycle designed and built ground up that performs on par with its gas-powered counterpart made for the Indian demographic. With more than 90% localization of parts, the vehicle is indigenously designed and manufactured in India.

As they quote 'We know what we love - making motorcycles and we know what people love - to drive around on them and we realised that the natural next step for us is to make them environmentally sustainable. Social attitudes towards green technologies is deeply encouraging, as we are seeing from the success of electric cars. We want our motorcycles to provide riding experiences that are gratifying but at the same time taking the least possible toll on the environment. We believe our electric motorcycles will soon reach a graceful position in the space of viable vehicles, for that is the passion and commitment with which we are driving Raptee and the question behind it.'

#### **Societal Relevance**

Raptee's mission is to bring safe, smart and sustainable mobility to the masses of India

#### Major achievements/Awards/Recognitions

- 2021.
- Selected for first batch of motion CoE by Meity. •
- tech ecosystem.

ELECTRIC VEHICLES





## R/PTEE

• MoU signed with Government of Tamilnadu for setting up manufacturing facility in November

Featured in Yourstory as one of 12 early stage startups signalling the growth of chennai deep





AIC Name **EIC Amrita TBI** 

Founder/Co Founder Balasurya

Type **Product and Service** 

> Stage **In-Pipeline**

Target Market **Domestic and International** 

> IP Status Filed



#### Major achievements/Awards/Recognitions

- Carbon Accelerator.
- Bird Press Coverage.
- of Rs. 5lakhs.
- Youth Co:Lab organized by UNDP, AIM, and NITI Aayog.
- •

Sand Bird



Website

(48)

ELECTRIC VEHICLES



SANDBIRD RESEARCH AND DEVELOPMENT PRIVATE LIMITED is a tech organization based in Chennai where they analyze problems, design and develop new products to make life of people easier from different

• Sand Bird is one of the top 25 startups in India to be recognized by UNIDO through FLCTD Low

• Their product has been selected as the top 25 products of CZC- IITM and covered by various media. Kindly have a look at the media report of the same by clicking the following link: Sand

• They are one of the winners of TNIGC 2020 initiate by Tamil Nadu Govt. for which we got a grant

Recognized as one of the top 30 innovative product in India with strong impact potential by

Finalist of Amazon Web Series- Campus Fund and presented in front of Mr. Sriharsha Majety (CEO & Co-Founder Swiggy), Mr. Phanindra Sama (Founder- redBus)



## **STIGER EV**

## **URBAN LOGISTICS IS NOW QUICK & SECURE**

with Our High-performance Electric Reverse-Trikes

## **Speedloop Auto Private Limited**

AIC Name **EIC TREC-STEP** 

Founder/Co Founder Gayathri Jadhav, Hamuna Aditya

> Туре Product

Stage

**In-Pipeline** 

Target Market Domestic

> IP Status Filed

Total Cost of Ownership (TCO).

#### Major achievements/Awards/Recognitions

DST NIDHI Prayas Program

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Website

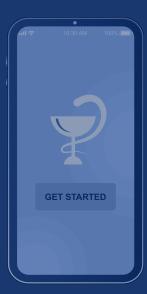
50

51



Small modular electric vehicle for commercial/industrial and rural applications with better uptime and low





## **EMERGING MOBILITY SOLUTIONS**

The growing awareness of clean and sustainable transportation in connected mobility and looking beyond the conventional methods of transportation are disrupting the trends of the mobility industry. The future of mobility is shifting to an environmental-friendly, connected, autonomous, shared and personalized commuting system.



 $\mathbf{E}$ 









## GadiRepair













Truck equipped with

AeroTruck kit

Average truck

> 10% fuel savings

100 m

## Aria Aerotech Pvt. Ltd

AIC Name **EIC 91 Springboard** Founder/Co Founder Prithvi Sai Penumadu Type **Product and Service** Stage Commercialized Target Market Domestic IP Status Filed

India's growing economy over the last two decades has resulted in an increased demand for commercial and passenger vehicles. The vehicle penetration numbers are still low in India as compared to rest of the world, and yet there is already a severe pollution problem in major cities. With the number vehicles poised to grow, this problem will become ever more important in the coming years. Thus, making transportation of goods and people more efficient is one of the major challenges of our generation and necessary to have sustainable economic growth. Our aim is to develop products that increase the fuel economy, payload and range of vehicles in India. This will result in increased profitability and lower vehicle emissions. AeroTruck™ is an aftermarket product that fleet owners can install on their closed-body trucks. The product streamlines the airflow around the vehicle, reducing the energy required to overcome air drag. In this way, the load on the engine is reduced and fuel efficiency increases.

#### Societal Relevance

Increasing environmental constraints and increased energy costs have renewed the interest in aerodynamic design of heavy duty vehicles. The aerodynamic flow around heavy duty vehicles is, in many ways, more complex than around aircraft. These aerodynamic surfaces streamline the flow around the truck there by decreasing the air resistance or drag on the vehicle which reduces the fuel consumption of the vehicle by upto 15%. The reduction in fuel consumption not only reduces the fuel import bill of the nation but also reduces the emissions from the commercial vehicles.

#### Major achievements/Awards/Recognitions

• Won 3rd Smartcity conference mobility solutions award

EMERGING MOBILITY SOLUTIONS





Website

(54)







AIC Name **EIC ALEAP WE HUB** 

Founder/Co Founder Ms. Santhoshi Buddhiraju

> Type **Product and Service**

> > Stage Commercialized

Target Market **Domestic and International** 

> IP Status NA

Website

(56)

Autocracy Machinery is India's leading manufacturer of speciality constructin and agricultural machines and attachments. Through its machines they are enabling oour country to move forward it a rapid pace. Its machiners deliver real impact by providing safer, faster and preuse solutions to its customers. The machines are currently used in some of largest infrastructure projects for laying cables, drainae and irrigation pipes accorss the country. Currenct line os production include trenches, ditchen, pde diggers and portable multi attchment vehicle.

#### **Societal Relevance**

Building products with quality, reliability, performance, efficiency, accurary with cost and time efficiency.

#### Major achievements/Awards/Recognitions

- Business World Women Entrepreneur of the year 2021 in Engineering and Construction
- Startup of the Year 2020 from WeHub ALEAP
- Advance WE GrowthX Seed Fund Scheme through ALEAP WE Hub













#### AIC Name AIC Rambhau Mhalgi Prabodhini Foundation

Founder/Co Founder Shailesh Dhuri

Туре

Stage Commercialized

> Target Market Domestic

> > IP Status NA



Empyreal Galaxy is a modern, technology enabled airship company, with meaningful applications in Defence, Telecom, Cargo & Logistics.

By applying technologies of AI, ML and IOT, our vision is to use airships to meaningfully improve lives of 5 billion people in less developed regions, in next 20 years by removing infrastructure constraints to effective trade, travel, connectivity & disaster relief, thereby reducing digital poverty & becoming backbone of new global trade order.

#### **Societal Relevance**

- & economic prosperity
- digital divide
- Cargo airships to save lives during disasters

#### Major achievements/Awards/Recognitions

Invited to present and chair prestigious global airship conferences at German Presidency Event in Berlin and EU Green Week, organized by the Quebec Government office in Brussels.



