



**SCALE@**  
**CHEMTECH**

**World Expo 2024**

4<sup>th</sup>-7<sup>th</sup> March 2024

An Expo for Global Climate  
Tech Start-Ups and Industry  
Stakeholders to form  
Collaborative Partnerships



# Scale: Solving for Climate Action by Leveraging the Ecosystem

Presented by



Impact driven family office  
with collaborations across  
the globe

Organized by



expertise in creating platform  
for business interactions and  
strategic alliances

Find out solutions for scaling your technology which can then be adopted by nations in the Global South to tackle climate change.

# SCALE – The Opportunity and The Ecosystem

SCALE OFFERS A STRATEGIC INITIATIVE FOR SCALING THE CLIMATE TECHNOLOGIES

Engage with cost competitive manufacturers

Engage with the Indian &  
Global Climate Tech Ecosystem

Meet policy makers and think tanks

Explore corporate partnerships

Get access to competent talent

Engage with academic institutions

## Visitor Group

CXOs, Scientists, Philanthropists,  
Think Tanks Policy Makers,  
Talent Pool

## Exhibitor Industries

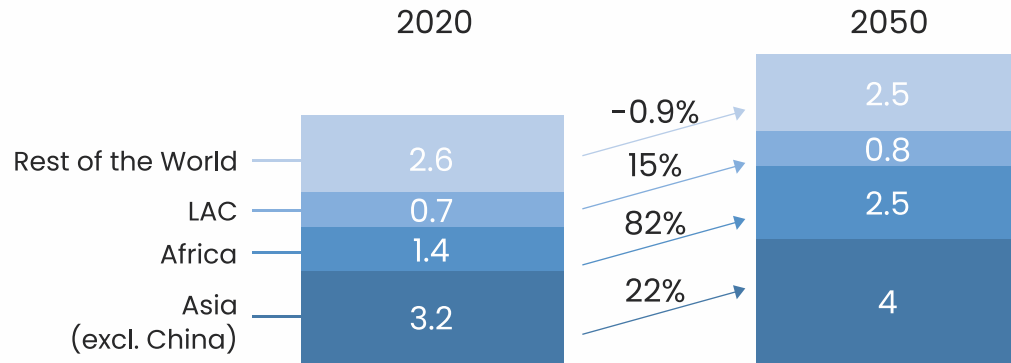
Refineries & Petrochemicals  
Biopharma  
Environment Solutions  
Water & Wastewater  
Surface Engineering  
Automation & Digitalization

## Exhibitor Buyers

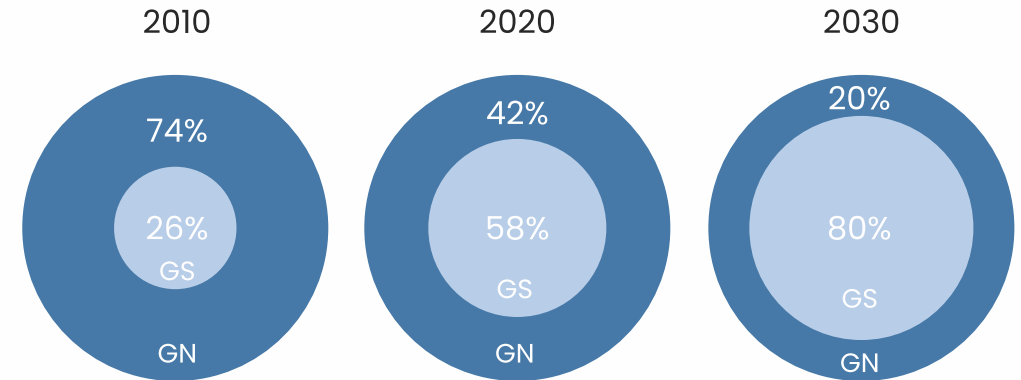
Chemicals  
Fertilizers  
FMCG  
Paints & Coating  
Adhesives & Sealants

# Climate Change and Solving for the Global South

**Population forecast  
(in bn)**



**South's share of global  
middle class\* population**



- By 2025, the annual consumption in emerging market economy will rise to \$30 tn from \$12 tn in 2010. The global south is home to 1 bn households earning more than \$20,000 annually.
- By 2030 Global South's middle class to account for 70% of total consumption expenditure
- The South is now emerging alongside the North as a breeding ground for technical innovation and creative entrepreneurship.

