# Team SWACH from SPCE Emerges as Winner at Smart India Hackathon 2025

Sardar Patel College of Engineering (SPCE), Mumbai, proudly celebrates the remarkable achievement of **Team SWACH**, winners of the **Smart India Hackathon (SIH) 2025**, for developing a **deployable AI and IoT-based hardware solution for intelligent waste management** for municipalities and municipal corporations in the State of Punjab.

The winning team—**Ayushya Maurya, Shravani Kolekar, Vaishnavi Ratnaparkhi, Shah Sachin, Samarth Rasane, and Agniva Pal**—demonstrated exceptional technical depth, interdisciplinary collaboration, and resilience throughout the **five-day on-site Grand Finale hosted at Lovely Professional University (LPU)**.

## From Idea to Impactful Innovation

The journey of Team SWACH illustrates how early-stage ideas, when nurtured through structured learning, mentorship, and experiential exposure, can evolve into impactful real-world solutions. What began as a conceptual discussion on source segregation years ago later emerged as an official SIH problem statement in 2025—offering both validation and direction.

Through internal hackathons, iterative design reviews, and continuous mentor engagement, the team refined their solution to address **practical challenges in municipal solid waste management**, adapting it effectively to the operational context of Punjab.

## The Winning Solution

Team SWACH proposed an **Intelligent Material Recovery Facility (MRF)** that:

- Automatically segregates **plastic, paper, and metals (iron and aluminium)**
- Utilises **wet waste for composting**
- Operates with **minimal human intervention**, enhancing efficiency, safety, and sustainability

Despite tight timelines, logistical constraints, and multiple design pivots—including rapid prototyping using locally available resources—the team consistently demonstrated adaptability, problem-solving ability, and engineering maturity.

## Mentorship, Guidance, and Institutional Support

This achievement was made possible through strong academic guidance and mentorship. The team benefitted from the expertise and encouragement of **Dr. Reshma Raskar-Phule, Mr. Snehjit Kumbhar, Mr. Abhijit Nadgouda, Mr. Arun Dixit, and Mr. Prasad (Vigyan Ashram)**.

Importantly, the strategic and academic guidance of **Dr Hansa Jeswani** played a pivotal role in shaping the team's approach to problem formulation, design thinking, and application-oriented innovation—particularly through experiential learning frameworks such as the **EIDT course**, enabling students to translate classroom learning into deployable solutions.

The unwavering support of SPCE leadership and faculty further fostered an environment where students were encouraged to experiment, iterate, and innovate with confidence.

**A Celebration of Interdisciplinary Excellence**

The success of Team SWACH reflects **SPCE's strong interdisciplinary culture**, bringing together students from **Electrical, Civil, and Mechanical Engineering** to address a complex societal challenge with technical rigour and sustainability at its core.

**Sustainable Development Goals Addressed (Brief)**

This student-led innovation contributes directly to:

- **SDG 11:** Sustainable Cities and Communities
- **SDG 12:** Responsible Consumption and Production
- **SDG 13:** Climate Action
- **SDG 9:** Industry, Innovation and Infrastructure

