established by
DC KIZHAKEMURI FOUNDATION

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DCSMAT INSTITUTIONS

(Affiliated to Mahatma Gandhi University)
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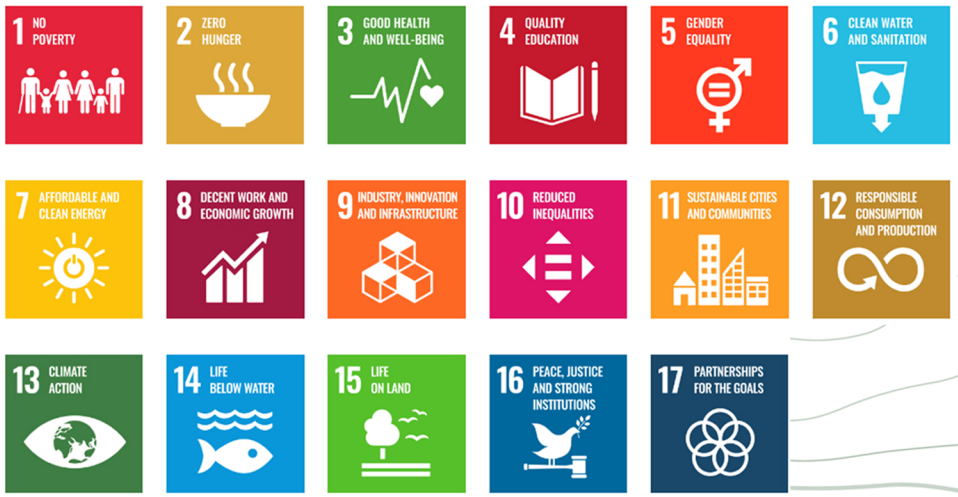
Geojit CUSAT Centre of Sustainability Studies
GCCOSS

20-21 JUNE 2026

DCSMAT VAGAMON



MANAGEMENT DEVELOPMENT PROGRAMME

CIRCULAR ECONOMY - PRINCIPLES, PRACTICES AND TOOLS

"Navigating strategy, policy and innovation for circular economy"

About the Organisations

DCSMAT Institutions

The DC School of Management and Technology and DC School of Architecture and Design are situated across two exquisitely designed and landscaped campuses — a city campus in Thiruvananthapuram and a residential campus nestled amidst the lush mountains of Vagamon. Both institutions offer students an eclectic range of graduate and postgraduate programmes in architectural design, business management, computer applications, and interface, product, and spatial design.

Our campuses feature state-of-the-art infrastructure, including ample furnished accommodation, expansive classrooms and lecture halls, extensively stocked libraries, studios and galleries for exhibitions, laboratories, and dedicated spaces for extracurricular activities, sports, and recreation. The faculty across all disciplines comprise reputed academicians and professionals who bring immense experience as educators and practitioners, enriching the pathways of explorative and collaborative learning offered by our institutions.

Geojit CUSAT Centre of Sustainability Studies (GCCOSS)

Geojit CUSAT Centre of Sustainability Studies(GCCOSS) is a pioneering effort by Cochin University of Science and Technology and Geojit Financial Services Ltd, to institutionalise sustainability capacity building to empower individuals and organisations cultivate a sustainability-driven culture and equip individuals to create impactful change. The centre aims to promote sustainability efforts, support the ecosystem and serve as a facilitator for government bodies, educational institutions, companies, investors, and individuals in their sustainability endeavours through capacity building, research, academics, consulting, innovation and certifications.

About the Programme

"Circular Economy: Principles, Practices and Tools" is built for leaders ready to accelerate sustainable development through innovative circular transformation of buit environment, infrastructure and business eco systems. Collaboratively developed and delivered by DCSMAT Institutions and Geojit CUSAT Center of Sustaianbility Studies, the programme equips architects, policy makers, corporate and developmental professionals to embed circular thinking at the core of infrastructure, business strategy, design and operations.

Participants will learn transitioning from linear models to regenerative, value-creating systems, leveraging policy, innovation, data driven tools, technology and finance. The approach is practical and outcome-oriented: enabling organizations to reduce waste, unlock new revenue streams, and build long-term resilience while advancing environmental responsibility.

Key Objectives

* Build a strong foundation in circular economy principles, frameworks, and global best practices

* Expose participants with tools to design resource-efficient, regenerative, and closed-loop systems

* Rethink current models using AI capabilities, supported by IOT and Blockchain to enable circularity

* Enable strategic collaboration between industry, policymakers, and ecosystem stakeholders

*Accelerate the implementation of circular strategies using digital technologies, new financing models and enhanced skills.