2000



Website

(58)



• Surveillance aerostats for strengthening Indian defence infrastructure to enhance nation's security

• Using aerostats as mobile towers for low-cost internet connectivity in remote regions to reduce

Cargo airships for delivering goods to areas, not accessible by other transport means, thereby promoting an equitable and inclusive economic growth and development







## **Evolved Transportation System Pvt Ltd**

AIC Name **AIC EMPI Incubation Foundation** 

> Founder/Co Founder Faizan Khan

> > Type Product

> > > Stage

**In-Pipeline** 

Target Market **Domestic and International** 

> IP Status Filed



Working towards innovation and technology development for hassle free mobility of essential services vehicle like ambulance and fire brigade.

#### **Societal Relevance**

Emergency Vehicle Approaching Light is a direction based advance warning system, that helps emergency vehicles such as ambulances, firefighting trucks and other rescue vehicles move faster in a traffic jam situation. As a result, it will help save thousands of lives and huge property losses that occur due to the late arrival of emergency vehicles.

#### Major achievements/Awards/Recognitions

- Selected by NASSCOM Startup Hub Community.

- India.
- Patented technology. ۰
- Department.





Website

(60)



A DPIIT recognized and MSME, WEP Registered Startup.

Lol signed with Brainy IoT Private limited for technology development and technology transfer.

Done a joint exercise to address the problem faced with Delhi fire service department.

MoU with Onnyx Electronics Private Limited, one of the leading Traffic Signal Manufacturer in

In contact with other emergency service providers like CATs Ambulance and Delhi Traffic Police





Gadirepair.com is a Multibrand Car Repair & Maintenance services Startup, working towards making your Car Service experience more convenient & reliable along with 24x7 road side assistance. We are already delivering relaxed car service experience to more than 8000 customers & have presence in multiple cities.

#### Societal Relevance

We are working towards organising the highly unorganised market of car and two wheeler repair and maintenance industry. Untrained mechanics, unavailability of Special tools, Use of fake parts, Overpricing, recommending unnecessary repairs, misguiding customers, lack of transparency have broken the precious trust of vehicle owners on mechanics, indirectly made it difficult for them to keep their vehicles in top condition. At GadiRepair, it is our attempt to flush out all the above factors by providing you convenient, transparent and reliable services. We do it by offering you free pickup and drop, Trained Mechanics, Best Quality Spare Parts, Automated Workshops, Uniform & Affordable Pricing, Trained & Educated Advisors to recommend You the really required jobs.

## Gadirepair.com ondoor & onspot services LLP

AIC Name **AIC-RNTU Foundation** 

#### Founder/Co Founder

Ashish Sahu, Bhuvnesh Sahu, Ganesh Gaikwad, Ankit Solanki

Type

Service - online

Stage

Commercialized

Target Market Domestic

> IP Status NA





Website

(62)

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How We Work

An Easy & Systematic Operating Procedures Throughout

Gadirepair.com - Reliable, Economic and Effortless Multibrand car care Solutio

Schedule Pickup or Drive

After your queries are answered

Get the Service Appointment.

problems

ection and Wa

Live Service update

You get all service updates

from Oil changing Video to

Replacement photos on y

whatsapp

Estimate After Inspection Get Work

Estimate & Delivery Time.

## GadiRepair



#### A glimpse of what we did!





## **Mihirahs Foods Pvt Ltd**

AIC Name AIC CCRI CED Founder/Co Founder Mr. Akshay Meda Туре Product Stage MVP Target Market

Domestic

IP Status NA



Built a coffee grinding unit on a mini truck, with best in class machinery anda generator to power them all,We carry roasted seeds along for the customer to choose from.

#### Societal Relevance

Startup working on electric vehicle to supply coffee and also to reduce environmental pollution





Website

64

65





## myUDAAN (Tekra **Solutions Pvt Ltd)**

AIC Name **AIC ISB Association** 

Founder/Co Founder **Ravindra Singh** 

Type **Product and Service** 

> Stage Commercialized

> > Target Market Domestic

> > > IP Status Filed

myUDAAN is building special mobility solutions for Elderly & Person with disabilites for (people with limited mobility). A single epi-center app connecting Technology, Product & Services creating India's first Mobility ecosystem. myUDAAN a single epicenter app that connects users to mobility products and services. They offer a comprehensive and vetted care program that provides on-demand assistants for in-premise and outdoor mobility. Their mobile application has unique industry-first accessibility and mobility assistance service. There innovation is solving interrelated problem likes, mobility, assistance, and accessibility. They have used technology in the form of the myUDAAN mobile application. In technology terms, they call it uberisation to help PwD and the elderly community.

#### **Societal Relevance**

- dignity.
- promoting independence.

#### Major achievements/Awards/Recognitions

- Received NCPEDP 11th Universal Design Award
- community.
- Selected by ZERO Project •
- Winner of Vihara Aisa •

ravindra.singh@myudaan.org



(66)



rcedes-Benz



• On Individual, this will provide individuals with unrestricted mobility as well as independence and

• On a societal level, they will be included in society, releasing them from social stigma and

• On a national level, the inclusion of the elderly and those with disabilities contributes to an increase in revenue for the government, which raises the GDP

 NASSCOM Foundation applauded the soicalinnovation by myUDAAN, India's 1st free wheelchair service, that harnesses mobiletechnology to promote accessibility to the elderly & PwD



## **Primerail Infralabs Pvt Ltd / iGowise Mobility Private** Limited

AIC Name **EIC TREC-STEP** 

Founder/Co Founder Suresh Babu Salla

Type **Product and Service** 

> Stage MVP

Target Market Domestic

> IP Status Filed

"Maximize Sustainable Mobility"

It provides niche Engineering services and offer Mobility Products. The future of Mobility is Electric and Digital. Autonomous Rove (Robotic Vehicle) and iGo (Stable & Comfortable EV 2W) are being developed towards smart green mobility.

#### Major achievements/Awards/Recognitions

- Three stations-430m Rove test bed
- ASCE Next Gen Transport Award-2019
- NSA Finalist 2020
- Project Move Grant •

TieTran ROVE





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Primerail & iGowise are Bangalore based Transportation & Mobility sister companies with a Mission to





## **Sambhav Innovation Ventures Private** Limited (Letspark)

AIC Name EIC NSRCEL

Founder/Co Founder Nimesh Damani

Type Service - app based

> Stage Commercialized

> > Target Market

IP Status



LetsPark is one of the first few companies in India to offer FASTag integration with parking solution. Make your parking solution completely cashless and more efficient. LetsPark's parking platform can be deployed on parking lots of any size and provide a real time view to parking lot owners and users, bringing a high level of efficiency and reliability to the overall experience.

#### **Societal Relevance**

We have designed LetsPark parking management solution such that it can be implemented across facilities where parking plays an essential role. We customize service delivery to meet the specific needs of each parking facility, with the goal of complementing their existing ideals and business strategies.







