

## EARTH MATTERS

### AIM

Participants are required to come up with new innovative solutions that are directed towards solving the problem statements described through the following end goals with the given themes.

***Note: The following themes (square bulleted points) are just guidelines to help you. You are free to think like an unconventional thinker and come up with great innovations. Do not limit yourselves to these themes.***

### PROBLEM STATEMENT

- Water for All

Water is unequally distributed over time and space. Much of it is wasted, polluted and unsustainably managed. Climate change is expected to amplify the already complex relationship between world development and water demand. Access to quality water is key to economic prosperity and better living standards.

Participants are invited to come up with innovative technological solutions for the following:

- Development and maintenance of reservoirs and natural & artificial catchment systems
- Reduction, filtration and recycling of sewage water
- Profiling of water rich and water scarce areas
- Transportation of water from water rich to water scarce areas
- Energy and cost efficient desalination technique

- Mission Zero Waste

Disposal of e-waste is an emerging global environmental and public health issue, as this waste has become the most rapidly growing segment of the formal municipal waste stream in the world. Similarly, poor management of plastic waste is ruining our environment and has posed threat to life. These problems need to be tackled on time before it's too late.

Participants are invited to come up with innovative technological solutions for the following:

- Eco-friendly technology for recycling e-waste that can also recover the resources gone into it
- Reuse of electronic materials
- Reduction in e-waste & plastic consumption and smart waste disposal system
- Making water bodies plastic free
- Alternatives to plastic

- Clean Environment

The environment has been changing, and not for the better. WHO data shows that 9 out of 10 people breathe air containing high levels of pollutants. Resources are depleting and demand is increasing. Sustainable growth is the need of the hour.

Participants are invited to come up with innovative technological solutions for the following:

- Reducing emission of Greenhouse gases
- Environmental sanitation
- Chemicals and effluents flowing into water bodies
- Renewable sources of energy with low infrastructural requirements
- Organic agriculture
- Cost effective air purifiers

**IMPORTANT NOTE:*****Intellectual Property Rights***

*The IP rights in the content(s) of the submitted entries and related prototype shall be assigned to L&T Electrical & Automation ("L&T E&A") without any further consideration. L&T E&A shall have the rights to implement and commercialize the innovative solution submitted in the entries and prototype on industrial and manufacturing level.*

*Participants must send their signed [Declaration Form](#) to [earthmatters@techfest.org](mailto:earthmatters@techfest.org) to be considered eligible for participating in the ideate-Earth Matters. Otherwise they will be disqualified.*

**ABSTRACT FORMAT****i. Title****ii. Abstract**

1. Objectives
2. Beneficiaries (For whom)
3. Value of results (Usage)

**iii. Background****iv. Statement of Problem**

1. Succinct definition of problem addressed (follows from material in the background section)

**v. Research**

1. Present methods of tackling the problem (if any)
2. Proposed Solution

3. Alternate solutions/approaches
4. Novelty of Approach: How is/will your solution be better than the existing products that address the same problem?

**vi. Technical Report**

1. Description of concepts, theories and/or approach involved in the proposed solution
2. Technical aspect of the proposed solution
3. Detailed technical specifications and pictorial representations (block diagrams/ flow chart)
4. Description of the flow of operations demonstrating key features and functionality
5. Performance estimate of the solution
6. Experimentation/Verification done to establish the workability of the above
7. A link to the video of the working model/ prototype

**vii. Results**

1. Actual findings, significant output of tests and analysis (Must be readable)
2. Include problems encountered, credibility of results, accuracy estimates
3. Pros and cons of your solution
4. Utility of results

**viii. A link of the Google Drive Folder** which contains Pictures and Video of the working model/ prototype.

**ix. Application**

1. Your idea as a solution to the problem
2. Additional applications
3. Benefits to the users

**x. Future prospects, research in it and further development (in brief)****xi. Any other details: (Patent/Business plan etc.)****ELIGIBILITY**

1. Individuals or teams from the following categories are allowed:
  - a. Students/research scholars of authorized institutions (students have to show their Valid College ID)
  - b. Early stage startups or up to 3 years old college pass-outs.
2. A team is allowed to have a maximum 4 members.
3. If the participating team feels that their idea requires more participants in their team, they can forward their request, with suitable reasons, to [earthmatters@techfest.org](mailto:earthmatters@techfest.org) with the subject "**Ideate: Team number increase request**".

## REGISTRATION AND SUBMISSION

The Participants have to register on the official Techfest Website and fill all the necessary details.

[www.techfest.org](http://www.techfest.org) -> Ideate -> Earth Matters -> Explore More -> Register -> Fill all your details -> Your team will be formed and now you can add other team members

## ABSTRACT SUBMISSION

Teams are required to submit one report to [earthmatters@techfest.org](mailto:earthmatters@techfest.org). This report should contain the idea they are looking forward to work on.