*Given the global Net Zero target is 2050, longer delay of Global South in reducing emissions will mean steeper emission cuts in upcoming years this in turn will be challenging because consumption oriented middle class is growing.*

<https://www.populationpyramid.net/>

[http://hdr.undp.org/sites/default/files/reports/14/hdr2013\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf)

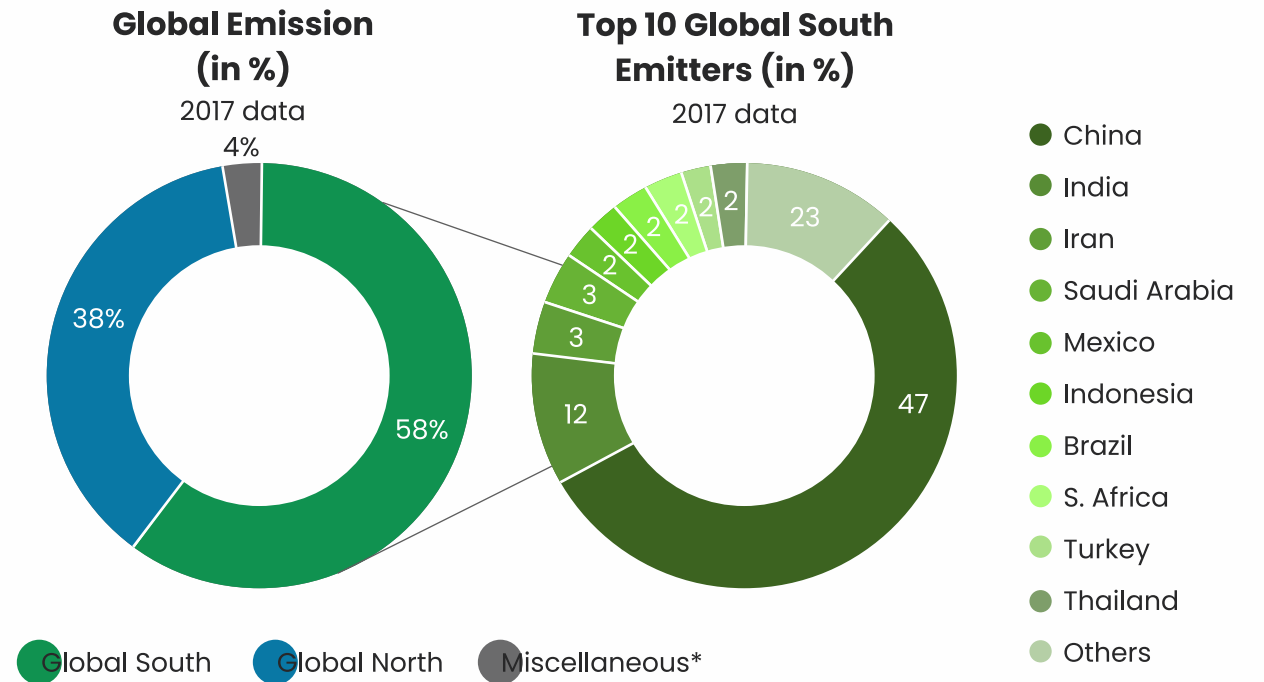
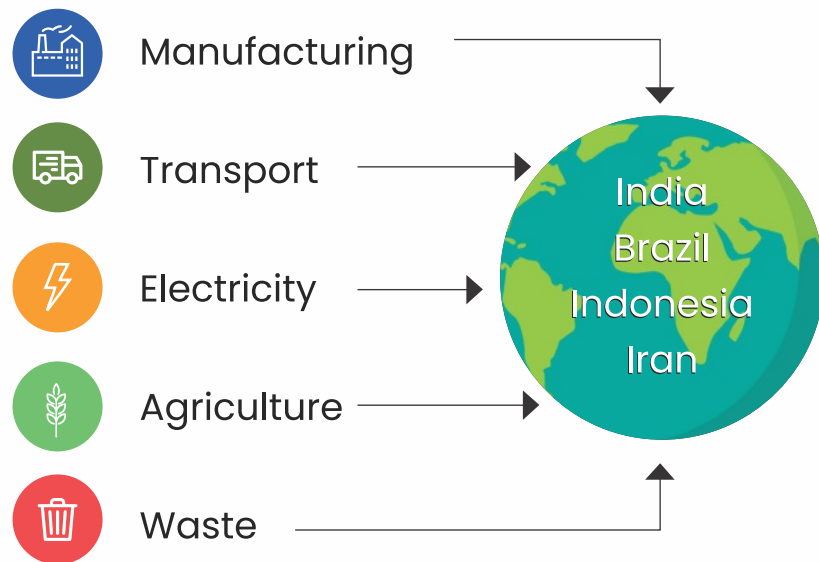
The Global South's contribution to the climate crisis – and its potential solutions – Development Matters ([oecd-development-matters.org](http://oecd-development-matters.org))

GS = Global South | GN = Global North

#LAC-Latin America and Caribbean \*middle class=earning or spending \$10-\$100/day

# Climate Change and Solving for the Global South

4 emitters of the top 10 are from the Global South\* and top sources of emissions.



