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	Criterion 7	I V & B P
	KI 7.1	M 7.1.2

7.1.2	The Institution has facilities for alternate sources of energy and energy conservation measures
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Abstract

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3	Wheeling to the Grid	• Geotagged Photographs	13
4	Sensor-based Energy Conservation	• Geotagged Photographs	27
5	Use of LED Bulbs/ Power Efficient Equipment	• Geotagged Photographs	38



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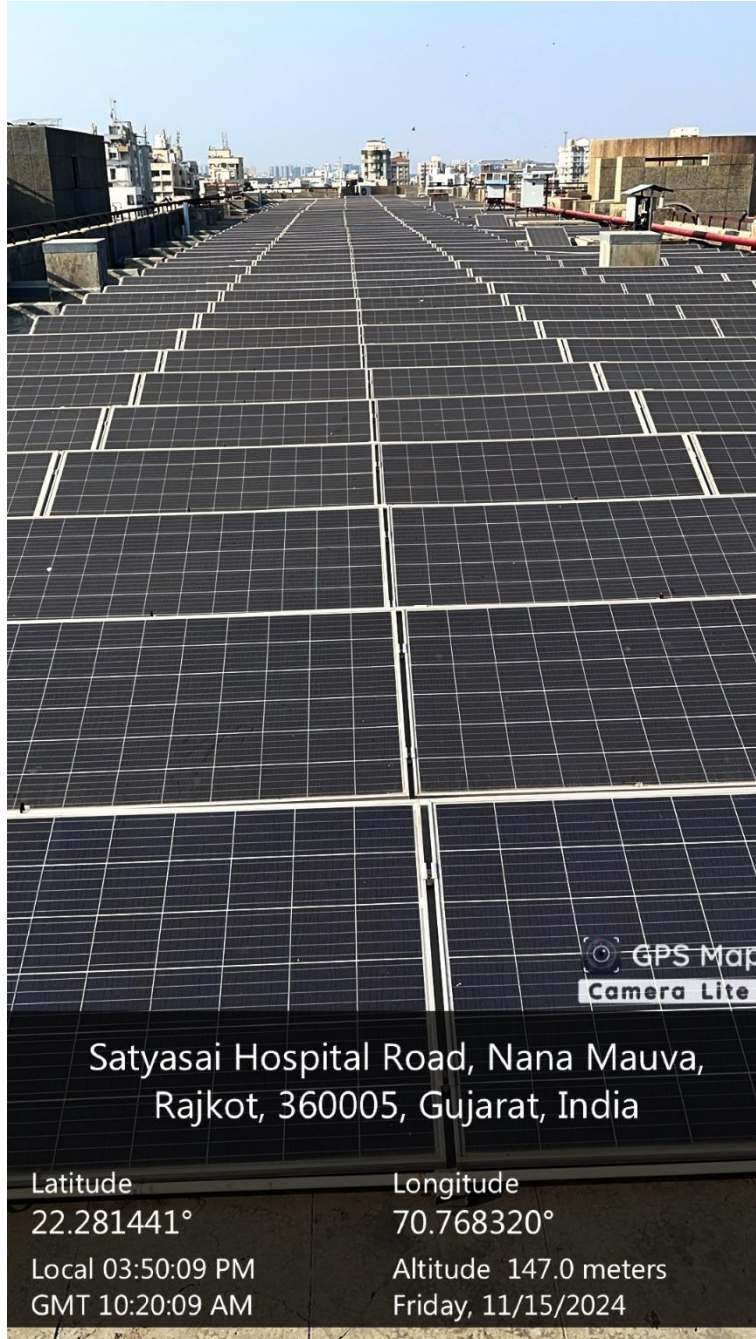
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1 SOLAR ENERGY

1.1 GEO-TAGGED PHOTOGRAPHS



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2 BIOGAS PLANT



EARTHTECH INNOVATIONS PRIVATE LIMITED

Ref. ETR/0-5/0124

29-05-2024

Kind Attn.:

**Vice Chancellor, Pro Vice Chancellor
ATMIYA UNIVERSITY
RAJKOT.**

**Subject: SUPPLY, DELIVERY AND INSTALLATION OF SMART
TECH-DRIVEN BIOGAS PLANT HAVING CAPACITY OF
300KGs PER DAY WASTE INPUT INCLUDING ONE YEAR
OF OPERATION AND MAINTENANCE AT ATMIYA
UNIVERSITY, RAJKOT.**

Respected Sir,

We, Earthtech Innovations Pvt Ltd would like to thank you for the opportunity given to us to submit our best commercial offer for the supply of smart tech-driven biogas plant having capacity of 300kg per day waste input including one year of operation and maintenance.

