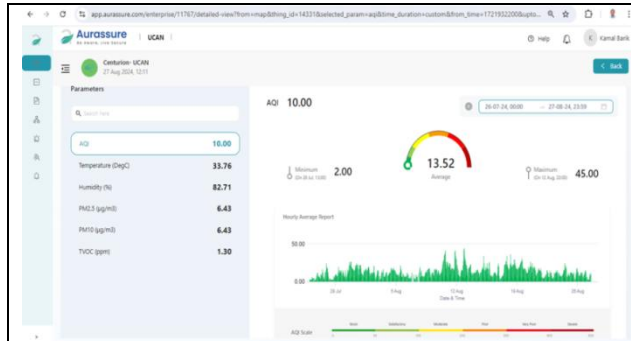


Support for Green Start-ups and Low-Carbon Innovation

Research Highlights:

- IoT-based Smart Grid Simulator developed in-house.
- 2 patents filed on energy analytics and biogas efficiency.
- 3 start-ups incubated under Centurion University Innovation Hub.



Real time monitoring



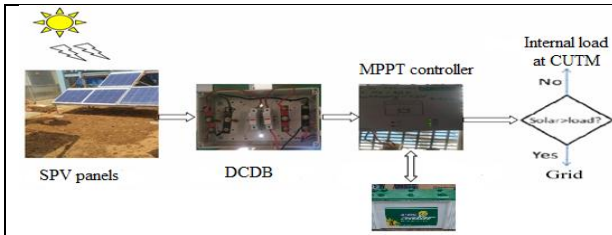
Solar operated Controller



Solar powered cycle
EV Bicycle



Solar Fencing



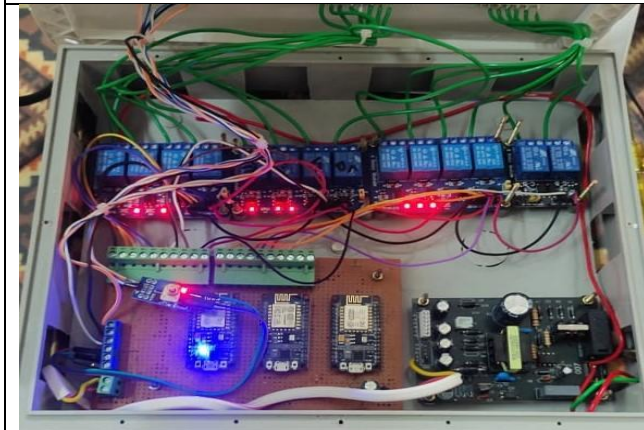
Micro-GRID



Solar Operated Irrigation System



IoT based Vanilla Dome and Trellis for climate resilient cultivation



Temp	Humidity	Moisture	CO2	TimeStamp
28.70	90.00	54.84	63.00	20/07/2024 4:15:49 PM
28.70	90.00	55.13	63.00	20/07/2024 4:15:18 PM
28.70	90.00	55.33	63.00	20/07/2024 4:14:16 PM
28.70	90.00	55.03	63.00	20/07/2024 4:14:42 PM
28.70	90.00	55.13	63.00	20/07/2024 4:13:42 PM
28.70	90.00	55.33	63.00	20/07/2024 4:13:09 PM
28.70	90.00	55.82	63.00	20/07/2024 4:12:07 PM