*India's decarbonization journey can provide innovations and product market fit for expanding to other global south\* economies*

Co2 emissions are heavily concentrated in the south. In the Global South, China and India contribute 60% while others contribute 2 to 3%. Low Income countries of the GS contribute mere 1% and despite this, they are more affected by extreme weather events. However, their absolute emissions will increase disproportionately.

*It becomes important to solve for Global South*

## India—the launchpad for climate tech deployment in the Global South



“Thailand stands ready to forge development partnerships with India as the current G20 Chair in safeguarding the common interests of the Global South in an inclusive manner, so that we can deliver sustainable and resilient growth for our future generations”

*Prayut Chan-o-cha, Prime Minister, Thailand*

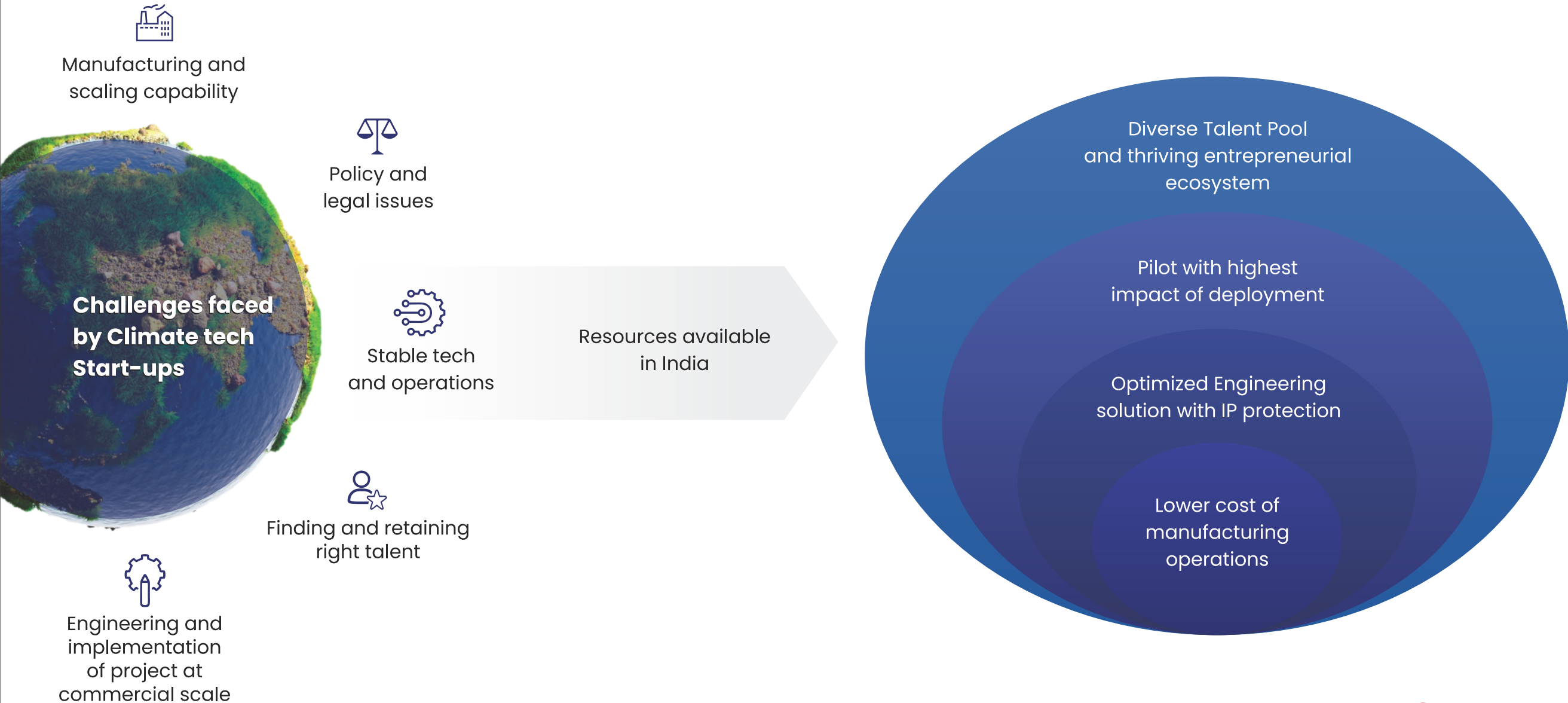
“We, the Global South, have the largest stakes in the future. Three fourths of humanity lives in our countries. We should also have equivalent voice.”