Website

(70)







AIC Name **AIC EMPI Incubation Foundation** 

#### Founder/Co Founder

Anand Omanna Kutre, Naina Shivajirao Padaki

> Type Product

> Stage

Commercialized

Target Market **Domestic and International** 

> IP Status Published



At True Assistive Technology, we develop Assistive tech products of International standards that enable disability inclusion. We want to make in India, quality and standardized products for India. We want to emerge as leaders in Assistive Technology and contribute positively to the upliftment of PwDs. This first solution TurnPlus, launched in the second half of 2017, is a award winning, patent pending, easy to install, swivel seat mechanism for cars, which addresses a very important aspect of easy commute for the differently abled, thus creating an inclusive ecosystem. It is designed to improve the quality of travel and life by making car travel easy for people with multiple medical conditions. We have close to 100 users who find TurnPlus very useful. The kind of feedback and encouragement we get from the community is overwhelming. We see a huge need in India for Assistive tech products.

#### **Societal Relevance**

- Assistive Technology solutions to empower the PwDs
- Assist the ageing population to be independent
- Enable Inclusivity from mobility perspective
- Environment friendly solution by avoiding special car fleet ۰
- Contribution to governments PwDs agenda

#### Major achievements/Awards/Recognitions

- Mphasis



Website

(72)





• Winner, January 2020, BIRAC - Social Alpha Quest for Assistive Technologies, Supported by

• Winner, March 2020, Government of Karnataka, Department of Electronics, IT, BT and S&T, ElevateCall2, organized by K-Tech and STARTUP Karnataka



Solution Suite

#### Hardware + Software for DaaS operators

. Custom storage payload 2. AI-based delivery routing software







**Volar Alta** 

AIC Name AIC RNTU

Founder/Co Founder Niharika Kolte

Type Service - app based

> Stage MVP

Target Market Domestic

IP Status

NA

Volar Alta is a one-stop-solution for every drone-related applications. Masters of technology in LiDAR, Thermal, Multispectral or Hyperspectral. Name the sensor and we have it perfectly ready and calibrated to conduct flawless inspections. Our team of experts knows exactly which drone-and-sensor duo needs to get to work to extract the best possible results for your specific application. Volat Alta is providing their services for Industrial Inspections, Security and Surveillance and Marketing and Films among others.

#### **Societal Relevance**

- Increase Patientpenetration by life sciences companies •
- Improve Adherence and quality assurance for clinical trials in rural locations
- reduce medical stockouts and wastage
- imporoves availability of cold-chain medical essentials

#### Major achievements/Awards/Recognitions

- Awarded INR 70 Lakhs as grant from UK FCDO The British High Commission
- Awarded INR 8 Lakhs as grant from the Gol Nidhi Prayaas Scheme
- Awarded INR 2.75 lakhs as grant from IIM Bangalore Women Startup Program
- 2 Year Partnership with KEM Hospital Research Center

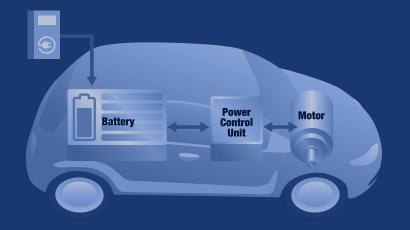


Website

(74)







# **EV ANCILLARIES**

The EV Ancillaries industry is an emerging industry as it contributes to the growth of the EV industry. These companies manufacture batteries, motors, battery management systems, recycle batteries and other critical components for the EV industry. Electric Vehicle Ancillaries will facilitate the growth of the Electric Vehicle industry by reducing the dependency on imports for the supply chain, moving us forward to the goal of being self-reliant. **KENERGY** 











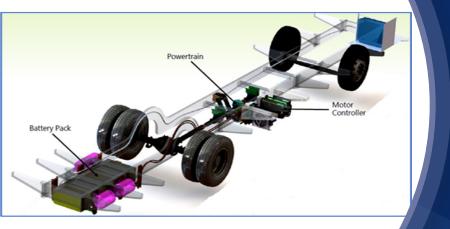














## IX Energy Pvt Ltd

AIC Name AIC Sangam Innovation Foundation

> Founder/Co Founder Anshu Dewan

> > Туре Product

> > > Stage MVP

Target Market Domestic

> IP Status NA



IX energy develops semi and fully electric powertrains. The retrofittbale Electric Energy Drive system saves 66% on operational cost without compromising on vehicle performance. The solution is designed to transform your fleet of last-mile delivery and warehouse-to-warehouse movement logistics vehicle into Full Electric vehicle.

#### **Societal Relevance**

#### Sustainable and Viable

Our innovative technology solutions mean that retrofitting and reusing an old vehicle is not just less carbon intensive, but half the cost of buying a new vehicle.

#### **Big on fuel savings**

Our technology allows for up to 75% reduction(Full Electric) & 20% reduction(Hybrid Electric) in fuel costs as compared to diesel respectively. The savings pay back your investment in a mere 3-4 years.

#### Best ROI

Give better performance on routes with a high frequency of braking and acceleration, such as an intra-city bus or cargo routes. We offer you a highly attractive return on your investment.





Website

(78)







## Jascon Energy Pvt Ltd

AIC Name EIC TREC-STEP Founder/Co Founder Mr. Wilson Michael

Туре Product

Stage Commercialized

Target Market **Domestic and International** 

IP Status Filed



A leading Lithium Battery pack Manufacturer in the country for all electrical applications that requires power ranging from 3.2V to 1000V and batteries in the range of 6Ah to 1000 Ah. It also manufacturers "Solion Inverters" (inbuilt Lithium-ion Battery)

#### **Societal Relevance**

- JEPL Designed Smart BMS
- Constant Power delivery & less Energy Consumption
- Battery packs with High Energy Density
- SoC, DoD, Battery Health App Monitoring and GPS Tracking •



Website



81







• High voltage application upto 360V/From 12V upto 360V- RS232, RS485 and CAN2.0



## **Meladath Auto Components Private** Limited

AIC Name **ANIC Winner** 

Founder/Co Founder Rakesh MK

> Type Product

Stage **In-Pipeline** 

Target Market Domestic

> IP Status Published



With the Mobility space getting revolutionized by electric power-train, we did not want to miss this opportunity. and also ,we did not want to adapt the conventional approach of building another electric scooter or bike just to be in the game of e-mobility market

Hence we decided to work on Idea-ting FRUGAL Solution's for accelerated adaption of electric mobility and our decision was to address the existing 30 million plus scooter market with a novel electric solution which can be easily fitted on them.

/welding / fabrication job.

#### **Societal Relevance**

Developing products and solutions driving sustainability and profitability with a focus on Electric Mobility Components Value chain and solutions.