Automated Polyhouse

Temp	Humidity	Moisture	TimeStamp
28.00	93.00	28.00	08/7/2024 9:36:41 AM

Web Dash Board

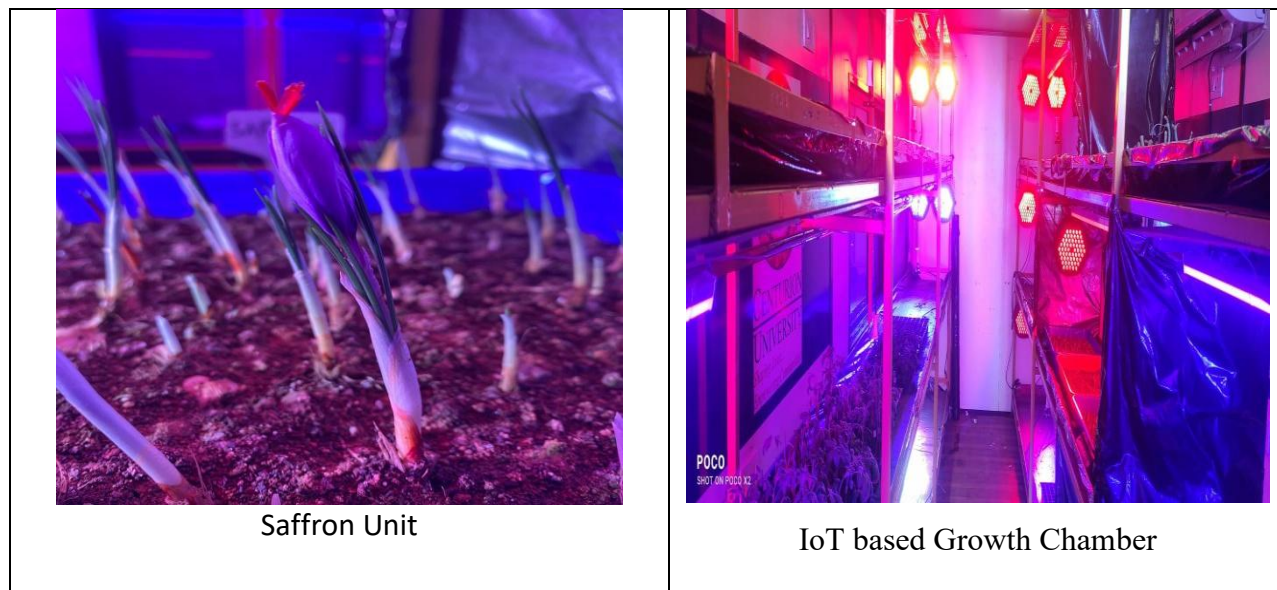


Fig-16: Research and Innovation at Centurion University

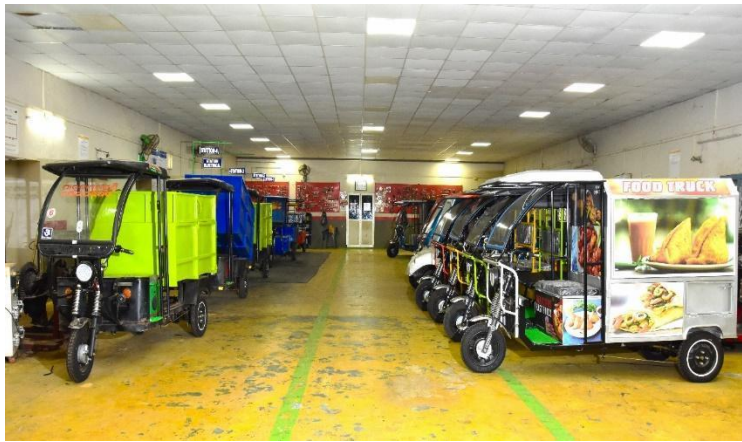
Table: Comparative Performance of Conventional vs. Centurion University Automated Smart Structures