*Narendra Modi, Prime Minister, India*



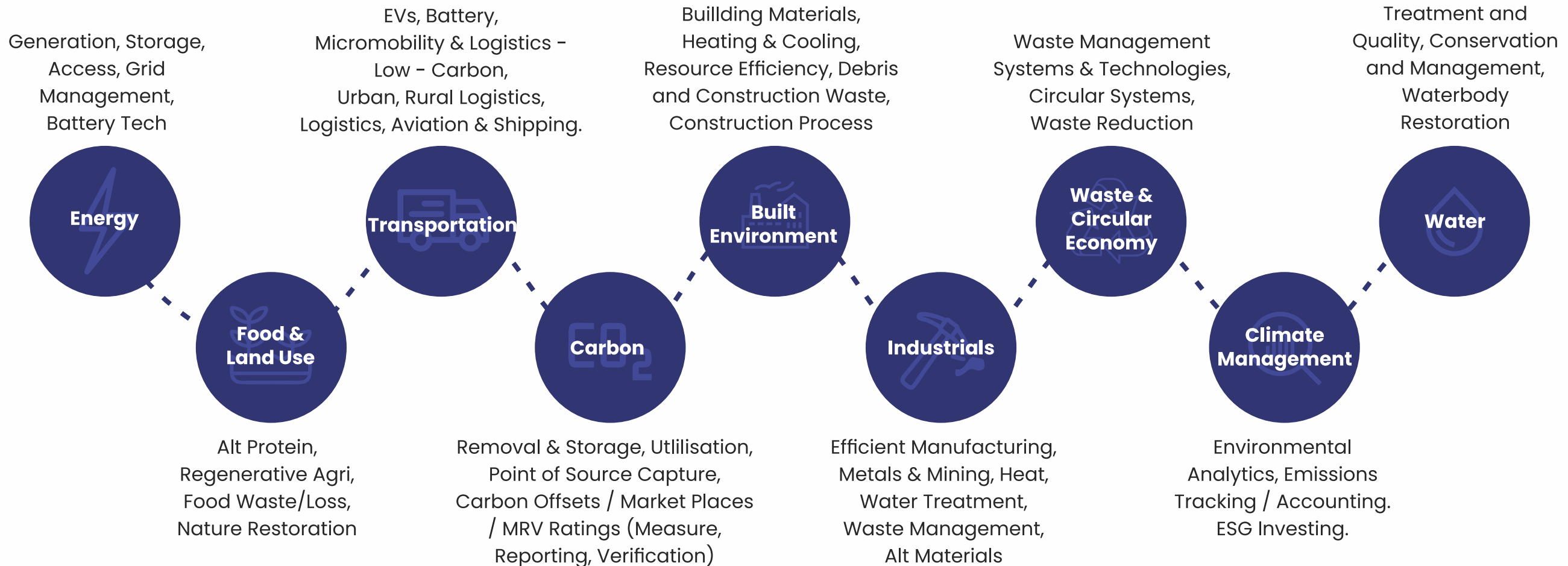
# India - The launchpad:

Challenges faced by climate tech start-ups  
and the resources needed



# India - Scope of Innovation:

India's focus for the next few years for innovation in the climate space



*India's decarbonization plan focus on innovation needed in each segment, which translates in potential of \$3trillion opportunity. As published in TIME, India's approach is being watched elsewhere. If India can use low-carbon development to bring prosperity to its 1.4bn people, others will follow and failure could lead to retrenchment into fossil fuel across global South. India's importance in decarbonizing the global south becomes imperative.*

