Vigyan 2.0

Hackathon-2022

Problem Statement No. 1

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	School or College/University
3	**Problem Statement**	Oil removal from wastewater.
4	**Details of Industry / Organization**	Name: Vise Innovative Solution Enterprise Pvt. Ltd. Contact Person Name: Prakash Vaghasiya Designation: CEO Email Id: visedirector@gmail.com Mobile No. 9601365935
5	**Category**	Hardware
6	**Challenge Description**	Clean technology, in short cleantech, is any process, product, or service that reduces negative environmental impacts through significant energy efficiency improvements, the sustainable use of resources, or environmental protection activities related to recycling, renewable energy, green transportation, green chemistry, lighting, grey water, and more. Greentech is one that has positive environmental impact at its core. It will reducing pollution, minimizing waste or protecting the world's ecosystems. There is a huge demand for oil removal from the wastewater. The benefit of oil removal from the wastewater is Reducing costs; Generating new revenue; Enhancing environmental responsibility; Providing safer work environments; and Improving overall operations.

7	**Expected Outcomes**	Method for oil removing from wastewater by clean-tech and green-tech.

Problem Statement No. 2

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	School or College/University
3	**Problem Statement**	Dye removal from wastewater.
4	**Details of Industry / Organization**	Name: Vise Innovative Solution Enterprise Pvt. Ltd. Contact Person Name: Prakash Vaghasiya Designation: CEO Email Id: visedirector@gmail.com Mobile No. 9601365935
5	**Category**	Hardware
6	**Challenge Description**	Dye effluents released from numerous dye-utilizing industries are harmful towards the environment and living things. Consequently, existence of dye effluent in environmental water bodies is becoming a growing concern to environmentalists and civilians. A long term sustainable and efficient dye effluent treatment method should be established to eliminate this issue. Dye wastewater should be treated first before release to minimize its negative impacts towards the environment and living things. However, due to lack of information on efficient dye removal methods, it is difficult to decide on a single technique that resolves the prevailing dye effluent issue. Although there are numerous existing tried and tested methods to accomplish dye removal, most of them have a common disadvantage which is the generation of secondary pollution to the environment. The major problem with these techniques is that they will not give better efficiency (in terms of durability and stability) and it is not being able to remove dyes at a faster rate.
7	**Expected Outcomes**	Developing method which is long lasting, having high efficiency and fast dye removing from wastewater.

Problem Statement No. 3

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	School or College/University
3	**Problem Statement**	Hydrophobic coating spray based on nano polymer.
4	**Details of Industry / Organization**	Name: Vise Innovative Solution Enterprise Pvt. Ltd. Contact Person Name: Prakash Vaghasiya Designation: CEO Email Id: visedirector@gmail.com Mobile No. 9601365935
5	**Category**	Hardware
6	**Challenge Description**	Hydrophobic means tending to repel or fail to mix with water. Benefits of making hydrophobic spray is Surface icing prevention, Improved corrosion resistance, Condenser & evaporator fouling prevention, Prevent moisture contamination in heat trace tubing and many more. Nanopolymer is defined by polymer converted at the nano scale. The nanostructured polymer systems reviewed include block copolymers, amphilic copolymers, nanostructured polymer blends, and networks that exhibit hydrophobic nanophase domain structures. The ability to create superhydrophobic nanostructured polymer blends is essential for a variety of applications like Applications in the field of energy storage devices, Coatings for protection of electronic devices in humid environments, Superhydrophobic microvalves, Superhydrophobic textiles and for oil–water separation, Transparent and anti-reflective superhydrophobic coatings, etc. Despite a lot of research done on the superhydrophobic spray/coating, the development of new “stable and durable” superhydrophobic spray/coating is challenging.

7	**Expected Outcomes**	Making long lasting and stable hydrophobic spray/coating by the use of nanopolymer that can be applied on all types of surface.

Problem Statement No. 4

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	School or College/University
3	**Problem Statement**	Nanopolymer based water soluble thin film with different carriers.
4	**Details of Industry / Organization**	Name: Vise Innovative Solution Enterprise Pvt. Ltd. Contact Person Name: Prakash Vaghasiya Designation: CEO Email Id: visedirector@gmail.com Mobile No. 9601365935
5	**Category**	Hardware
6	**Challenge Description**	Nanopolymer is defined by polymer converted at the nano scale. Water soluble polymers are converted to nano scale and making a thin film of it by spraying process which is water soluble and also carries a different types of carriers like drugs, pesticide, fertilizers, insecticide, etc. Water soluble thin film is a more cost-effective solution and uses a cheap support onto which the active component as a carrier is applied as a thin coating. As a result much less material is required, cost will decreased and the results will improve.
7	**Expected Outcomes**	Highly water soluble nano polymer thin films having different types of carriers.