Parameter	Conventional Practice (Baseline)	Centurion University Geodesic Dome	Centurion University IoT Polyhouse	Centurion University Speed Breeding Chamber	Centurion University Biochar Production Unit	Centurion University Bioenzyme Production Unit
Annual Energy Use	High grid/diesel dependence	~18,000 kWh (40% saving)	~21,500 kWh (30% saving)	~12,000 kWh (50% saving)	~15,000 kWh (renewable-integrated)	~8,000 kWh (solar-assisted)
CO₂ Emissions	~25 tons/year	~15 tons/year (↓ 10 tons)	~18 tons/year (↓ 7 tons)	~10 tons/year (↓ 5 tons)	Avoids ~8–10 tons/year from residue burning	Avoids ~3–4 tons/year from chemical substitution
Water Use Efficiency	Baseline (100%)	55% less water	40–50% less water	Closed system (NA)	Enhances soil water retention when applied	Supports wastewater recycling
Crop Yield / Productivity	Baseline (100%)	+38–42%	+30%	Enables 4–6 cycles/year	Soil fertility boost (10–15% higher yield)	Improves soil microbial activity (+15–20%)
Energy Source	Grid electricity + diesel backup	Solar + Grid hybrid	Solar + Grid hybrid	Solar + LEDs	Solar-assisted pyrolysis kilns	Solar-assisted fermentation

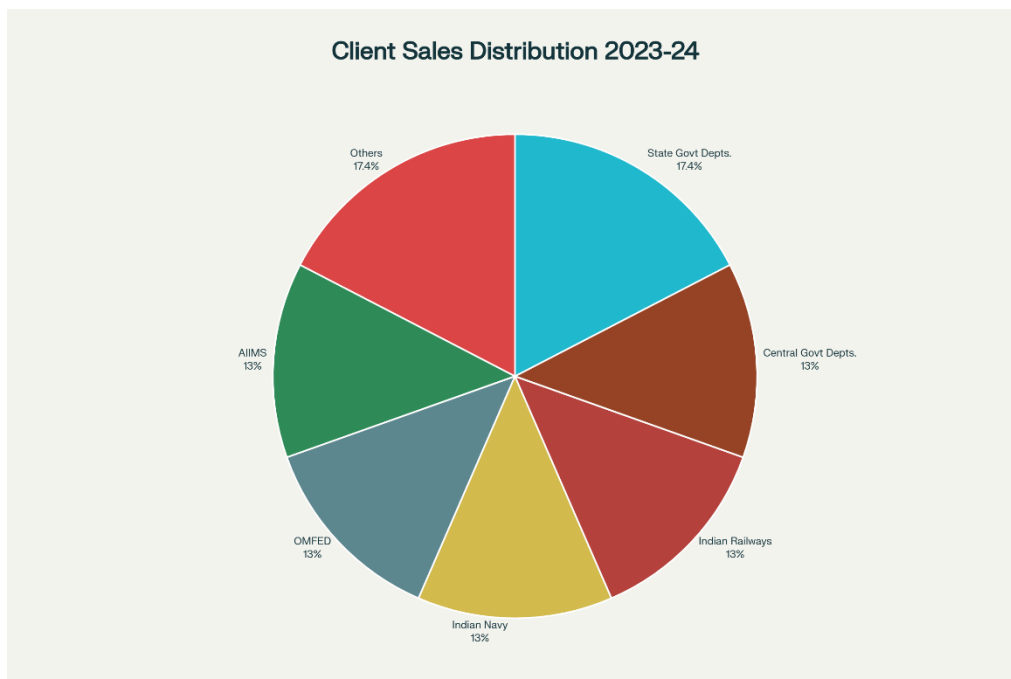
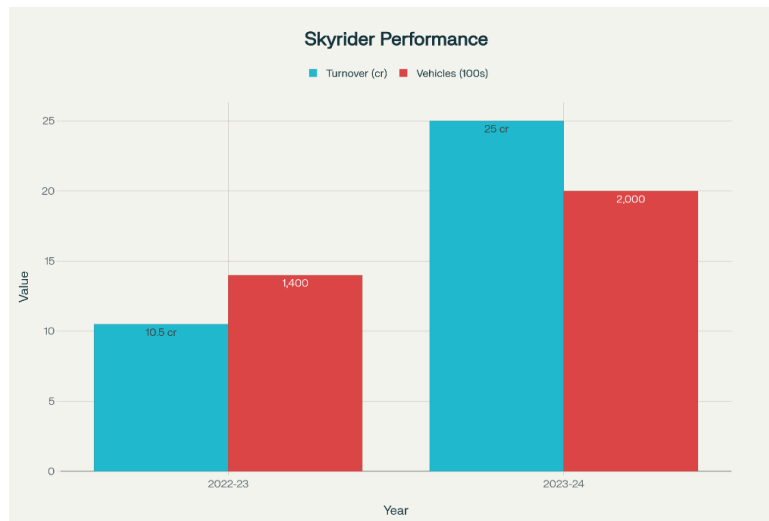
Resilience / Sustainability	Moderate, prone to shocks	High (cyclone-resistant dome)	Moderate (reinforced structures)	High (controlled setup)	High (waste-to-energy + soil health)	High (waste-to-value + chemical-free process)
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Skyrider: Pioneering Clean Mobility Through Industry-Academia Collaboration

