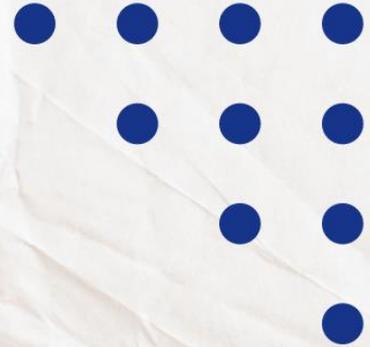


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ATAL INNOVATION MISSION

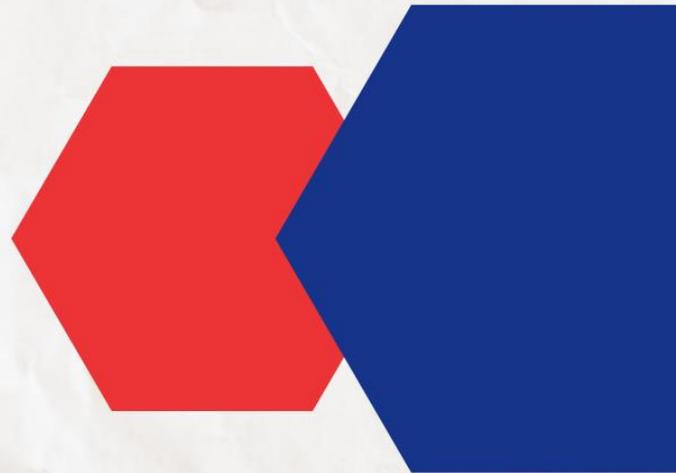


ATAL INCUBATION CENTRE

NALANDA INSTITUTE OF TECHNOLOGY FOUNDATION



StartUp  BuildUp





PADVERSE

PADVERSE

Founder: Manish Sagar Ramarapu

Women Led: No

Sector: Clean Tech

Current Stage: Prototype

Fund Raised: No

IPs Filed: No

Revenue: Nil

Product: Menstrual Hygiene Management



About: Padverse is committed to fostering period-friendly workplaces and communities to create a better world. Through its innovative products, Padverse aims to establish a sustainable ecosystem for the effective management of menstrual waste. By prioritizing responsible disposal and resource-efficient practices, Padverse is paving the way for a healthier and more inclusive environment for all.



Problem: In India, only 39% of menstruators are informed about menstruation prior to experiencing menarche. The country uses approximately 12 billion pads annually, which take 500-800 years to decompose, resulting in significant environmental impact. Access to period-related products is limited, with only 36% of the population having availability, a figure that is even lower within organizations and institutions. Furthermore, the absence of adequate disposal facilities makes it challenging for menstruators to properly dispose of menstrual waste, contributing to unhygienic conditions at disposal sites.



Solution: Sanitary pads are dispensed to menstruators through vending machines. Programs on menstrual hygiene and waste management are conducted regularly. Special bins in restrooms enable the safe collection and segregation of waste at its source, preventing bacterial spread. A designated team ensures the smooth transportation of collected waste from source to Material Recovery Facilities (MRF) for processing. Padverse Revive Technology effectively disinfects and recovers materials from used sanitary pads, preventing their disposal in landfills and water bodies. This technology aids organizations in achieving their Environmental, Social, and Governance (ESG) targets and Corporate Social Responsibility (CSR) goals.

PAVING PLUS

Founder: Ranjan Kumar Gupta

Women Led: No

Sector: Clean Tech

Current Stage: Commercialized

Fund Raised: No

IPs Filed: 1 (Patent)

Revenue: ₹ 30 Mn (Oct'22 – Dec'23)

Product: Plastic Waste Management



About: At Paving+, they have developed a patented process to manufacture high-quality paver blocks, paving tiles, and bricks using recycled plastic and other waste materials. Their products are not only more durable and long-lasting than traditional asphalt and concrete, but they also help reduce the amount of plastic waste that ends up in landfills or pollutes the environment.



Problem: Unmanaged plastic waste is a significant environmental challenge in India today. Approximately 70% of plastic waste remains unrecycled, primarily due to the difficulty in recycling certain types such as PVC, polyethylene films, and multi-layered plastics (MLPs). These hard-to-recycle materials pose a major obstacle to effective waste management and contribute to environmental pollution. Addressing this issue requires comprehensive strategies to improve recycling processes and reduce reliance on non-recyclable plastics.



Solution: Building materials are being produced using plastic waste with the following composition:

- Paver Blocks: Contain 20-80% waste plastic.
- Recycled Plastic Lumber: Composed entirely of 100% waste plastic.
- Paver Tiles: Include 20-80% waste plastic.

These materials offer sustainable alternatives for construction, utilizing varying proportions of recycled plastic waste in their manufacturing process.



GREEN HERMITAGE

Founder: Gayatri Varun

Women Led: Yes

Sector: Fashion & Lifestyle

Current Stage: Early Revenue

Fund Raised: No

IPs Filed: No

Revenue: Nil

Product: Plant-Based Leather Products



About: Green Hermitage is renowned for its dedication to producing premium, cruelty-free products. The brand's mission is to offer a platform for ethical shopping that does not compromise on style. Every Green Hermitage item is crafted using high-quality, vegan plant-based alternatives, upholding a commitment to sustainability and ethical practices.