Chief Guest

Ar G. Shankar

G. Shankaris an internationally acclaimed architect and founder of the Habitat Technology Group, Kerala. Popularly known as the "People's Architect," he is recognised for promoting sustainable, climate-responsive, and cost-effective architecture using local materials. A Padma Shri awardee, his work focuses on affordable housing, disaster rehabilitation, and environmentally responsible building practices.

Key Speakers

Prof. Akhil B Vijayan

Prof. Akhil B Vijayan is an academic leader and management professional with over 16 years of experience in higher education and industry. Currently serving as Vice-Principal at DC School of Management and Technology (DCSMAT), he has contributed significantly to institutional growth and academic development while pursuing research in Human Resource Management.

Arathi Parameswaran

Arathi Parameswaran is a supply chain professional with leading FMCG MNC experience, specialising in circular business models and resource recovery. At Unilever, she leads Digital Twin–enabled lifecycle extension initiatives across food factories, driving the shift from linear to circular material systems through industrial symbiosis and practical sustainability implementation.

Bedanga Bordoloi

Bedanga Bordoloi is a senior consultant in circular economy, regenerative agriculture, and sustainable food systems, with PMP certification and LCA expertise. He has worked with global organisations including Novozymes and UN programmes, contributing to circular procurement and environmental remediation, and is recognised for his leadership in climate-adaptive circular systems.

C. Prathapmohan Nair

C. Prathapmohan Nair is an International Consultant with the United Nations (UNCCD) in sustainability and green finance, with over 25 years of global experience. An ESG specialist and former leader across major institutions, he is also a TEDx speaker, academic, and advocate for sustainable development.

Dhanya Nair

Dhanya Nair is an industry practitioner working at the intersection of asset management and digital platforms. With expertise in manufacturing, enterprise cloud, and decarbonization, she designs scalable, technology-driven solutions that enable low-carbon operations and accelerate sustainability transitions, particularly in hard-to-abate industrial sectors.

Key Speakers

Jogin Francis

Jogin Francis is the Operational Lead at Fab Lab Kerala and a Global Instructor at Fab Academy, MIT's outreach initiative. A multidisciplinary designer and engineer, he specialises in rapid prototyping, digital fabrication, and circular design, fostering innovation through hands-on making and distributed manufacturing practices.

Joseph Martin Chazhoor Francis

Joseph Martin Chazhoor Francis is a global sustainability strategist with leadership across energy, petrochemicals, automobiles, consulting, and academia. As CEO of the Geojit CUSAT Centre, he drives industry–academia collaboration on climate action and sustainable finance. Former PwC ESG leader and GRI board member, he advances regenerative, policy-driven sustainability transitions.

Dr. Muhammad Ashiq A M

Dr. Muhammad Ashiq A M is Assistant Professor in the Department of Management at DCSMAT, Vagamon. He holds a doctorate in Finance from Pondicherry Central University and specialises in capital markets, forex markets, and oil price dynamics. With over five years of teaching experience, he has published research papers in reputed journals.

Padmanabhan T M

Padmanabhan T M is Deputy Vice President & Head – ESG at Federal Bank, with over 17 years of experience in banking and risk management. He leads ESG strategy, sustainable finance, climate risk, and GHG accounting, while driving sustainability disclosures and advancing circular economy-linked financial frameworks.

Ar.Shajeena T Venugopal

Shajeena Thaivaleth Venugopalan is the Principal of the DC School of Architecture and Design, Vagamon, Kerala. A distinguished landscape architect and academician, she brings extensive international experience across the UK, GCC, and India, with expertise in sustainable design, master planning, and architectural education, alongside leading innovative and context-responsive design practices.

Shivanshu Chauhan

Shivanshu Chauhan is a sustainability and circular economy professional with over 24 years of experience across circular economy, water, and climate resilience. Formerly a Partner at PwC India, he led circular economy and climate resilience practices, advising governments, global brands, and institutions on sustainable infrastructure, circularity transitions, and climate-focused development initiatives.

GCCOSS – DCSMAT Circular Economy MDP – Course Outline

DAY - 1

9:00 am to 9:45 am

The Circular Economy Imperative: Systems, Science & India's Strategic Position

Joseph Martin, GCCOSS

Learning objective :
Articulate the thermodynamic and ecological basis for the circular economy — why "waste" is a design failure, not an operational inevitability.

Locate India within the global circular economy landscape: material consumption trajectories, CE100 India participation, national CE policy signals.

Distinguish circular economy from recycling, green economy, and CSR — and explain why CE requires business model change, not just operational tweaks.

Connect CE imperatives to India's regulatory trajectory: EPR rules, BRSR Principle 2 value chain, CBAM, and India's CCTS.

9:45 am - 11:00 am

CE Frameworks in Depth: Butterfly Diagram, ReSOLVE, Waste Hierarchy & Circularity Metrics

Joseph Martin, GCCOSS

Learning objective :
Apply the Butterfly Diagram to distinguish biological cycles (composting, anaerobic digestion, regenerative agriculture) from technical cycles (reuse, repair, remanufacture, recycle) in Indian industries.

