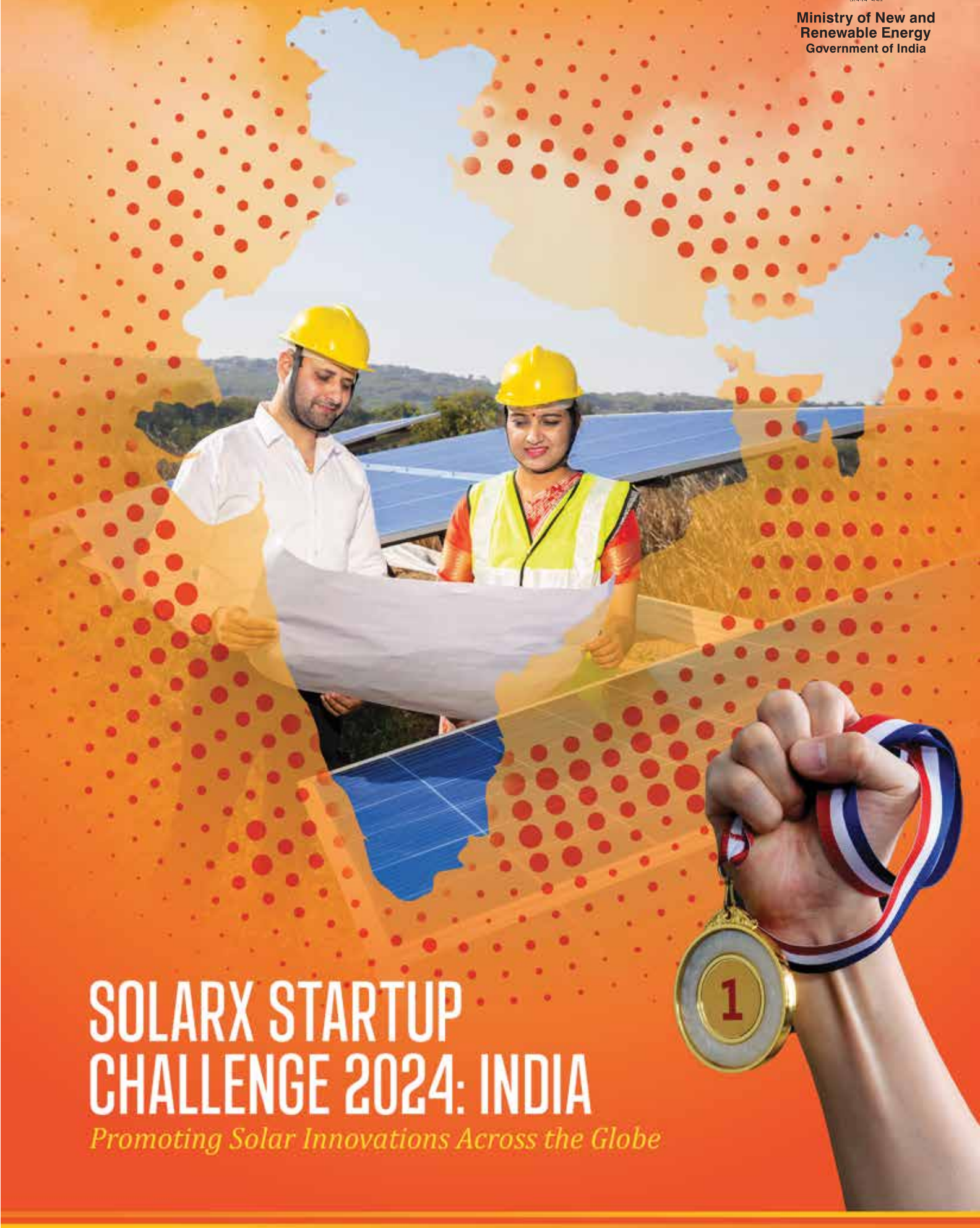
INTERNATIONAL SOLAR ALLIANCE

सत्यमेव जयते

Ministry of New and Renewable Energy
Government of India



SOLARX STARTUP CHALLENGE 2024: INDIA

Promoting Solar Innovations Across the Globe

About SolarX Startup Challenge 2024

The SolarX Startup Challenge, an initiative by the International Solar Alliance (ISA), seeks to crowdsource innovative, scalable, and cost-effective solutions to address challenges in the solar energy sector. Launched initially at COP27 in collaboration with Invest India, the challenge aims to encourage local innovation and entrepreneurship in ISA Member Countries. Building on the success of the 2023 Africa edition, ISA introduced the second edition for the Asia-Pacific (APAC) region and India at COP28 in November 2023.

The SolarX Startup Challenge 2024 operates in two distinct segments: one for identifying 10 startups from India and the other for selecting 20 startups from the rest of the APAC region. The India edition of the Challenge is co-led by the Ministry of New and Renewable Energy (MNRE), Government of India, and implemented by ISA with support from Invest India and sponsorship from Bloomberg Philanthropies. Launched on March 1, 2024, in Bengaluru, the India program opened its call for applications until the end of April 2024. A technical committee conducted a detailed evaluation from May to June 2024, selecting 10 winning startups from India based on specific problem statements, each receiving a cash grant of USD 15,000. The winners were announced at the International Solar Festival 2024 in Delhi and later felicitated at RE Invest 2024 in Gujarat, where they showcased their innovations to the Hon'ble Prime Minister of India, Hon'ble Vice President of India, and other distinguished dignitaries.

The SolarX Startup Challenge has received overwhelming responses across India, signifying its potential to be a driving force in transitioning towards a green energy economy. By promoting solar energy innovation and accelerating a responsible energy transition, it is poised to play a pivotal role in shaping a sustainable future. This challenge is not just a competition; it's a movement that aligns seamlessly with ISA's ambitious goal of mobilising USD 1 trillion in solar investments across ISA Member Countries.