#### Major achievements/Awards/Recognitions

- Best Startup from AMRITA TBI -2016 •
- Elevate Kartnataka 2017 ۲
- Social Alpha- 2019
- RAMAIAH Star startup award-2021
- ARAI TECHNOVUUS Innovation award-2022



(82)

83



GHA

-1 -1 - 100-0

EZEE (3



Adaption/Fitting of the kit can be done with in 30 mins. And this adaption is reversible, ie if the user is not satisfied whole electric system can be removed and can go back to petrol only scooter without any cutting



## **Minimines Cleantech Solutions Private** Limited

AIC Name AIC MUJ

#### Founder/Co Founder

Dr Ajay Saini, Arvind Bhardwaj, Anupam Kumar

> Туре **Product and Service**

> > Stage MVP

Target Market Domestic

> IP Status NA



#### **Societal Relevance**

Helping the society by recycling the Li-ion batteries, disposal of which is a big issue for the society.





Website

84

85



🧕 ajay.saini@jaipur.manipal.edu



Minimines Cleantech Solutions is working towards recycling of Li-Ion batteries. With focus on Unified Method to simplify the process of recycle of Li-ion batteries, A cost effective model and eco friendly in





203 m



## Pixy Electric Cars Pvt. Ltd

AIC Name
ANIC Winner

Founder/Co Founder Rajeev Ranadive

> Type Product

Stage In-Pipeline

Target Market Domestic and International

> IP Status **NA**



PIXY ELECTRIC CARS PVT. LTD, established in the year 2016, is an electric powertrain specialist and has developed "electric conversion kit" to convert existing cars to electric. Pixy is a pioneer in 'Electric Conversion Kits' for its wide range of passenger cars and military vehicles (Manned and Unmanned Ground Vehicles). The key technology is its state-of-the-art PMSM motor, which has been developed in-house because commercially available EV application motors are not compatible with the drive of an existing ICEV.By developing a speciality and electric conversion kit, the company extends the life of existing vehicles at a price point that is compelling to customer adoption.Pixy also plans to address the growing opportunity in the luxury car market, often diesel vehicles, which are required to be phased out after 10 years of use. Pixy's powertrain technology will enable conversion of these cars at a fraction of the price of a new luxury vehicle, thereby extending the life of the vehicles while reducing automotive waste and pollutants.

#### **Societal Relevance**

PIXY ELECTRIC CARS has developed a bolt-on kit to convert existing vehicles to electric. Pixy has designed and developed a "repowering kit". These vehicles had been subjected to field test at one of the most challenging terrain and for most economically backward population of forest dwellers. A prototype car has been built which is being field tested at Ranthambore Tiger Reserve since 1st May 2018. Importantly, the vehicle owners are convince about the benefit of converting their vehicles because they save Rs 1200 per day in fuel cost, which increases their take home income even after payment of EMI for the loan they may have to take for the cost of the conversion kit. Pixy plans to sustain this project by generating revenue by sale of "conversion kits". Such interventions for Electric Mobility will not only mitigate pollution and environmental damage but eases multiple local problems as well.

#### Major achievements/Awards/Recognitions

- Has won Atal New India Challenge
- Innovation ideas in Practise 2010





Website

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allenge



## Rechargion Energy Private Limited

AIC Name

#### Founder/Co Founder

Dr Vilas Shelke, Dr Manjusha Shelke, Dr John Normanton, Tom Sopwith

> Type Product

Stage

In-Pipeline

Target Market **Domestic** 

IP Status



Rechargion Energy is designing a p stationary and mobility applications.

#### **Societal Relevance**

Making Next Generation Sodium-ion and lithium-sulfur batteries for a sustainable future.





Website

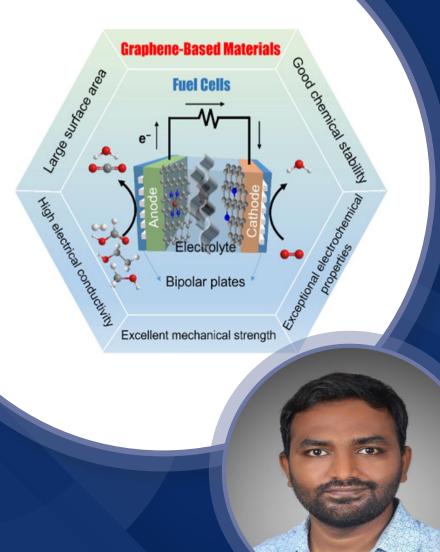
88

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Rechargion Energy is designing a plug and play Li-S battery capable of providing energy supply for





## **Terracarb Pvt Ltd**

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder Solomon Jones

> Type **Product** Stage

In-Pipeline

Target Market Domestic and International

> IP Status Filed



Terracarb is an Indian deep science enterprise working toward democratizing the use of Graphene. The company's proprietary circular-economy driven production process enables the production of Graphene in metric ton scale, overcoming conventional challenges related to consistent quality, scalability and sustainability. Terracarb's proprietary technology for Graphene hybridization can enable in development of state-of-the-art Supercapacitors, with high energy density and cycle life that can reduce operational cost and range anxiety for EVs

#### **Societal Relevance**

#### Price-performance ratio

Terracarb's production process has been subjected to intense scrutiny to deliver high-quality Graphene at affordable pricing. This enables us to deliver maximum value to our customers.

#### Circular economy

Sustainability is at the core of all technologies developed at Terracarb. By utilizing a circular-economy driven process, we ensure the production of Graphene without any Environmental impact.

#### **Product customization**

Chemical and physical modification of Graphene is made possible with our technology. This enables us to deliver customized solutions to our customers, at class-leading lead times.

#### Scalability

By utilizing high volume production chemicals and conventional industrial processes, Terracarb's production process could be readily scaled to produce more than 5000 metric ton of Graphene powder per annum .





Website

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## **Torus Robotics Pvt Ltd**

AIC Name **AIC Sangam Innovation Foundation** 

> Founder/Co Founder Vignesh Manimaran

Type Product Stage MVP

Target Market **Domestic and International** 

> IP Status Filed

Torus Robotics is India's first Tech startup recognized by Startup India (DIPP 51485), working on Unmanned Ground Vehicles, Robotics and Indigenous & Disruptive Powertrain technology for the Defence, Aviation, Automotive & Consumer markets.

The startup is India's First and Youngest Defence Startup to Indigenously Design, Develop and Deliver India's Largest Fully Electric Unmanned Ground Vehicle (UGV), equipped with a 6 DOF Robotic arm, for detection, identification and disposal of life menacing unidentified objects, to the Indian Defence.

#### **Societal Relevance**

Torus is developing an axial Flux motor for Electric 2W and 3Ws which is compact and lightweight and designed to satisfy the needs of the electric automotive industry. Unlike commercially imported motors, Torus XAF motors are 50% Lighter, 15% more efficient and 10% more cost effective.

#### Major achievements/Awards/Recognitions

- (UNIDO), Bureau of Energy Efficiency, GEF and Agni.
- Low Carbon Impact Technology.
- HexGn & Invest India.
- Government.



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• Recognized as Pioneer Defence Innovators by IDEX – Indian Defence, for being the Youngest Defence Startups to offer Indigenous UGV to the Indian Defence

• Won the Birla Global Innovation Challenge 2020 organized by AIC Bimtech, in association with Startup India, amongst 874 Startup Innovations from 7 different countries.