Use the ReSOLVE framework (Regenerate, Share, Optimise, Loop, Virtualise, Exchange) as a structured scanning tool against a real Indian company's operations.

Interpret the Ellen MacArthur Foundation's Circularity Metric and India's Material Flow Accounting data to quantify sector-level circularity gaps

Map the nine waste hierarchy levels and identify where Indian firms currently operate vs. where value is being destroyed

11:00 am - 11:15 am

Coffee Break

11:15 am - 12:30 pm

Material Flow Analysis & Circular Value Chain Mapping

Ar Shajeena, DCSMAT & Mr Prathapmohan Nair, UNCCD

Learning objective :
"Construct a simplified Material Flow Analysis (MFA) diagram for an Indian sector — identifying resource inputs, transformation losses, product outputs, waste streams, and recovery rates.

Identify hotspots of material loss using Sankey diagram logic applied to India's textile, construction, and food processing sector.

Practical example of MFA in an urban planning context.
Distinguish between system boundary choices in MFA and how boundary decisions a!ect CE strategy priorities."

12:30 pm - 13:30 pm

Lunch Break

13:30 pm - 14:45 pm

Life Cycle Assessment for Managers: Measuring Circularity with Digital Tools

Ar Shajeena Venugopal, DCSMAT & Mr Bedanga Bodoloi, Independent Consultant

Learning objective :
Interpret a Life Cycle Assessment report — understand system boundaries, functional unit, impact categories, and hotspot analysis without needing specialist software skills.

To introduce tools for LCA through a simplified comparative analysis of linear and circular product scenarios in Indian sector products like cement or steel.

Distinguish between cradle-to-gate, cradle-to- grave, and cradle-to-cradle LCA scopes and understand which is required for BRSR disclosures, CBAM reporting, and green claims substantiation.

Commission an LCA study: scope, data requirements, timeline, cost — and avoid greenwashing through inadequate boundary setting."

14:45 pm - 16:00 pm

Circular Built Environment Design: Ecodesign Principles, Design for Disassembly & Demolition reuse

DCSMAT - Ar Shajeena, Subject Matter Expert, Architect Shankar with GCCOSS Case study on Wallmakers

Learning objective :
Apply Circular Design Principles to Indian Construction

Apply Design for Disassembly, Longevity, Remanufacture, and Recyclability to buildings and infrastructure across Indian construction sectors — from affordable housing to industrial and urban utility projects.

Quantify Circularity Using MCI
Use the Material Circularity Indicator to score and compare two versions of the same building typology or infrastructure element, establishing a measurable baseline for circular design improvement.

Assess and Reduce Embodied Carbon in Buildings and Infrastructure
Calculate and compare the embodied carbon of structural and envelope systems across their full lifecycle — from material extraction to demolition — and identify design choices that reduce upfront carbon in Indian construction.

Design for Adaptive Reuse and Functional Longevity
Design buildings and infrastructure with future use flexibility in mind — using open floor plates, demountable partitions, and oversized structural tolerances — to extend functional life and defer demolition."

16:00 pm - 16:15 pm

Coffe Break

16:15 pm - 17:00 pm

Day 1 Synthesis: My Organisation's Circular Economy Baseline Assessment

Prof. Akhil B Vijayan, DCSMAT

Learning objective :
"Complete a five-domain Circularity Baseline Assessment (materials, energy, water, products, reverse logistics) for your own organisation using a structured scoring template.

Identify the two highest-impact circular opportunities specific to your value chain — to serve as design inputs for Day 2 workshops

Formulate a ""Circular Challenge Statement"" — a one-sentence problem framing that anchors your Day 2 action planning"

DAY - 2

09:00 am - 10:15 am

"Circular Product Design: Ecodesign Principles, Design for Disassembly & End-of-Life Engineering"

Joseph Martin, GCCOSS, Mr Jogin Kerala Startup Mission

Learning objective :
" Apply Design for Disassembly, Design for Longevity, Design for Remanufacture, and Design for Recyclability principles to products in Indian manufacturing sectors.

Evaluate India's auto remanufacturing policy (ARAI 2021) and electronic product ecodesign requirements as precedent for sector-specific circular product mandates.

Use Material Circularity Indicator (MCI) to score and compare the design of two versions of the same product — establishing a quantitative baseline for improvement."

10:15 am - 10:30 am

Coffee Break

10:30 am - 12:15 pm

"Circular Business Model Innovation: From Linear Revenue Logic to Circular Value Creation"

Joseph Martin, GCCOSS, Ms. Arati Parameshwaran

Learning objective :
"Apply the five circular business model archetypes (circular inputs, resource recovery, product life extension, sharing/access platforms, product-as-a-service) to Indian
sector opportunities.