Problem: The fashion industry is a major environmental concern, ranking as the third most polluting industry globally. The production of one cotton shirt requires 2,700 liters of water. Each year, 85% of textiles end up in landfills, while 35% of fashion products contribute to microplastic pollution, impacting marine life. Additionally, the fashion sector accounts for 20% of industrial waste and is responsible for 10% of global carbon emissions.



Solution: Their luxury vegan plant-based leather handbags and travel accessories offer an environmentally sustainable and socially responsible alternative. They strive to be India's premier brand in sustainable handbags and travel accessories, featuring the most extensive range of plant-based materials. Their commitment to unique designs and premium quality sets us apart. Additionally, they support emerging designers and artisans from smaller communities, providing them with opportunities for growth and exposure. Through their focus on luxury and sustainability, they are leading the way in environmentally friendly fashion.



ALPHA ION

Founder: Subhrojeet Singha Roy

Women Led: No

Sector: Clean Tech

Current Stage: Early Revenue

Fund Raised: No

IPs Filed: 2 (Patent)

Revenue: Nil

Product: Electrochemical Sensors



About: Alpha Ions is your trusted partner in innovating and delivering tailored printed electrochemical sensor-based technologies, either by supplying standard products or by executing confined research and development on electrochemical sensors, biosensors, and printed electronics on a customized basis for range of electrochemical sensing application.



Problem: Challenges in electrochemical setups include electrode degradation, which can decrease efficiency and accuracy; electrolyte instability, which may affect cell performance; limited ion mobility, leading to sluggish reactions; and potential contamination from impurities, reducing overall system efficiency. Managing these issues requires careful selection of materials and constant monitoring to maintain system performance and longevity.



Solution: Screen-printed electrodes (SPEs) offer a solution to challenges in electrochemical setups. These electrodes are low-cost, versatile, and disposable, allowing for precise and efficient measurements. Their design enables easy integration into various applications and offers consistent performance. SPEs simplify experimental procedures and reduce contamination risks, making them an excellent choice for modern electrochemical analysis.



BIOHARVEST

Founder: Deepak Kumar Sethi

Women Led: No

Sector: Sustainability

Current Stage: Prototype

Fund Raised: DST – NIDHI PRAYAS

IPs Filed: No

Revenue: Nil

Product: Plant Media from Biomass Waste



About: BIPL leads in agricultural innovation by providing sustainable, environmentally friendly plant media and products derived from biomass waste. Their company is dedicated to enhancing crop yields while promoting ecological health. Through their advanced manufacturing processes, they contribute to the well-being of the planet by offering green solutions that support sustainable agriculture.



Problem: The practice of stubble burning persists due to the low market value of agricultural byproducts and inadequate crop residue management. This practice negatively impacts air quality and raises significant health concerns.



Solution: The process begins with harvesting and collecting stubble before on-site burning, followed by cutting and chopping. The stubble undergoes washing, buffering, semi-pulverizing, and bleaching. After molding, it is tested for water-holding capacity (WHC), air-filled porosity (AFP), and cation-exchange capacity (CEC). Although there is a poor response of plants in soil-mix substrate, stubble serves as an excellent substrate, yielding healthy and robust growth of cucurbits in grow bags. Strawberries were successfully trialed in a nutrient film technique (NFT) system within 28 days. The product is showcased at Krishi Vigyan Kendra (KVK) and agricultural fairs.



ENWINOVE SUSTAINABLES

Founder: Pramod Kumar

Women Led: No

Sector: Sustainability

Current Stage: Prototype

Fund Raised: No

IPs Filed: No

Revenue: Nil

Product: CLOUDEE



About: They are developing a Technology which is capable to treat Polluted, Salt/Alkaline water, Effluent and Grey water into fresh drinkable water using a nature inspired process to treat. Along with that our system inbuilt has many advantages like Low capital required, less operational costs and more along with that water can also be used for agriculture and improve vegetation in arid & coastal places also can improve the agricultural in habitation in places potentially.



Problem: Over 300 million coastal residents in India, along with more than 4,000 island communities worldwide, face severe water scarcity. Population growth and excessive use of groundwater have heightened the demand for freshwater, outpacing supply. Reverse osmosis (RO) desalination plants produce high-concentration brine that is discharged into oceans, impacting marine ecosystems. These plants also raise affordability concerns and contribute to significant carbon emissions, emitting over 100 metric tons of CO₂ daily.



Solution: Concentrated Solar Thermal Desalination (CSTD) harnesses solar energy to produce clean, fresh water while minimizing energy consumption and environmental impacts. Traditional reverse osmosis (RO) desalination poses various problems, making the need for advanced and sustainable desalination solutions essential. CSTD emerges as a promising alternative, providing an environmentally friendly and cost-effective method to address coastal water scarcity. By leveraging solar power, CSTD offers a sustainable approach to freshwater production, thereby contributing to the resolution of water scarcity challenges in coastal regions.



