



India Pilot Sites for Clean Transport Innovation 2024



A directory for ITES innovators

March 2024



India's drive towards transport decarbonisation and clean energy solutions offers wide and varied opportunities for UK-India collaborative innovation. Proving new technologies with independent data and real-world evidence is a key part of helping grow support and market success for both **UK and Indian innovators.**

To help SMEs pinpoint the most promising locations for potential pilot projects and partners, **Innovating for Transport and Energy Systems (ITES)** has curated a selection of **potential pilot sites across India.** These sites, known for hosting successful demonstrators in key clean transport and energy technologies, could offer ITES innovators a prime opportunity to validate and showcase their solutions for market, and Net Zero, success.



About ITES

Innovating for Transport and Energy Systems (ITES) is a landmark, government-backed collaboration between the UK and India. It is designed to drive the clean transport transition and drastically reduce emissions through market-led UK-India innovation.

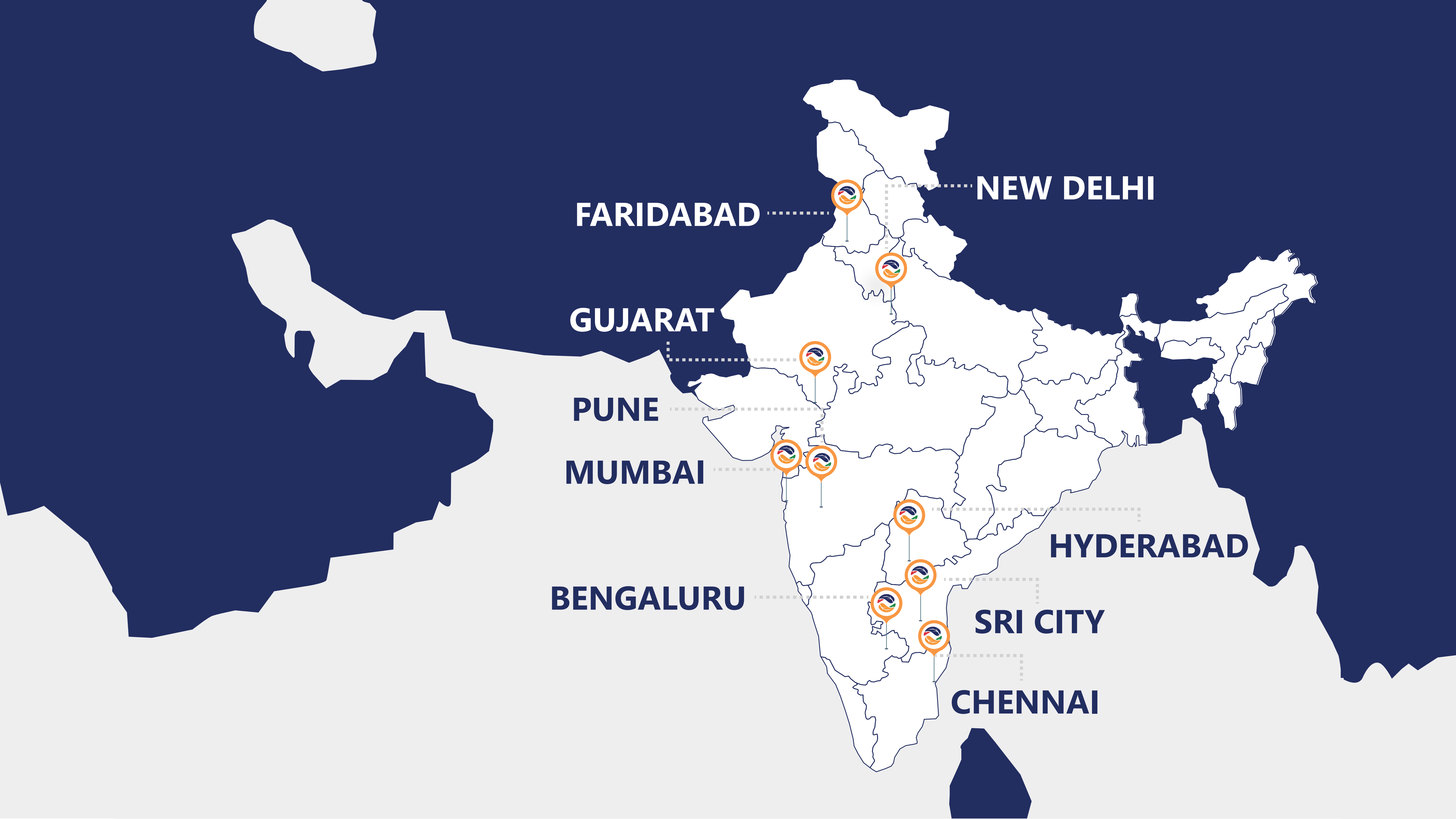
Funded by the Department for Science, Innovation and Technology and Innovate UK, ITES provides unique support and access to help **clean transport innovators grow in collaboration** with the Indian market. Its real-world pilots and research projects help fast track world-first Net Zero solutions by supporting industry, investors, academia and policymakers with evidence, data and unrivalled access to innovation.