• One amongst Top 25 Startups to be selected for FLCTD Low Carbon Accelerator Program 2020, organized by FLCTD in association with United Nations Industries Developed Organization

South Asia Winners under Sustainable Mobility Category of International Climate Launchpad for

• We are amongst Top 20 Startups chosen for HexGn Startup Ready Program conducted by

• One of the very first startups to receive the Tamilnadu Startup Innovation Grant by the Tamilnadu





## Valerio Electric **Private Limited**

AIC Name **AIC Social Alpha** 

#### Founder/Co Founder

Sarthak Mahapatra, Moksh Garg, Nirav Bhandari

Туре

Product

Stage **In-Pipeline** 

Target Market Domestic

> IP Status NA



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#### Major achievements/Awards/Recognitions

- Won awards from BITS Pilani,
- Won awards from D-Labs of ISB
- Received NIDHI Prayas from iCreate





Valerio Electric has developed a smart charging sockets for electric vehicles that can be hosted by anyone with a parking space and a standard electricity connection, making installation very easy. The host gets a dashboard to identify the users, track power consumption, manage bookings and withdraw their earnings.









Vecmocon

AIC Name **AIC ISB Association** 

Founder/Co Founder Adarsh Kumar

Type **Product and Service** 

Stage

Commercialized

Target Market Domestic

> IP Status Published

Vecmocon is developing smart; portable; swappable; lithium (Li) batteries and vehicle intelligence module (VIM) focusing mainly on two-wheelers primarily. Their automotive grade batteries have smart proactive battery management system (BMS) which protects, monitors and manages the battery and contain advanced algorithms for the state of charge (SOC) and state of health (SOH) estimation.

#### **Societal Relevance**

Currently 99% of the companies in India are importing components for EVs from China and other countries.

The components include Battery Management System, Battery Packs, Charger, Instrument Cluster, Motor Controller and Vehicle Intelligence Module.

At Vecmocon, we design, develop and manufacture these core components in-house, and have a huge scope to substitute the imports of these components with better quality and even can be exported to various other countries.

#### Significance of the Product in the Industry:

The Future of mobility and Energy storage systems is Electric and Lithium based Battery Packs. It is quite sad to know that currently 99% of the market share is held by imported components. India being a techsavvy country, it is more important that we make these core components in-house and build the capabilities to export these products as well.

#### Major achievements/Awards/Recognitions

- Winners of Microsoft Start-Ups for India •
- Winners of Miles Chhallenge by Mplus Solar •
- Winners of MG Innovation Grand Challenge
- Winners of Fortum Business Sweden Unnati Challlenge

adarsh@vecmocon.com



Website

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## **Virya Batteries**

AIC Name **AIC Sangam Innovation Foundation** 

> Founder/Co Founder Sunil Himatlal Mehta

> > Туре Product

> > > Stage MVP

Target Market **Domestic and International** 

> IP Status Filed



Virya is developing dedrite free Li-ion batteries for Electric vehicles making it safer, compact and has longer life cycle compared to other Li-ion batteries in the market. The company plans to set up a manufacturing unit of Li-ion batteries through its innovative material to make batteries free of dendrite during cycling making it more safer and robust during operations.

#### Major achievements/Awards/Recognitions

Startup India and iCreate - 2021





Website

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Finalists of National Startup Awards - 2020 / Winners of Green Mobility Innovation Challenge by Uber /







# FuLiŪn



A robust and accessible infrastructure setup is a pre-requisite to an effective transition to EV mobility. This section involves startups working in the EV infrastructure space from setting up of charging infrastructure to maintenance, repair and overhaul of EV's.



DirectElectric

EV Chargers & Power Electronic Solutions

















## Chatura Energies Private Limited

AIC Name
EIC ALEAP WE HUB

Founder/Co Founder

M Raghavendra Pradeep

Type **Product and Service** 

Stage MVP

Target Market Domestic

IP Status **NA** 



We have developed the cutting-edge technology in EV Charging Stations for Two, Three Wheelers and E-Cars along with a user-friendly mobile application "ELECTRIFY". (Manufacturing of both AC & DC EV chargers).

We are providing custmoized solutions for Battery Management System (BMS), Battery Packs, Retrofit (IC Engines to EV convertion) for three & four-Whellers and EV Controlers.

#### Major achievements/Awards/Recognitions

Installed EV charging station at 2 locations in Hyderabad and 5 are in pipeline.





Website

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## **Direct Electric Pvt Ltd.**

AIC Name EIC SID Founder/Co Founder Chaitanya Type Product Stage

MVP

Target Market **Domestic** 

IP Status **Filed** 



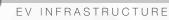
Direct Electric Pvt Ltd indigenously develops Electric Vehicle (EV) chargers with state of the art innovative technology. Our smart chargers configure themselves to various voltage and current requirements of battery packs in the EVs. This unique feature eliminates the need for distinct battery chargers for different EVs. With our technology, we can cater to various needs of the EV charging segment such as On-board/ Off-board chargers, Two/Three/Four-wheeler EV chargers, chargers with power rating ranging from few 100s of watts to 10s of kilo watts, etc. We offer our technology solutions to EV manufacturers and charging network operators.





Website

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#### DirectElectric

EV Chargers & Power Electronic Solutions





## EV Urjaa

AIC Name **AIC Prestige Inspire Foundation, Indore** 

#### Founder/Co Founder

**CEO- Sanyog Tiwari** Managing Director- Shasikant Dubey **Technical Advisor- Suyash Singh** 

Туре

Product

Stage Commercialized

> Target Market Domestic

> > IP Status Filed

EV Urjaa is a energy providers, building an ecosystem for Electric three wheelers and two wheelers across the nation. We empower local shop owners to become energy operators and boost their income by the help of cutting edge technology including IT infrastructure, IoT enabled batteries and Fast Income Charging Station.

#### **Societal Relevance**

- lockdown.
- services to people in indore.

#### Major achievements/Awards/Recognitions

- Selected in top 5 startups of UnnatiWay Challenges organised by NITI aayog.
- Organised first electric vehicle rally in indore with 200+ people gatherings
- Formed a E-Rickshaw drivers union in indore.
- Providing fast charging solution to Electric rickshaw drivers in indore.
- E-Rickshaws.

sanyog.tiwari@evurjaa.com



Website

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• EV Urjaa and its initiative Cleanport provided employment to hundreds of E-rickshaw drivers through emergency delivery & pick and drop services to patients and thier relatives amid

• Also started a mobile health checkup booth through E-rickshaw providing health checkup

Founded CleanPort services to provide hassle free emergency delivery in lockdown through



## r year savings 30 Lakhs + **Investment of 90 Lakhs**

## **Fullion Power**

AIC Name **AIC JKLU Foundation** 

Founder/Co Founder Kunal Khanna

Type **Product and Service** 

> Stage Commercialized

> > Target Market Domestic

> > > IP Status NA



Solar powered Battery Swapping Station for e-rickshaw users. Focussing on energy share network in India where batteries will be used in sharing manner. Our lithium powered battery will remove lead-acid battery in usage which is harmful for environment.

#### **Societal Relevance**

Increasing the use of solar panels in the rural areas so that the farmers and the small scale business owners can generate their own electricity, on other hand trying to make the EV charging booths affordable for everyone so that it can be used on a daily basis.

of electrcity.

