Global Business Innovation Programme
Urban Systems Delegation

July 22-24, 2024| Chennai, India
July 25-26, 2024| Kolkata, India

Company Profiles

Industry Partner

Innovative companies participating in this visit

SN	Name	Website
1	ActivePure Air UK Ltd	www.activepure.com
2	Crowdhouse Energy Ltd	www.che-uk.com
3	Engas Global	www.en-gas.com
4	Flax & Teal	www.flaxandteal.co.uk
5	Flybox (Mana Biosystems Ltd)	www.flybox.bio
6	GreenEnco Ltd	www.greenenco.co.uk
7	Hilo EV Limited	www.hiloev.co
8	Offgrid Works	www.offgrid.works
9	Petrichor Ventures Ltd	www.weaverbird.ai
10	Scutoid limited	www.scutoid.co.uk
11	Sherwood Limited	www.sherwoodpower.co.uk
12	SolarisKit	www.solariskit.com
13	Tremap Ltd	www.tremap.com
14	Water Offsets	www.wateroffsets.co.uk
15	We Care 4 Air	www.wecare4air.com

ActivePure Air Ltd

www.activepure.com

Picture a solution that transforms urban environment into bastions of health and safety. Enter ActivePure, a groundbreaking air and surface purification technology that surpasses traditional filtration methods. Inspired by NASA science, ActivePure utilizes potent oxidative molecules to continually sanities indoor spaces, eradication 99.99% of airborne and surface air contaminants, including viruses bacteria and mould. In urban cities where density and shared spaces amplify health risks, AcitvePure provides an active defense, it doesn't merely purify the air, it actively neutralizes pathogens on surfaces, reducing the transmission of infection in hospitals, schools, offices and public transport.

Supported by rigorous testing and validated by peer review studies, ActivePure demonstrated efficacy against a broad range of pathogens including those responsible for HAC's and community acquired infections. For the Urban Cities Project, ActivePure isn't just a product, it's a vital element in creating healthier more resilient communities.

By integrating ActivePure into urban infrastructure, we can mitigate the impact of outbreaks, enhance public healthcare outcomes, and instill greater confidence in shared spaces. Join us in revolutionising urban health with ActivePure – because cleaner air and surfaces mean safer cities.

CrowdHouse Energy Ltd

www.che-uk.com

CrowdHouse Energy are innovators in the clean tech space, with a current focus on megawatt scale onsite renewable energy generation. The company was incorporated in 2019 following years of success in other renewable energy markets. Our senior management team have over 50 years collective experience in renewable energy and over 8 years of experience in delivery of complex infrastructure projects. In that time, CrowdHouse Energy has worked with numerous high-profile clients and contractors to deliver renewable energy schemes across the UK, both directly and working with main contractors and consultants as part of larger project delivery teams.

In 2022 CrowdHouse Energy designed and launched its own patent applied for modular bifacial parking canopy system, Helios Volt ®. Since its launch Helios Volt ® has achieved a company valuation of £10.4m

Engas Global

www.en-gas.com

Engas Global Ltd brings three products to India: 1. an ultra-low-cost electrolyser for green hydrogen production, 2. 350bar hydrogen compressor for refuelling of hydrogen vehicles and boats, 3. a portable biogas upgrading and vehicle refuelling plant to convert raw biogas into transportable bio-CNG fuel. These products offer longer duration energy storage for zero emission transport for boats, buses and for gas powered EV charging infrastructure. This is relevant as often electricity is not available for ultra rapid charging of multiple electric vehicles in one site. Our objective is to manufacture our electrolysers, hydrogen compressors, and biogas upgrading plants in India, and then to export these products to Engas Global UK to sell in the European markets.

We are looking to build local partnerships in India for project development under a joint venture agreement to scale up manufacturing in India and to sell our products locally in India and abroad. Engas has started a company in Kolkata, Engas-India, to manufacture electrodes for our electrolysers to export to the UK for final assembly for the UK and EU countries. Our model is to build, own, operate plants, and sell hydrogen, oxygen and bio-CNG fuel which is attractive for customers to reduce their need for capital.

Engas demonstrated its Biogas upgrading plant in Kolkata in 2016 under the Govt of India DSIR funding. This highlights the economic feasibility of bio-CNG powered solution in micro-grid applications e.g. clean cooking, to off grid EV charging; Engas has a number of ongoing projects in the UK.

