KCG

COLLEGE OF TECHNOLOGY

AFFILIATED TO ANNA UNIVERSITY | AUTONOMOUS

SUSTAINABLE DEVELOPMENT GOALS

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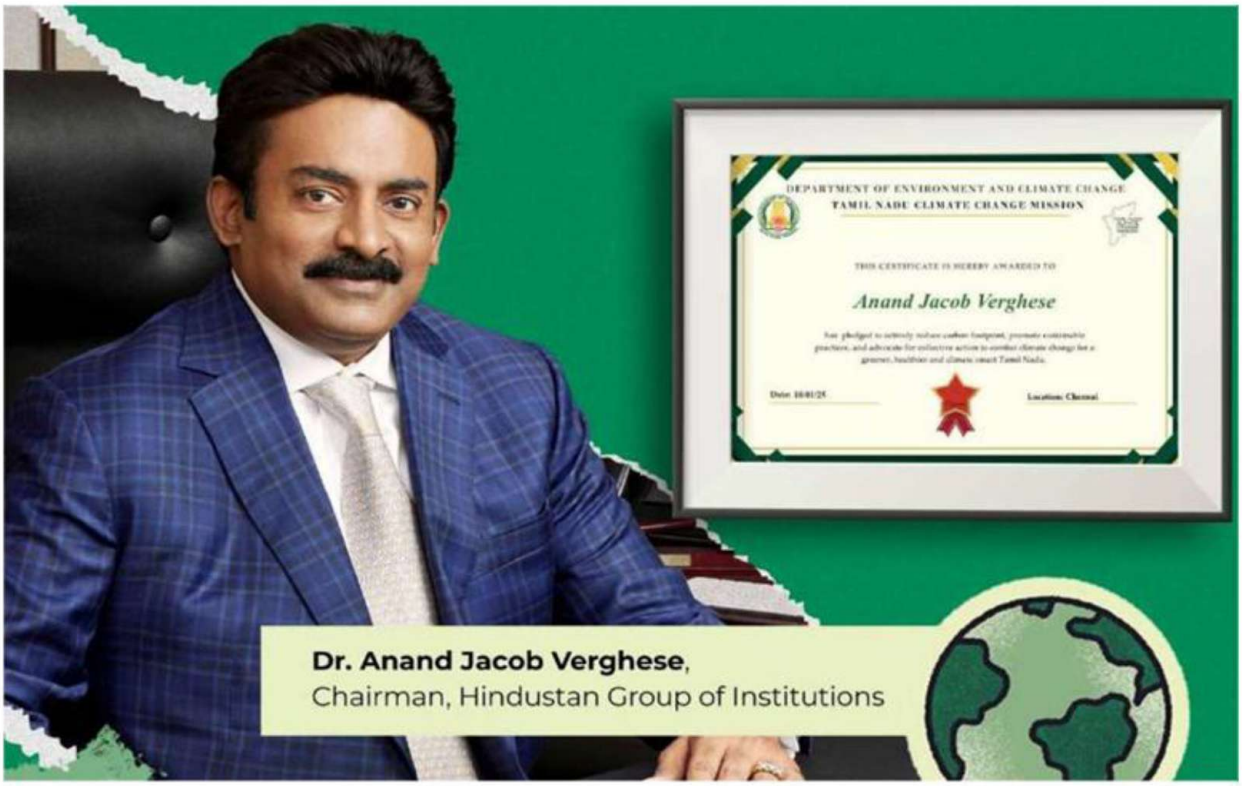
1 Introduction

Sustainability and environmental consciousness have become integral aspects of modern education, shaping the way institutions contribute to global challenges. KCG College of Technology, as part of the Hindustan Group of Institutions, has been at the forefront of integrating the **United Nations Sustainable Development Goals (SDGs)** into its academic framework, student initiatives, and institutional policies. The college's efforts align with a broader vision of fostering **climate resilience, reducing carbon footprints, and instilling environmental stewardship** among students and faculty.



A testament to this commitment is the remarkable recognition of **Dr. Anand Jacob Verghese, Chairman of Hindustan Group of Institutions**, by the **Tamil Nadu Climate Change Mission** for his **extraordinary dedication to environmental sustainability**. Under his visionary leadership, the institutions have pioneered innovative sustainable practices in education, adopted **green technologies**, and actively **reduced carbon footprints** across campuses. His emphasis on **collective action for climate resilience** has not only positioned

Hindustan Group as a model for sustainability in education but has also inspired future generations to champion environmental responsibility.

This report highlights the **transformational journey** of KCG College of Technology in implementing SDG-aligned initiatives through its **curriculum reforms, student-driven activities, research innovations, and sustainable campus operations**. It showcases the institution's ongoing efforts to integrate sustainability into every facet of academic and administrative frameworks, thereby contributing meaningfully to global climate action and sustainable development.

2 Orientation on UNSDG

Recognizing the critical role of education in achieving sustainable development, KCG College of Technology has taken **proactive steps** since **January 2024** to integrate the **United Nations Sustainable Development Goals (UNSDGs)** into its **curricular, co-curricular, and extracurricular activities**. This initiative aims to cultivate a **sustainability-driven academic culture**, ensuring that students and faculty actively contribute to global challenges through education, research, and campus practices.

As a **first step**, a **dedicated SDG Coordination Committee** was formed, comprising faculty representatives from each department. This committee is responsible for aligning departmental events, projects, and academic activities with SDG principles.

To build awareness and equip faculty with the necessary knowledge, an **orientation program on UNSDG** was conducted on **1st February 2024**. Faculty members were introduced to the **17 SDG targets**, with a special focus on:

- **Goal 4: Quality Education** – Ensuring inclusive, equitable education and lifelong learning opportunities.
- **Goal 9: Industry, Innovation, and Infrastructure** – Promoting resilient infrastructure, sustainable industrialization, and technological advancements.
- **Goal 12: Responsible Consumption and Production** – Encouraging sustainable practices and resource efficiency.

During the orientation, faculty members took the lead in explaining different SDG goals based on their areas of expertise:

Faculty	SDG
Mr Venkatramanan	SDG 1 & 2
Dr Deepa Jose	SDG 3 & 7
Dr R Jaya	SDG 4 & 16
Dr T Jayakumar	SDG 5 & 8
Dr Dillibabu	SDG 6 & 13
Dr Vigneshkumar	SDG 9, 10 & 16
Dr Brindha Sakthi	SDG 12 & 17
Ms Kirithika	SDG 14 & 15

This **faculty-driven initiative** ensures that sustainability remains at the core of **academic discussions, research pursuits, and student activities**, fostering a holistic approach to achieving UNSDGs. Through such structured awareness programs, KCG College of Technology continues to reinforce its **commitment to global sustainability and responsible education.**

Eco-Activisit 2024

Dr.T.Anuradha, HoD - EEE has Received "Eco Activist 2024" Award from Dr. V. Karthikeyan, Chairman Institution of Engineers(India), TNSC. The award was presented in the presence of Dr. R. Velraj, VC, Anna University, Dr. A. Sivathanupillai, Chairman, NECCF, IE(I), TNSC at the inaugural th function of Institution of Engineers (India)(IEI) - National Environment Climate Change Forum(NECCF), on 13 July 2024 at Centre of University - Industry Collaboration, CEG Campus, Guindy, Anna University.