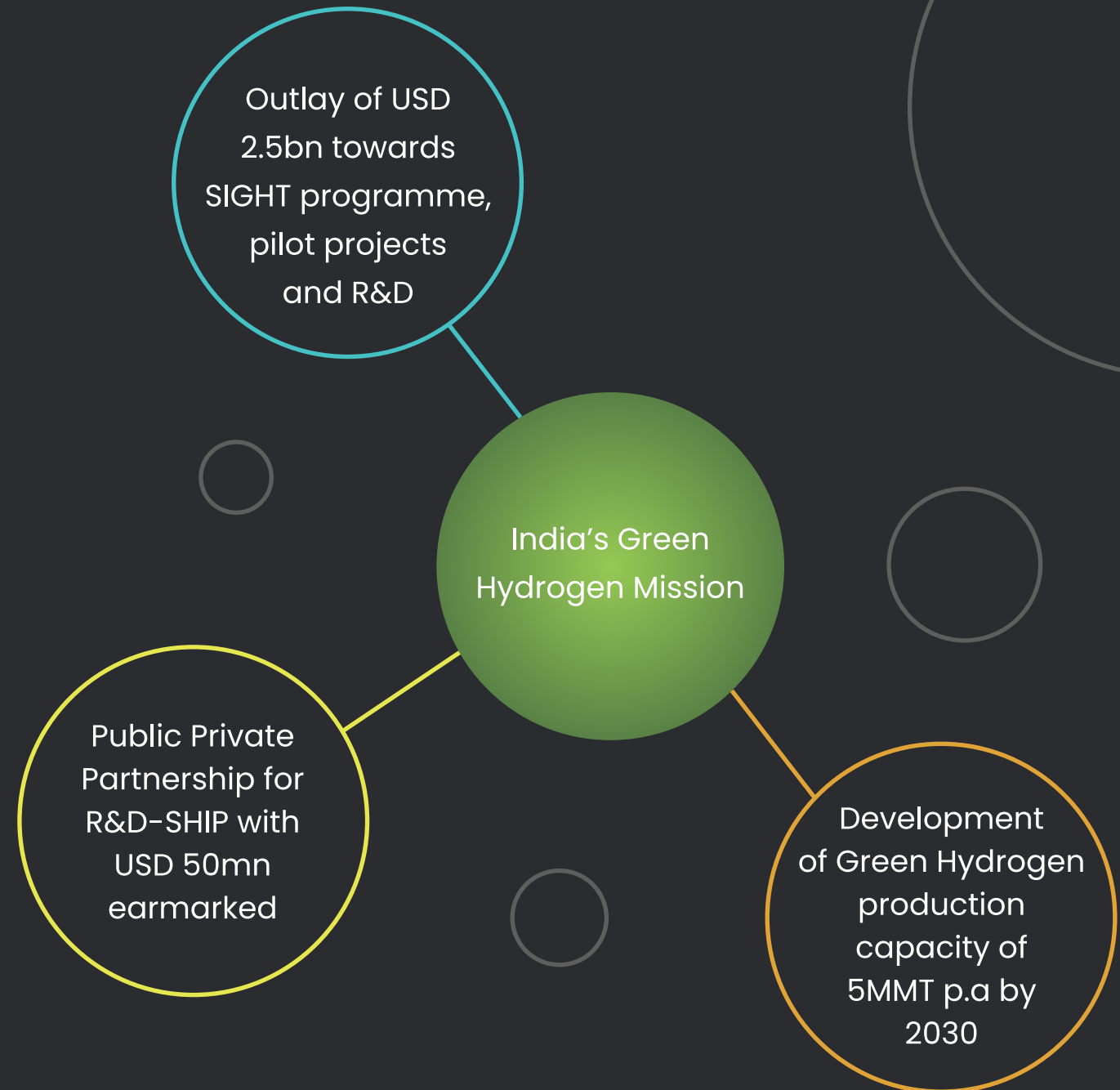


# India – The launchpad: National Green Hydrogen Mission

India has also announced its National Green Hydrogen Mission with the goal of being the hub for production.

It is looking to add 125GW of renewable energy capacity by 2030 with this

With the R&D partnership program, SHIP, it opens doors for global innovators to leverage the resources available and scale the technology development



# Successful Deployments from Indian Partnerships



## India – The launchpad: International Corporates already shifting manufacturing base to India



Apple is aiming to produce 25% of all iPhones in India by 2025



Japanese firm, Oriental Yeast will be setting up manufacturing facility in Maharashtra, India and has invested ~USD 110 mn



Daifuku, world's leading provider of automated material handling will set up another manufacturing unit in Telangana, India



Perfect Day expands global footprint and owned manufacturing capacity in India



Indian Oil Corp to sign an MOU with sustainable fuel tech provider, LanzaJet, to produce sustainable aviation fuel.



