



IFC TechEmerge

Accelerating adoption of innovation where it is needed most

Selcuk Tanatar | IFC Disruptive Technologies & Funds | October 10, 2023

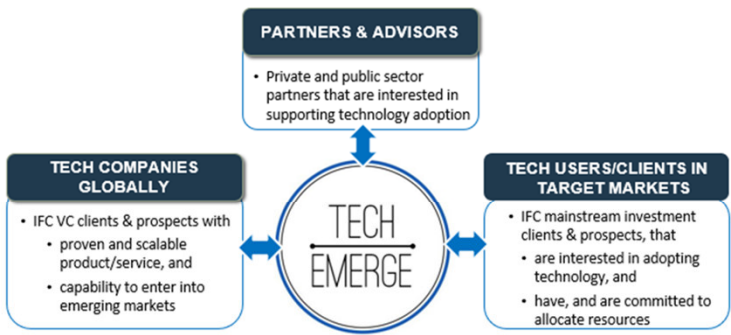


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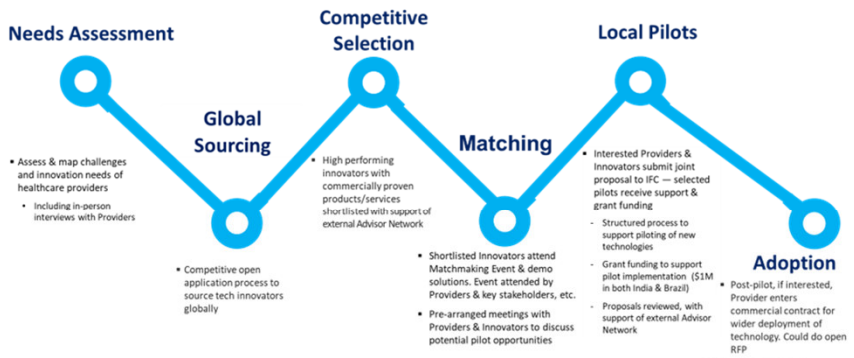


Background

TechEmerge brings together a wide range of stakeholders interested in adoption of innovative technologies in a specific sector, and...



...facilitates and supports their collaboration through a curated process for accelerating the adoption of new technologies



Financial Support **Technical Support**

- ▶ **Needs driven:** Technologies are screened and selected based on existing and future challenges and needs of the future users (corporates)
- ▶ **Fair and impartial:** The technologies are pre-screened and evaluated by a wide network of experts to minimize bias and conflict of interest

- ▶ **Confidence and risk mitigation:** Curation and the follow-through support enables both the innovators and the adopters to increase confidence and minimize risks
- ▶ **Leadership and support:** IFCs involvement as a convener, curator, matchmaker, financier and advisor delivers results and increases potential for business



Health



Disaster Resilience

TE SCI - 3+ years > 5 regional project



Cooling Cities

Mexico & Colombia

22 pilots / 18 co's / 14 tech

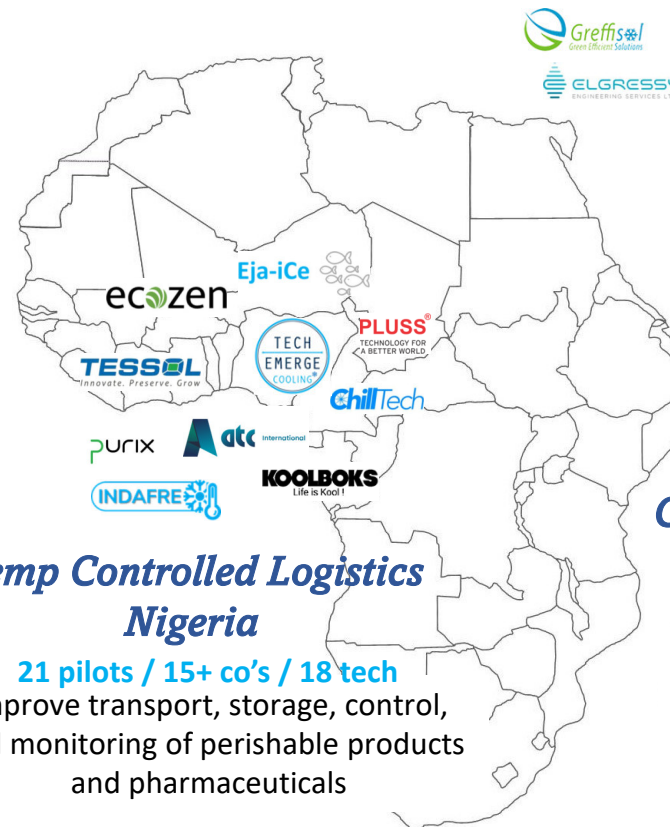
Climate-smart solutions in retail, pharma, agriculture, education, logistics, and space cooling