## PROJECT REPORT SUBMISSION

The project report should be mailed to [earthmatters@techfest.org](mailto:earthmatters@techfest.org) with the subject 'Ideate: "Earth Matters" Project Report: <Team Id>'

(for eg. Ideate: "Earth Matters" Project Report: **EM1234**).

Teams must follow the following details for the submission:

- 1.The abstract must be submitted in PDF format only
- 2.Font: Arial
- 3.Size: 11
- 4.Spacing between two lines: 6 pts
- 5.Spacing between two paragraphs: 10 pts
- 6.Bottom margin: 1 inch

## EVALUATION

Earth Matters abstracts will be judged by a panel of experts. Following are the broad guidelines for judging:

- 1. Creativity and Novelty:** How novel is the idea? How different is it from the current solutions available? The innovation must be ingenious and novel in its area of application and should have a high potential for leaving an impact on the society.
- 2. Originality:** The innovation should not, by any means, include copied or stolen work. Such applications will be disqualified immediately.

**3. Performance****4. Cost/Market Value and Acceptance**

**5. Durability and Usability:** Durability of the prototype/method proposed.

**6. Implementation ability:** Is the solution implementable as described? Is it repeatable? Is the solution feasible for diverse and changing conditions?

**7. Scalability:** Is the solution scalable to a higher level, how easy is it to scale up and what are the factors affecting it?

**8. Potential of Impact:** How does it benefit the society? The scale of problem that it solves, intensity of the solution and number of people catered from the solution directly and indirectly.

**9. Design:** Has the design been taken into consideration? How optimized is the product?

**10. Ergonomics** (if the team decides to make a well-designed product)

In case of any discrepancies, the decision of the Organizers or Judges will be final and binding on all.

**SHORTLISTING**

Top 15 teams will be selected and would get the chance to present their model/idea in the Final Round at Techfest, IIT Bombay which is from 3rd -5th January 2020. Participants will get a slot for presenting their model/idea to the Judges based on which they will be evaluated.

**Top teams would get an opportunity to display their projects in Ideate exhibition during Techfest, IIT Bombay. These teams will be selected by a panel of judges.**

**GENERAL RULES**

1. Every team has to register online on our website for the competition. A Team ID will be allocated to the team on registration which shall be used for future references.

2. A team can register at any point of time before 2nd November 2019 and submit the final abstract and video (as mentioned in the structure).

3. The decision of the organizers or judges shall be treated as final and binding on all. Techfest has all the rights to verify the identity and accuracy of the details provided by the participants.
4. No responsibility will be held by Techfest, IIT Bombay for any late, lost or misdirected entries.
5. The idea presented by the teams should be original (not protected by means of patent/copyright/technical publication by anyone else).
6. Note that at any point of time the latest information will be that which is on the website. However, registered participants will be informed through mail about any changes on the website.
7. All modes of official communication will be through the Techfest e-mail.

#### **INTERNATIONAL PARTICIPANTS**

All international participants will have to register and will have to submit the complete report along with video prototype before 3rd November 2019. The shortlisted international teams' details will be put up on the website by 8th November 2019.

**International Participants would get a chance to present their prototype through video conferencing.**

#### **CERTIFICATE POLICY**

Only those teams that are shortlisted for the finals and also also give a final presentation about their work during Techfest 2019-20 would be awarded an e-Certificate of Participation. The top 3 entries from this event would be provided with Certificate of Excellence.

#### **PRIZES**

The prize money will be awarded to top 5 winners via NEFT and will be processed within 30 working days after receiving the prize money from sponsors.

Winners have to mail the following information (immediately after the announcement of results) to [vibhav@techfest.org](mailto:vibhav@techfest.org)

**FORMAT OF MAIL :**

Subject: Earth Matters, <Team ID> - <Your Position> (example- Earth Matters, EM1003 - 3<sup>rd</sup> Position)

**Body of mail:**

1. Account Holder's Name
2. Account Number
3. Bank name and Branch name.
4. IFSC Code

**TIMELINE**

First Project Report Submission	25th September 2019	Submission of First Draft Report
Mentorship Stage	1 <sup>st</sup> October to 30 <sup>th</sup> October 2019	Mentors will be allocated for the guidance of the participants
Last Date of Registration	2nd November 2019	Participants need to register before this date
Final Project Report Submission	3rd November 2019	Submission of final project report along with video prototype (if any) has to be submitted before this date
Declaration of Result	8th November 2019	Declaration of shortlisted teams for final presentation at Techfest, IIT Bombay on the basis of final report and supporting materials
Improvisation Stage	9th November to 9th December 2019	Shortlisted participants are to improve upon their model and prepare a presentation for the final round
Final presentation & video submission	10th December 2019	Participants have to submit the final video of the prototype and presentation to be displayed during the festival before this date
Presentation Stage	3rd-5th January 2020	Final presentation along with a demonstration of the working prototype
Exhibition	3rd-5th January 2020	Techfest would give an opportunity to teams selected by judges to exhibit their projects