Flax & Teal

www.flaxandteal.co.uk

Flax & Teal Limited, is a Belfast-based firm specialising in advanced software development, data science, and infrastructure solutions. Founded in 2013, Flax & Teal Limited focuses on leveraging open data and open-source technologies to deliver innovative solutions across various sectors, including education, public policy, and industrial applications. Flax & Teal Limited has developed "Our Raging Planet" (ORP), a cutting-edge platform for disaster preparedness and education. ORP uses sophisticated simulation technology and real-time data to model natural disasters, providing invaluable tools for urban planning and community resilience. The platform is currently in advanced prototyping and testing stages, with successful pilot programmes demonstrating its effectiveness.

The Flax & Teal team boasts international experience, having collaborated on projects with global entities such as the Open Data Institute, Deloitte, and various public sector organisations. These projects span multiple regions, including the UK, Europe, US, and Asia, showcasing the company's capability to deliver robust and scalable solutions worldwide. The objectives of Phil's visit to India include establishing strategic partnerships with leading Indian institutions and organisations. By collaborating with esteemed entities like IIT Madras, Anna University, and IIT Tirupati's Navavishkar I-Hub Foundation (NiF), Flax & Teal Limited aims to tailor ORP for the Indian context, integrating local data and expertise to enhance its functionality. This visit underscores Flax & Teal Limited's commitment to leveraging technology to build resilient communities, foster international collaboration, and contribute significantly to global disaster preparedness efforts.

Flybox (Mana Biosystems Ltd)

www.flybox.bio

Flybox is pioneering the development of the world's first end-to-end modular insect farms for Black Soldier Flies (BSF). Our system transforms organic waste into high-quality protein, lipids, and frass - a bio-fertilizer. The modular design of our farms allows for customization based on customer needs, facilitating the creation of starter farms, scaled farms, breeding farms, or a comprehensive 360 farm. Our FlyBox system is currently at Technology Readiness Level 7 (TRL7), demonstrating system prototype demonstration in an operational environment. The patent-pending technology maximizes space and efficiency within shipping containers, utilizing advanced sensing instrumentation and control logic to optimize rearing conditions for BSF larvae.

Flybox has validated its technology through rigorous testing in diverse environments, including projects in Kenya and the UK. Our solutions are designed to meet the needs of various global markets, ensuring scalability and adaptability. Gaining traction in international markets will accelerate Flybox's growth. Forming partnerships and finding synergies within our sector and adjacent sectors through programs such as GBIP facilitates this process. India represents a significant market for us, offering vast opportunities in the waste management and agri-food sectors given the growing need for sustainable solutions. Recently, Flybox has attracted interest from Omnivore, an Indian investor keen on introducing our technology to the country. The GBIP provides a platform to connect with industry partners in these sectors, affording us the opportunity to:

- Establish strategic partnerships and collaborations with local stakeholders and decision-makers.
- Gain insights into the Indian market dynamics and regulatory environment.
- Showcase Flybox technology to Indian clients and investors.

Explore manufacturing opportunities to leverage India's cost-effective production capabilities.

GreenEnco Ltd

www.greenenco.co.uk

GreenEnco is a technical advisor and engineering solutions provider for solar, energy storage and solar EV projects, boasting over 11 GW of services across 16 countries on 4 continents.

Developers, government organisations, commercial & industrial entities and investors are benefiting from the below GreenEnco's solutions:

1. **Solar EV** is a solution help accelerating decarbonise of the transport sector by demonstrating faster and commercially attractive transition from net-zero transportation to zero-emission transportation.
2. **PV Asset Performance Management (pvAPM)** is a systematic approach towards generation optimisation of exiting solar assets, driven by a combination of high tech (AI and ML algorithms, specially designed for solar PV) and high touch (domain expertise with human intelligence). **pvAPM** has helped increase an average **8% generation gain** of operational solar assets in **Asia and Europe**.
3. **Bankable Owners Engineering (OE) and Technical Due Diligence (TDD)** solutions from feasibility to construction phase and M&A stage for solar and battery energy storage system (BESS) for utility scale and commercial and industrial behind the meter projects.
4. 360° **value engineering** solutions takes care of technology optimization, engineering optimization, land optimization with 3D terrain analysis, energy yield optimization and commercial value optimization.

We are keen to establish partnerships with local representatives, local authorities, commercial and industrial partners to provide tailor-made solutions for their need to a seamless net-zero transition.

Hilo EV Limited

www.hiloev.co

Hilo EV is a UK-based low-carbon vehicle technology SME, developing a safety-centric technology brand for the mobility sector. Its primary innovation is IRIS (Intelligent Road Illumination System) that puts safety front and centre.

Increased adoption of Light Electric Vehicles (LEVs) will benefit the environment and significantly contribute to global net zero targets. However, poor safety records discourage potential users, particularly at night when the majority of accidents occur.