3. Key Highlights of SDG-Focused Initiatives:

KCG College of Technology actively promotes the United Nations Sustainable Development Goals (UNSDGs) through a series of seminars, workshops, and expert interactions. These events serve as platforms for students and faculty to engage with industry leaders, researchers, and sustainability advocates, fostering a culture of innovation, awareness, and responsible action. Each seminar and workshop is carefully designed to align with specific SDG targets, providing participants with hands-on learning experiences, emerging technological insights, and real-world applications of sustainable development. The institution has hosted numerous SDG-focused sessions, covering critical areas such as clean energy, environmental sustainability, innovation, climate resilience, and sustainable infrastructure. Some of the key highlights include:

1. Expert Lectures & Industry Interactions

1.1. **Seminar on Space Communication – Practical Perspectives (SDG 11)**: Conducted by an ISRO expert, this session educated students on **satellite tracking technology- 4th March 2024**

Seminar on Space Communication – Practical Perspectives was conducted on 4th March 2024. Mr B A Subramani, Former Space Environmental Simulation Engineer, U R Rao Satellite Centre, ISRO, Bangalore was the resource person. The speaker provided a detailed explanation of RTDs software, which enables the tracking of satellite images from open sources using minimal resources available at home.

1.2. Seminar on Cyber Security as a Career Opportunity (SDG 9): Experts from **TCS and the University of South Wales** discussed **cyber threats and digital security innovations- 9th March 2024**

Mr. P. Chandrasekar, Global Delivery Head of Cybersecurity at TCS Chennai, the resource person for the seminar conducted on 9th March shared the importance of cybersecurity and discussed the job opportunities in this field, emphasizing the opportunities for cyber advancement. Dr.Arunkumar , Senior Lecturer, Digital Forensics, Cyber Security , University of South Wales, Treforest, UK and the resource person for the seminar conducted on 23rd March discussed the opportunities for cyber advancement and provided additional insights on the proliferation of cyber threats, such as data breaches, ransomware attacks, and identity theft. This seminar focused on SDG 9, aiming to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. These efforts are crucial for fostering economic growth, creating jobs, and ensuring sustainable development.

1.3. Seminar on Emerging Trends in Semiconductor Energy Harvesting and **Magnesium Composite for Hydrogen Storage Application** (SDG 7 & 9): Provided insights into **renewable energy storage technologies**.

On 23 October 2024, a Faculty Interaction on Magnesium Composite for Hydrogen Storage Application was held, featuring Professor Song-Jeng Huang, Director of ATW SSHE-RC and Professor of Mechanical Engineering at NTUST, and Dr. Sathiyalingam, Project Manager at NTUST, as the resource persons.

1.4 Seminar On Semiconductor Energy Harvesting (SDG 9 & 11)

A Seminar on Emerging Trends in Semiconductor Energy Harvesting was held on 3 October 2024. Dr Kishore Kumar P C, Senior Engineer, Nexperia R&D, Penang, Malaysia was the resource person.

1.5. one-day seminar on Clean Combustion & Emission Strategies was organized on 3rd August 2024- SDG 9&11

In association with the Mechatronics Engineering department, a one-day seminar on Clean Combustion & Emission Strategies was organized on 3rd August 2024. Dr. M. Parthasarathy, Assistant Manager of R&D at Sankar Advanced Mobility Solutions Pvt Ltd, enlightened the audience on Modern Combustion Technology, while Mr. Muhilan Gnansekaran, Engine Performance Engineer at Caterpillar, Chennai, discussed advancements in Emission Technologies and Regulations**.**

2.Hands-on Workshops & Technical Training

2.1Workshop on Striding towards SDG's for Fashion Industry -17 SDG – 22 January 2024

Dr. V. Bhanu Rekha, Professor and Head School of Fashion Technology, presented a seminar "Striding towards the SDGs for fashion Industry" and explained the 18 icons and quoted examples of those fashion brands which have strived to achieve these sustainability goals. All these 18 icons focused majorly on the 6, 7, 8, 9,10, 11, 12, 13, 14,15 and 17 SDG goals. Post the seminar, students were asked to discuss and submit sustainable fashion business models and product ideas.

2.2 Hands on Workshop on RC Planes and Drone Piloting- SDG 4- 16th March 2024.

The RC Plane Hands-On Workshop, held on 16.3.2024 at the Aero structures lab, aimed to provide participants with practical experience in assembling and piloting remote-controlled (RC) aircraft. Attendees learned about RC plane components, aerodynamics, and control systems before engaging in hands-on assembly sessions. The workshop also included practical flying sessions, where participants demonstrated take offs, landings, and aerial maneuvers, showcasing their improved piloting skills.

Hands on Training on 'Exploring the World of Civil Engineering' for Polytechnic Students –SDG 4 - 19th Feb 2024

2.3 Hands-on Workshop on Colouring Textiles with Natural Dyes and Mordants

Hands on Workshop on Colouring Textiles with Natural Dyes and Mordants was organised on 3rd August 2024, led by experienced textile designer Mr. R. Krishnamurthy, promoted sustainable dyeing practices. Organized by SoFT, the workshop highlighted the eco-friendly dyeing techniques of the past and their relevance in modern garment manufacturing. Participants gained practical experience and historical insights, inspiring them to adopt these environmentally conscious methods in their work, while also preserving traditional craftsmanship and promoting sustainability.

2.4 International Expert Interaction on Graduate Engineer Vs Professional Engineer- SDG 9 & 11 20th March 2024

The department organised an International Guest Lecture on Graduate Engineer Vs Professional Engineer – A Perspective on 20th March 2024. Professor Ir. Dr. U. Johnson Alengaram University of Malaya, Kuala Lumpur, Malaysia was the resource person. Professor Alengaram delved into the Geopolymer Concrete House project, showcasing its potential to revolutionize construction. The session highlighted the importance of experience and continuous learning in bridging academic and industry practices in construction.

Workshop on Revit Architecture - SDG 9 & 11- 25th and 26th March 2024

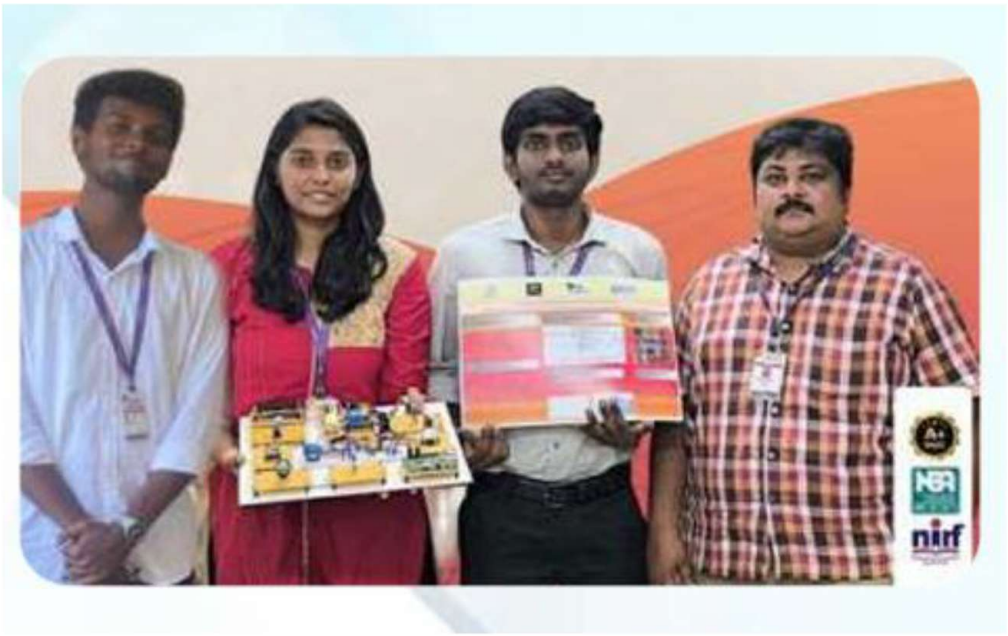
2.5 Interaction with Industry Expert – SDG 9 & 11 – 23rd March 2024

Interaction with Industry Expert was organised on 23rd March 2024. Mrs. Lalasaraswathi Illango, Head – EDRC Factories Design, Larsen & Toubro Construction, Chennai was the resource person.