BENEFITS/REWARDS

- Cash Grants **USD 15,000** for every winners
- Mentorship Opportunities
- Market Access Opportunities
- Investment Opportunities

Following the success of the 2023 SolarX Startup Challenge: Africa, ISA launched the Asia- Pacific and India edition at COP28. This challenge boosts entrepreneurship, drives solar adoption, and bridges energy gaps in the region. I'm pleased to announce we've selected 30 winners for the 2024 edition— 20 from Asia-Pacific and 10 from India— each addressing critical local needs with potential for scaling.

Ajay Mathur

Director General, ISA

AGRIVIJAY (RENEWAGRI OM ECOMMERCE PVT. LTD.)

AgriVijay is India's first curated Marketplace & Agtech Climate Action Social Enterprise of Renewable and Green Energy products for farmers and rural households making them energy independent and fighting climate change. With the help of AI-enabled WhatsApp chatbots, Call Centers, a Field Sales Team and their unique offline business model known as Renewable Energy Stores at the village level, they have revolutionised the space, giving a strong push for Climate Resilient Agriculture with technologies in Solar, Biogas, Green Energy - Electric, Agritech and Organic.

Vimal Panjwani, *Founder & CEO* **Shobha Chanchlani,** *Co-Founder & Director*

CIBOS TECHNO SOLUTIONS PVT. LTD.

Cibos designs and manufactures heating and cooling technology for micro-entrepreneurs which are DC and can be run off-grid. Cibos is on a mission to empower 2 million micro-entrepreneurs across India through solar-powered clean heating and cooling technology as well as modular infrastructure. Their proprietary PTC-based technology uses cutting-edge ceramic resistor material for heating, allowing their products to operate on 12V DC power without needing an AC-DC converter when connected to solar power. Additionally, the cooling system features a specially designed 12V DC micro-compressor to achieve the same efficiency.

Aditya Dave, *Founder* **Riya Shahane,** *Co-Founder*

IMAGINE POWERTREE PVT. LTD.