IRIS, an AI-assisted safety technology, will significantly reduce the risk of accidents compared to other safety lighting systems. This intelligent, 360-degree illumination makes the rider more visible to other road users, and should a vehicle or pedestrian come too close, IRIS will automatically warn the rider and offending vehicle.

IRIS has been demonstrated on multiple LEVs and is now being productionised. GBIP will help Hilo further explore opportunities to collaborate globally, alongside discovering significant market opportunities.

Offgrid works www.offgrid.works	

Offgrid Works is a UK-based deep-tech, net-zero construction company with the potential for over 1Gt of CO2e reduction annually by 2050. This is through our own patent-pending carbon-negative autonomous construction method that is quicker, cheaper and uses less carbon than traditional methods. We can now finally facilitate the scalable construction of affordable, smart, net-zero, next-gen homes. Off grid Works is currently only building in the UK, but have Pilot projects lined-up in Taiwan, Saudi Arabia and Europe, so we will soon be able to roll out our construction method at scale.

We would like to make significant network connections with developers, the city government and other construction specialists in Chennai and Kolkata who could help us start construction on our first properties in the region. If we can learn more about the housing market and specific climate conditions and requirements for affordable homes and how they could be integrated into the wider smart city context to not only reduce carbon emissions but also the cost of housing.

Our plan would be to build on the successes in the Middle East and Asia to engage with government housing agencies, construction companies and property developers to discuss utilising our method for a world-leading demonstrator project on one of their public housing projects. We hope by working on this successful affordable housing scheme we can prove that affordable net-zero housing is truly possible and then use this case study to scale around the whole country.

Petrichor Ventures (Weaverbirds) www.weaverbird.ai	

Petrichor Ventures has developed Weaverbirds; a rapid community engagement tool that leverages AI-driven analytics to transform WhatsApp conversations with hard-to-reach communities into high-context, actionable insights. Our mission is to drive sustainable social development and economic growth by providing rapid, affordable, and high-quality market data from hard-to-reach communities in emerging markets, helping our customers affordably understand, adapt, and stay relevant—saving them money so resources can be spent managing, not just measuring, impact. Traditionally, extracting high-context insights from a sample size of 250 people in an urban African setting would require two to three months and a budget of £25,000+. By leveraging a blend of low and high technology, our approach is low-friction, quick and still high-quality, with projects completed in under 10% of the time and cost of traditional methods.

Weaverbirds was developed, tested and piloted in 2023, and launched at the beginning of 2024. The founding team have over 10 years' experience working in Africa, and Weaverbirds is currently being used in markets including Kenya, South Africa, Botswana, Sierra Leone and DRC. We believe this tool could be applied across most emerging markets with a WhatsApp user base, and the main objectives of this trip are to understand how urban Indian communities use WhatApp (and mobile phones more broadly), meet some impactful organisations / impact investors / development organisations that serve users / customers in urban communities to discuss the landscape and aid our customer discovery efforts.

Scutoid Limited

www.scutoid.co.uk

Scutoid Limited, trading as Scutoid Design, is a start-up company, founded in 2023 by Mitali Atkins, in the final year of her study for a BA degree in Product and Industrial Design at Central Saint Martins, University of the Arts, London. Scutoid specialises in planet-centred product design and consultancy. We are currently developing a highly innovative packaging product, that provides an alternative to single use plastic water bottles. We received an Innovate UK Creative Catalyst grant in 2023 to develop this, furthering the concept developed by Mitali during her final year at university. The product is Patent pending in the UK and internationally. Our product is made from sheet paper and utilises origami folding techniques to collapse to a quarter of its original height, reducing storage volume. Depending on the types of papers and waterproofing barriers used, the container can be made to be entirely biodegradable, compostable or recyclable.

The product is currently hand-crafted and is at technology readiness level4. We now want to develop the machinery to automate the manufacturing process. In India, we want to collaborate with paper suppliers, and explore the range of alternative papers/linings available. We also want to explore collaboration to develop automation machinery, and routes to mass manufacturing our product in India. We want to explore the use cases for this product in India, as well as our other related packaging ideas for food/drink, which are relevant to the Indian market, such as paper pouches rather than plastic ones for liquid consumables.

Sherwood Limited

www.sherwoodpower.co.uk

Based in North Yorkshire, Sherwood Power has developed a breakthrough energy storage technology. This zero-emission storage solution converts renewable electricity into compressed air and heat, allowing it to be stored and released on demand, to reduce business electricity cost by 40% or more, while increasing operational flexibility & security. The world wants to electrify everything; however, grid connections are scarce with long delays and high capital costs. Customers who want to electrify their operations can generate and store their own electricity on site. Hybrid on site generation with energy storage, reduces the carbon content of the electricity supply. Sherwood offers local electricity generation and storage at the grid edge that is modular, scalable and recyclable after a 25-year operating life. Sherwood's prototype and test system has been constructed and validated by Imperial College, London. The company is in confidential commercial discussions with a major food processor, national property company and a UK Government department.