Led by Energy Systems Catapult, and the renowned Indian Institute for Science (IISc), ITES looks system wide to find solutions faster, leveraging its world-class expertise in whole energy systems and innovation to ensure **accessibility, affordability and sustainability**.

ITES forms part of a landmark Memorandum of Understanding between UK and India governments to deepen collaboration on science and innovation, and is the flagship pillar of the UK-India Net Zero Innovation Virtual Centre.

Learn more at: **www.ites.org**





NEW DELHI

FARIDABAD

GUJARAT

PUNE

MUMBAI

HYDERABAD

BENGALURU

SRI CITY

CHENNAI

Anna University, Chennai

A public state university provides infrastructure and funding facilities to build a vibrant innovation and startup infrastructure in India. Anna University can enable technical mentorship, networking, infrastructure and collaborative opportunities for UK innovators in the industry.

PREVIOUS PILOTS INCLUDE:



Battery technology

- Battery Management Systems
- Modelling & simulation of Battery Electric Vehicles (BEVs)



E-mobility

- Electric 2-Wheelers
- Design of EV Components



Charging infrastructure

- Smart chargers
- High-capacity chargers
- Renewable energy powered chargers



Indian Institute of Technology Hyderabad (IIT) Hyderabad, Telangana

IIT Hyderabad provides a quality infrastructure and research facilities to practice innovation and entrepreneurship. Some of the pilots and collaborations include having incubated a startup that manufactures electric scooters and hybrid e-bicycle; EV Battery manufacturing and R&D for EV powertrain development and testing. It can provide a supportive environment to SMEs by facilitating funding, guidance and collaborative initiatives.

PREVIOUS PILOTS INCLUDE:



Battery technology

- Sodium-ion cell-based batteries
- Stationary / modular batteries



E-mobility

- Electric 2-Wheelers
- EV powertrain R&D



- High-capacity chargers
- Renewable energy powered chargers



Indian Institute of Technology Delhi, New Delhi

IIT Delhi provides an array of infrastructure, facilities and technical mentorship to support innovation and entrepreneurship. One of its most recent pilots include incubating a startup that designs and develops sub systems for electric vehicles. IIT Delhi supports SMEs via funding, and collaborations with key industrial partners.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers
- EV retrofitting



Vellore Institute of Technology, Vellore, Tamil Nadu

Vellore Institute of Technology (eVIT-RC) has developed and carried out bespoke electric motor drive testing using their laboratory facilities to run the dynamometers. The work carried out at eVIT-RC supports the innovation of EVs and supports the supply chain through testing for ancillary and traction applications, thermal management, wireless charging, as well as noise, vibrations and harshness (NVH) testing.

PREVIOUS PILOTS INCLUDE:



Battery technology

- Stationary / modular batteries



E-mobility

- Electric 2-Wheelers



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers
- Wireless charging



Integration with power networks

- Power system analysis and integration of EVs with smart grids



Clean Energy International Incubation Centre (CEIIC), New Delhi

The Clean Energy International Incubation Centre (CEIIC) provides R&D expertise to support the innovation of design for manufacturing. The work carried out enables more innovative products and services to intercept the current markets. The funding support from CEIIC contributes to a variety of upcoming pilots to support the implementation of EVs. Technologies involved in existing pilots include EV charging infrastructure, hydrogen storage, grid technologies and energy storage.

