

A New Era in UK-India Innovation

ITES Impact Report 2024



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Our thanks to funders, delivery partners, and programme collaborators



Our impact in numbers: 2023-24

28

(total) SMEs supported

240+

stakeholders engaged

3

MOUs and collaborations signed with ITES

5

innovation pilots and R&D collaboration projects supported

14

hosted and participatory events delivered

16

priority innovation areas covered

28

sector tools, research and resources produced

15

innovator masterclasses delivered

12

bespoke scaleup support initiatives delivered to innovators

About Innovating for Transport and Energy Systems (ITES)

ITES is the UK-India clean transport and energy accelerator.

Our mission:

To accelerate a new era of UK-India clean transport and energy innovation that drastically reduces emissions, drives clean growth, and delivers better futures in India, the UK, and beyond.

Our backing:

Bilaterally backed, ITES is part of the landmark UK-India science and innovation partnership. It is funded by Innovate UK and the Department for Science, Innovation and Technology, and led by Energy Systems Catapult, with the Indian Institute of Science. ITES is a key pillar of the UK-India Net Zero Innovation Virtual Centre – the home of bilateral Net Zero innovation across green hydrogen, manufacturing, and transport and energy systems.

Our context:

ITES is tackling one of Net Zero's toughest challenges – decarbonising transport, and the energy system that powers it. Currently the fastest-growing source of emissions, transport accounts for around 20% of global greenhouse gases. Developing sustainable and affordable solutions will involve the

whole transport and energy ecosystem, with drastic transformation needed to enable increasing renewable energy capacity to meet rising electricity demand.

In shaping a new era of bilateral Net Zero collaboration, ITES:

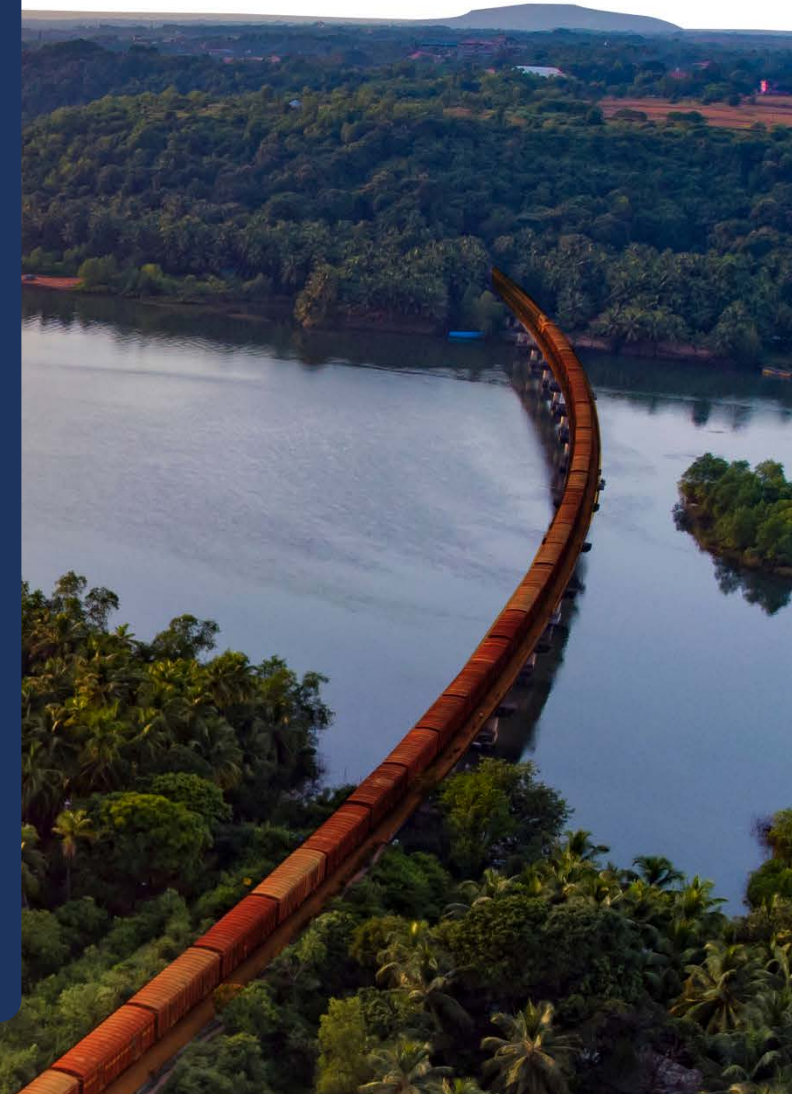
- Provides UK-India SMEs, industry, and investors with unrivalled access to world-leading innovations and the world's fastest-growing markets.
- Fosters the faster translation of transformative tech to other markets through bilateral business support, knowledge exchange, and government-backed collaboration projects.
- Takes a whole-system perspective across borders, markets, and sectors to spot dependencies and opportunities, and to de-risk innovation.
- Creates and mediates 'superpower' partnerships across UK-India innovator, academic, industry, and investor communities to support UK-India Net Zero leadership.
- Enables world-first solutions by unlocking innovative finance and investment.

Contact us: info@ites.org



An unbeatable combination

Indian Prime Minister Narendra Modi, on the UK-India science and innovation partnership



Foreword



Georgina Ayre

**Deputy Director for
Global Research and Innovation**



Department for
Science, Innovation
& Technology



When the brightest minds across the UK and India collaborate to find solutions for major global challenges, it is remarkable what can be achieved.