PowerTree is an innovative and disruptive sustainable technology company based in Gandhinagar, Gujarat, India. They specialise in offering turnkey solar-powered solutions for decentralised and integrated energy needs, revolutionising the way governments, corporations, property owners, and individuals embrace renewable energy. Their patented product portfolio includes groundbreaking offerings such as the Solar Tree, Solar Tiles, Solar Balcony, Portable Solar-Powered EV Charger, and many others.

Shani Pandya, *Founder & CEO*

THERMONIKS ENERGY PVT. LTD.

Thermoniks Energy offers Battery Regeneration services based on a unique technology and process for a wide variety of power applications that includes Solar, Traction and Telecom. Battery Regeneration is a breakthrough innovation in the field of sustainable energy storage. It is a solution to revitalise and reuse depleted batteries. This technology presents a safe and environmentally friendly approach to restore the functionality of old batteries without the need for disassembly or the addition of chemicals. The Thermoniks team has spent nearly 7 years perfecting the technology and process and have successfully regenerated more than 15,000 Lead Acid Batteries across select locations in India and Africa.

Harshal Kulkarni, *Co-Founder & Head of Operations* **Amrit Anchann,** *Co-Founder & Chief Business Development Officer*

GREENLEAP ROBOTICS PVT. LTD.

Greenleap Robotics is an IIT Delhi alumni-founded industrial automation and robotics company working on providing the autonomous robotic solar plant cleaning solutions. Their clients include Dalmia Cement, Sunsure Energy, Sunsource Energy, Param Renewable Energy, Mahindra Teqo, HONDA etc. Greenleap robots are cleaning more than 400MWp + assets across various states of India. Their solution comprises LOTUS-A4000 (Fully autonomous robotic solution) and LOTUS-P4000 (Semi-autonomous robotic cleaning solution). This robotic cleaning solution would help in increasing power production by more than 3% to 5% as compared to traditional bi-weekly manual water-based cleaning in addition to saving water.

Apoorv Tyagi, *Founder & CEO* **Ayush Tyagi,** *Co-Founder*

SOLYIELD (CLIMAI CLEANTECH PVT. LTD.)

The SolYield SAAS AI platform is a reliable, secure, affordable, and convenient solution to manage performance and maximise lifetime returns from solar power and battery energy storage systems. This AI platform onboards assets using APIs (Application Programming Interface) at no upfront cost, estimate losses, and recommends actions to correct over 30 solar issues to improve lifetime savings by up to 25%. Solar and battery asset owners can use the platform to improve lifetime solar generation by up to 25%, reduce operations costs by up to 30%, ensure safety in solar and battery operations, and enhance the lifespan of assets.

Siva Harsh S, *Founder & CEO* **Nikhil Joy,** *Co-Founder& Director – International Sales*

SOLARFIX

India's aging power grid faces increased strain with the rise of renewable energy (RE) and electric vehicles (EVs), leading to potential outages. SolarfiX offers a network of battery-based energy storage systems (ESS) that provide backup power, reduce carbon emissions by thousands of kilograms, and deliver a total cost of ownership one-third lower than comparable diesel generators. Their in-house Zealor® converter technology ensures optimal energy management, handling both underload and overload scenarios with unmatched precision. SolarfiX carbon-free solutions ease grid strain during peak demand, benefiting utilities and reducing customer energy bills while promoting sustainability.

Anket Kapoor, *Founder & CEO* **Aman Sangal,** *Co-Founder*

RGET LABS LLP

RGET Labs LLP, founded in 2020 in Rajkot, India, was established by a team of enthusiastic individuals with backgrounds in Electronics engineering who are committed to innovation. The company integrates the latest motor technology with suitable control devices to enhance performance quality while ensuring energy savings in their products. To efficiently harness solar energy and convert it into electricity, RGET LABS began manufacturing solar water pump controllers/solar VFDs for AC and DC motors (PMSM and BLDC) up to 15 HP, all developed through in-house research. These products are recognised for their industry-best performance, quality, and reliability, supporting both existing and new water pump motor technology (AC & DC). This innovation enables agriculture and related businesses to operate independently of grid power, regardless of location.