Hospitality, India

12 pilots / 2 co's / 9 tech

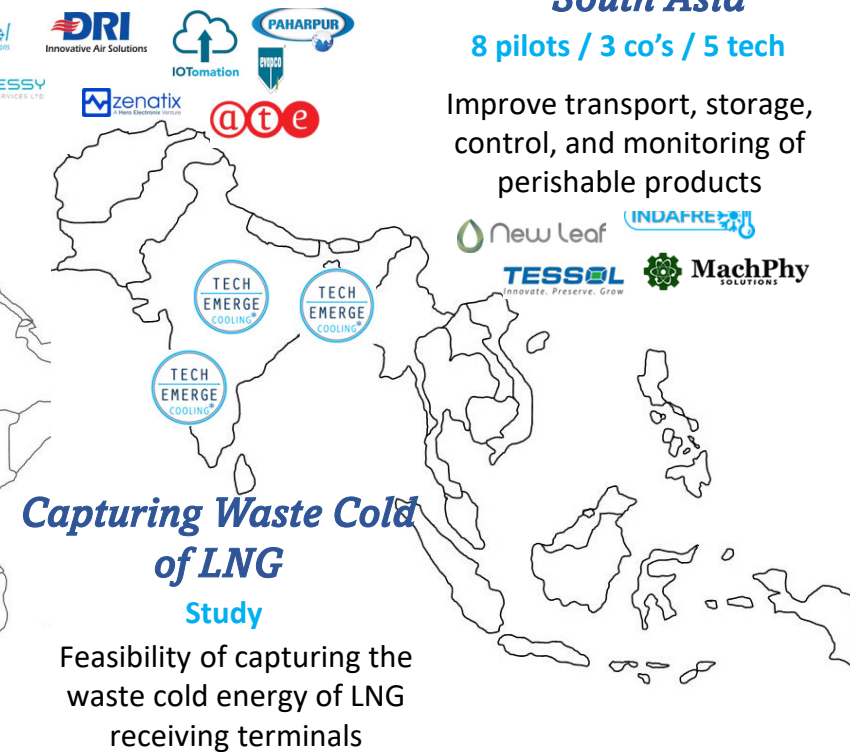
Climate smart cooling solutions for hotels



Retail Cold Chains South Asia

8 pilots / 3 co's / 5 tech

Improve transport, storage, control, and monitoring of perishable products



Temp Controlled Logistics Nigeria

21 pilots / 15+ co's / 18 tech

Improve transport, storage, control, and monitoring of perishable products and pharmaceuticals

Capturing Waste Cold of LNG

Study

Feasibility of capturing the waste cold energy of LNG receiving terminals

TE SCI – Results so far globally....



30+

Tech Companies

40+

Adopting Companies

45+

Technologies

60+

Pilots / Field Tests

\$8+ million

Financial & Tech Support

15% - 80%

energy/cost savings

Achievable w. new technology

2+ million tons GHG

Unearthed potential avoidance

\$35+ million

Financing raised by innovators

30+ business relations

formed between participants

\$2+ million

commercial contracts under negotiation

40+ tech progressing in TRL

One patent filed

\$100 million

District Cooling

investment platform in India (Tabreed:\$75m + IFC: \$25m)

Promising technologies - examples

PURIX Denmark



- Solar Thermal + Storage
- Scalable 2.5 - 160kW
- 2-3 days autonomy @ 10°C - 15°C
- 100% off-grid
- Test underway for farmgate cooling

atc International Turkey



Long Haul

- Solar/Eutectic Hybrid
- 50 ft Reefer Trailer
- -18°C - -5°C
- 70+ hours transit time without need for energy
- Test underway for frozen products in Nigeria

GreenCHILL™ India



- Biomass powered refrigeration unit
- Scalable up to 20MT storage
- 0°C - 15°C
- 90% electricity consumption reduction demonstrated

Eja-iCe Nigeria



- Solar PV + Battery
- 500 Kg
- -18°C - +5°C
- 6 - 12 hours transit time without need for ext. energy
- Tests in Nigeria

TE SCI – Challenges still remain !



- Access to reliable and sustainable energy supply
- Need a paradigm shift: Energy is More Than Electricity



- Cooling Tech vs. “Cooling Systems”
- Requires good engineering
- “mission critical” environments not conducive for testing



- Skills is a big barrier for scaling adoption
- Skills gap persist at all levels (engineering, technician, users)



- Needs and gaps is much higher than other climate change technologies
- Too much focus on CAPEX
- OPEX much more important

Innovation and R&D

- Innovation is scarce -> Need more entrepreneurs

➤ R&D in Cooling Technologies

- Processes
- Materials

Commercialization

- Testing
- Refine

➤ Integration

“valley of death”

Scale-Up

- Growth Finance

➤ Cooling-as-a-Service (CaaS)

- Long Term Financing
- Blended/Concessional Finance
- Transition public subsidy



- **Selcuk Tanatar**
- Head, Advisory Services

- stanatar@ifc.org
- techemerge@ifc.org

www.techemerge.org