As Deputy Director for Global Research and Innovation, I'm thrilled to be on the front line of bringing together science and innovation policymakers, thinkers and doers, particularly in the UK and India.

Indian Prime Minister Narendra Modi has called the UK-India science and innovation partnership an "unbeatable combination" - and it's achieving (and delivering) remarkable results, from UK-India Covid vaccines to cleaner air through advancing EV innovation.

In April last year, a landmark MOU (Memorandum of Understanding) was signed between our science and technology ministers in the UK and India. The resulting ground-breaking joint venture will drive a shared Net Zero goal, powered by the new UK-India Net Zero Innovation Virtual Centre (NZIVC).

The NZIVC is a guiding light of UK-India collaboration, bringing together innovation policymakers, R&D companies, startups, hubs and places, investors and research groups. The Centre embodies what can be achieved in a remarkably short timeframe when our two countries set challenging goals for ourselves and our futures, facilitating powerful international partnerships and unlocked decision-making to accelerate new solutions.

It is clear to me that the Centre will remain a priority for both our governments, and a shining example of how government, innovation hubs, our High Commission team in New Delhi, and private sector entities can cut through the red tape and collaborate better.

The Centre focuses on three key areas that will bring real benefits for the health, wellbeing and

prosperity of millions of people: decarbonising manufacturing processes, hydrogen systems, and Innovating for Transport and Energy Systems (ITES).

I am always impressed by the passion and sheer determination of ITES in 'making things happen' towards that sustainable, accessible, and affordable Net Zero future. In only its first 'real' year, ITES has been driving the clean transport conversation at both national and global levels. It has formed partnerships with key players in our transport and energy sectors. It created the Centre's first bricks and mortar set-up at the Indian Institute of Science in Bengaluru, inaugurated by former UK Science Minister George Freeman.

Perhaps most importantly, it has created a unique incubation programme that is bringing together the very best UK-India expertise to ensure innovative SMEs can flourish.

I have the privilege of seeing these SMEs redefining the course of history from their

labs or incubators, to solve the most pressing problems, save lives or generate prosperity for both countries. Already, ITES has enabled SMEs to start new pilots, research, and industry collaboration projects across different geographies and technologies, with more in the pipeline for 2024-5, on a larger scale than before.

It is an incredibly dynamic time for UK-India science innovation – and it's only going to get better. With ITES driving the environmental, social, and economic advantages further and faster, innovative solutions can rapidly scale up and start to change lives on a daily basis. The Net Zero Innovation Virtual Centre is also making strides forward in decarbonising industry. CPI in the UK is partnering with CSIR-NCL in India to set up a 'living lab' for Indian pharmaceutical and fine chemicals industries to trial and demonstrate innovations that support manufacturing decarbonisation. A series of forthcoming sprints will push forward pioneering solutions for generating hydrogen power.

In my view, there's never been a more exciting moment to be a science diplomat. I am delighted to introduce this ITES Impact Report so you can read for yourselves the progress in action over the past 12 months – from innovative projects to new partnerships. If this year is any measure, I can't wait to see what the ITES future brings.



July 2023: UK Minister of State for Science, Innovation and Technology George Freeman MP meets with ITES leads Professor Ashish Verma (C) and Andrew Stokes (R)

Supercharging UK-India **innovation**





Growing concern around the pace of transport decarbonisation and the need to unleash innovation in the UK and India has made the work of ITES even more important in 2023-4. Our clean air, energy-resilient future – and the economic opportunities of international export and scalability in a multi-trillion-dollar industry – will be underpinned by collaboration and innovation, the two core tenets of ITES.

In the last 12 months, ITES has continued to emerge as the home of UK-India clean transport and energy innovation. In one year, we've launched three SME cohorts, backed 28 innovators, been part of three international

MOUs, launched two bilateral partnerships, and developed five major pilots with industry, with more to launch soon.

But we're also proud listeners before we're doers, and have spent the year facilitating understanding and partnerships that better help us support Net Zero success. Rarely do 'lift and shift' approaches work across international markets, so we're developing new knowledge and finding new pathways through bilateral, top-down analysis and bottom-up technology testbeds. Our engagement with the sector is bringing financial, regulatory, and corporate stakeholders around the table to understand how we can support freer-flowing capital for innovation.