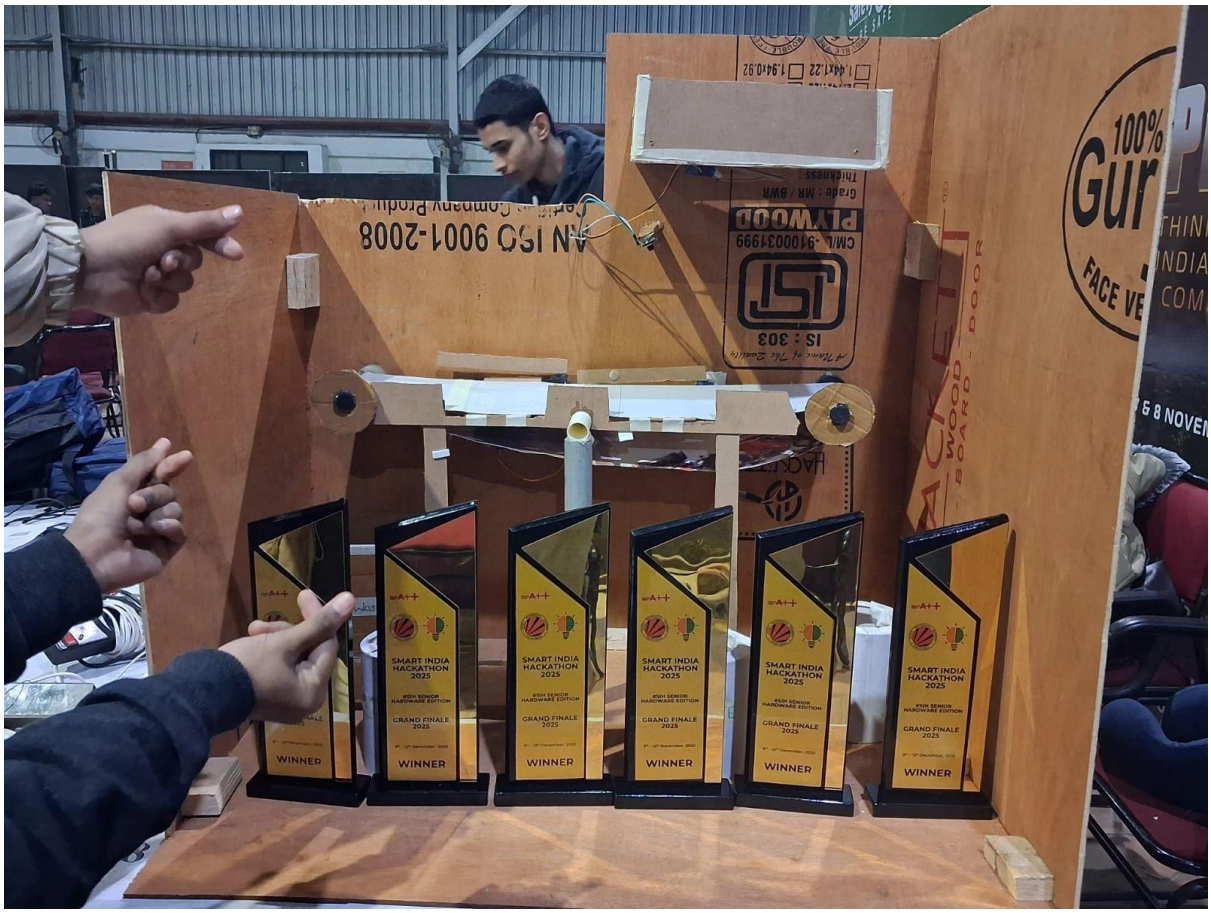
**A Message to SPCE Students**

Team SWACH's achievement is a powerful reminder that **meaningful engineering begins with real problems**. With curiosity, collaboration, and committed mentorship, SPCE students can transform ideas into solutions that serve society and shape a sustainable future.

**Dream boldly. Learn deeply. Build responsibly.**

SPCE congratulates Team SWACH on this outstanding achievement and looks forward to many more student innovations that create lasting societal impact


Joint Winner
SWACH
Hack for BHARAT, Build for the World


SMART INDIA HACKATHON 2025
GRAND FINALE 2025
WINNER
PLYWOOD
IS : 303


Ministry of Education
Government of India
MoE's INNOVATION CELL (GOVERNMENT OF INDIA)
Organizing Partners
Technology Partner
Knowledge Partners
Media Partners
SBI FOUNDATION
Claude
TATA CONSULTANCY SERVICES
Persistent
SIH
GRAND FINALE 2025
December 8-12
SMART INDIA HACKATHON 2025
Joint Winner
#SIH Hardware Edition
Team Name
SWACH
Rupees
₹ 7 50 00/-
Hack for BHARAT, Build for the World
101010
010101
10101
0101


Ministry of Education
Government of India
MoE's INNOVATION CELL (GOVERNMENT OF INDIA)
Organizing Partners
Technology Partner
Knowledge Partners
Media Partners
Claude
TATA CONSULTANCY SERVICES
Persistent
Joint Winner
SWACH
₹ 7 50 00/-
Hack for BHARAT, Build for the World

.