1. SCOPE OF THE WORK

On Our End

- To deliver all the components mentioned in Section 2. (Product details) document at site of installation
- To assemble all the components and parts at the site where plant is installed.
- Live demonstration of working of the components to the client
- The one -year operation and maintenance of the smart tech-driven biogas plant The detailed Operations & Maintenance terms and conditions are referred in **Annexure 1**

Page 1 of 8

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COLONY, JAMNAGAR ROAD, RAJKOT—360 003, GUJARAT.
earthtechnovations@gmail.com

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On Client's End

- RCC flooring as per the designed given by the company after confirmation of the order AND Roof on the plant after plant installation.
- Availability of 300 kg of Organic Food Waste on daily basis at Unloading area of the plant.
- Availability of water supply and electricity connection of 3-phase at site location in the premises.

2. PRODUCT DETAILS

Sr. No.	Components
1	Digester System <ul style="list-style-type: none"> • IS2062 standard tank with FRP rust free coating and high quality insulation (20 m³) • GI, UPVC, S.S. Fittings (As per Design) • Heating system with S.S. Coil and auto-temperature control system • Unique Patented Auto pH sampling and measuring assembly • Twin auto intermediate stirring assembly with Slurry Circulating Pumps (Two Pump System)
2	Feeding system <ul style="list-style-type: none"> • Best quality feed preparation unit (Unique Feed pre-treatment unit) • Feed Mixing tank • Hydrolysis tank • Slurry Collection tank • Feed Mixer • Cutter Pump • Valves, pipes and fittings (As per Design)
3	Gas Collection and distribution system <ul style="list-style-type: none"> • Gas compression tank with rust free coating with auto pressure control • Gas Compressor • Storage Balloon • Pressure valves and regulators • Gas pipeline • Commercial Biogas Stove • Biogas Auto Flaring Unit

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3. COMMERCIAL OFFER FOR SMART TECH-DRIVEN BIOGAS PLANT

Data Fields	Estimated Gas Production per Day(m3)	Estimated Gas Production Per Anum(m3)	Estimated Equivalent PNG(Kg)
Quantity	35-45	15014.1	10509.85948
Rate			75
Slurry	0.39	142.3500	
Rate (INR)		1000	142350
Gross Savings			₹ 825,490.87
Net Savings			₹ 457,890.87

Annual Maintenance and Operation Cost

Waste cost	Labour	Electricity	Maintenance	Total
₹ 0.00	₹ 1,80,000.00	₹ 87,600.00	₹ 1,20,000.00	₹ 3,67,600.00

Sr. No	Description	Rate	Quantity	Total Amount
1	Smart Biogas Plant with Capacity of 0.3TPD and Components	1650000	1	1650000
2	Annual Maintenance charges for 1 year	280000	1	280000
Total				1930000
Nineteen Lakhs Thirty Thousand Rupees Only/-				

All Credentials are exclusive of taxes and transportation

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4. PAYMENT TERMS & CONDITIONS

- 50% advance payment before execution of your plant.
- 40% payment on delivery of the components on site.
- 10% payment within 10 days once the gas starts to use in kitchen.

5. PROJECT DURATION

The time of duration for completions of the project from first instalment of payment is approximately six months and can vary as per the geographical location.