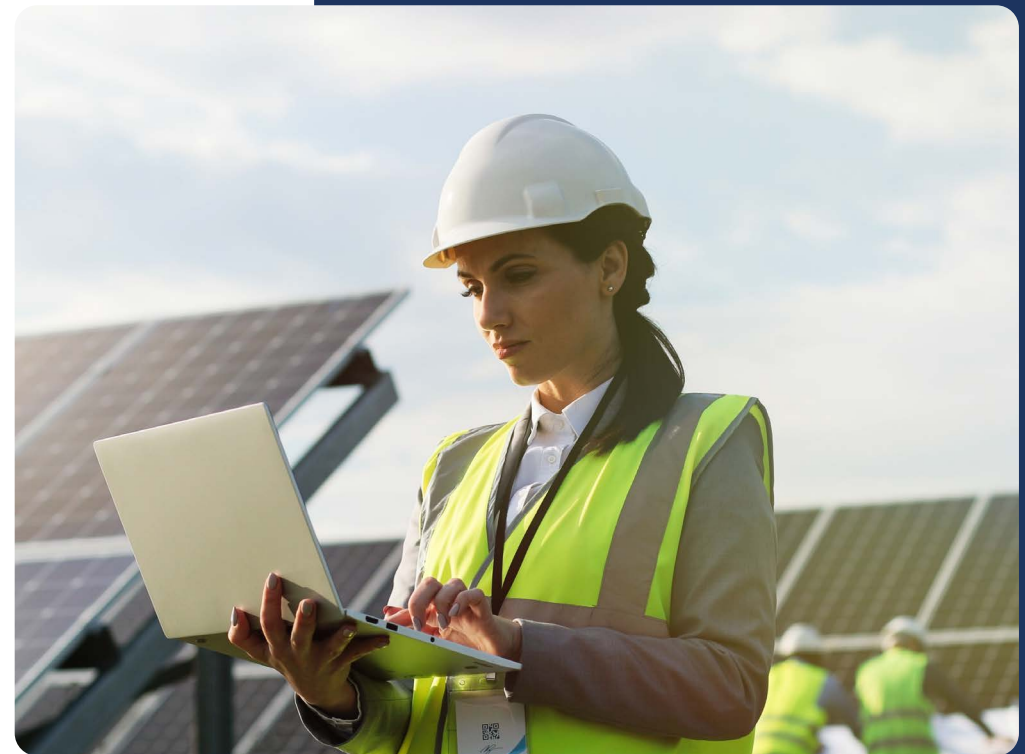
In one year...we've backed 28 innovators, been part of three international MOUs, launched two bilateral partnerships, and developed five major pilots with industry

Our SME, research, and pilot programmes are bringing together UK innovation with Indian expertise and market strength to scale urgent, sustainable, and affordable solutions. The interests of investors, industry, academia, and policymakers are baked into the development of our innovation approaches. In doing so, we can ensure programmes are market-led, and able to de-risk and drive impactful UK-India solutions.

ITES is uniquely positioned, through our experience, high-level support, and extensive reach, to unite key players in creating environments where innovation can thrive. Over the next year, ITES will further utilise this 'superpower' to deliver partnership-driven impact in

ITES brings UK innovation together with Indian expertise and market strength to scale urgent, affordable, accessible solutions.

major market priority areas. This includes innovation that supports smarter, cleaner, more resilient grid infrastructure, and a green hydrogen economy. The final pages of this report share more information on these forthcoming innovation challenges.



Market-led innovation

ITES has worked closely with the Indian market over the past year to explore diverse local contexts and identify specific challenges. The intended result is innovation targeted to national priorities and primed for market success, that also offers solutions to global sustainability challenges.

This research and engagement informs the ITES SME programme, which offers a unique platform to drive the scaleup of SMEs in India, and deliver focused solutions. Now in its third year, the programme is working in tandem with Indian stakeholders to provide UK innovators with exclusive market intelligence and access, supporting solutions that are in sync with investment priorities, national challenges, and global ambitions.

The approach is targeted to fast-track SME growth, scalability, and investment – and the adoption of critical clean transport technologies.

Supporting India in key challenge areas

ITES brings together innovators of transport and energy solutions with the Indian market to tackle one of Net Zero's biggest challenges – clean transport. Here's what stands in the way across these sectors:

Hydrogen

- Tech advancements for fuel cells
- Underdeveloped distribution network
- Unique infrastructure costs
- Standardised fuelling protocols

Energy storage

- Supply chain shortfalls
- Poor battery recycling and repurposing options
- Few insights to improve performance

Electric vehicle (EV) infrastructure

- Limited charging network
- Uptake
- Lack of expertise in cost-effective design
- Poor data coordination

Fleets

- Economic disincentives
- Costly maintenance
- Investment needed in better data
- Poor payloads

Economic and policy challenges

- Motivational policies for tech adoption
- Financial/ownership models for affordable solutions
- Lack of innovator-decisionmaker dialogue
- Drastic grid transformation needed to increase renewables capacity and support rising electricity demand



ITES SME programme

Developed in 2023, the ITES SME programme provides unique scaleup support to a diverse spectrum of innovative UK businesses – from rising star startups, to more experienced enterprises with UK-proven products and technologies. It currently supports 26 high-potential innovators, a number set to grow in 2024-5, with each addressing high priority Net Zero challenges for India and the UK.

ITES innovators have been chosen for their potential to support UK-India leadership in renewable energy, EVs, and hydrogen, support new products and services in key challenges, and unlock the smart infrastructure necessary for future energy resilience and demand. These creators, makers, and engineers are working on innovative technologies and services across green hydrogen, rail, and fleet solutions, battery storage and management technologies, through to data, flexibility, and network services.

Meet our innovators: Learn more about the innovative businesses that form the ITES SME programme.



Alternative fuels



Batteries and battery management systems

Advik Technologies Limited



LiNa Energy



Charging systems



[ui!]uk
urban integrated ltd



Energy and flexibility management systems



Energy storage and delivery



Hydrogen systems



Engas Global
an electrolyser and H₂ compressor company



Renewable generation and microgrids



ZEV fleet management



[Download brochure](#)

Unlocking UK-India export and international scaleup

Through new pilots and go-to-market support, the programme is now actively supporting UK innovators, industry, and government to propel innovations from concept to commercial adoption.