PREVIOUS PILOTS INCLUDE:



Battery technology

- Stationary / modular batteries
- RedoxFlow batteries
- Zincgel batteries



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



Integration with power networks

- Grid technologies and storage



Alternative fuels

- Biofuels



Gujarat International Finance Tec-City (GIFT), Gujarat

Gujarat International Finance Tec-City (GIFT) hosts a Special Economic Zone that provides essential space for innovative activities. This space has most recently been used to collaborate for EV fleet transportation development, as well as EV leasing and rental services.

INDICATIVE PILOTS: Electric 2-wheelers, Smart chargers, High-capacity chargers, Renewable energy powered chargers

TYPES OF PILOT: E-mobility, Charging infrastructure

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



HITEC City, Hyderabad, Telengana

Hyderabad Information Technology Engineering Consultancy (HITEC City) is a technology hub that houses a variety of influential technology companies. The space that HITEC City can provide is an environment that can support innovation to develop and grow. For example, RACEnergy has established its first battery swap station for two-and three-wheeled vehicles at a retail outlet in HITEC City.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



Indira Gandhi International Airport, New Delhi

Indira Gandhi International Airport is part of the Airports Authority of India and has physical space it can offer to incubate startups and host pilots, which could be used to explore E-mobility and charging solutions to support the increasing EV infrastructure.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



Chhatrapati Shivaji International Airport, Mumbai, Maharashtra

Chhatrapati Shivaji International Airport located in Mumbai has a vast amount of space on offer to support testing and development for E-mobility and charging infrastructure innovations.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



GMR Hyderabad International Airport, Hyderabad, Telangana

GMR Hyderabad International Airport is a part of the Airports Authority of India and has a physical space on offer to incubate startups and host pilots. Collaborations that are suitable to utilise this space include E-mobility and charging solutions.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



Orion Mall, Bengaluru, Karnataka

Orion Mall is a real estate development located in Bengaluru, has physical space on offer to support new and existing innovations for E-mobility and charging infrastructure.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



VR Bengaluru, Bengaluru, Karnataka

VR Bengaluru has physical space on offer to support new and existing incubated startups and pilots. Collaborations are available on a 1:1 scale and can support the development for E-mobility and charging solutions.

PREVIOUS PILOTS INCLUDE:



Charging infrastructure

- High-capacity chargers
- Renewable energy powered chargers
- Smart chargers



E-mobility

- Electric 2-Wheelers



T-hub, Hyderabad, Telangana

T-hub is an innovation centre in partnership with Atal Innovation Centre (AIC). T-hub aims to create a strong ecosystem that empowers technology startups innovating with new-age solutions in the mobility sector. Type of support available from T-hub includes providing access to the mobility ecosystem, guidance on product commercialisation and accelerate regulatory compliance for testing and certification.



ACCES, Pune, Maharashtra

The Centre of Entrepreneurship in Autonomous Connected Electric Shared (ACES) Mobility is a renowned centre of excellence. Its recent pilots focus on open-source hardware platforms, motor control evaluation modules, 3-phase sensor-less brushless DC (BLDC) development kit, and electrical safety analysers.



Centre for Alternative & Renewable Energy (I-CARE), Faridabad, Haryana

Centre for Alternative & Renewable Energy (I-CARE) is a centre of excellence operating in the public sector. There is a heavy focus on R&D for the pilots. More recent pilots have covered research into advanced battery chemistries to develop India specific energy storage solutions using indigenously available materials for development of metal-air batteries, as well as chemically modified lead acid batteries within improved capacity and lifecycle.



Sri City, Andhra Pradesh

Sri-City is a business integrated city with a focus around manufacturing, startups, and providing space. Recent activities taking place at this special economic zone include: the development of the Motors manufacturing unit; the ETO Motors manufacturing unit for electric three-wheeler, four-wheeler, and cargo vehicles, and Ampere vehicles manufacturing unit.



Delhi EV cell, Civil Lines, New Delhi

Delhi EV cell is an ambitious EV agency with plenty of space and support to. Delhi EV is open to kerbside chargers and pop-up retractable charger innovations. Delhi has collaborations with Electric Autos in the Public-Private Partnership (PPP) model running in the Dwarka locality. There is also the hub and spoke model with parking and battery swapping facilities in metro stations, and geo-fenced autos that are allowed to operate in closer neighbourhoods by tracking location.



Bangalore International Airport Limited, Bengaluru, Karnataka

Bangalore International Airport Limited can offer its environment for trialling innovative ideas. The space available can be utilised to accelerate product design and testing.



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