Kishan Govani, *Founder & CEO* **Parth Trivedi,** *Co-Founder*

EVORIDE MOTORS PVT. LTD.

Evoride Motors empowers gig economy workers with long-range, swappable battery EV scooters, enabling them to double their daily earnings with zero downtime. These cost-effective solutions provide up to 6 additional operating hours per day and offer 17 customisable variants to meet diverse delivery, e-commerce, and logistics needs. Evoride's innovative product features patent-pending swappable battery technology, which boasts the world's first cell-level serviceability. Their seamless shift gearbox enhances powertrain efficiency by over 40% and extends battery life, while the next-generation chassis design—a Lego-like, 3-piece structure—reduces manufacturing CAPEX by an impressive 60%. Additionally, Evoride has developed the world's most compact battery swap stations, further contributing to the efficiency and sustainability of their EV scooters.

Rahul Venkatraman, *Co-Founder & CEO* | **Abishek Hosangady,** *Co-Founder & CTO*

ENVINOVA SMARTECH PVT. LTD.

Envinova Smartech addresses the problem of lacking modern public conveniences in outdoor spaces where people can sit, charge their devices, work, and relax. They offer a solution through self-sustainable, solar-powered huts and other structures, such as benches, bus stops, portable charging stations, cabins, and EV charging stations. These products provide modern amenities and generate additional revenue while being environmentally friendly. By offering solar-powered furniture with smart features, Envinova Smartech enhances brand presence, customer engagement, and revenue opportunities, ultimately creating green and sustainable infrastructure that ensures an exceptional outdoor experience for all.

Arjun Mittal, *CEO* | **Ishank Bansal,** *COO*

"We received 150+ applications from India and came down to 10 after a rigorous evaluation process. Through this program, we aim to promote innovative solutions across the globe"

Pragya Gupta ISA

"The SolarX Startup Challenge stands as a beacon of the collective effort of Invest India and the International Solar Alliance (ISA) towards a sustainable future. The SolarX Startup challenge brings out the innovative startups driving change and making solar energy more accessible, efficient, and sustainable for all."

Sujatha UG Invest India

PROBLEM STATEMENTS

01
Develop scalable and sustainable off-grid solar solutions (Solar Home Systems {SHS}, Mini-Grids, Solar Microgrids) to address energy poverty in remote and underserved areas across APAC countries.

02
Develop scalable models to boost cost competitiveness in solar applications for **logistics, manufacturing, and supply chain.** By optimising energy-intensive production processes, solar- transportation vehicles, and solar-powered smart logistics systems.

03
Development of innovative, **space-efficient solar technology,** essential to address the challenge of limited land availability in densely populated/land deficient countries.

04
Development of **circular economy in solar** for recycling end-of-life solar panels, reducing electronic waste, and ensuring responsible disposal.

05
Develop **AI, IoT, GPS-**based SaaS tools to enhance manufacturing, deployment, and integration of solar energy for eg. land mapping, 3D modelling, project monitoring tools.

06
Innovate manufacturing for sustainable, efficient materials, to enhance energy output, cost reduction and improved efficiency in solar equipment, such as high-efficiency inverters, ACDBs, DCDBs, and other components.

07
Technical or business model innovations to reduce cost of grid integration, optimising energy distribution of rooftop solar, utility- scale solar, energy storage solutions to address intermittency issues associated with solar power generation.

08
Implementing **solar-powered technologies** such as high-efficiency DC pumps with smart controllers for water pumping, purification, and irrigation to promote sustainable water management in various regions.

09
Promoting the **development and adoption of solar-powered solutions** for innovative business models for emerging use cases such as eMobility Green Hydrogen, AgriPv, Transportation, Solar-Charging Infrastructure for electric vehicles, etc.

10
Other areas of Solar Application with on-ground applications.

SOLARX STARTUP WINNERS 2024 INDIA AT REINVEST 2024

Programme Partners

Bloomberg Philanthropies | INVEST INDIA
NATIONAL INVESTMENT PROMOTION & FACILITATION AGENCY