Innovator talent continues to be drawn to the programme, which fuses government-backed support, leading innovation expertise (from Energy Systems Catapult, the Indian Institute of Science, as well as major accelerators, such as Social Alpha) with unmatched market access. Beyond mentoring and masterclasses, the programme is providing legal support, seed funding, export solutions, and real-world testbeds to help test, fund and fast-track world-first solutions.

With reach across international public and private sectors, the programme is ensuring that the best Net Zero ideas flourish, new products can be proven, international scalability and export can be unlocked, and innovation capital allowed to flow.

See more on our pilots on page 14.



Innovator support programme

PHASE 1 - Preparation

PHASE 2 - Bespoke support



ITES has leveraged its network of experts to support SMEs to overcome bespoke challenges:

Export: Sodium-ion battery innovators LiNa Energy benefitted from critical expertise to help export their technology to India, enabling their current pilot with Tata Power.

Legal: AqSorption, an SME developing new hydrogen electrolyser technologies, benefitted from legal support to help contract an Indian company to develop a prototype product.

- Including:
- Market entry plan
 - Investment funding
 - Doing business

Opportunities and drivers for energy and mobility sector in India



Fast-tracking transformative tech: Pilots, R&D, and collaborative projects

Key to SME success is the close partnership that ITES fosters between industry and innovators to take ideas and technologies further, faster – from prototype to marketplace.

Before ITES, its predecessor, the award-winning ‘Innovating for Clean Air’ initiative, enabled the adoption of clean EV technologies and services by proving solutions on the ground in India. ITES is now continuing that legacy, with ground-breaking pilots, real-world research, and testbeds across both countries.

Several pilots and research projects are now live, covering product development, iteration, and testing, to product strategy validation and go-to-market execution. Translation of the insights and data will build on findings, and provide evidence for new UK-India technologies, services and markets.

The following pages offer some details. We hope to share much more as projects mature and further pilots are announced in 2024-5.

£550k

of direct support delivered to SME innovators

81

potential partners shortlisted for SMEs to explore pilots in 2024-5



We're harnessing the UK and India's rich reputation for R&D and the strength of our business sectors to pioneer testbeds that will unlock better data to support clearer decision-making and bolder collective action from industry and leaders in the transport and energy sector.

Professor Ashish Verma
Indian Institute of Science, Sustainable Transport Lab

Pilot, India: **LiNa Energy with Tata Power**

Tackling DISCOM challenges with LiNa's new generation storage solution

LiNa Energy



SME:
LiNa Energy

Indian partner:
Tata Power

Location:
Mumbai and Delhi



LiNa Energy is a UK innovator that has developed a new generation sodium-metal-chloride battery for renewable energy storage applications.

LiNa Energy has partnered with Tata Power to trial a 10kWh battery with novel chemistry as an energy storage solution to support the intermittency challenges associated with increased integration of renewable energy supply into India's electricity grid.



R&D, UK: **Entrust Microgrid**

Exploring the future of light EV charging with Entrust's smart microgrid systems



SME:
Entrust Microgrid

Location:
Huddersfield, UK



Entrust Microgrid specialises in smart microgrid, EV charging and energy management system technologies.

This R&D project looked at how Entrust Microgrid's patented smart DC microgrid and EV charging technologies could be adapted to suit light electric vehicles in India. This enabled 'art-of-the-possible' exploration into how its chargers and charging management system could be adapted to support, and be compatible with, 2-wheeler vehicles in India.



Pilot and R&D, India: **Anionix with National Chemical Laboratory**

Supporting India's green hydrogen boom with Anionix's novel production technology



Anionix produces a novel electrolyser that is free from the expensive and critical platinum group metals other low carbon solutions require.

SME:
Anionix

Indian partner:
National Chemical Laboratory

Location:
Pune



In its ITES-enabled research and development (R&D) and pilot project, Anionix is developing a 10 kW AEM (Anion Exchange Membrane) electrolyser for installation with the Indian National Chemical Laboratory for the production of green hydrogen and the development of the hydrogen economy in India.