Construct a Circular Business Model Canvas for a new CE concept — covering value proposition, key resources (reclaimed materials, reverse logistics), revenue streams (service fees, avoided disposal), and circular partnerships.

Stress-test the business model against three India-specific barriers: MSME supply chain fragmentation, consumer willingness to pay, and regulatory uncertainty.

Identify the minimum viable circular product (MVCP) — the smallest testable version of the circular model that generates proof of concept in an Indian market."

12:15 pm - 13:15 pm

"Industrial Symbiosis & Circular Ecosystems: Building Cross-Sector Material Loops in India"

Akhil Vijayan, DCSMAT & Mr Bedanga Bodoloi, Independent Consultant

Learning objective :
"Define industrial symbiosis and distinguish it from waste trading — the role of proximity, trust, and information platforms in enabling material exchange networks.

Map India's existing industrial symbiosis infrastructure: NICER (National Industrial Cluster and Eco-industrial park Resource
Cluster and Eco-industrial park Resource recovery) portal, TERI's Industrial Symbiosis Programme, and cluster-based CE pilots in Pune, Ludhiana, and Coimbatore.

Apply the IS opportunity matching methodology — identifying waste-to-resource pairs across sector clusters using a structured compatibility matrix.

Use AI-assisted waste exchange matching concepts to understand how platforms like Rubicon and India's NICER portal identify symbiosis opportunities at scale"

13:15 pm - 14:15 pm

Lunch Break

14:15 pm - 15:15 pm

Digital Traceability: IoT, Blockchain & Digital Product Passports for Circular Compliance. AI & IoT for Circular Operations: Waste Intelligence, Predictive Loops & Smart Reverse Logistics.

Joseph Martin, GCCOSS with Ms. Dhanya Nair, Shell

Learning objective :

"Explain how IoT-enabled tagging (RFID, QR, NFC) enables real-time material flow tracking from production to end-of-life — and how this supports EPR producer compliance in India.

Evaluate blockchain's role in immutable traceability for EUDR deforestation due diligence in India's spice, rubber, and palm oil export chains.

Prototype a Digital Product Passport (DPP) structure for a product in your sector — identifying the data fields, verification
mechanisms, and end-of-life routing information required.

Assess the practical feasibility of deploying digital traceability in India's MSME-dominated supply chains — cost, infrastructure, literacy barriers and workarounds.
Evaluate how AI-powered waste stream classification (computer vision + ML) improves material recovery rates in MRFs and industrial facilities — with Indian deployment examples.

Apply IoT sensor network logic to design a real- time material flow monitoring system for a time material flow monitoring system for a production facility — identifying where sensors reduce material loss and extend product life.

Assess AI's role in demand forecasting for remanufactured components — reducing overproduction in technical cycles.

Use a pre-built AI waste audit tool (live demonstration) to analyse a photograph of an Indian factory's waste stream and generate a recovery opportunity report."

15:15 pm - 15:30 pm

Coffee Break

15:30 pm - 16:30 pm

"Financing the Circular Transition in India: Green Finance, CCTS Carbon Credits & Investment Cases"

Joseph Martin, GCCOSS & Mr. Padmanabhan, Federal Bank

Learning objective :

" Map India's CE-relevant green finance ecosystem: SEBI green bond framework, SIDBI CE lending windows, RBI's Sustainable Finance taxonomy, NaBFID infrastructure green bonds.

Assess India's Carbon Credit Trading Scheme (CCTS) revenue potential for CE projects — which circular activities qualify, how credits are calculated, and current market pricing signals.

Structure a three-part investment case for a circular initiative: (1) avoided cost of waste disposal/raw material, (2) EPR compliance cost avoidance, (3) CBAM/EUDR market access premium.

Identify the minimum evidence set needed to attract a green NBFC or impact investor to a circular economy startup or pilot in India."

16:30 pm - 17:30 pm

Concluding Ceremony

Who can attend

This Management Development Program (MDP) is specifically curated for mid-level managers looking to bridge the gap between tactical execution and strategic leadership, as well as senior architects aiming to expand their influence beyond technical design into organizational decision-making. Whether you are navigating complex team dynamics or aligning large-scale systems with business goals, this program provides the essential leadership frameworks and cross-functional insights required to excel in these pivotal roles.

Patrons

Shri. Ravi Deecee,
Chief Facilitator, DCSMAT Institutions

Brig. MC. Ashok Kumar,
Sr. Director, DCSMAT Institutions

Organising committee

Ar.Shajeena T Venugopal
Principal, DCSAAD,Vagamon

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Chief Executive Officer, GCCOSS

Dr.Shebin Sharief
Associate Prof, DCSMAT,Vagamon

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Research Intern, GCCOSS

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