6. WARRANTY

The warranty period for different component is different

- 2 years on all kind of electric & electronics components
- 5 years for vessel reactor and gas storage tank

*Subject to T&C

7. VALIDITY

Our offer is valid for 30 days from the date of this offer and thereafter subject to confirmation of price and availability

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8. PLANT FEATURES

-  **Requires 30% to 50% Less Space**
(ITPD plant occupies only 49m²)
-  **Consumes 80% Less Water**
(only 200L water for ITPD plant unlike 1000L for other biogas plant)
-  **Upto 30% More Efficient due to IoT and AI Technology**
(ITPD generates >145m³ of gas generated equivalent to 70kg of LPG)
-  **Committed to Safety**
(Equipped with advance systems that ensures complete safety from leaks)
-  **Modular and Scalable Design**
(Technology is scalable for biogas plant of various sizes)

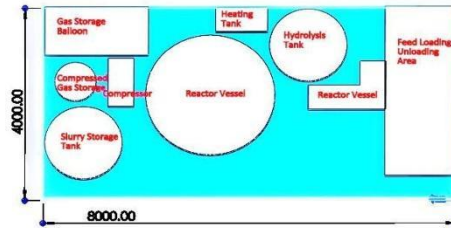




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9. PLANT LAYOUT

Total area requirement for plant installation: **????**



Thanking you and assuring you our best services.

For EARTHTECH INNOVATIONS PRIVATE LIMITED,



Toyam Sharma
Director, Co-founder
Mob: +91 9429442569





Anexure 1:

O&M Details

SL NO	ITEM	PERIOD OF OPERATIONS
01	<p>Operations and Maintenance of smart tech-driven biogas plant having capacity of 500kg per day waste input for one Years</p> <ul style="list-style-type: none"> • Deployment of 1 technically qualified operator. • Service Charge for operation and maintenance of plant parts. • Manual data collection of slurry samples and testing samples periodically. • Personal Safety Items for workers (Face Mask, Hand Gloves, Boots, Jacket, etc.) • Regular Maintenance of working plant components (Wear & Tear, Greasing, etc.) • Software based Daily Log and Quarterly Reports on performance of system. 	1 Year
GRAND TOTAL		₹ 300000





EARTHTECH INNOVATIONS PRIVATE LIMITED

About Us:

Team

Competent, dedicated, and consists of experts having 10+ years of experience in the Bio-methanation and biotechnology domain.
Received LOIs from 3+ Government Organisations.
Winner of BIRAC Clean Cooking National Challenge 2021.

Supported By:



Media Coverage:



Recognized By:



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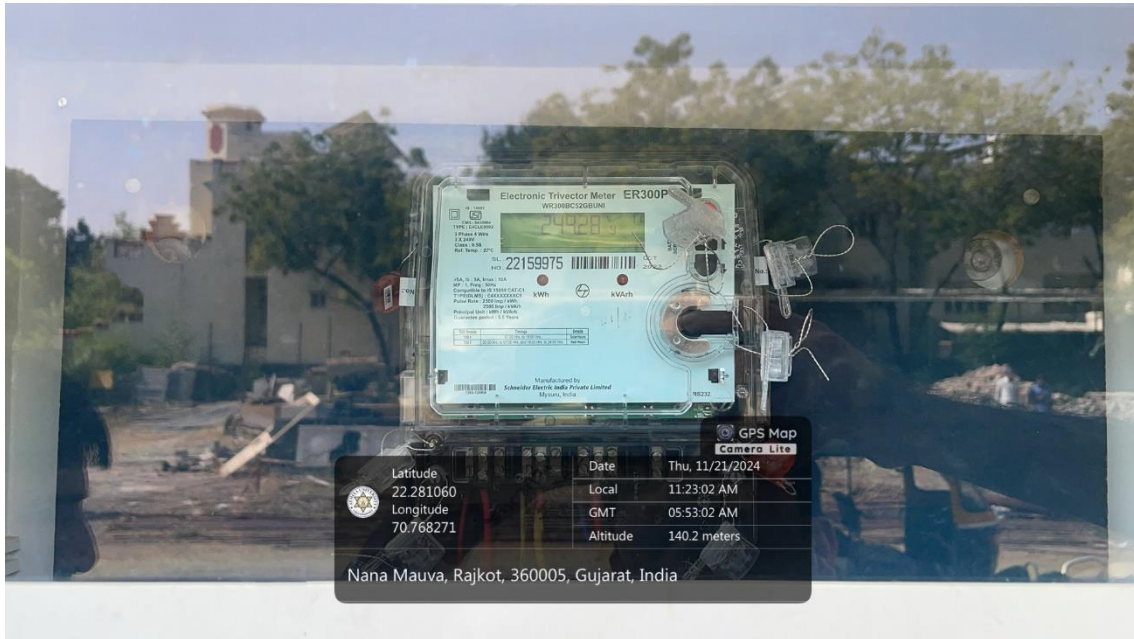