Pilot, India: **PowerUp Off-Grid Services with ConnectM and Motovolt**

Revolutionising off-road supply with PowerUp Off-Grid's clean EaaS solutions



SME:
PowerUp Off-Grid Services

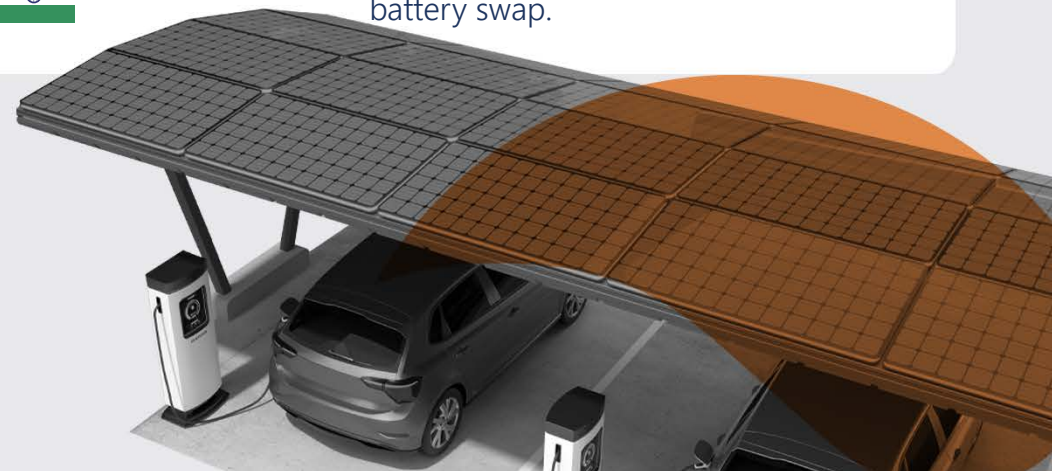
Indian partners:
ConnectM and Motovolt

Location:
Bengaluru



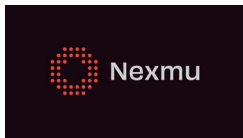
PowerUp Off-Grid Services (PowerUp) pioneers sustainable Energy as a Service (EaaS) solutions with swappable batteries, leveraging machine learning to predict usage behaviours and enabling proactive just-in-time replacements, performance reporting, and workflow best practices.

PowerUp's pilot project is testing commercial viability of renewably charged PowerStations to supply off-road demand with an EaaS business model. These PowerStations leverage AI algorithms to predict battery behaviours and facilitate just-in-time battery swap.



Pilot, India: **Nexmu with buymyEV**

Maximising India's vehicle and battery performance with Nexmu's Battery Management System



SME:
Nexmu

Indian partner:
buymyEV

Location:
Bengaluru



Nexmu has developed a Battery Management System (BMS) for electric mobility and energy storage. The BMS provides detailed metrics that will allow for more intelligent battery usage and greater optimisation.

Nexmu's pilot project is exploring how BMS can be optimised in India for best vehicle performance. It will demonstrate the increased reliability and versatility of battery-operated powertrains for urban mobility systems for 2, 3, and low-powered 4-wheeler vehicles.



Helping leaders de-risk and drive innovation

ITES pilots and collaboration projects offer sponsors, investors, and partners a place at the forefront of the transition. As part of top-down whole system analysis and bottom-up innovation demonstrators, UK and Indian organisations are being equipped to:

- **Future proof business operations**, identifying green, commercially viable pathways and models.
- **Isolate investment and development opportunities** through deep, whole system-level insights.
- **Fast-track market readiness of cutting-edge technologies** through real-world demonstrators that evaluate and evidence business cases and viability.
- **Access UK-India innovation, industry, and policy-making muscle** across the transport and energy sectors.

Connecting innovators and corporate partners

Networking and in-country collaboration is a key part of the unique offering for ITES SMEs, and the last year has seen innovators benefit from exclusive networking opportunities, business matching support, and unique access to the Indian market.

Business matching support

In the last 12 months, over 80 introductions have been enabled by ITES between innovators and investors, innovation supporters, and market leaders, with resulting collaborations soon to be announced.

Global networking

India Energy Week 2024 was one of the global platforms ITES leveraged to showcase UK SMEs and their innovative clean energy solutions. Through support from ITES, four innovators presented cutting-edge technologies at India's largest energy event, held this year in Goa.

The week provided the high-potential innovators with an opportunity to network with SMEs and connect with major corporations and capital, including government teams, energy suppliers, manufacturers, and other stakeholders able to accelerate their journey from lab to market.



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introductions enabled by ITES between UK SMEs and innovation supporters, potential investors, or key players in the Indian market



The week has been a brilliant experience for us, and one that we would never have had were it not for the ITES programme.

Stuart Wallis, PowerUp Off-Grid Services



Programmes like ITES are critical in ensuring UK innovators can play a crucial role in the clean energy boom, supporting sustainable growth for both our nations.

Will Tope, LiNa Energy





ITES fosters an interactive ecosystem of SMEs that can connect ideas and solutions across different technologies and services. That's why this programme is so important.

Rajat Rakkhit, Nexmu



I am truly grateful for the productive outcomes that were achieved. Meeting other innovative businesses has played a significant role in making our trip to Goa as part of the ITES programme such a success.

Sanjay Gupta, Faraday Battery



Driving UK-India collaboration





Collaboration is at the heart of ITES's mission to accelerate UK-India innovation on cleaner roads, railways, seas and cities. Bilaterally joining the dots is helping us find ways through fundamental barriers – such as finance, policy, and infrastructure – that can otherwise hamper major innovation.

Over the past year, ITES has engaged extensively with the market's decision makers and doers to find the gaps and challenges, and foster prosperity-driven partnerships.

The year has set up ongoing collaborations with Xynteo, PTC India, and Social Alpha to turbocharge innovation in green hydrogen and grid supply, and

propel pioneering innovations – and innovators – into each other's marketplace.

The team has met with state governments across India to drive collaboration on regional challenges. It has built on its world-class research network, connecting world-leading institutes in the UK and India – including the IIT Madras Research Park, Manchester Fuel Cell Innovation Centre, and the International Council on Clean Transportation – on the toughest whole system challenges.

Following a vibrant year of engagement with global industry leaders, ITES is poised to announce a range of major projects and partnerships in 2024-5 that will further the UK-India clean transport agenda.

The year has set up ongoing collaborations that will help ITES propel pioneering innovations into UK and Indian marketplaces.