LG Electronics India will be locally manufacturing side by side refrigerators

*Apple starts manufacturing the iPhone 14 in India (cnbc.com)*

*Japan's Oriental Yeast Company invests ₹900 crore, sets up facility in Maharashtra - The Hindu*

*DAIFUKU to invest Rs. 450 crore in Telangana, to set up manufacturing unit (thehansindia.com)*

*Perfect Day acquires Sterling Biotech India and gains regulatory approvals (dairyreporter.com)*

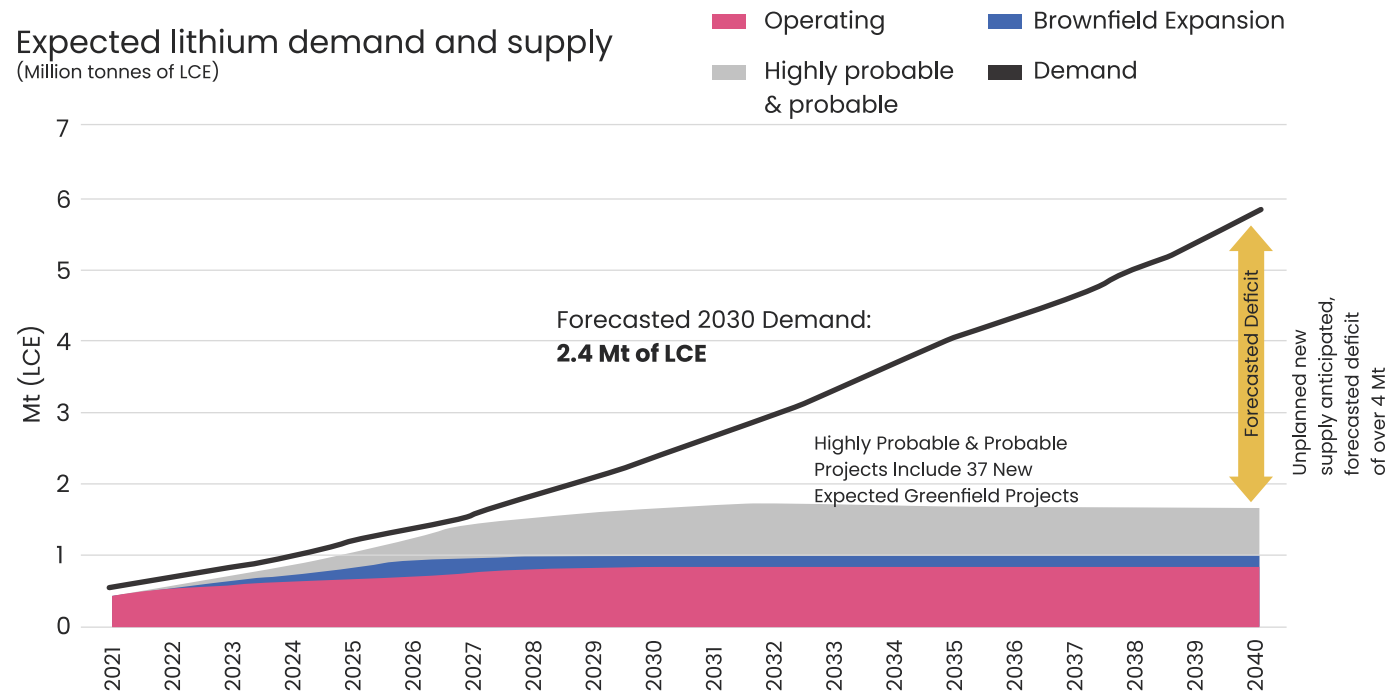
*Indian Oil Signs MOU With LanzaJet on Sustainable Aviation Fuel | LanzaJet*

*LG to locally manufacture side-by-side refrigerators in India, invests Rs 200 crore on Pune facility (msn.com)*

# India - The launchpad:

## SpecifX's engagement with an Indian specialty chemical Company

- SpecifX is extracting lithium from brine using a membrane-based extraction process and is one of ICM's recent spin-out companies.
- The availability of lithium is geographically constrained, and traditional mining practices are inefficient and polluting – problems that SpecifX is solving.
- To speed up their trials and fine-tune the proper material characteristics, SpecifX has engaged tied with a large Indian specialty chemical company, Aarti Industries, to develop and manufacture critical components of the membrane technology.