#### Major achievements/Awards/Recognitions

US Ambassy called Fulion Power for the discussion regarding their idea and business.





Website

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They are promoting the business ideas to work on their own and not to restrict their operations due to lack







## Irasus Technologies **Private Limited**

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder Arjun Sinha Roy, Anirudh Ramesh

> Type Service - app based

> > Stage MVP

Target Market **Domestic and International** 

> IP Status NA



Irasus is creating a Digital twin of batteries to bring down the levelized cost of storage for EV owners and Service providers by increasing the health and performance of the battery.

Services include Digitalization of Hardware Infrastructure which provides help in Design, Architecture, Implementation of Turnkey Solutions in Solar and Battery Storage. We work on Batteries, Chargers, and Solar PV to build an eco-system enabling the use of Data for Business-to-Business and Business-to-Consumer Applications.

#### Major achievements/Awards/Recognitions

Received the 2021 Global Impact Leader Award



e





Website

(110)

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## **Midgard Electric**

AIC Name **EIC Amrita TBI** Founder/Co Founder Sabari Viswam Type **Product and Service** Stage

Target Market **Domestic and International** 

> IP Status NA

MVP



Midgard Electric is connecting people to their destinations in a safer, cleaner, and smarter way.

With our EV charging systems, we help our customers to have a hassle free charging experience. We at Midgard Electric are driven by the belief that EVs will have a huge impact on life of people. Over the coming years, driving an EV will increasingly mean freedom for everyone. We are unlocking the possibilities of the new electric mobility future by delivering innovative services that empowers utilities, cities, communities and automakers to deploy EV charging infrastructure at large scale.

#### Societal Relevance

Providing sustainabale solutions for home, commercial and work.

#### Major achievements/Awards/Recognitions

Received NIDHI-PRAYAS grant from Amrita TBI



Website

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E The Solo

## Offgrid Energy Labs Pvt Ltd

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder Tejas Sanjeev Kusurkar

> Type **Product**

Stage In-Pipeline

Target Market Domestic and International

> IP Status Filed



Offgrid's offers sustainable and profitable energy storage for stationary and mobility applications. They have developed ZincGel® battery technology which outperforms any battery tech available today in terms of energy efficiency, lifecycle, cost & sustainability. This battery is 3X cheaper than lithium ion battery with 2X more life.

#### **Societal Relevance**

We are making Sustainable, safe & cost-efficient battery technology. These batteries are efficient - use no side-reactions among materials and no gas evolution ensures high coulombic; Use of highly conductive electrolyte and carbon-based cathode enables Fast charging and discharging which saves power; Use of eco-friendly, sustainable material materials & non-flammable electrolyte provides the utmost safety; Leverages existing battery manufacturing infrastructure ensuring easy adoption and fast scalability

#### Major achievements/Awards/Recognitions

Winner of the Global Mark Mobis EMI Pitch Competition held in New York





Website

(114)

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Stranger

## **Revoltaxe India Private** Limited (REVOLT)

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder

Naveen Kumar V, Hari Krishnan

Type **Product and Service** 

Stage MVP

Target Market Domestic

> IP Status NA



One of the biggest concerns for electric vehicle (EV) owners is knowing when and how to charge their vehicle. It makes sense: Humans have spent their life driving around in gas-powered cars, filling up at one of the hundreds of thousands of gas stations as the gauge creeps towards empty. Charging one's EV takes a little more planning, but with the growing demand and incentives for alternatives to gas-powered cars, public EV charging stations are becoming a more common sight. Revoltaxe is working on charging stations for Societies along with a software platform - To increase ease of charging for private 2Ws



Website

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## **REVOLT**







## Senatia EV Production Pvt Ltd.

AIC Name **AIC T-HUB Foundation** 

Founder/Co Founder **Reha Babu** 

Type **Product and Service** 

Stage Commercialized

Target Market Domestic

IP Status **NA** 



Narrowly focused approach with R&D activities limited to High Power Chargers. Senatla is holding highly qualified and experienced team in R&D, Operations and Business development. Senatla has established itself as the leading brand for EV Component supply in the country with many of the top auto companies. Senatla has established a state of the art manufacturing facility in Hyderabad consisting of conveyor Production lines, Wave soldering and Product evaluation facility.

#### **Societal Relevance**

Providing sustainable EV componets and solutions at an affordable rates.





Website

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# LAST MILE MOBILITY SOLUTIONS AND AGGREGATORS



















## **AREON Mobility Technologies Pvt ltd**

AIC Name **AIC EMPI Incubation Foundation** 

#### Founder/Co Founder

Abhinav Singh, Saurav Singh, Aman Pal Singh, Ambudhi Vishal

> Type Service - app based

> > Stage

Commercialized

Target Market **Domestic and International** 

> IP Status NA



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Areon Mobility offers Electric Mobility-as-a-service to businesses and individuals alike for their Last Mile Delivery Operations. Our operational intelligence primarily targets Cost Affectivenes, Cross Utilisation, 100% Fulfillment, Increase in Productivity, Managing RTO(in pilot phase).

#### Societal Relevance

- Footprints.
- 1.3 + Million Green Kms Driven
- 26.000+ Litres of Fuel Saved •
- Creating 50+ Micro Entreprenuers
- Increase in Delivery Executives Take Home Payout •
- •
- Bazaar, 4S Foods, Deli Chic, Falhari.

#### Major achievements/Awards/Recognitions

- DIPP Recognised, MSME Recognised
- •
- Participant of Switch Delhi Campaign, Transport Dept of Delhi
- Acknowledged in Mobilising Finance for EVs in India January 2021 by RMI and Niti Aayog







• Last Mile Logistics constitute 53% of the total logistics cost. Areon Provides Electric Mobility as a service to bussiness and individuals alike for their Last Mile Delivery Operations with Zero Carbon

Soon Launching India's First EV to Increase Productivity by a Factor of 2-2.3X, Offset Delivery Executive's Body and Health issues due to Loading and Unloading of Consignment, Increase Payout by Another 25% from current market standards.

• Cost Reduction in LMD Operations for Clients Like Big Basket, UDAAN, 1mG, Arcos, Modern

Pilot Participant with Urban Mobility Labs, co organised by Rocky Mountain Institute, Colarado USA & Dialogue and Development Commision of Delhi, GNCTD.





## **DbyT Dynamics Mobility Solutions** Pvt. Ltd.

AIC Name EIC TREC-STEP

Founder/Co Founder Mr. Dhairyasheel Deshmukh

> Type **Product and Service**

> > Stage MVP

Target Market Domestic

> IP Status NA



DbyT Dynamics is a Technology and Rental service company operating a fleet of light commercial electric vehicles. The on demand available EVs integrated with a unified digital technology platform acts as an endto-end transport solutions targeted for fresh-Agri & hyperlocal supply chain.

#### **Societal Relevance**

Creating a Sustainable Mobility Ecosystem making transportation smart, convenient and affordable and provide means of livelihood for all the stakeholders on this ecosystem.

Becoming most reliable transport service company by reimagining, organizing, digitizing and simplifying the Hyperlocal & last mile Logistics under a Unified Transport Platform.