3 WHEELING TO THE GRID

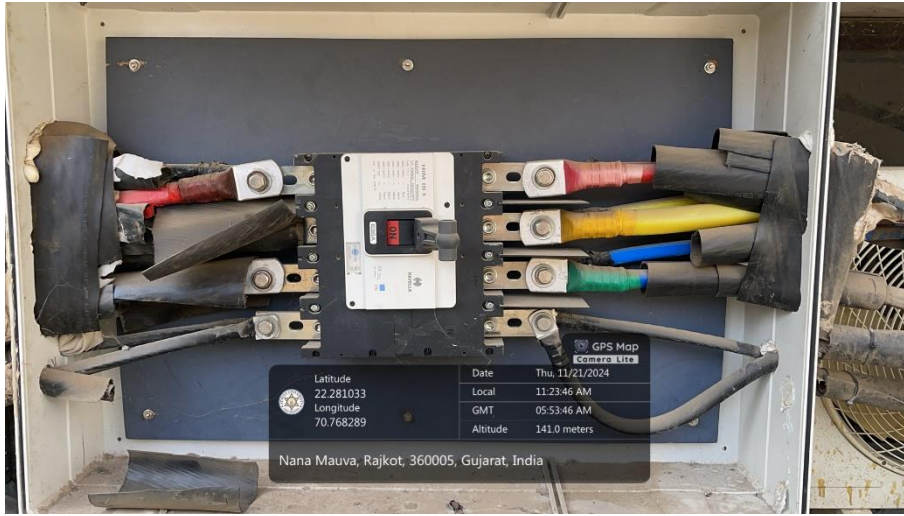
3.1 GEO-TAGGED IMAGES

Meter





Switch



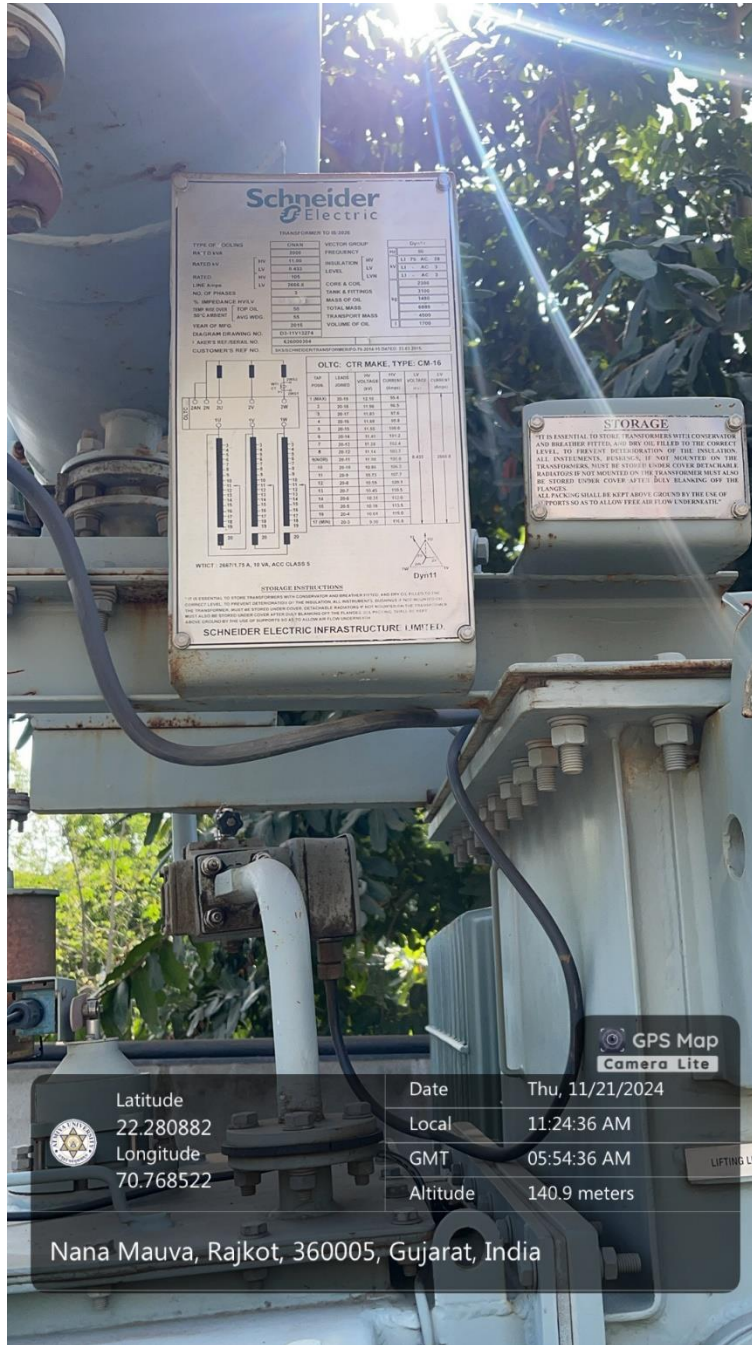
Transformer



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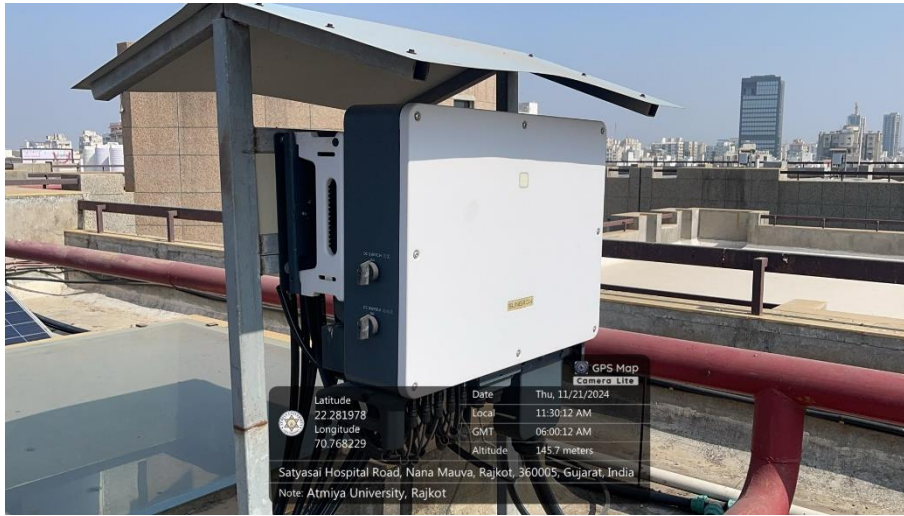
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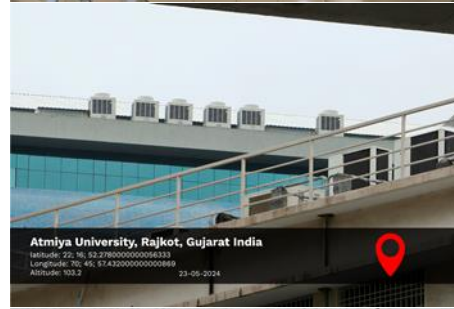
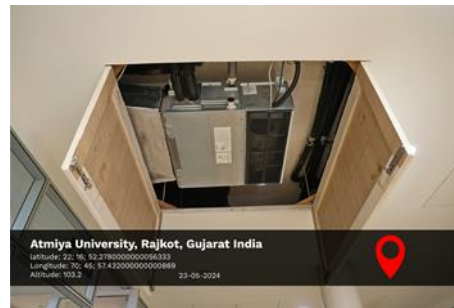




4 SENSOR-BASED ENERGY CONSERVATION

4.1 GEO-TAGGED PHOTOGRAPHS OF THE FACILITIES.

- Sensor based Air-conditioning Units
- Sensor based lifts (SCADA system)
- Sensor based air handling units
- Sensor based smart light (in-house developed-technology transfer)
- Sensor based water pumping system
- Automatic mist system at *NIRAMAYA*: Advanced farming technology