Lithium demand is expected to exceed the supply for the foreseeable future

“Having the right mix of competitiveness, technical competence, and agility, our Indian partner has helped us in testing and developing the technology further and at a quicker pace”

David Jassby, Ph.D

# India – The launchpad:

## Successful deployment of Limestone Calcinated Clay Cement (LC3)

2.9 bn tonnes  
World-wide CO2  
emissions in 2021  
Portland Cement



Cement is responsible for 8% of GHG emissions of the world. LC3-Limestone, Calcined Clay Cement is a new type of cement having blend of limestone and calcined clay which can reduce CO2 emissions by upto 40%



IIT Delhi has been the lead Indian technical partner for helping the technical advancement in LC3, which was invented at EPFL, Switzerland. India has quality technical talent and with the cost competitiveness this nation offers, testing and deployment of new technologies becomes easier. IIT Delhi has helped in achieving the technology readiness for deployment of LC3 commercially worldwide



Prof Karen Scrivener, Project Director, EPFL

Originated in  
Switzerland



Perfected in  
India



Will reduce  
CO2 emissions  
upto 40%

Deployed in India, Africa,  
Europe, North America &  
Latin America



**SCALE provides  
climate tech startups  
with resources to  
unlock opportunities**

Enlarge Vendor  
base for cost  
efficient plant  
and machineries

Potential JV  
partners

Strategic partners  
from family offices  
and corporates



Access to  
quality talent

Access to the  
global south  
market

# SCALE for Investors & Venture Capitalists

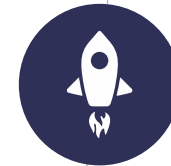
Why Should  
you attend?



Collaborations and partnerships to scale up businesses of portfolio companies



Make your money invested do more by taking advantage of India's cost competitiveness



Access the Indian Start-up Ecosystem for collaborations

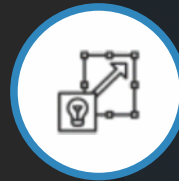


Access to larger corporates providing potential exit opportunities to portfolio companies



**TECHNOLOGY TRANSLATION EXPERTS**

At the Institute for Carbon Management, we are technology translation experts. We have a track record of creating prototype systems that are scalable, cost effective, and impactful.



**TECH THAT SCALES**

We create real tech and demonstrate scalability for both carbon management solutions and materials critical to the clean energy transition.



**OUR STARTUPS ARE CATEGORY-DEFINING**

We have, now, an ecosystem of six startup companies that surround ICM. ICM's translational outcomes have created category-defining startup companies.

India's growth story is poised at the ascent of a transition to a low-carbon world. Against this framing, UCLA's Institute for Carbon Management (ICM) is poised to partner with SCALE to realize engineering, talent, and market opportunities in India

**Gaurav N. Sant**

*Ph.D.UCLA Samueli School of Engineering*



## SCALE Platform for Synergy



Deep geothermal energy is one of the most reliable and secure primary energy sources to decarbonize heavy industry; it can provide high grade heat and electricity without fuels and without waste at cost parity with existing fossil supply chains. Quaise is excited to engage with the Indian ecosystem at SCALE in this regard

**Carlos Araque**  
CEO Quaise Energy



There is an urgent need for meeting Energy Security as well as decarbonize for addressing the issues related to Climate Change. I welcome Chemtech's new initiative "SCALE" for bringing start-ups and industry together and the synergies it will create to speed up the development of affordable clean energy solutions for deployment in the Global South and rest of the world.

**U K Bhattacharya**  
Director Projects NTPC



Transparent and collaborative partnership between technology developers and industry is a must to scale up the projects to decarbonize our industry. I am looking forward to SCALE that brings climate tech start-ups and Indian industry together.

**Sanjay Joshi**  
Director Aker Carbon Capture India

The Climate Problem in **India** is **2.9 Gigaton** big. Being the **3rd largest emitter** in the world, solving for India becomes an imperative to keep global temperatures below 2 degrees.

Emissions of other developing economies like **Africa & South America** stand at **1.4 billion tonnes & 989 million tonnes** per year respectively. These and many other emerging economies are showing development trends similar to India and thereby successful technology deployments in India can be replicated in these economies as well.