#### Major achievements/Awards/Recognitions

- KPIT sparkle incubation- BHAU institute, Pune •
- The best entrepreneur on campus, 2020, E-Cell IIT Madras



Website

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DST-NIDHI PRAYAS program, 2021.- Icreate, Ahmedabad





# **Jum Bike Automotive Services Private** Limited

AIC Name **AIC SMUTBI** 

Founder/Co Founder Kishu Kumar Singh

Type Service - app based

> Stage MVP

Target Market Domestic

> IP Status NA



JUM bike automotive into micro mobility services.We provide electric scooty on rental basis.Our services are completely application based.We are solving the problem of daily commuters and travellers.

#### **Societal Relevance**

Provides an impressive eco-friendly ride that runs on solar energy and helps combat air pollution and an AI IoT based micro-mobility system which will reduce transportation cost and transportation time.

Working towards reducing air and noise pollution and contribute our part in saving mother Earth, to reach every nook and corner of urban areas and provide the public a hassle free ride with lower rates and reduced waiting time.





Website

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# **O8 Blue Sky Logistics Private Limited**

AIC Name AIC SMUTBI

Founder/Co Founder

Sandip Basu & Avik Basu

Туре **Product and Service** 

> Stage MVP

Target Market Domestic

> IP Status NA



help them sustain their livelihood

### Major achievements/Awards/Recognitions

Recieved the CSR Grant from HDFC bank to build the prototype for a sustainable livelihood support for underserved communities of North East India





Website

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Social Impact venture that supports women to own EVs as taxi and provide them with the EVs that would





AIC Name **AIC GUSEC Foundation** 

> Founder/Co Founder Vraj Shah

Туре **Product and Service** 

> Stage MVP

Target Market Domestic

> IP Status NA

Providing one of its kind Last Mile Connectivity/Feeder Services to Public Transport Systems using Electric Three Wheelers on a shared ride basis.

#### **Societal Relevance**

- CO2 Saved 65,000 KG •
- People using service- 500+ daily





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Jobs created/self-employment (unskilled person) - 60 and earn daily Rs 700+





# **Tridots Mobility Pvt Ltd**

AIC Name AIC Great Lakes Balachandran Incubator

Founder/Co Founder

Mr. Amit Ganguly & Ms. Prasanna Priya

Туре **Product and Service** 

> Stage MVP

Target Market Domestic and International

> IP Status Filed



Developing comfortable, safe and smooth semi-recumbent bicycles for consumers who are reluctant to perform cycling due to ergonomic constraints. We have developed a POC and currently working towards developing market linkages to launch the product.

### **Societal Relevance**

Working towards making a health device which is sustainable and efficient.

### Major achievements/Awards/Recognitions

India's first Semi-Incumbent Cycle





Website

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# **Truck Suvidha**

AIC Name **AIC BIMTECH** 

Founder/Co Founder Amit Punaini, Ishu Bansal

> Type Service - app based

> > Stage Commercialized

Target Market **Domestic and International** 

> IP Status Filed



TruckSuvidha is a leading marketplace in transportation industry that connects for transporters, truck drivers, industrialists, and other related entities.

We have over 40,000+ transporters in our network and we're doing more than 400 bookings per week. Our aim is to organize an unorganized sector providing easy booking of vehicles and boost the business of people associated with us. The basic problem faced by the logistics industry is a lack of information that we overcome by providing an extensive userbase of truckers, transporters, and service providers alike. The best part is anyone with a basic knowledge of navigating a site can book a truck through us which would seem a difficult affair in the current scenario.

#### **Societal Relevance**

Trucking in India is very dynamic it varies as per industry type, location and trucking needs. In the past few years TruckSuvidha has built a whole ecosystem around trucking industry keeping all players of industry in mind. Somehow or other all players can make use of TruckSuvidha. Some notable factors are:

### Major achievements/Awards/Recognitions

- BML Munjal Award, Freight
- Forwarding Company of the Year 2018- India,
- Winner of Future of India Awards





Website

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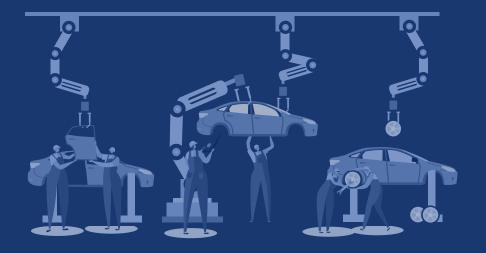


Irrespective of Industry type anyone can get a truck from TruckSuvidha

TruckSuvidha cater to all business segments whether it's an individual, SME or large enterprise.

One of the added advantages of TruckSuvidha is that even logistics companies and other startups in the trucking domain can use it to search trucks on a real-time basis.





**AUTO ANCILLARIES** 

The auto component or auto ancillaries industry is the critical space inside the automotive industry. These companies supply critical components such as engines, transmission, axles, suspension, brakes, lighting, electronics and others to automobile manufacturers. It is a major manufacturing sector, accounting for 2.3% of GDP and employing 1.5 million people











1. 50 m

# **Aerostrvilos Energy Private Limited**

AIC Name **AIC Sangam Innovation Foundation** 

> Founder/Co Founder **Rohit Grover**

> > Type Product

> > > Stage MVP

Target Market Domestic

> IP Status Filed



With Global warming problem rising, Gas Turbines have to be adopted which are the cleanest burning device known to the humans, which can adopt to a variety of fuels which could help in creating net Carbon Neutral ecosystem with the help of Bio-fuels

An engine that clocks Lakhs of rotations per minute for a tens and Thousands of hours with operating temperatures that can melt most of the metals in the periodic table, and pressures that are at least 10 times the atmosphere, needs more than a rocket science. This is Gas Turbine Engineering, an amalgam of all of the world's engineering to create an epitome of human advancement

Aerostrovilos Energy is building India's first indigenous Gas Turbine for EVs to augment batteries in range extension. Aerostrovilos's Micro Gas Turbine Generator is compact, modulat and ranges from 10kW 100kW units.

#### Societal Relevance

Piston engines are made for a specific fuel, whereas our engine is highly fuel flexible. Piston engine requires regular servicing, whereas, our engine with only single moving component, any major service halt is expected only once in3-4 year, thereby saving a lot of your OPEX.

air pollution





Website

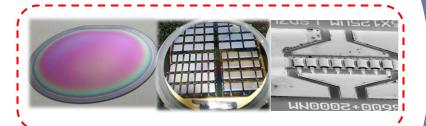
(138)

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The NOx and SOx emissions from our generator are very miniscule as compared to currently available technologies. Replacing diesel gensets by our generators run by natural gas and biofuels can help curb the





# **Agnit Semiconductors** Pvt Ltd.,

AIC Name **EIC SID** 

#### Founder/Co Founder

Prof. Srinivasan Raghavan, Prof. Rangarajan Muralidharan, Dr. Hareesh Chandrasekar, Prof. Digbijoy Nath, Prof. Mayank Shrivastava, Prof. Mayank Shrivastava, Prof. Mayank Shrivastava

> Type Product

Stage **In-Pipeline** 

Target Market **Domestic and International** 

> IP Status Filed



Website

(140)



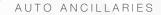
Agnit Semiconductors is a deep-tech startup working on next-generation Gallium Nitride semiconductors. Agnit is a spin-off from the Indian Institute of Science and our core team has a combined experience of >100 years in the semiconductor value chain all the way from starting materials to final systems.