2.6 Value Added Programme – SDG 9 & 12

3. Innovation & Competitions

3.1 Niral Thirazh (SDG 7& 9) – Top 50 Finalist Two teams from KCG Tech have risen to the challenge in the Grand Final Evaluation of Niral Thirazh, where 144 out of 837 teams were shortlisted by an expert committee. Shining among them, one of our teams made it to the top 50 and brought home an impressive cash prize of Rs. 1,00,000. Their innovative project, Sanitary Sentinel, leverages machine learning to transform public health with smart toilets and advanced maintenance analysis through Power BI. Startup TN Regional Hubs will now facilitate the next steps, offering incubation and further development opportunities to help these innovative ideas reach their full potential.



3.2 Champions of Innovation (SDG 7&9)

Students have achieved an outstanding 2 place in the prestigious Smart Industry Hackathon 4.0, sponsored by Bonfiglioli. Out of over 700 initial project proposals, their exemplary performance earned them a spot in the top 30 finalists. During an intensive 48-hour hackathon, their innovative project titled "An AI Based Platform for Energy Management System Incorporating Solar and Thermal Energy Harnessing", distinguished itself t hrough its ingenuity and technical sophistication. This exceptional achievement was recognized with a cash prize of ₹1,00,000.

4. Sustainability & Environmental Awareness Initiatives

4.1 ASHRAE-KCG Student Chapter Inauguration (SDG 2, 11 & 13): Focused on **HVAC energy efficiency and high-performance buildings**.

The Manufacturing Engineering Division inaugurated the new student chapter of the American Society of Heating Refrigerating and Air-conditioning Engineers (ASHRAE) on March 12, 2024. The chapter primary objective is to familiarize students and faculty with advancements in Refrigeration, High-Performance Buildings, Net Zero Energy Buildings, Energy-efficient HVAC design, and related areas. The event featured distinguished speakers including Mr. Balaji Ramalingam, President of ASHRAE Student Chennai Chapter and Director of S-AC Solutions Chennai Private Limited; Mr. Devadoss Edwin, Founder and Director of G-Dew Air Consultants; Mr. M. Anandan, Director of Vertiv Energy Pvt Ltd; and Mr. Nellai Rajan, Coordinator of ASHRAE Chennai Chapter India.

4.2 **Social Awareness Campaign on Energy Conservation (SDG 7)**: Students conducted a **public rally** to promote **energy efficiency**.

The energy conservation and energy efficiency social awareness campaign organized on 26 July 2024. Mr. G. Ramadoss, Assistant Executive Engineer/DSM at TANGEDCO HQ Chennai, enlightened the audience on the necessity of conserving energy and various methods to achieve it. Following the seminar, student volunteers from Y's Men Club of KCG College Youth, cadets from KCG NCC Company, and volunteers from KCG NSS participated in a public campaign in Karapakkam. The volunteers enthusiastically marched through the streets of Karapakkam, propagating the need to conserve electricity for future generations. The rally was a successful attempt to create public awareness about conserving energy.

4.3. Eco Carnival – Upcycling Project (SDG 12): Students transformed **waste fabric into artistic floral installations**.

The Blooms of Preloved Things The Blooms of Preloved Things—KCG Tech's floral installation at BiG FM's Eco Carnival—celebrated creativity and sustainability. Guided by artist Mrudhubashini, students upcycled 10 kg of cloth waste, transforming it into stunning blooms inspired by southern favorites like jasmine, fire lilies, and birds of paradise. This collaborative project allowed students from the School of Fashion Technology (SoFT) to gain hands-on experience in sustainable art while showcasing their talents to over 25,000 attendees. We are proud to have saved waste from the landfill, creating something beautiful and meaningful for the community.

5. Strategic Partnerships & Infrastructure Development

5.1 MoU with Aquaconnect (SDG 14): Aimed at **AI and satellite-based solutions in aquaculture**.

The College has entered into a MoU with Aquaconnect, an aquaculture technology platform pioneering the use of AI and satellite remote sensing to bring transparency and efficiency to the seafood value chain. The MoU was formalized by Mr. Enid Verghese, Deputy Director of Hindustan Group of Institutions, and Mr. K. S. Rajamanohar, Founder and CEO of Aquaconnect, alongside Mr. Murugan Chidhambaram, Head of Digital Transformation at Aquaconnect, and Dr. M. Muthukannan, Principal of KCG College of Technology. This collaboration will provide students with valuable access to resources, expert mentorship, and incubation opportunities, nurturing entrepreneurship and innovation in the field of aquaculture. Additionally, it promotes hands on experience with sustainable practices, paving the way for rewarding careers in the burgeoning blue economy.

5.2 MoU with Thejo Engineering (SDG 9 & 12): Strengthened **research collaborations in polymer science and rubber technology**.

Hindustan Group of Institutions (HGI) signed a Memorandum of Understanding (MoU) with Thejo Engineering Limited, initiated by the th Department of Mechanical Engineering on 17 July 2024. Our esteemed Chairman Dr.Anand Jacob Verghese & Mr. Manoj Joseph K, Managing Director, Thejo signed the MoU, which is aimed at collaborative research in the fields of Polymer Science, Rubber Technology and Industrial Consultancy by facilitating certification programmes, faculty internships, student projects, as well as internship and placement opportunities.

KCG College of Technology has actively organized a series of **seminars, workshops, technical sessions, and competitions** aligned with the **United Nations Sustainable Development Goals (UNSDGs)**. These events have provided students with valuable **industry exposure, hands-on training, and insights into sustainability-driven technological advancements**.

5.3 **Inauguration of Biogas Plant (SDG 7 & 13)**: A major milestone in the **institution's commitment to renewable energy**, converting **kitchen waste into biogas**.

The Biogas Plant at KCG Tech, inaugurated by Dr. Anand Jacob Verghese, Chairman of the Hindustan Group of Institutions, stands as a testament to our commitment towards clean and renewable energy. This innovative facility, with its 15 cubic meter anaerobic digester, processes 100 kg of kitchen waste daily, producing 10-12 cubic meters of biogas, equivalent to 4-5 kg of LPG. By reducing pollution in water and soil and decreasing land usage, the plant contributes significantly to environmental protection and aligns with the Sustainable Development Goals (SDGs). This pioneering project represents a significant leap towards a sustainable and environmentally conscious future, showcasing KCG Tech's unwavering commitment to sustainable practices and efforts to achieve a negative carbon footprint.

6. Conferences & Awareness Events

6.1 National Science Day Celebrations (SDG 9): Hosted **competitions and seminars** on **indigenous technologies for a sustainable environment** from **28th February to 1st of March 2024.**

The **Department of Science and Humanities** at KCG College of Technology organized a **week-long celebration** to mark **National Science Day**, commemorating **Sir C.V. Raman's discovery of the Raman Effect**. This initiative aimed to inspire young minds to explore **scientific advancements and their role in sustainability**.

As part of the celebrations, **various competitions** were conducted from **February 28 to March 1, 2024**, under the theme **"Indigenous Technologies for a Healthier Environment."** These included:

- **Elocution Competition** – Encouraging students to articulate their views on indigenous scientific contributions.
- **Quiz Competition** – Testing knowledge on sustainable technologies and their applications.
- **Poster Making Contest** – Providing a creative platform to showcase ideas on eco-friendly innovations.

The **culmination of the event** was a **seminar on March 5, 2024**, titled **"Indigenous Technologies for a Healthier Environment,"** delivered by **Dr. A. Arockiarajan, Professor,**

IIT Madras. The session, attended by **250 students**, provided **valuable insights into the role of fundamental sciences in promoting sustainable living**. Dr. Arockiarajan emphasized:

- The **significance of scientific research** in tackling environmental challenges.
- The need for **internships and fellowships** to nurture future innovators.
- The importance of **applying indigenous knowledge** for sustainable technological advancements.