Xynteo is a purpose-driven strategic advisory firm that helps global organisations find new ways to grow forward as they tackle the societal and environmental challenges that are too big, too expensive, and too complex to solve alone.

xynteo

Collaboration focus:

Putting SMEs centre stage of the world's clean hydrogen market

Projected to play a major role in India's energy transition, clean hydrogen has remained a key focus for ITES in 2023-4. To further support innovators at the forefront of this burgeoning market, a new collaboration was announced in November with the strategic advisory firm Xynteo.

Through Xynteo's Energy Leap programme, ITES SMEs developing hydrogen system innovations will gain unparalleled access to expert support, industry networks, and

India's clean hydrogen ecosystem. As well as offering ITES innovative businesses unique opportunities and resources, the collaboration could also provide opportunities to link up with, and further bolster, the NZIVC's hydrogen systems pillar in the coming year.

Energy Leap, a clean hydrogen technology and business accelerator founded by Xynteo, focuses on driving innovation and market creation for clean hydrogen in India and globally, supporting the wider hydrogen economy, energy security, economic development and decarbonisation. The programme supports startups on technology commercialisation, market creation and unlocking capital, bringing together stakeholders such as industry, investors, technology, and think tanks.

The accelerator will catalyse new technologies and startups across the hydrogen value chain, and commercialise them through business modelling, operational, technology and investment support, and market access.



PTC India Ltd. is the leading provider of power trading solutions in India. The company was established in 1999 as a Government of India initiated Public-Private Partnership, whose primary focus is to develop a commercially vibrant power market in the country.



Collaboration focus: **Pioneering UK-India power solutions**

In February, a Memorandum of Understanding was signed with PTC India – India’s leading power trading provider and an initiative of the Government of India.

The collaboration brings together ITES’s research, modelling and innovation capabilities with key players in India’s energy supply chain, setting the stage for UK-India knowledge exchange and new opportunities for innovative businesses in India’s green energy market.

In the coming year, the partnership will aim to explore the challenges of meeting India’s growing energy demand, and support SMEs in developing solutions for a reliable, sustainable, and affordable energy supply in India and the UK.



This MOU is a great example of how organisations from our countries can come together to share expertise and accelerate the energy transition, while supporting the mutual success of UK and Indian businesses in both countries.

Anna Shotbolt
Deputy Trade Commissioner for South Asia
British High Commission, New Delhi



Social Alpha is an India-based innovation, curation and venture development platform that supports very high-impact solutions in their lab-to-market journey. Social Alpha searches for entrepreneurs and innovators who are on a 'mission to create social, economic and environmental impact' and support them as they create compelling solutions to fight poverty and address India's intractable developmental challenges.

SOCIAL
alpha

Collaboration focus: **Creating a UK-India innovator ecosystem with Social Alpha**

Energy Systems Catapult initially teamed up with Social Alpha in 2021-2, introducing UK innovators to the Indian energy market. Building on that success, Social Alpha joined the ITES Advisory Group in November 2023, bringing its deep understanding of the Indian innovation ecosystem to ITES. Now, for the first time, ITES innovators will benefit from a joint ITES challenge call with Social Alpha.

Opened for applications in April 2024, the latest ITES SME programme will leverage Social Alpha's vast expertise, network, and incubation facilities in Delhi, offering innovators unique access to one of India's biggest accelerators. Impact-driven and with a shared commitment to the clean energy transition, optimism is high for the ITES-Social Alpha collaboration, which looks set to help multiply impacts in both countries in 2024-5.



I'm very pleased to be collaborating with ITES in supporting UK-based innovators who are looking at entering the Indian market, and also collaborating with the Indian startup ecosystem to provide solutions to some of the problems that are a high priority in India right now.

Smita Rakesh
Vice President and Partner, Social Alpha



ITES established its advisory group in April 2023, providing high-level direction and support to supercharge its collaborative efforts.

CATAPULT
Energy Systems



SOCIAL
alpha

Collaboration focus:

ITES advisory group: Supporting our impact and the UK-India success story

The consortia features leaders from Energy Systems Catapult, the Indian Institute of Science, UK government, and benefits from independent guidance from innovation accelerator, Social Alpha.

Together, they drive forward a bold vision for ITES, pooling expertise, intelligence and connections to ensure it stays independent, focused, and able to turn a global challenge into an innovation success story.

Members meet quarterly to support ITES in key areas, including:

- Providing advice on future ITES activities.
- Supporting ITES in forming new partnerships.
- Supporting ITES in attracting funding to enable its sustainability.
- Supporting alignment to the wider Net Zero Innovation Virtual Centre.
- Supporting ITES in contributing to decarbonisation of the transport and energy sectors, staying close to market needs and practical applications, whilst maintaining its independence.
- Identifying opportunities for expansion of ITES activities and alignment with broader state, national and international initiatives.
- Supporting ITES in identifying dissemination opportunities.



Unlocking UK-India **knowledge exchange**



ITES has shared the equivalent of a knowledge output every fortnight to support fast-developing UK-India innovation in 2023-4.

From tools and market insights, to a new UK-India knowledge series spurring action on key decarbonisation challenges, we see our role in building learning across sectors and borders as key to help unlock bilateral Net Zero progress.