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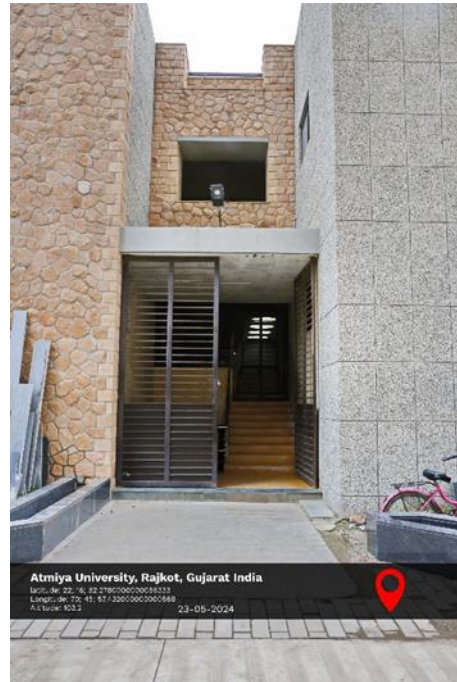
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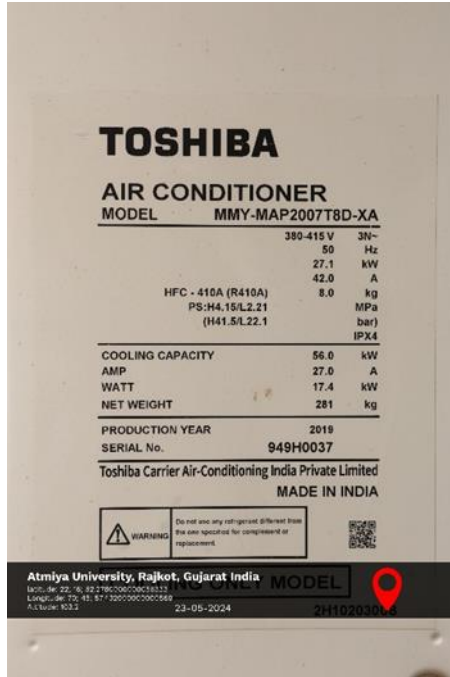
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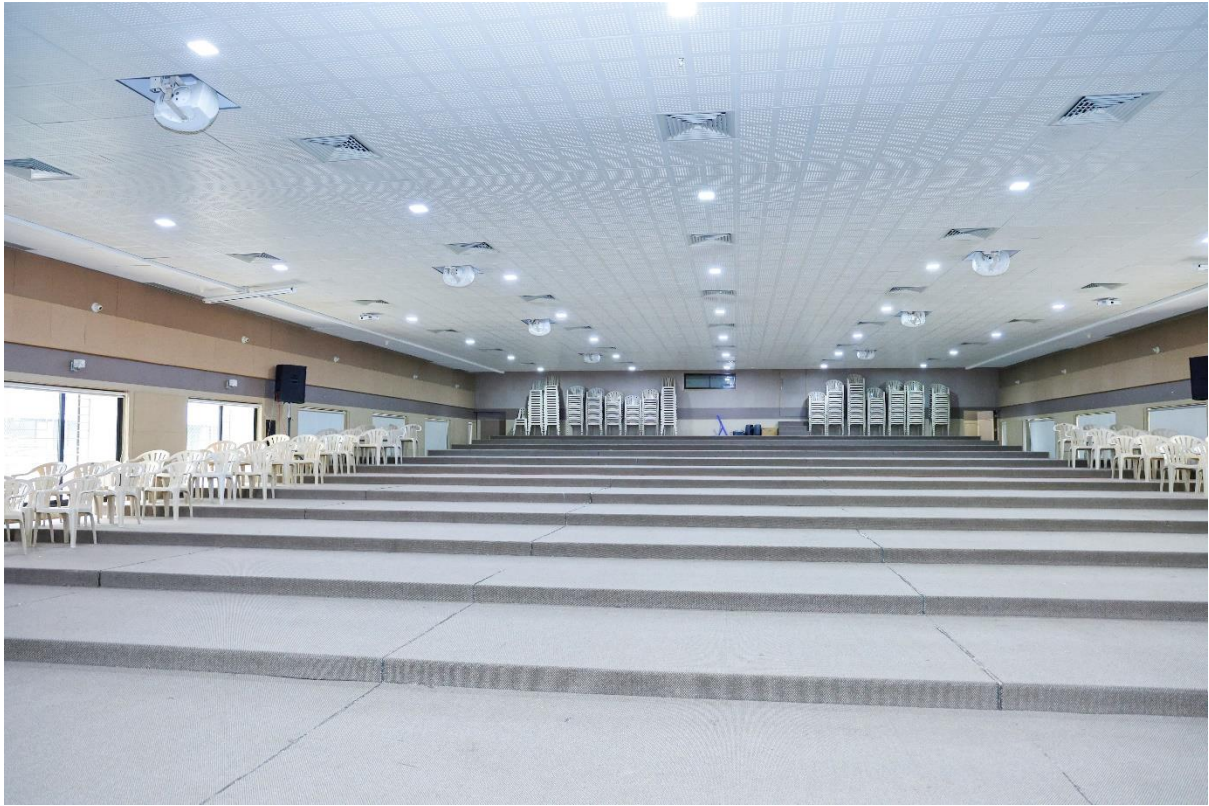
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Sensor based energy save air conditioning units for Auditorium