This celebration not only **honored scientific excellence** but also **encouraged students to actively engage in research and innovation**, reinforcing KCG College's commitment to **scientific literacy and sustainability**.

6.2 **TEDxKCG – Reimagining the Future (SDG 3, 4, 5, 6, 8, 9, 11)**: Featuring **17 speakers**, sharing **insights on sustainability and innovation**.**– 16th March 2024**

KCG College of Technology proudly hosted **TEDxKCG** on **March 16, 2024**, under the thought-provoking theme **"Reimagining the Future: Crafting a Better Tomorrow."** This prestigious event served as a **platform for intellectual exchange**, bringing together **17 distinguished speakers** from diverse domains to share their **insights, groundbreaking ideas, and innovative solutions** to shape a more sustainable and inclusive future.

Several talks were **directly aligned** with the **United Nations Sustainable Development Goals (SDGs)**, fostering discussions on **global challenges and transformative solutions**. Key focus areas included:

- **SDG 3 (Good Health & Well-being):** Insights into **mental health awareness, medical innovations, and holistic well-being**.
- **SDG 4 (Quality Education):** Strategies for **inclusive, accessible, and future-ready education**.
- **SDG 5 (Gender Equality):** Advocacy for **women empowerment and equitable opportunities**.
- **SDG 6 (Clean Water & Sanitation):** Innovations in **water conservation and sustainable resource management**.
- **SDG 8 (Decent Work & Economic Growth):** The impact of **AI and automation on job markets and economic resilience**.

- **SDG 9 (Industry, Innovation & Infrastructure):** Cutting-edge **technological advancements and entrepreneurship**.
- **SDG 11 (Sustainable Cities & Communities):** Visionary approaches to **urban planning and smart city development**.

With an engaging mix of **scientists, entrepreneurs, industry leaders, and change-makers**, TEDxKCG 2024 **ignited powerful conversations**, inspiring students and attendees to become **active contributors to a sustainable and innovative future**. The event reaffirmed **KCG College's commitment to knowledge-sharing, creative thinking, and global progress**.

6.3 **KCG Model United Nations (MUN 2024) (SDG 16)**: Engaged **175 delegates** in discussions on **global diplomacy and sustainability**.

The First National Edition of KCG Model United Nations (MUN) organised by KCG College of Technology was inaugurated by Dr. C.Sylendra Babu, IPS (Retd)., Former DGP/ Head of Police Force, Tamil Nadu. 175 delegates across states from Meghalaya, Karnataka, Kerala, and Tamilnadu participated in the three-day conference held th th from 27 to 29 September 2024.

The Chief Guest, Dr Sylendra Babu, in his inaugural address, highlighted the role of youth in shaping the future of global diplomacy and added that the efforts today can lead to meaningful change. Dr Annie Jacob, Director KCG College of Technology in the special address spoke on the significance of conducting MUN and other sustainability conferences in educational institutions and encouraged the delegates to embrace the opportunity for personal growth and become leaders addressing the challenges our world faces. The Principal welcomed the gathering.

Through these **impactful engagements**, KCG College of Technology continues to reinforce its **commitment to sustainability, technological innovation, and global leadership in achieving the SDGs**.

4. ECO Club: Technical Presentation on Environmental Concerns- Goals 6,7, 14, 15

KCG College of Technology organized a Technical Presentation on Environmental Concerns, focusing on critical sustainability issues aligned with United Nations Sustainable Development Goals (SDGs):

- SDG 6 (Clean Water & Sanitation): Addressing water conservation, wastewater treatment, and sustainable sanitation practices.
- SDG 7 (Affordable & Clean Energy): Exploring advancements in renewable energy sources, energy efficiency, and sustainable power solutions.
- SDG 14 (Life Below Water): Highlighting marine conservation efforts, pollution reduction, and sustainable fisheries management.
- SDG 15 (Life on Land): Discussing deforestation challenges, biodiversity preservation, and ecosystem restoration.

During the event, students and researchers presented their findings on innovative environmental solutions, emphasizing sustainable technologies, eco-friendly practices, and policy interventions. Participants showcased cutting-edge research, case studies, and real-world applications aimed at addressing pressing environmental challenges.

This platform fostered knowledge exchange and critical discussions, equipping students with the skills and awareness necessary to drive positive environmental change. The initiative reinforced KCG College's commitment to sustainability, scientific innovation, and global ecological responsibility.

5. Project Competition Organised by Project Development Cell:

The **Project Development Cell** at **KCG College of Technology** successfully organized **Young Technocrats 2024 – SDG Goals Innovation Competition** on **March 23, 2024**. This prestigious event was dedicated to **advancing Sustainable Development Goals (SDGs)** and provided an **exciting platform for students to showcase groundbreaking innovations** aimed at shaping a more sustainable and technology-driven future.

The competition focused on key SDGs:

- **SDG 9 (Industry, Innovation & Infrastructure):** Encouraging technological advancements and infrastructure improvements for a resilient future.
- **SDG 11 (Sustainable Cities & Communities):** Promoting smart urban planning, green buildings, and energy-efficient transportation.
- **SDG 12 (Responsible Consumption & Production):** Advocating for waste management solutions, circular economy models, and sustainable manufacturing.
- **SDG 13 (Climate Action):** Showcasing projects on renewable energy, carbon footprint reduction, and climate resilience strategies.

Participants presented **innovative prototypes, research-driven solutions, and technology-based models** that addressed real-world sustainability challenges. The event fostered **collaborative problem-solving, interdisciplinary learning, and entrepreneurial thinking**, further strengthening **KCG College's commitment to fostering future-ready engineers and sustainability champions**.This competition not only celebrated **technological excellence** but also inspired students to develop **scalable and impactful solutions** for a greener and more sustainable world.

6. SDG integrated into Curriculum

Education plays a pivotal role in shaping a sustainable future, and KCG College of Technology is committed to embedding sustainability into its academic framework. With the transition from R-2021 to R-2023, the institution has undertaken significant curriculum enhancements to align with the United Nations Sustainable Development Goals (SDGs). The revised curriculum is designed to equip students with the knowledge, skills, and ethical values necessary to address global challenges related to climate action, clean energy, responsible consumption, and technological innovation.

Through interdisciplinary courses, practical learning experiences, industry collaborations, and research-driven projects, the R-2023 curriculum fosters problem-solving, critical thinking, and innovation, ensuring that students become future-ready engineers and sustainability advocates. The key areas of focus include green energy, smart mobility, environmental conservation, and circular economy principles, thereby reinforcing KCG College of Technology's commitment to sustainable education.

Need for Curriculum Evolution

The rapid advancements in technology, climate change concerns, and global sustainability initiatives necessitate a curriculum that integrates SDG-driven competencies. The following factors highlight the need for curriculum transformation from R-2021 to R-2023:

1. Addressing Climate Change & Sustainability
    - The revised curriculum integrates renewable energy technologies, climate adaptation, and sustainable urban planning to prepare students for tackling environmental challenges.
2. Industry Readiness & Employability
    - The introduction of courses on electric vehicles, smart grids, energy storage, and AI-driven sustainability solutions enhances students' industry relevance and employability.
3. Experiential & Interdisciplinary Learning
    - R-2023 emphasizes hands-on learning, internships, industry-driven projects, and collaborative research, allowing students to apply theoretical knowledge to real-world challenges.

4. Technological Advancements & Innovation
    - Courses on AI for climate modeling, IoT-based smart cities, additive manufacturing, and sustainable construction equip students with cutting-edge technological expertise.
5. Global Collaboration & Research Impact
    - By mapping research and patents to SDGs, the curriculum encourages global research collaborations, start-up initiatives, and innovation for social impact.