The year has seen the team launch a new website – www.ites.org – housing a knowledge hub to help share resources quickly with the world. Reports and webinars have shared UK lessons learned on Clean Air Zones, mapped

high-potential clean energy and transport pilot sites in India, and staged deep discussion on the grid supply challenges facing Indian DISCOMs, to name just a few.

A toolkit of roadmaps and resources developed by ITES in the last year is also continuing to boost SME success. Geared towards equipping clean transport SMEs for growth in the UK and India, this 'ITES innovator toolkit' brings together the best of ITES expertise with that of the market to ensure innovators are market-ready, first time. More resources will continue to be prioritised in conversation with SMEs, policymakers and industry, and added to the toolkit.

The ITES innovator toolkit is boosting SME success... new roadmaps and tools bring together the best of internal expertise with that of the market to ensure innovators are market-ready, first time.

Tools and reports snapshot

Clean Air Zones report	This report helps ascertain the role Clean Air Zones could have in both reducing urban air pollution and encouraging the decarbonisation of the road transport sector in India.
IfCA report	This report summarises the award-winning Innovating for Clean Air programme, which preceded the ITES programme.
Impact report Y1	ITES's first impact report, summarising the achievements of year one.
Indian pilot sites mapping	This new directory from ITES lists potential pilot sites where SMEs can partner with organisations wanting to provide a supportive testbed environment for new clean energy technologies.
Introducing our innovators	This outlines information on our three cohorts of high-potential innovators.
A sectoral review of India's energy transition	This sectoral review of India's energy transition is a sector-by-sector analysis of several major carbon-emitting sectors (buildings, agriculture, iron and steel, cement, transport).
The Net Zero Challenge Assessment Tool (NCAT)	Developed by ITES, the tool is being used to explore the challenges associated with decarbonising India's energy and transport sectors.
Market Access Roadmap to India	This roadmap provides a structured approach and guidelines for UK innovators looking to investigate and prepare for opportunities for scaleup in India. The roadmap equips innovators with logical, structured steps they could take to explore, and grow successfully in, India.

28

reports, insights, tools, roadmaps, webinars, and other outputs were delivered by ITES in 2023-4, equivalent to an output every fortnight.



ITES Knowledge Series

The ITES Knowledge Series is a new initiative launched this year to stimulate conversation and collaboration on key decarbonisation issues between the UK and India.

The series of high-level webinars brings together leaders and key actors from transport and energy sectors to discuss market challenges, share knowledge and experiences, and drive joint action towards achieving the future of transport, and the clean energy system that powers it.

These webinars are available on demand, ensuring that SMEs, policymakers, and global stakeholders can access the latest thinking and insights on UK-India Net Zero transition strategies.

The series continues to go from strength to strength, connecting global stakeholders in innovation and promoting UK-India clean transport solutions around the world, with even bigger, more prominent sessions planned for 2024-5.

Main objectives

- Share insights from experts on major renewable energy initiatives
- Provide unrivalled access between innovators and industry stakeholders, and drive new UK-India market partnerships
- Foster dialogue and spur action towards the implementation of clean transport and Net Zero transition solutions



Webinar 1: **Supporting DISCOMs to enable rapid EV adoption**

The first seminar in January 2024 – ‘How can India’s DISCOMs enable rapid EV adoption?’ – focused on the challenges faced by Indian DISCOMs in handling future grid supply peak loads amidst the rapid growth of the EV market.

Sector-leading speakers included Sally Taylor, Minister Counsellor from the British High Commission, Prof Ashish Verma from the Indian Institute of Science, and Anupum Vadehra from PTC India.

[Watch here](#)



Webinar 2: **The UK-India green hydrogen opportunity**

The second event in May 2024, in partnership with Xynteo, explored UK-India collaboration in clean hydrogen technology and innovation.

The session featured speakers at the forefront of hydrogen innovation, including the British High Commission’s Jack Landers and Dr Patricia Pinto, Aravind Chandiran from IIT Madras, Deepak Yadav from the Council on Energy, Environment and Water (CEEW), Rahul Sahai, CEO of Kirloskar Engine Oils, and Amer Gaffer from the Manchester Fuel Cell Innovation Centre.

[Watch here](#)

Promoting the **UK-India partnership**





UK Science Minister George Freeman MP with India's Dr. Jitendra Singh, Honourable Minister of State for Science and Technology, and Earth Sciences, signing last year's landmark MOU. The enhanced science and technology cooperation between India and the UK officially launched the Net Zero Innovation Virtual Centre and ITES, among other initiatives.

From April 2023's landmark science and innovation MOU, to COP 28, and roundtables with global changemakers, ITES has been there to spot critical issues, foster international partnerships, and champion UK-India innovation.

In May 2023, ITES was officially launched as part of the UK-India science and innovation partnership, establishing a foundation for ongoing international collaboration.

The team has since hosted George Freeman MP, then UK Science Minister, in Bengaluru during the G20 summit, showcased UK SMEs at India Energy Week inaugurated by Prime Minister Modi, and presented at COP 28 on the need to unite innovation clusters on bilateral solutions.

ITES has continued to be a prominent voice for UK-India innovation at key gatherings across the year. Part of a prestigious expert panel at UKRI-India's 15-year anniversary event, the team has also hosted sessions and represented UK-India innovation interests at the International Conference on Green Hydrogen, the EV India Expo, the Urban Mobility India Conference & Expo, and India Smart Utility Week, among others.