Our visit objectives:

- Relieving grid constraints and promoting the installation of zero carbon generation solar and wind.
- We'd like to meet solar and wind developers, commercial property developers, companies with medium to high energy use who are grid constrained, people from the logistics and food sector and the data centre market.
- Smart grids/Micro grids. Generating your own power, storing it and consuming it onsite.
- Access to new markets with different problems and approaches

Meeting people face to face carries much more weight and impact than attempting to build a relationship remotely.

SolarisKit www.solariskit.com	SolarisKit Empowering People

SolarisKit have developed a new way to turn sunlight into carbon free hot water for homes, hotels, leisure. Our unique prismatic shaped solar collectors provide an attractive, durable, and easy-to-install alternative to current solar heating solutions available to the Indian market.

Manufactured as a flat-packed product, our patented solar collector is significantly easier to manufacture, transport, and install making it ideal for the Indian urban environment. We are seeking potential customers and partners to distribute, install, and manufacture our range of solar thermal products.

Tremap www.tremap.com	tremap™

Tremap is a Cornwall, UK based environmental software house that provides smart solutions for urban green infrastructure management and public green space engagement.

Since conception in 2021, the company has developed a core product – the Tremap app and web portal – currently in use by clients in the UK, Europe and USA. The company is now building on that core product and expects to launch its TEM (Tree Establishment Monitoring) platform in Q1 2025. The TEM provides tree planting project stakeholders with a toolkit for engaging the public in helping to track and maintain newly planted trees.

The Tremap product family also includes GreenSpaces, an urban green infrastructure management software platform that provides cities with cutting-edge tools for maintaining inventories of green area assets (trees, lawns, bushes, fences, fountains, irrigation equipment, signage, outdoor furniture, etc), planning workflows and irrigation needs, managing safety, tracking costs as well as monitoring and reporting on ecosystem service benefits provided by green areas. GreenSpaces is a robust, mature product, in use in over 250 cities and organisations across Europe.

Together, the Tremap TEM public frontend and GreenSpaces backend management platforms offer cities an extremely powerful set of tools to both monitor and manage green infrastructure.

Tremap is keen to establish relationships with Indian green infrastructure management companies, city administrations, suppliers of green area equipment (playground equipment, park benches, sports equipment), academic institutions and/or tree nurseries.
We also seek partnerships for piloting and developing the Tremap Tree Establishment Monitoring tool for tree planting entities in India.

Water Offsets

www.wateroffsets.co.uk

Our mission is to preserve every precious drop of water, creating water-resilient communities, companies, cities and countries. Water Offsets is a vertically integrated WaterTECH company working to deliver water-resilient Smart Cities, communities and enterprises whilst protecting the natural environment and ensuring food security. Many cities are experiencing rapid urbanisation, floods, and droughts due to climate change, which results in poor water supply and sanitation issues. We work with governments, regulators, and the private sector to deliver ESG, Water Neutrality, and Water Resilience policies and projects. We have been appointed by the UK government on a £200 million project to formulate research and advice on future water policy. Our HQ is in the United Kingdom, but we work globally.

Outline of services provided: ● Design consultancy for water systems, processes and reticulation for companies, industries, residential and hospitality sectors. ● Water Circular Economy design, installation and operation ● Smart water and wastewater treatment technology ● SAAS for Water Circularity and Offsetting ● Smart Data Driven decisions ● Digital Twin master planning ● ESG and Net Zero delivery through water

We have experience in the following markets UK, Singapore, LATAM, Middle East and Africa. Our holistic approach covers the entire hydrological cycle; actively considering both demand and supply, reducing water consumption to 65 litres/person/day for households.

Objectives:
● Find prospective clients & partners ● Collaborations on R&D ● Understand the market ● Identify opportunities ● Meet local expertise

We Care 4 air

www.wecare4air.com

We Care 4 Air specialise in the manufacture, installation, service and maintenance of MCerts and USEPA approved air quality equipment and data. Now in our 10th year, we are seeking to commence assembly of aeris air quality analysers in India, employing local staff and using local supply chains.

We are interested to meet with any organisations that have an interest in air pollution and Net Zero, to partner on projects and create solutions specifically for the unique Indian market and air pollution conditions. We are also interested to get involved in any training programmes and charitable organisations regarding air pollution and its impact on health.