The R-2023 curriculum transformation reflects KCG College of Technology's proactive approach in adapting to global trends and fostering a new generation of socially responsible engineers. Through sustainability-focused education, industry integration, and interdisciplinary innovation, the institution aims to contribute meaningfully to global sustainable development efforts.

Key Focus Areas in the R-2023 Curriculum

1. **Sustainable Engineering & Environmental Conservation (SDG 6, 11, 13, 15)**
    - Courses such as **Water Quality and Management, Energy-Efficient Buildings, Rainwater Harvesting, Sustainable Construction, and Climate Change Adaptation & Mitigation** emphasize **eco-friendly solutions and sustainable urban planning**.
2. **Renewable Energy & Green Technologies (SDG 7, 9, 12)**
    - Subjects like **Solar Energy Systems, Wind Energy Conversion Systems, Energy Storage Systems, Hybrid Energy Technology, and Smart Grids** provide insights into **alternative energy sources, energy efficiency, and green infrastructure**.
3. **Smart Mobility & Electric Vehicle Technology (SDG 9, 11, 12)**
    - The curriculum includes **Electric Vehicle Architecture, Battery Management Systems, Fuel Cell Technologies, Intelligent Vehicle Technology, and Grid Integration of Electric Vehicles**, preparing students for the **sustainable transportation revolution**.
4. **Industrial Safety & Disaster Management (SDG 3, 11, 16)**

- New additions such as **Industrial Safety, Automotive Safety, and Disaster Management** focus on **workplace safety, risk assessment, and emergency preparedness**, reinforcing **resilient infrastructure and community well-being**.

5. **Advanced Manufacturing & Circular Economy (SDG 9, 12, 13)**
   - Courses such as **Additive Manufacturing, New Product Development, and Sustainable Textiles** promote **eco-friendly production methods, waste reduction, and responsible consumption**.
6. **Artificial Intelligence & IoT for Sustainability (SDG 9, 11, 13)**
   - Subjects like **AI for Climate Modeling, Smart Cities, and Intelligent Control of Electric Vehicles** foster **data-driven decision-making for sustainable urban development**.

Table : Summary of Highlighted course introduced in R2023

SL.no	Course Code and Name	Offering Department
1.	23AE048 Industrial Aerodynamics	AE&ASE
2.	23AU031 Electric vehicle, Drive and storage system	Automobile Engineering
3.	23AU032 Batteries and Management system	Automobile Engineering
4.	23AU033 New Generation and Hybrid Vehicles	Automobile Engineering
5.	23AU034 Automotive Power Electronics	Automobile Engineering
6.	23AU035 Fuel cell Technologies	Automobile Engineering
7.	23AU036 Sensors and Actuators	Automobile Engineering
8.	23AU037 Automotive Embedded Systems	Automobile Engineering

9.	23AU038 Automotive Electrical Systemsand Drives	Automobile Engineering
10.	23AU063 Ergonomics in Automotive Design	Automobile Engineering
11.	23ME031 Additive Manufacturing	Mechanical Engineering
12.	23AU066 New Product Development Process	Automobile Engineering
13.	23AU067 Automotive Product Life	Automobile Engineering
14.	23CE049 Water Quality and Management	Civil Engineering
15.	23CE050 Ground Water Engineering	Civil Engineering
16.	23CE051 Watershed Conservation and Management	Civil Engineering
17.	23CE065 Energy Efficient Buildings	Civil Engineering
18.	23CE066 Rainwater Harvesting	Civil Engineering
19.	23CE062 Sustainable Construction	Civil Engineering
20.	23CE072 Environmental Quality Monitoring	Civil Engineering
21.	23CE071 Environmental Health and Safety	Civil Engineering
22.	23CE070 Solid and Hazardous	Civil Engineering
23.	23CE071 Environmental Health and Safety	Civil Engineering

24.	23CE067 Climate Change Adaptation and Mitigation	Civil Engineering
25.	23CE068 Air and Noise Pollution Control Engineering	Civil Engineering
26.	23HS979 Disaster Management	Science and Humanities
27.	23HS980 Industrial Safety	Science and Humanities
28.	23HS981 Automotive Safety	Science and Humanities
29.	23OE980 Renewable Energy Technologies	Electrical, Electronics and Communication Engineering
30.	23OE981 Integrated Energy Planning for	Electrical, Electronics and Communication Engineering
31.	23EE039 Electric Vehicle Architecture	Electrical Electronics Engineering
32.	23EE040 Design of Electric Vehicle Charging System	Electrical Electronics Engineering
33.	23EE041 Intelligent Control of Electric Vehicles	Electrical Electronics Engineering
34.	23EE042 Grid Integration of Electric Vehicles	Electrical Electronics Engineering
35.	23EE043 Testing of Electric Vehicles	Electrical Electronics Engineering
36.	23EE044 Design of Motor and Power Converters for Electric Vehicles	Electrical Electronics Engineering
37.	23EE045 Embedded System for Automotive Applications	Electrical Electronics Engineering

38.	23EE046 Solar Energy Systems	Electrical Electronics Engineering
39.	23EE047 Wind Energy Conversion System	Electrical Electronics Engineering
40.	23EE048 Energy Storage Systems	Electrical Electronics Engineering
41.	23EE049 Distributed Generation and Microgrid	Electrical Electronics Engineering
42.	23EE050 Grid Integration Challenges for RES	Electrical Electronics Engineering
43.	23EE051 Smart Grids	Electrical Electronics Engineering
44.	23EE052 Hybrid Energy Technology	Electrical Electronics Engineering
45.	23FT038 Fashion Product Development	Fashion Technology
46.	23FT039 Sustainable Textiles	Fashion Technology
47.	23FT040 Sustainable and Eco-fashion	Fashion Technology
48.	23FT041 Garment Finishing and Care	Fashion Technology
49.	23FT042 Knit Product Development	Fashion Technology
50.	23FT043 Home Furnishing	Fashion Technology
51.	23FT044 Apparel Trims and Accessories	Fashion Technology
52.	23ME053 Hybrid and Electric Vehicle Technology	Mechanical Engineering
53.	23ME054 Energy Storage and Management System for	Mechanical Engineering

	Electric Vehicles	
54.	23AU064 Automotive Control Systems	Automobile Engineering
55.	23AU701 Intelligent Vehicle Technology	Automobile Engineering
56.	23ME055 Electric Vehicle Design	Mechanical Engineering
57.	23ME056 Vehicle Health Monitoring, Maintenance and Safety	Mechanical Engineering
58.	23ME057 Conventional and Futuristic Vehicle Technology	Mechanical Engineering
59.	23ME058 Automotive Materials, Components, Design and Testing	Mechanical Engineering

Comparative Report on R-2021 and R-2023 Curriculum Evolution with Respect to SDG Goals

The evolution of the curriculum from R-2021 to R-2023 at KCG College of Technology reflects a strong commitment to the United Nations Sustainable Development Goals (SDGs). This report compares both regulations to highlight the progressive integration of sustainability, innovation, and global competencies into academic programs.

