

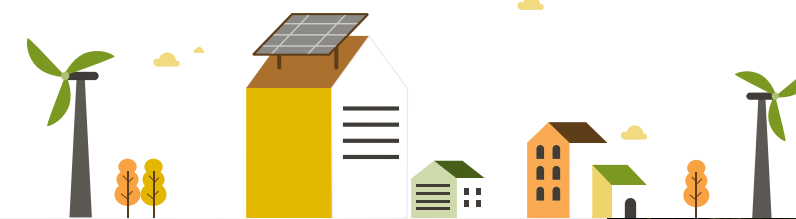


# Sustainability Report 2022-23

(Goal - 11)



Galgotias  
Sustainable Community







**Sustainable Cities and Communities**  
Make cities and human settlements inclusive, safe, resilient, and sustainable

Introduction to SDG – 11

Galgotias University is dedicated to advancing SDG 11, striving to make cities and human settlements inclusive, safe, resilient, and sustainable.

Through innovative academic programs and research initiatives, the university empowers students with the knowledge and skills to address urban challenges, promoting sustainable urban planning and development.

Galgotias fosters eco-friendly practices across its campus, integrating green infrastructure, waste management solutions, and energy-efficient technologies to create a model for sustainable living.

The university actively engages in community-driven initiatives, collaborating with local authorities to enhance urban resilience and improve the quality of life for all.

By organizing awareness campaigns, workshops, and projects focused on smart cities, affordable housing, and environmental conservation, Galgotias ensures that students contribute to building a sustainable future.

Through these comprehensive efforts, the university plays a crucial role in shaping responsible leaders and driving positive change towards sustainable, well-planned urban environments.

**G-SCALE** Galgotias Student Centered Active Learning Ecosystem.  
No More Benches, Only Benchmarks.

**World Class Campus Infrastructure**  
Active Learning Ecosystem

- Collaborative Learning Classrooms
- Eco Friendly Campus
- Sustainable Energy Sources
- Low Carbon Emission Practices



Inclusive

Resilience

Urbanization

Accessibility

Study Sustainability at Galgotias University



**Programs Offered –**  
Doctor of Philosophy (Ph.D.) in Environmental Sciences  
M.Sc. in Sustainability

**Courses Offered –**  
Demography for smart cities (GIUB401T)  
Smart Infrastructure systems (GIUA510T)  
**B. Tech** in Civil with specialization in Smart Cities

Advancing Sustainable Cities Through Drone Technology

Galgotias University, in alignment with SDG 11 (Sustainable Cities and Communities), organized a webinar titled "Drone Ecosystems & Applications" on March 4, 2023. Hosted by the Department of Electrical, Electronics & Communication Engineering, the session explored the transformative role of drones in urban development, disaster management, and smart infrastructure.

The expert speaker provided in-depth insights into drone ecosystems, showcasing their applications in sustainable urban planning, environmental monitoring, and efficient resource management. With engaging presentations, real-world case studies, and interactive discussions, students gained a deeper understanding of how drone technology can contribute to building resilient and future-ready cities.

The event was inaugurated with appreciation for the university's continuous support in fostering technological advancements for sustainability. Through this initiative, students were empowered with cutting-edge knowledge and skills, equipping them to contribute to innovative urban solutions.

- Key Highlights:
- Explored the role of drones in sustainable urban development and disaster management.
  - Discussed real-world applications in smart cities, agriculture, and infrastructure monitoring.
  - Engaged students with interactive presentations and case studies.
  - Highlighted the importance of drone technology in environmental conservation.
  - Encouraged skill development for future careers in drone-based industries.

Components of Drones



Drone Workshop Presentations



Based RCC Design  
Enhancing Sustainable Infrastructure

Galgotias University, in alignment with SDG 11 (Sustainable Cities and Communities), organized an expert talk on "Analysis & Design of Structural Elements Using Cloud-Based RCC Building Design Software – MVDAD" on November 1, 2023.