- Skyrider, the electric vehicle (EV) manufacturing venture incubated at Centurion University, stands as a shining example of sustainable entrepreneurship and industry-academia collaboration.
- The university provides active support for start-ups that advance a low-carbon economy, exemplified by the Skyrider initiative.
- Skyrider is an electric vehicle (EV) manufacturing start-up incubated at Centurion University, founded by alumni Mr. Nihar Panda and Mr. Sanjay Panda.
- The company operates two manufacturing units—one at Jatni and a newer one in Bhubaneswar—producing eco-friendly electric vehicles, including e-rickshaws, utility vehicles, and cargo EVs tailored for institutional and industrial applications.
- Skyrider experienced marked growth between 2024-25 and 2025-26: Turnover rose from 10.5 crores to 25 crores.
- Vehicles sold increased from around 1,400 to over 2,000 within one year.
- Major clients in 2024-25 included AIIMS, OMFED, the Indian Navy, Indian Railways, and several state and central government departments.
- The venture generated employment for over 100 people, primarily local youth and university-trained professionals.
- Skyrider acts as a living laboratory, giving students hands-on learning in green technology, EV design, and sustainable manufacturing, and furthers India's clean mobility goals.



Production of E-Vehicles in Eicher Lab, Centurion University



The Background Story:

*Myself Mr. Nihar Panda, and my co-founder Sanjay Panda, when we started Skyy Rider at Centurion University, we had one clear vision to build a sustainable, India-first solution in clean mobility that could solve real-world problems and create opportunities for others. What began as a student-led innovation project quickly turned into a full-fledged EV manufacturing venture, thanks to the unwavering support of our university and its incubation ecosystem. Back then, we were just two young alumni with a passion for engineering and the dream of making transportation cleaner and more efficient. Fast forward to today, Skyy Rider operates two manufacturing units one at Jatni and another in Bhubaneswar and we've grown into a ₹25 crore enterprise in the financial year 2023–2024. We've built and delivered over 2,000 electric vehicles, ranging from e-rickshaws and utility vehicles to cargo EVs, customized for different institutional and industrial clients. Our major clients include AIIMS, Indian Railways, OMFED, the Indian Navy, and several state and central government departments. Each vehicle we produce is not just a product—it's a step forward in India's clean mobility revolution. But what makes Skyy Rider truly special isn't just the business numbers. It's the **social impact**. We've created employment for more than 100 people, most of them local youth and graduates trained at Centurion University. We also serve as a live lab for engineering students, offering hands-on experience in electric vehicle design, green technology, and sustainable manufacturing processes. Skyy Rider isn't just a company—it's a movement. A movement that proves how industry-academia partnerships, rooted in sustainability and innovation, can drive real transformation. We're not only reducing emissions; we're building futures—powered by electricity, driven by purpose.*

Mr. Nihar Panda

Co-Founder, Skyy Rider Electric Vehicles

Alumnus, Centurion University of Technology and Management