Key Changes in the Curriculum

A. Integration of Sustainability in Core Courses

Aspect	**R-2021**	**R-2023**
Environmental Science	Basic concepts on environment & pollution (SDG 6, 13)	Expanded to include climate action, water conservation, and biodiversity (SDG 6, 11, 13, 15)

Soft Skills & Leadership	Communication & teamwork (SDG 4)	Ethical leadership, global citizenship, and SDG-focused problem-solving (SDG 4, 10, 16)
Energy and Sustainability	Basic renewable energy concepts (SDG 7)	Advanced courses on green energy solutions, hydrogen fuel cells, and sustainable infrastructure (SDG 7, 9, 12)

B. Enhancement of Practical Exposure

Practical Learning	**R-2021**	**R-2023**
Industrial Projects	Limited to final-year projects	Encouraged from the second year, mapped to SDG goals
Internships	Optional	Mandatory with SDG alignment for societal impact
Capstone Projects	Focused on technology applications	Industry-sponsored projects on sustainability (SDG 9, 12, 13)

C. Research & Innovation Mapping with SDGs

Research & Innovation	**R-2021**	**R-2023**
Patents Filed	Less focus on SDG alignment	Research grants & patents mapped to SDGs
Student Publications	General technology-based projects	Specific SDG-focused research on clean energy, healthcare, and urban sustainability
Hackathons & Competitions	Technical competitions	SDG Innovation challenges & global competitions

D. Electives & Interdisciplinary Learning

Electives	R-2021	R-2023
AI & Data Science	Generic AI applications	AI for climate modeling, smart agriculture (SDG 2, 13)
Smart Cities	Conceptual introduction	IoT-based sustainable urban planning (SDG 11, 9)
Circular Economy	Not included	Waste-to-energy models, carbon footprint reduction (SDG 12, 13)

Impact of Curriculum Evolution

Key Improvements from R-2021 to R-2023

1. Holistic SDG Integration: Courses are mapped to specific SDGs, ensuring graduates are equipped with sustainability skills.
2. Enhanced Industry Collaboration: More industry-led projects and MoUs with companies working on SDG-driven initiatives.
3. Experiential Learning Focus: Increased hands-on projects, internships, and global exposure aligned with sustainability challenges.
4. Interdisciplinary Approach: Encouraging cross-department collaboration for sustainable solutions.

The shift from R-2021 to R-2023 demonstrates a progressive approach to integrating SDGs into technical education. This transformation ensures that students develop competencies in sustainability, innovation, and global problem-solving, aligning with international standards and industry needs. The enhanced focus on experiential learning, industry collaboration, and SDG-driven projects solidifies KCG College of Technology's commitment to sustainable education and societal impact.

7. Projects Won mapped with SDG 9, 11 & 12

To demonstrate academic excellence and innovation through its student-driven research projects, aligning with the United Nations Sustainable Development Goals (SDGs). The institution actively fosters a culture of creativity, problem-solving, and sustainability, empowering students to develop cutting-edge technological solutions that contribute to industry and societal progress.The college has achieved significant recognition in national and international competitions, with several projects winning prestigious awards and grants under SDG 9 (Industry, Innovation & Infrastructure), SDG 11 (Sustainable Cities & Communities), and SDG 12 (Responsible Consumption & Production). These projects showcase innovative advancements in renewable energy, smart cities, automation, sustainable product design, and clean technology.The network of industry collaborations, global university partnerships, and research funding opportunities has played a crucial role in mentoring and guiding students toward impactful research and development. Through platforms like the Smart India Hackathon, Technology Infusion Grand Challenge, Innowah, and Smart City Challenges, students have tackled real-world problems, offering sustainable and scalable solutions in energy efficiency, transportation, healthcare, and digital agriculture.This report highlights the remarkable achievements of KCG students in various SDG-aligned competitions, emphasizing the institution's commitment to fostering innovation, sustainability, and industry engagement.

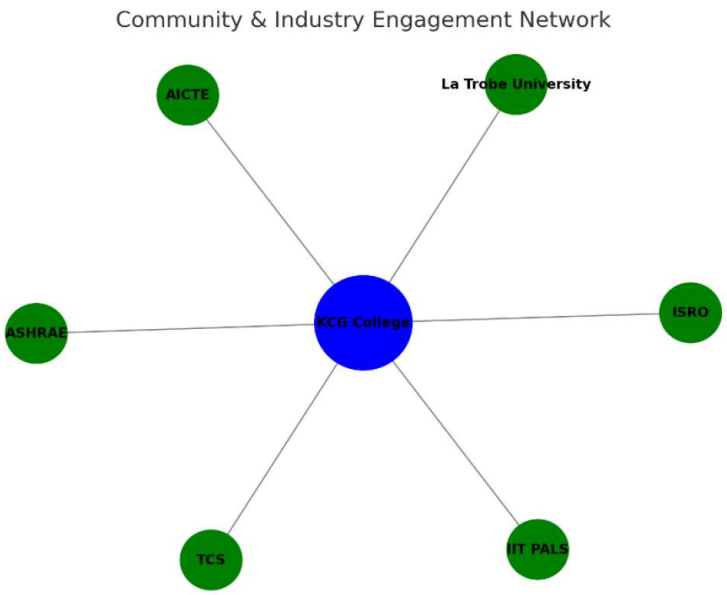


Fig 1: network diagram representing community and industry engagement with KCG Tech

Table 1: Key Projects Relevant to SDG

1	Technology infusion grand challenge Asia	La Trobe University	Title: Real-Time Distributed Energy Monitoring System Team members 1. Fahima Niaz -ECE 4th year 2. Aadil Mohideen S -ECE 4th year 3. Danial Dhinesh G -ECE 4th year 4. Joshuva Bernard -ECE 4th year Mentor: Dr. Deepa Jose (Prof. Electronics and Communication and Head Research)
2	Smart India Hackathon	AICTE-MIC	Problem Statement ID: "SIH1442" "Autodesk" 152 teams participated. And top 5 teams were shortlisted for finals in which our college bagged the first position with the cash prize of Rs. 1,00,000 /- Team name : PREMIER_HEXAD Students : 1. NITHISH K - Auto 3rd year 2. Harini E Mech 2nd year 3. Harish Kishore V- Mech 3rd year 4. Jehan S- Auto 3rd year 5. Prakadeeshwaran A - Auto 3rd year 6. Shreya KS Aero 3rd year Mentor : Dr. Mothilal - Auto/HOD Dr. Vignesh Kumar - Mechanical Problem statement ID: "SIH1361 Development of Small scale wind turbine" 205 teams participated. And top 5 teams were shortlisted for finals in which our college bagged the first position with the cash prize of Rs. 1,00,000 /- Team name : STIMUTECH Students : 1. SAMIRA S - CSE 3rd year 2. Vasanth M - Civil 3rd year 3. Heavenly Paul Roshan - Civil 3rd year 4. Riya Elizabeth Reni - CSE 3rd year 5. Gnana varshini S - ECE 3rd year 6. Arjun S - CSE 3rd year Mentor : Dr. Karthikeyan - EEE/Asso Professor Dr. Vandana Devi - Civil/HOD

			SDG 9 , 11 & 12
3	IDW 2023	ICT	Theme: Automatic Stretcher cum Wheelchair Cash prize of ₹50000. The teams members were: Mr.Sahil Bakker Mr.Prasad Kumbhar Mentors Mr. R. Venkatraman- AP, Aero Dr. M. Vignesh Kumar-AP, Mech **SDG 9 , 11 & 12**
4	Innowah	IIT PALS	Team Name: Kryo Tech Project Title: Design and Development of ML-based Onion Cold Storage System (Won 1st Place) Theme: Artificial Intelligence Cash prize: Rs. 15,000/- Students : 1. Vishal (Team Lead) – Mechatronics - 4th Year 2. Suraj Narayanan S - Automobile - 4th Year 3. Kumaran E - AIDS – 2nd Year 4. Jagadish – Mechatronics – 4th Year 5. Sudarshan – AIDS – 2nd Year 6. Karthikayan – Automobile – 4th Year Mentor: Dr. M. Vignesh Kumar, Assistant Professor/Mech Team Name: Team Robusta (Won 2nd Place) Project Title: Smart Knee Actuator Theme: Sustainability Cash prize: Rs. 10,000/- Students : 1. Mohamed Rizwan (Team Lead) - EEE – 4th year 2. Ayush Pandey - EEE – 4th year 3. Arjun - EEE – 2nd year 4. Nisha Rasaili - ECE -4th year 5. Joshua – EEE – 3rd year Mentor: Dr. K. Karthikeyan, Associate Professor/EEE **SDG 9 , 11 & 12**
5	Shristi	SANGIT	3 teams went for finals on March 28th & 29th .Total 120 teams across India were shortlisted to the finals. Two teams from our college won in the finals. List of the winning teams :