Hosted by the Department of Civil Engineering, the virtual session brought together students and faculty to explore the role of cloud-based technologies in sustainable building design. The session introduced MVDAD software, emphasizing its advanced capabilities in analyzing reinforced concrete structures and optimizing material usage for efficient construction.

Experts discussed key structural concepts, including bending moments, shear forces, stress-strain behavior, and deflection, offering valuable insights into designing durable and

Innovating Through Design Thinking : EPICS

Galgotias University, in alignment with SDG 11 (Sustainable Cities and Communities), organized a Workshop on Design Thinking to equip students with problem-solving skills for sustainable urban development.

The session emphasized a human-centered approach to innovation, enabling participants to tackle real-world challenges in infrastructure, mobility, and smart city planning. The workshop introduced the five stages of Design Thinking—Empathize, Define, Ideate, Prototype, and Test—encouraging creative solutions for urban sustainability.

Experts guided students through interactive activities and case studies, demonstrating how design thinking fosters collaboration, efficiency, and user-centric problem-solving. The session also highlighted the role of technology, sustainability, and smart design in shaping resilient cities.

By engaging in hands-on exercises and brainstorming sessions, students learned to apply structured methodologies to address modern urban challenges. The initiative aimed to empower future professionals with the skills to design inclusive, adaptive, and sustainable solutions for urban growth.

- Key Highlights:
- Explored the five stages of Design Thinking for urban problem-solving. Encouraged creativity and user-centric design for sustainable cities.
  - Engaged students through interactive activities and case studies.
  - Showcased real-world applications in smart infrastructure and mobility.
  - Promoted innovation and collaboration for sustainable urban development.



DESIGN THINKING SUSTAINABLE

Initiatives at Galgotias University for Sustainable Campus

- Accessible Infrastructure
- Accessistive Technologies
- Accessible Facilities
- Disability Support Services

Research Focused with SDG – 11

- FuzzyNet-based modelling smart traffic system in smart cities using deep learning models.
- 5G-Enabled Cyber-Physical Systems for Smart Transportation Using Blockchain Technology.
- Air Quality Prediction Using Adaboost.
- Artificial Intelligence and Regulatory Framework for Sustainable Plastic Management: An Analytical Study towards Achieving SDGs.
- Implementation of optimized protocol for secure routing in cloud based wireless sensor networks.
- Smart Sensor-Based Drunken Driver Detection System for Human Life Safety.
- The Future IoT: The Current Generation 5G and Next Generation 6G and 7G Technologies.
- A Blockchain-Oriented Framework for Cloud-Assisted System to Countermeasure Phishing for Establishing Secure Smart City.
- Efficient Route Planning Using Temporal Reliance of Link Quality for Highway IoV Traffic Environment.
- Introduction to DSS system for smart cities.



eco-friendly buildings. Attendees gained hands-on knowledge about modeling simply supported and cantilever beams, one-way slabs, and axially loaded columns.

This initiative provided participants with practical exposure to cutting-edge structural design tools, fostering skill development for sustainable urban infrastructure. By leveraging cloud-based RCC design, future engineers can contribute to resilient, resource-efficient, and environmentally responsible urban development.

- Key Highlights:
- Explored MVDAD software for efficient RCC building design and analysis.
  - Discussed structural concepts like bending moments, shear forces, and deflection.
  - Demonstrated sustainable material optimization for eco-friendly construction.
  - Provided hands-on knowledge of designing structural members.
  - Promoted skill development for resilient and sustainable urban infrastructure.

- A cryptographic paradigm to detect and mitigate blackhole attack in VANET environments,
- Real-Time Driver Drowsiness Detection Using Dlib And openCV.

STUDENT STARTUPS

- Resep Technologies** ecommerce business makes premium smartphones at affordable prices
- Crave** creating a seamless, efficient, and customer-focused food ordering platform
- StealthEra Innovation** innovative smart wearable goes beyond tracking daily health metrics
- Ektara One** a transformative model in the retail and delivery landscape