*Are you a Climate Tech Start-up?*

*Do you have a solution to fight climate problems of the Global South ?*

*Yes? Be a part of SCALE@CT and find the right partners*

**Register on this link\_\_\_\_\_ today!**





Spectrum Impact is a climate and sustainability focused family office, supporting innovations working towards achieving Net Zero having collaborations with over 30 global organizations, network support from global think tanks and sustainability investors and a vision to collaborate and support innovations that can abate and reduce GHG emissions

### Organisations Supported

#### Energy



#### Bio, Circular Economy



#### Climate Education



#### Mobility



#### Policy, Think Tanks



#### Agriculture and Alternate Proteins



#### Tipping Point



#### Carbon Capture



Chemtech Foundation is India's leading industry association engaged in creating platforms for business interactions & strategic alliances since 1974. The group has a strong presence across the verticals of Chemicals & Processing, Oil & Gas, Refining, Engineering Procurement & Construction, Automation & Process Control, Pharma & Biotechnology, Water, Shipping & Maritime, Power and Infrastructure & Design. With constant focus on innovations & technology, the group offers specialised media services for peer to peer connectivity, and exchange of information & innovative ideas through series of B2B tradeshows & niche publications

## ChemTech Ecosystem

### Project Owners & Operators

- Oil & Gas
- Refining & Petrochemicals
- Natural Gas & LNG
- Speciality Chemicals
- Biopharma
- Power

### Services

- EPC & Engineering
- Water & Environment
- IT & Digital
- Logistics, Shipping, Transportation, Infrastructure

### Process Plant Equipment & Technology

- Chemical & Pharma
- Processing Automation Pumps Valves & Fitting
- Corrosion
- Boilers

### Research & Academia

- R&D Institutes
- Government Labs
- Institutes

### Policy & Regulations

## Concurrent Events



1000+

Exhibitors

25000

Visitors

6

Conferences

150

Speakers

1500

Delegates

200

Students & Grads

25

Countries

# Leadership for ChemTECH World Expo 2024



Honorary Brand Ambassador  
Chemtech World Expo 2024

**Mr. Suresh Prabhu**  
Former Union Minister,  
Govt. of India



Jury Chairman ChemTech  
Leadership & Excellence  
Awards 2024

**Dr R A Mashelkar**  
Scientist, Former Director  
General, Council of Scientific  
and Industrial Research (CSIR)



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EPC World Expo 2024

**Mr B Narayan**  
Group President Projects &  
Procurement,  
Reliance Industries Ltd



Co-Chairman  
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**Subramanian Sarma**  
Whole time Director &  
Sr. EVP Energy  
Larsen & Toubro Limited



Chairman  
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**Nadir Godrej**  
Managing Director  
Godrej Industries Ltd &  
Chairman, CAB, Speciality Chemicals  
World Expo 2024



Convener, Speciality Chemicals  
World Expo 2024

**Dr Raman Ramachandran**  
Head of Management  
Development Programmes  
K J Somaiya Institute of Management



Key Board Member  
Speciality Chemicals World  
Expo 2024

**Rajendra Gogri**  
Chairman & Managing Director  
Aarti Industries Ltd



Chairman  
WaterEX World Expo 2024

**P Raghavendra Rao, IAS**  
Chairman, Haryana State Pollution  
Control Board, Ex Secretary  
(Chemicals & Petrochemicals)

## Icons of ChemTECH



**H.E Dr APJ Abdul Kalam**  
Former President of India



**Mr Mukesh Ambani**  
Chairman  
Reliance Industries Ltd



**Dr Anil Kakodar**  
Former Chairman,  
Atomic Energy Commission  
and Secretary to the  
Government of India,  
Department of Atomic Energy,  
Chairman



**Mr Subir Raha**  
Chairman & Managing Director,  
Oil and Natural Gas Corporation  
(ONGC) Ltd



**Mr Adi Godrej**  
Chairman, Godrej Industries  
Member Advisory Board

# Chemtech

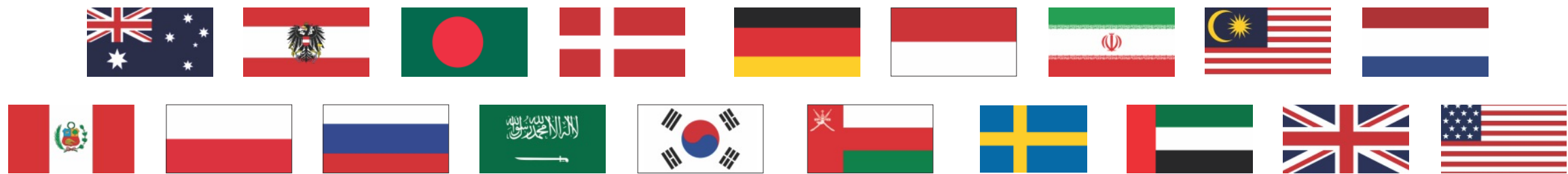
## FOUNDATION

Inspiring Intelligence > Igniting Innovation

### Patrons

### Participants' Nationalities





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