			Team 1: Won 1st Place and 1st Runner Up under the theme of Best MATLAB PROJECT and Best Analytical project. They have also won a cash prize of Rs 10,000 /- Student Details: Mohammad Aamil- 3rd- AI&DS Neelesh B- 3rd- AI&DS Mentor: Dr.Palaniappan S - Associate Professor Team 2: Mystic Technocrats from Electronics and Communication has secured the FIRST prize with a cash prize of 12,000 INR under the theme Health Care Innovation Team members: Doreen Belinta A ,ECE Kavya T,ECE Kavipriya M,ECE Mentor: Dr.Deepa Jose (Prof. Electronics and Communication and Head Research) **SDG 9 , 11 & 12**
6	Infusion Grand Asia Challenge	La- Trobe	Team Mystic Technocrats have been dignified with the prestigious "The People's Choice Award" by Latrobe University, Melbourne, Australia for the International Competition Technology Infusion Grand Asia Challenge 2022-23 with a cash prize of "2000 AUD" (1,09,000 INR) They have already received 750AUD to devolop their prototype. Team name : Mystic Technocrats Team members: Doreen Belinta A (ECE 8A) Kavya T (ECE 8A) Kavipriya M (ECE 8A) Mentor: Dr. Deepa Jose (Prof.Electronics and Communication and Head Research) **SDG 9 , 11 & 12**

7	Autodesk fusion 360 Mega Challenge	TNSDC	One Team from the aeronautical department participated in the Autodesk fusion 360 Mega Challenge conducted by AU TNSDC in collaboration with the AUTODESK, has won 1st place in Level 3 challege (December month Category) All over Tamilnadu (Chennai Region), 218 teams participated. Under this our team was awarded the Winners and a cash prize of ₹10000. The teams members were: Sahil Bakker Prasad Kumbhar Shri Hari R **SDG 9 , 11 & 12**
8	Mistral Hackfest	Mistral Solutions	3 teams from KCG college of Technology were one among those. Under this, one team from KCG was given a special Jury Award under **The Title:** Electricity Generation Using Footsteps – A Sustainable Solution They were also given a cash prize of ₹10000. **The team members were:** 1.Shaik Altaf-EEE -2nd Yr 2. Nafisa Badruzaman-Aero-2nd Yr 3. Mathlin Sarorai -CSE -2nd Yr **Mentor** Dr Karthikeyan- Assoc Professor, EEE **SDG 9 , 11 & 12**
9	Idea Hackathon 2.0	MSME	Three teams received the fund from MSME. 1. Desgin And Development Of Ml Based Onion Cold System Student Name : Mr Suraj Narayanan Staff Name: Dr M Vignesh Kumar AP/Mech Theme: Digital Agriculture 2.Title:Nitrogen doped NiCO2O4 impregnated porous carbon electrode development for hydrogen generation from waste water Faculty Name: Dr Andal Theme: Waste to Wealth creation, Circular solutions & waste management 3.Title: Stimutech wind turbine

			Student Name: Samira S Staff Name: Dr Karthikeyan, Assoc Professor, EEE Theme: Eco-friendly & Sustainable furniture **SDG 9 , 11 & 12**
10	Technology infusion grand challenge Asia	La Trobe University	Two teams received the fund to develop the prototype. Details of the funded teams are mentioned below : Team 1: Title: Design and Development of ML-Based Onion Cold Storage System Fund Amount: 500AUD Team members: 1.Surajnarayanan S - 4th year - Automobile 2.Jagadish J S - 4th year - Mechatronics 3.Vishaal R - 4th year - Mechatronics 4.Karthikeyan - 4th year - Automobile 5.Sudarshan - 3rd year - AI&DS 6.Kumaran - 3rd year - AI&DS Mentor : Dr. Krishnamurthy/Head-AI&DS & Dr.M. Vignesh Kumar Team 2: Title: An Effective Solution for smart transportation towards vision to the Smart City development Fund Amount: 350AUD Team members: 1. Razeedha - 3rd Year ECE 2. Nafisa - 3rd Year Aerospace 3. Shaik Althaf - 3rd Year EEE 4. Kishore - 3rd Year EEE Mentor : Dr. Karthikeyan **SDG 9 , 11 & 12**
11	Smart City Challenge and Presentation Award		KCG secured the First Place and Third place in Smart City challenge and secured second place in Presentation respectively. **Event: Smart City Challenge** **Team 1:** Team Name: Stimutech

			The team members were: 1. Prithiyanga -CSE -3rd Yr 2. Vasanth - Civil -3rd Yr 3. Samira S -CSE -3nd Yr 4. Heavenly paul Roshan-Civil - 3rd ur Cash Prize : Rs 25,000 /- (First Place) Mentor Dr Karthikeyan- ASSOC PROF, EEE Ms V Saranya - AP,CSE **Team 2** Team Name: Opticops Team Members were 1.Nitisri - CSE -4th yr 2.Shyamily -CSE-4th yr 3. Abishek - ECE-3rd yr Cash : Rs 10,000 /- (Third place) Mentor Dr.M.Vignesh Kumar-AP/Mech **Event: Presentation Award** **Team: 3** Student Name: Kaviya-ECE-1st yr Cash prize: Rs 10,000 /- (Second Place) **SDG 9 , 11 & 12**

8. Patents Mapped with SDG

Patents Granted

S.No.	Applicant Name(s)	Inventor Name(s)	Patent Title	Application No. &Patent Granted Date	Mapping SDGs
1.	KCG College of Technology	Ashish A Abraham Joshua Abraham Thomas Prasanalakshmi V Ramya R Dr. Gayathri R	Smart Railway Platform	201741023020 & 11/03/2024	**SDG 11 – Sustainable Cities and Communities**, SDG 9 – Industry, Innovation and Infrastructure
2.	KCG College of Technology	Dr. Easu D, Mr. Siddharthan A Dr. Amrutha R	Suspension System Using MRF And Hybrid Magnet	201741023002 & 28/03/2024	**SDG 9 – Industry Innovation and Infrastructure**
3.	KCG College of Technology	Dr Easu D Dr Sumathi Poobal	Automated Lift System	201741023016 & 19/12/2024	**SDG 11 – Sustainable Cities and Communities**, SDG 9 – Industry, Innovation and Infrastructure
4.	Dr. V. Andal Ms. Priya Bijesh Mr. Selvaraj Dr. Lakshmipathy	Dr. V. Andal Ms. Priya Bijesh Mr. Selvaraj Dr. Lakshmipathy	Synthesizing Carbon Dot from Asparagus Racemosus for Silver Ion Sensing	202241062049 & 26/03/2024	**SDG12 – Responsible Consumption and Production**
5.	Dr. G. Mohamed Zakriya	Dr. G. Mohamed Zakriya	Alternate Feed of Bamboo and Modal Yarn And Its Blends in Knit and Woven Fabric Development	201841025868 & 28/02/2024	**SDG12 – Responsible Consumption and Production, SDG 3 – Good Health and Well Being SDG 15 – Life on Land**
6.	1.V.Dillibabu 2.R.Senthil Kumar 3.G. Mohamed Zakriya 4.T. Mothilal	1.V.Dillibabu 2.R.Senthil Kumar 3.G. Mohamed Zakriya 4.T. Mothilal	Magnetic Induction Fluid Heater And Heating Vessel	202241017781 & 17/03/2024	**SDG 9 – Industry Innovation and Infrastructure**
7.	Dr. G. Mohamed Zakriya	Dr. G. Mohamed Zakriya	Jute-Hollow Conjugated Polyester Fibre Reinforced Nonwoven Composite	201741028558 & 18/10/2023	**SDG12 – Responsible Consumption and Production, SDG 3 – Good Health and Well Being**