Ceiba Green
Solutions

CEIBA GREEN SOLUTIONS

Founder: Neelima Mishra

Women Led: Yes

Sector: Clean Tech

Current Stage: Revenue

Fund Raised: No

IPs Filed: No

Revenue: Nil

Product: Recycle Pay



About: In response to the city's waste crisis, we founded Ceiba Green Solutions, a Bhubaneswar-based venture focused on waste management. Inspired by the Indian red silk cotton tree, Ceiba is committed to innovative solutions for urban waste. Their for-profit social enterprise strives to address the burgeoning waste problem with practical initiatives.



Problem: In India, the trash issue is alarming, leaving residents feeling powerless. It's common to dispose of waste on streets. Witnessing daily degradation of landscapes, children scavenging, and animals feeding on litter, we're compelled to act. We can't ignore the impact on our once pristine city.



Solution: They provide comprehensive waste management solutions, including bulk and individual composting for wet waste. For dry waste, they offer scheduled collection drives through our "Recycle Pay" app. Our e-commerce store, shop.ceibagreen.com, features products that are free of single-use plastics. They also specialize in conducting waste-free events such as sporting events, college fests, and social gatherings. Additionally, we offer training and awareness programs on effective waste management practices.

LET'S DRIEV

Founder: Anirban Mohanty

Women Led: No

Sector: Mobility

Current Stage: Growth

Fund Raised: No

IPs Filed: No

Revenue: ₹ 23.3 L (Dec'23)

Product: EV Mobility Services



About: Let's driEV is a leading provider of innovative and eco-friendly urban mobility solutions, concentrating on electric two-wheelers, particularly electric scooters. This specialty distinguishes the company in the market, offering a comprehensive range of products designed to cater to the varied requirements of urban commuters.



Problem: Reliance on public transportation and ride-hailing services for daily commuting presents significant challenges for 55% of India's population. These existing options are often costly, offer discomfort, and suffer from limited availability. Additionally, they contribute to environmental pollution.



Solution: Their innovative on-demand e-bike sharing service offers an experience and opportunity for young people to achieve freedom of movement without the constraints of vehicle ownership or the drawbacks of current micro-mobility options. They provide a transportation solution that is affordable, readily available, and convenient. Their service is designed to be accessible to a broad audience while prioritizing sustainability, allowing users to actively contribute to a greener environment. Through their e-bike sharing service, individuals can enjoy hassle-free commuting and become champions of climate action.

COCO BOARDS

Founder: Shrabani Dash

Women Led: No

Sector: Sustainability

Current Stage: Prototype

Fund Raised: No

IPs Filed: No

Revenue: Nil

Product: Coco Composite & Leather



About: Coco Composite Materials offers eco-friendly alternatives to plywood, tackling deforestation and coconut waste issues. Their lightweight, durable materials cut pollution by 90%, tapping into India's coconut surplus for cost-effective solutions. Using coconut shells and husks, they produce versatile construction materials for furniture and interior panels, boasting superior moisture resistance and sustainability over plywood.



Problem: E-waste is rapidly escalating globally, reaching approximately 53.6 million tons annually, yet inadequate recycling occurs. Plywood manufacturing involves tree cutting and harmful chemicals like formaldehyde-based glues. The steel industry generates environmental harm through fly ash, acid sludge, and steel scrap. Yearly tree felling for daily necessities exacerbates threats like the greenhouse effect, soil erosion, and climate change. Acknowledging these consequences is imperative.



Solution: Their electrical product slashes E-waste by 75%. Coco composite materials, a sturdy plywood alternative, cut pollution by 90% while remaining cost-effective. Their coco utility products combat deforestation, a critical global issue, and significantly reduce the world's carbon footprint.

DRIBLET

Founder: Shubham Vishvakarma

Women Led: No

Sector: Clean Tech

Current Stage: Commercialized

Fund Raised: SISFS

IPs Filed: No

Revenue: Nil

Product: Robotic Arm for Sewage Cleaning



About: Driblet Pvt Ltd is a robotic-based startup working in the clean-tech domain. They provide advanced robotic-based solutions for managing cleaning and forecasting waste. Their most trending solution is a krait, which has flexibility inside the sewer lines and is able to eradicate direct human involvement with hazardous waste.



Problem: India generates 72,000 million liters per day (MLDs) of sewerage waste, while its treatment capacity only increased by 50% from 2016 to 2020. Traditional cleaning methods involve laborers from marginalized communities diving into sewer chambers to clear blockages. These chambers contain hazardous gases such as methane, hydrogen sulfide, and carbon monoxide, as well as toxic organic and inorganic substances, posing serious health risks such as asphyxia and respiratory illnesses. Laborers use minimal protective gear, primarily a belt attached to a rope. Existing mechanized solutions require manual intervention, and cleaning agencies lack robust forecasting and monitoring systems to identify frequent clogging areas.



Solution: They are developing a flexible robotic arm designed to navigate like a snake within sewer inlet and outlet pipes, effectively clearing stagnant debris. This robot, named Krait, can be connected to a vehicle for citywide deployment, enabling the mapping of various sewer holes and recording the coordinates of their respective inlet and outlet pipes. Krait exhibits human-like capabilities.