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# NEWSLETTER



## TLC2 Consortium Day

The first TLC2 Consortium Day on May 26, 2025, was a significant gathering of our industry partners, faculty members, and research scholars. The event featured a streamlined agenda designed to foster in-depth technical discussions among our esteemed industry colleagues. We are grateful for the invaluable feedback provided by our industry mentors, which will undoubtedly enhance our collaborative efforts moving forward.



## TLC2 REPORT HAS BEEN PUBLISHED!!!

This comprehensive document showcases the significant scientific advancements achieved and outlines the major initiatives undertaken by the Center of Excellence (CoE) throughout a five-year span, from 2021 to 2025.

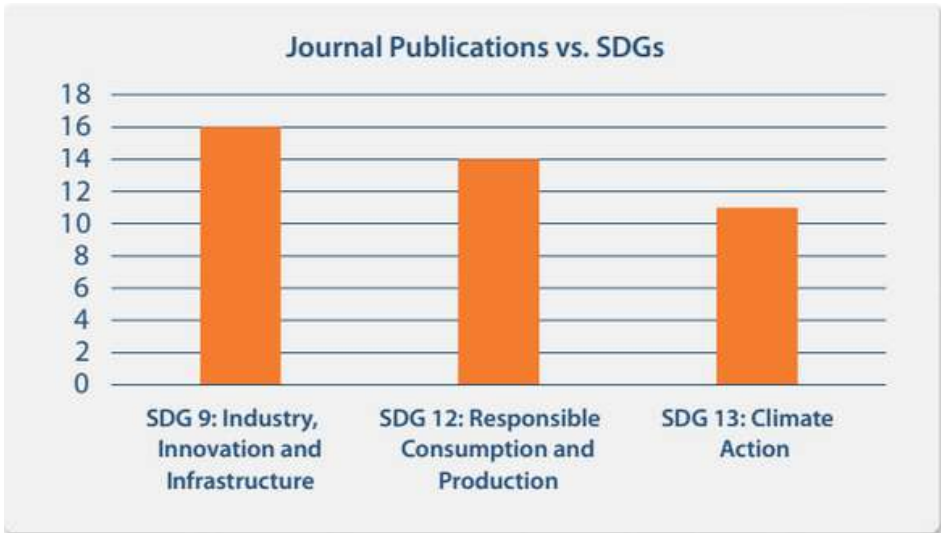


# Glimpse from the TLC2 report

The report highlights the key scientific achievements along with the major activities of the CoE over a 5 - year period from 2021 to 2025.

- Salient Achievements of CoE on TLC2
- Assessment of low energy pathways for utilization of biomass ashes
- Utilization of low grade limestone waste from mines as alternative SCM in concrete
- Calcination strategies for processing SCMs
- CO2 Mineralization of industrial waste
- Beneficiation strategies for recycled concrete to produce aggregates
- Influence of crushing strategy on the characteristics of recycled concrete aggregates
- Development of sorting techniques for C&D waste
- Prediction of buildability of 3D printed concrete during the printing process using image-based techniques
- Development of virtual reality based process for defect identification
- Characterization of health and safety aspects of deconstruction activities including demolition
- Framework for quantity estimation of construction and demolition waste
- Characterization of mechanical and durability characteristics of textile reinforced concrete
- 141 Journal papers, 81 of them in Q1 international journals, with a combined FWCI of 1.08

Overview of Publications by TLC2 Group: 2022-2025			
Scholarly Output (Journal Papers)	Publications in Top 25% Journal Percentiles by SJR (%)	International Collaboration (%)	Field-Weighted Citation Impact (based on all publications)
141	61.4	30.4	1.07







SIWIN - Sudish's Institute of Waterproofing and Insulation joined the TLC2 Consortium as a Silver member. Welcome aboard! We're glad to have you on the team Mr. Sudish Subramanian and Ms. Bijimol Prajul.

## TLC2 Consortium Meeting

We had a productive consortium meeting with industry partners from Schwing Stetter, UltraTech Cement, Asian Paints, Chirayu, SIWIN, Concrete OEM, Floormart Global, Jyamiti & Sea and SATIQ, where we engaged in an exciting discussion on several important topics. For the current financial year, five core projects were selected based on the feedback from the mentors. Pls from IITM shared the updates on the core projects and explain the future plans.

### Key Insights and Discussions

- Need for National Crack Database using analytics to develop repair protocols tailored to crack types.
- Using AI-evaluated VR modules for on-site decision-making.
- On-site Recycling Success: In-situ conversion of 70,000 tons of metro debris to M30 concrete has been explained.
- Ultrasound Mixing & Microstructure - new mixing technologies to improve workability and sustainability.
- DRISTI Platform: Prof. Aritra Pal explained about setting up Dristi - Digital Real-Time Sensing Technologies for Infrastructure. The drsti project aims to enhance efficiency and reduce cost overruns, delays, and inefficiencies in India's construction industry by implementing a scalable and data-driven construction management platform. This "plug-and-play" system will be piloted on major infrastructure projects at IIT Madras, utilizing real-time monitoring technologies like drones, CCTV, 3D scanners, and robotics to capture critical data. Integrated into a cloud-based platform, this data will be processed using advanced analytics and visualized through interactive dashboards and control rooms to support proactive decision making at various levels.
- Prof. Aslam Kunhi Mohamed explained the vision of Rapid Semi-Automated Construction Chemical and Material Characterization Laboratory - a fully modern, clean room facility with state-of-the-art semi-automated characterization equipment. The is being established to accelerate the discovery and adoption of sustainable construction materials.
- Debris Circularity: Prof. Gettu shared a case of full reuse of demolition waste in campus infrastructure.
- The advisory meeting reinforced the importance of bridging academic innovation with industrial challenges.
- Industry partners appreciated the depth of research and expressed strong interest in collaborative pilots, knowledge sharing, and training programs.
- The TLC2 Consortium reaffirmed its vision of low-carbon, lean, and smart construction through coordinated academic and industrial synergy.

# RESEARCH DATA & REPORTS

<https://researchdr.in/>

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Centre of Excellence on  
Technologies for  
Low Carbon & Lean  
Construction



Research Data and Reports (RDR) is an initiative of the CoE on TLC2 at IIT Madras, India, and aims to promote research across diverse scientific and technological disciplines.

RDR is primarily focused on civil engineering topics, while also welcoming papers from the broader fields of Science, Engineering, and Technology.

## FEATURES

- Free Open-Access
  - Accelerates the use by other researchers
  - Encourages more collaborations
  - Reduces the overall cost of research
- Digital Object Identifier (DOI)
- Peer-reviewed (authors can choose on this)

## RDR aims to:

- Minimize repetitive or redundant research
- Facilitate accelerated and impactful research
- Support filling the knowledge gaps with free-access to exiting knowledge base – towards new research with optimal resources

**The topics include, but are not limited to:**

- Structural design and behaviour
- Construction materials
- Concrete technology
- Forensics
- Geotechnical
- Transportation
- Pavement
- Environmental Science
- Construction - technology/management
- Water resources
- Coastal/ocean engineering
- Earth science
- Climate science
- Building science

## We invite submissions:

- ✓ Brief papers on datasets
- ✓ Technical reports
- ✓ Journal papers on original research
- ✓ Point-of-view papers / Review papers

Editor-in-chief : Dr. Radhakrishna G Pillai

Executive Editors : Dr. Ravindra Gettu &

Dr. Aslam Kunhi Mohamed

Editorial Manager : Dr. Saranya P

Submit your manuscript here:

<https://researchdr.in/index.php/rdr/about/submissions>