8.	Dr. G. Mohamed Zakriya	Dr. G. Mohamed Zakriya	Process Of Preparing Banana Fibre Reinforced Nonwoven Composite Bio Box	202241039577 & 20/11/2023	**SDG12 – Responsible Consumption and Production, SDG 3 – Good Health and Well Being**

Patents Applied

S.No.	Applicant Name(s)	Inventor Name(s)	Patent Title	Application No. &Patent Filed Date	Mapping SDGs
1.	KCG College of Technology	Dr. V. Vandhana Devi, P. Padmashree J. N. Manoj Kumar	Development Of Innovative And Sustainable Biocement For Construction	202441013697 & 26-02-2024	**SDG 11 – Sustainable Cities and Communities**, SDG 9 – Industry, Innovation and Infrastructure
2.	KCG College of Technology	Dr. V. Vandhana Devi, P. Padmashree H. Ahamed Harsath Haneef	Development And Sustainable Recycledbricks From Plastic Waste	202441013677 & 26-02-2024	**Sustainable Cities and Communities**, SDG 9 – Industry, Innovation and Infrastructure
3.	KCG College of Technology	Dr. V. Vandhana Devi, P.Padmashree	Eco Boundaries: Creating Sustainable Spaceswith Sugarcane Bagasse	202441013669 & 26-02-2024	**Sustainable Cities and Communities**, SDG 9 – Industry, Innovation and Infrastructure
4.	KCG College of Technology	Anju, Adline Freeda Krithikaa Venket V.S Prashanth V Harish B Pragadeesh C Shriram S S	Farm Expert	202441013681 & 26-02-2024	**SDG 3 – Good Health and Well Being SDG 15 – Life on Land**

9. Publications Mapped with SDG

KCG College of Technology has made significant contributions to sustainability and innovation through 462 research publications mapped to the United Nations Sustainable Development Goals (SDGs). The institution's research efforts focus on affordable clean energy (115 papers), good health & well-being (87 papers), and industry, innovation & infrastructure (51 papers), addressing global challenges through technological advancements.

Key research areas include sustainable cities (31 papers), responsible consumption (20 papers), climate action (19 papers), and clean water & sanitation (26 papers), reflecting the college's commitment to environmental conservation and smart infrastructure. With 70 papers emphasizing global partnerships (SDG 17), the institution fosters collaborative research and interdisciplinary innovation.

By aligning research with SDG-driven solutions, KCG College of Technology continues to contribute to sustainable development, societal progress, and future-ready technological advancements.

SDG GOAL NUMBER	TITLE OF THE SDG GOAL	NO: OF RESEARCH DOCUMENTS
1	NO POVERTY	3
2	NO HUNGER	11
3	**GOOD HEALTH AND WELL BEING**	**87**
4	QUALITY EDUCATION	8
5	GENDER EQUALITY	1
6	CLEAN WATER AND SANITATION	26
7	**AFFORDABLE AND CLEAN ENERGY**	**115**
8	DECENT WORK AND ECONOMIC GROWTH	3
9	**INDUSTRY, INNOVATION AND INFRASTRUCTURE**	**51**
10	REDUCED INEQUALITIES	3
11	SUSTAINABLE CITIES AND COMMUNITIES	31
12	RESPONSIBLE CONSUMPTION AND PRODUCTION	20
13	CLIMATE ACTION	19
14	LIFE BELOW WATER	6

15	LIFE ON LAND	5
16	PEACE JUSTICE AND STRONG INSTITUTIONS	3
17	**PARTNERSHIP FOR THE GOALS**	**70**
	Total	**462**

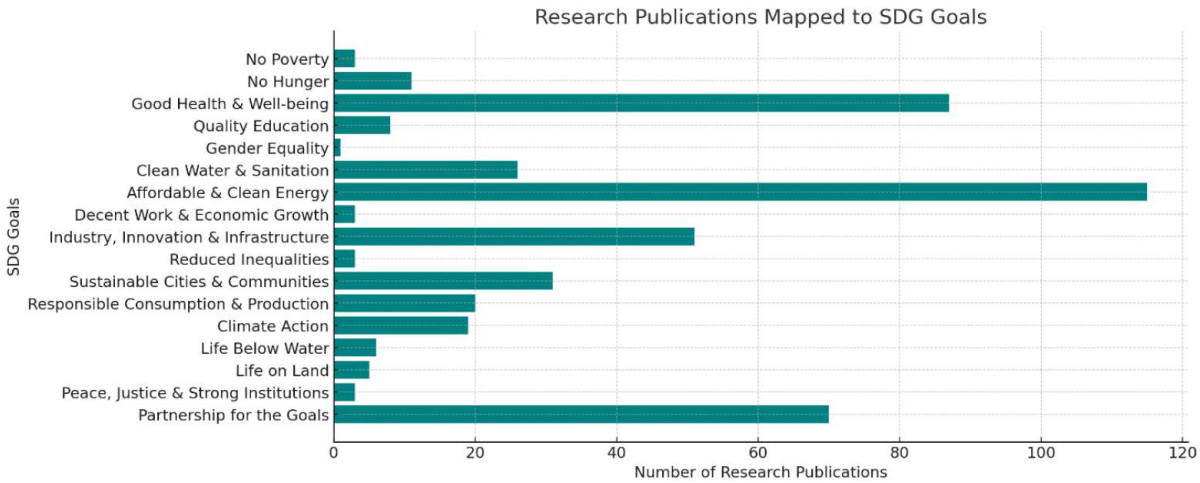


Fig 2: Number of Faculty Researcch Publications relevant to SDG

10. CONCLUSION

KCG College of Technology has made significant strides in integrating sustainability, innovation, and industry relevance into its curriculum, research, student projects, and institutional practices, aligning with the United Nations Sustainable Development Goals (SDGs). The institution's commitment to academic excellence, experiential learning, and global engagement has positioned it as a leader in sustainability-driven education.

The R-2023 curriculum transformation reflects a holistic approach toward sustainability and technology-driven learning, introducing interdisciplinary courses in renewable energy, electric vehicle technology, smart infrastructure, environmental management, and industrial safety. This curriculum evolution ensures that students develop global competencies while actively contributing to climate action, responsible consumption, and sustainable urban development.

Through seminars, workshops, and technical training, KCG College of Technology fosters critical discussions on sustainability, clean energy, AI-driven solutions, and emerging industrial challenges. The institution also provides a platform for hands-on learning, enabling students to engage with industry experts, researchers, and policymakers to explore innovative solutions for societal challenges.

The college's outstanding performance in national and international competitions, including Smart India Hackathon, Technology Infusion Grand Challenge, and Innowah, showcases the technical acumen and problem-solving capabilities of students. These projects, mapped to SDG 9 (Industry, Innovation & Infrastructure), SDG 11 (Sustainable Cities & Communities), and SDG 12 (Responsible Consumption & Production), demonstrate real-world impact in smart mobility, energy efficiency, healthcare, and digital agriculture.

Furthermore, strategic collaborations with industries, MoUs with global organizations, and funding opportunities have strengthened research and innovation initiatives at the college. The network diagram representing industry engagement underscores KCG’s commitment to fostering research collaborations and entrepreneurial opportunities for students.

In conclusion, KCG College of Technology has successfully established a sustainable education ecosystem by integrating SDG-focused academic programs, industry partnerships, student-driven innovations, and research excellence. The institution remains dedicated to developing future-ready engineers and thought leaders who will contribute to a greener, smarter, and more sustainable world.