The year at a glance



April 2023
UK-India Science and Innovation MOU and Net Zero Innovation Virtual Centre launch



May 2023
ITES launches

June 2023
ITES begins presenting on UK-India innovation at clean transport summits and events across India, South East Asia, and the UK

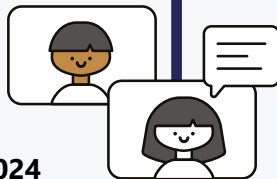
July 2023
UK Science Minister, George Freeman MP visits ITES in Bengaluru as it opens the Net Zero Innovation Virtual Centre's first bricks-and-mortar base at IISc

September 2023
ITES introduces its first SME cohort of clean transport innovators

1st SME cohort

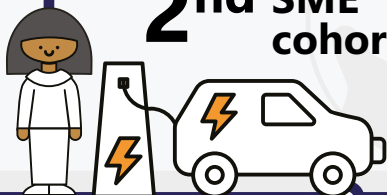


January 2024
Launch of the ITES Knowledge Series webinars, bringing together industry, government and innovation leaders from the UK, India and worldwide

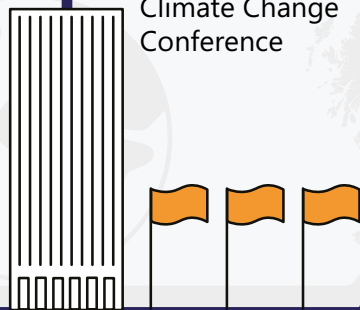


January 2024
ITES introduces its second SME cohort of clean transport innovators

2nd SME cohort



December 2023
ITES presents at COP 28, the United Nations Climate Change Conference



November 2023
ITES signs a partnership with Xynteo and Energy Leap to boost UK-India hydrogen innovation



October 2023
ITES joins an auspicious panel at UKRI-India's 15th anniversary

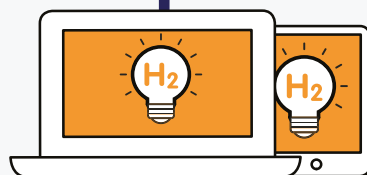


February 2024
ITES signs MOU with PTC India in Delhi to spur UK-India innovation on future grid supply



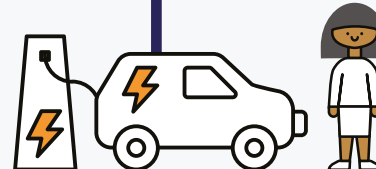
February 2024
ITES showcases UK SMEs at India Energy Week in Goa, inaugurated by Prime Minister Modi

February 2024
Launch of the ITES website: a knowledge hub to drive faster, wider resource sharing

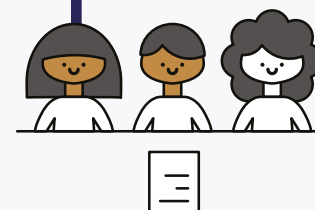


April 2024
ITES introduces its third SME cohort of clean transport innovators

3rd SME cohort



April 2024
ITES launches its first-ever joint challenge call with Social Alpha



Looking ahead: 2024-5

As we look ahead to 2024-5, we're thrilled to share a preview of the new initiatives that will shape the future of UK-India innovation. Our focus remains on driving large-scale transport and energy decarbonisation, addressing critical challenges through collaborative efforts and strategic partnerships.

1. Launching Clean Hydrogen and Future Grid Innovation Challenges

In the coming year, ITES is launching ambitious innovation challenges turbocharging action and impact in two fundamental areas: green hydrogen and the future grid. These major initiatives will seize the opportunities of UK-India innovation in clean hydrogen and our future grid infrastructure, putting the UK and India at the forefront of transformative solutions.

2. High-impact SMEs and strategic partnerships

We are excited to introduce more hand-picked, high-impact SMEs into these critical challenge areas. We will be announcing key strategic partnerships that – alongside those established this year with Xynteo/Energy Leap, PTC India, and Social Alpha – will provide invaluable innovation support to move the needle on major challenges, and enable SMEs to scale innovative solutions that deliver significant progress.



3. Collaboration projects and bilateral initiatives

Building on our successful in-country collaboration projects, we plan to expand our pilots and bilateral initiatives in India. This includes closer alignment with the NZIVC on hydrogen innovation, and the possibility of joint events and projects to further strengthen our efforts. Many pilots will support innovative technologies in our two key thematic areas of focus, the future grid and hydrogen innovation, ensuring UK and Indian innovators remain at the forefront of tech advancements in these key areas.

4. ITES Knowledge Series and new partnerships

We'll continue to put the ITES Knowledge Series on the map as a critical platform for sharing insights on emerging trends and driving ideas and action. Additionally, we will join forces with mission-sharing entities like Social Alpha to connect their innovators with ours, and kick-start workshops with major innovation hubs, such as the IIT Madras Research Park.

The next year represents a new era for ITES action, as on-the-ground projects and decarbonisation sprints see the initiative get its hands dirty in the 'doing' of Net Zero progress. With more industry and sector partnerships to be announced, ITES continues to push the boundaries of innovation and drive the future of clean transport in the UK and India.

Stay tuned on our progress by signing up to the [ITES newsletter here](#).



For more information,
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