

## EDIFICE

Science and Technology has evolved at a high pace with the evolution of mankind providing the species with luxuries and comforts. Even today, we are constantly innovating, researching and developing technology in pursuit of a sustainable future. Throughout this evolution, researchers and engineers have found themselves in constant search for new and better materials to optimally manage the performance cost tradeoff in the Civil Engineering Sector.

With an increasing demand for infrastructure owing to growing population, we require efficient engineering materials for the civil engineering works. Conventional materials pose various disadvantages like quality, time of project, etc. Advanced composites of Glass Fiber and Carbon Fiber have been a recent advancement in science and technology and they have found their way into Civil Engineering in many fields.

Here are a few examples of the areas where composites have found an extensive application dominating the conventional materials in Civil Engineering by providing handy features over them

- a. Carbon fiber reinforced concrete has replaced various areas where the conventional mix was used as it offers better performance than normal concrete mix prepared with same materials.



- b. Precast Concrete blocks of various sections used in construction of structures are a successful composite that have made the construction process faster.





- c. Glass fiber reinforced plastic is used as a lining material in water conveyance pipes owing to the advantages against corrosion, resistance against flow, chemical inertness etc.



## **PROBLEM STATEMENT**

1. Suggest any new composites that can be efficiently put into use (if any, not currently in use)
2. Identify innovative and potential application(s) of composites in architecture, buildings, construction and infrastructure. The list of applications can be as exhaustive as possible.
3. Explain the technical and financial feasibility of two of the application(s) enlisted
4. Elucidate the business sense of the applications for intermediaries and end users while reducing the carbon footprint. All the recommendations have to be backed by supporting data to be impactful.

## **RULES**

- Teams must consist of a minimum of 2 and maximum of 5 participants.
- Team must consist of at least one member from the Department of Civil Engineering.
- The event will be conducted in two phases:
  - ✓ Online submission of abstract
  - ✓ Final presentation by shortlisted teams at IIT Kharagpur



- The abstract should be submitted with **minimum font size of 11 and single line spacing and must not exceed 3 pages.**
- The abstract should be supported with valid references.
- Relevant statistics can be added to support your claim (you may add one extra page to include stats, images and hyperlink them wherever required).
- Mail your submissions to **edifice@megalith.co.in** with subject as **<Team name>\_EDIFICE\_2017** on or before **12 FEBRUARY 2017, 11:59PM.**
- All the teams are requested to provide contact numbers, Email IDs and name of the college of each member along with the attached submission file in the mail.
- Shortlisted teams have to present their ideas in the form of power point presentation during Megalith 2017 at IIT Kharagpur.
- The decision of judges shall be final and binding.

### CONTACT US

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