#### **Societal Relevance**

initiative

### Major achievements/Awards/Recognitions

Selected for 1st cohort of "The UK-India Tech Startup Accelerrator" Programme , One of the winners of "Pitch Day" from the AIMPRIME Programme



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Next-gen semiconductors manufacturing for India and the world and contribute towards "Make in India"





## **Drona Automation**

AIC Name
AIC Jyothy Institute of Technology
Foundation

Founder/Co Founder Suraj

Type
Product and Service

Stage In-Pipeline

Target Market **Domestic** 

IP Status **Filed** 



Drona Automation are focused on providing customized robots for wide range of customers from individual private and public sectors. We identify the problem and challenges faced in the private and public sector and provide innovative technological solution in terms of product and services. They also customizes robots and designs and develops them using knowledge of various engineering and high end technology.

### **Societal Relevance**

Aiding to assist Manual scavengers and end the practice that has been deep rooted n the society.

### Major achievements/Awards/Recognitions

JLL Prop Tech Award, Elevate Startup Karnataka Award, NSA Finalist





Website

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# Hachidori Robotics Private Limited

AIC Name

#### Founder/Co Founder

Janakiram Annam, Ramanathan Venkataraman

Type
Product and Service

Stage **Commercialized** 

Target Market Domestic and International

> IP Status Filed



Website

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Hachidori delivers Autonomous Intelligent Material Movement Robots for factories/warehouses/ecommerce companies. Founders are passionate about increasing efficiencies multifold in material movement. Our unique, worlds 1st wireless navigation for indoor autonomous vehicle, technology helps us to navigate our robots in shop floors where others fail.

### **Societal Relevance**

Hachidiri robots contributed towards delivery of food and medicines during covid pandemic at times when the virus was extremely contagious and people were apprehensive to come into contact.

### Major achievements/Awards/Recognitions

2 paying customers, 2 more trials planned, 20+ customer pipeline QDIC 2020 finalists









# Nettoyer Automotives Private Limited

AIC Name **AIC Sangam Innovation Foundation** 

Founder/Co Founder Ravindra Joshi

> Type Product

> > Stage MVP

Target Market **Domestic** 

IP Status

Nettoyer provides retrofittable kits to the customers to convert their petrol vehicle into PHEV that enables them to travel on electric mode as well as fuel mode. This provides an extended mileage, low cost of travelling and less maintenance charges. The kit can save up to 85 % of operational cost per year with ~70 % decrease in emissions.

### **Societal Relevance**

Our main aim is to provide Plug-in hybrid kits to the customers to convert their vehicle into PHEV. This will enable them to travel on Electric mode as well as fuel mode. We are providing the retrofitting of motor and controllers.

In addition, when they require going on an outing they can switch back to their fuel engine for extended travelling. We believe that the retro fitment of Commercial vehicles should be done by considering long distances and heavy load carrying capacity.

### Major achievements/Awards/Recognitions

UDAAN Business plan competition winner/Finalists for FLCTD Program.





Website

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# Rut3 Engineering private limited

AIC Name
ANIC Winner

Founder/Co Founder Mitesh Rasal, Suraj Ettam, Shubham Sutar

> Type Product

> > Stage

In-Pipeline

Target Market
Domestic and International

IP Status



In today's world people use various modes of transport but the most important concern is their safety and comfort, contributing to same is our product Damsus wheel. It is integration of suspension inside wheel which provides us multi-axis suspension, giving safety during front impact accidents-Saving life, reduces back injuries, eradicates swing arm resulting in improved chain life and less chain slippage, no maintenance, provides forward movement which reduces efforts to ride i.e. saves pedal efforts, battery used, fuel used for same distance traveled over uneven terrain. All the benefits at affordable cost

#### **Societal Relevance**

We make your rides Safer, Comfortable and Efficient. Safety during accidents is improved, no back injuries due to riding. Improved Health of person using this product as it reduces impacts, vibrations coming to body. The Wheelchairs used are so uncomfortable that the people using it find it extremely difficult to use it even in city roads, the vibrations are so much that it might cause other injuries, and using wheelchairs which are very high end is not possible in south pacific countries, and impossible for them to use wheelchairs over country terrain. Our product helps the physically challenged and changes their perspective towards mobility.





Website

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# Salberry **Electromotives**

AIC Name EIC TREC-STEP

Founder/Co Founder Myilsamy Subramaniam

> Туре Product

Stage Commercialized

> Target Market Domestic

> > IP Status Published



Salberry Electromotives is purely focused on Research and Development of automobiles with an objective to improve the livelihoods of Low and Middle Income groups. The first product was a food cart developed for industrial and agricultural purpose for small farmers or road side stall owners.

### **Societal Relevance**

stall owner





Website

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Mobile Food cart for industrial or Agricultural transport and affordable to the small farmer or a roadside









AIC Name **ANIC Winner** 

Founder/Co Founder Sameer Panda

> Type Product

> > Stage MVP

Target Market **Domestic and International** 

> IP Status NA



TycheeJuno has successfully launched a proprietary; awareded by NASA and DST Govt of India backed BPPC (Burst Preventive Puncture Curative) range of products for meeting customer's expectations and has gone for Patent protection in the major target markets & is continuously doing R&D for new breakthrough innovations. One of the key features of this proprietary technology is to eliminate the need for RoHS, particularly Lead (a cancer-causing element) required for wheel balancing. This technology also provides enhanced safety to its riders, travellers, and pedestrians by eliminating tyre bursts and puncture while the vehicle is in motion.

#### **Societal Relevance**

With TycheeJuno's technology in 10 million vehicles, a reduction in carbon emission due to decreased tyre replacement would be 200,000 tons of carbon dioxide per annum. "Improved fuel efficiency will result in the reduction of 200 million gallons of gasoline consumption, which means 1.634 million tons of carbon dioxide equivalents (CO2e) and 500 tons of cancer-causing carcinogenic lead (RoHS material) can be avoided."

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- •

- Tyre market share of World/India \$250 billion / \$9 billion
- Market is growing at 6-8% annually.

### Major achievements/Awards/Recognitions

• Awarded by FICCI, NRCC and Tata Trusts.

AUTO ANCILLARIES

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410 deaths/day in road accidents - 10-15%, are caused due to tyre failure. (35-40% on Highways)\*

Puncture & tyre burst: females & senior citizens most vulnerable

45% replacement - Punctures, damages; Pollution - Low fuel economy, Lead & Air filling.

Indian Tyre Industry - 3% of manufacturing GDP & 0.5% of total GDP directly.



- MR. MANGELSH YADAV
- MR. ROHIT GUPTA
- MS. GARIMA UJJAINIA \_
- MR. PRITHVI SAI PENUMADU

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