Motion sensor camera systems for energy and data conservation





Motion & IR Sensor based energy saver camera



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Water Level Sensor for Conserving Energy Saving



Smart, sensor based gym equipment for energy conservation



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Sensor based cold storage for energy conservation



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Smart sensor based power backup system



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Smart Photocopier Machine for Energy Conservation



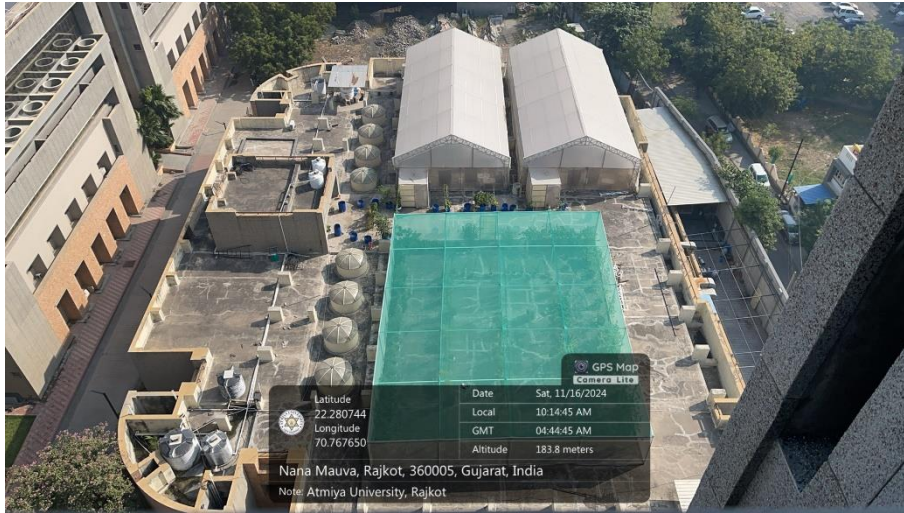
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Sensor based Mist system at NIRAMAY Biosphere for conservation of energy and water.



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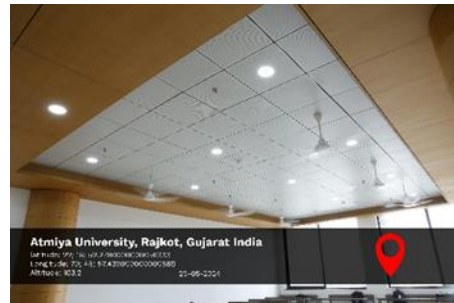
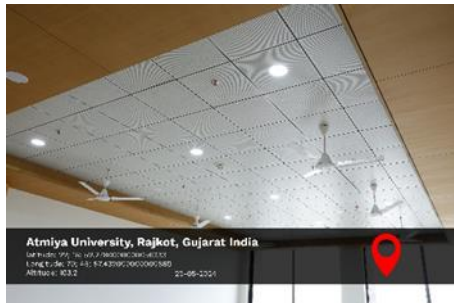
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5 USE OF LED BULBS/ POWER EFFICIENT EQUIPMENT

5.1 GEO-TAGGED PHOTOGRAPHS



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