Problem Statement No. 5

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	College/University
3	**Problem Statement**	Design optimization of wind blade for 1KW vertical axis wind turbine
4	**Details of Industry / Organization**	Name: R B Engineering Contact Person Name: Dr. Brijesh Garala Designation: Promoter Email Id: solar@rbengg.co.in Mobile No.: 9099447975
5	**Category**	Hardware
6	**Challenge Description**	Many designs are available in market but optimization needs in terms of finance, power output, and low starting torque.
7	**Expected Outcomes**	We need to develop Vertical Axis Wind Turbine (VAWT) having starting speed of 1 m/s having aluminum material blade or any other recycle blade with minimum 25 years of self-life.

Problem Statement No. 6

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	College/University
3	**Problem Statement**	Design optimization of PMSM generator or maglev generator for 1KW vertical axis wind turbine
4	**Details of Industry / Organization**	Name: R B Engineering Contact Person Name: Dr. Brijesh Garala Designation: Promoter Email Id: solar@rbengg.co.in Mobile No.: 9099447975
5	**Category**	Hardware
6	**Challenge Description**	Many designs are available in market but optimization needs in terms of cost, power output, high efficiency, low maintenance and durability.

7	**Expected Outcomes**	We need to develop PMSM generator or maglev generator for Vertical Axis Wind Turbine (VAWT) having starting speed of 1 m/s minimum 25 years of self-life.

Problem Statement No. 7

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	College/University
3	**Problem Statement**	Development of PCB recycling machine for small scale use.
4	**Details of Industry / Organization**	Name: R B Engineering Contact Person Name: Dr. Brijesh Garala Designation: Promoter Email Id: solar@rbengg.co.in Mobile No.: 9099447975
5	**Category**	Hardware
6	**Challenge Description**	Many designs are available in market but for large segment and no manufacturer available in India.

7	**Expected Outcomes**	PCB recycling.

Problem Statement No. 8

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	College/University
3	**Problem Statement**	Development of solar panel recycling machine for small scale use.
4	**Details of Industry / Organization**	Name: R B Engineering Contact Person Name: Dr. Brijesh Garala Designation: Promoter Email Id: solar@rbengg.co.in Mobile No.: 9099447975
5	**Category**	Hardware
6	**Challenge Description**	No recycling plant for solar panel available in India.

7	**Expected Outcomes**	Solar panel recycling.

Problem Statement No. 9

Sr. No.	Title	Details
1	**Theme**	Cleanetech & Greentech
2	**Student**	School or College/University
3	**Problem Statement**	Waste generation mapping by software.
4	**Details of Industry / Organization**	Name: Vise Innovative Solution Enterprise Pvt. Ltd. Contact Person Name: Prakash Vaghasiya Designation: CEO Email Id: visedirector@gmail.com Mobile No. 9601365935
5	**Category**	Software
6	**Challenge Description**	Waste management issues are coming to the forefront of the global environmental agenda at an increasing frequency, as population and consumption growth result in increasing quantities of waste. Moreover, technological development often results in consumer products of complex composition, including hazardous compounds, which pose extra challenges to the waste management systems and

		environmental protection at the end of their useful life, which may often be fairly short (e.g. cell-phones and electronic gadgets). By making software we can handle large-scale data that can help with understanding the collection models and their influence on solid waste management, which could be used for cities in developing countries.
7	**Expected Outcomes**	Software making which can track or map the waste generation.

Problem Statement No. 10

Sr. No.	Title	Details
1	**Theme**	**Cleanetech & Greentech**
2	**Student**	**College/University**
3	**Problem Statement**	**Water harvesting for Society >** *Create easy maintenance process OR check working conditions as its build by builders under govt compulsory norms but maintenance is not done by Co-Op Societies.*
4	**Details of Industry / Organization**	Name: Engineering Technique Contact Person Name: Rudresh Vyas Designation: Education Head

		Email Id: rvyas@EnggTechnique.com | GMAIL rudreshv@gmail.com Mobile No. 9376211272
5	**Category**	**Hardware**
6	**Challenge Description**	**Water harvesting for Society >** *Create easy maintenance process OR check working conditions as its build by builders under govt compulsory norms but maintenance is not done by Co-Op Societies.*
7	**Expected Outcomes**	**For Water harvesting for Society** *Create easy maintenance process* *Check point for working conditions* *Processes for first rain till last rain to be held*

Problem Statement No. 11

Sr. No.	Title	Details
1	**Theme**	**Cleanetech & Greentech**
2	**Student**	**College/University**
3	**Problem Statement**	**Green Waste use for Society >** Create easy maintenance process OR check working conditions as its build by builders under govt compulsory norms but maintenance is not done by Co-Op Societies.
4	**Details of Industry / Organization**	Name: Engineering Technique Contact Person Name: Rudresh Vyas

		Designation: Education Head Email Id: rvyas@EnggTechnique.com | GMAIL rudreshv@gmail.com Mobile No. 9376211272
5	**Category**	**Hardware**
6	**Challenge Description**	**Green Waste use for Society >** Create easy maintenance process OR check working conditions as its build by builders under govt compulsory norms but maintenance is not done by Co-Op Societies.
7	**Expected Outcomes**	**For Green Waste use for Society** Create easy module for home/ small scale Check point schedule for maintenance Processes for effective use/ implementation

Problem Statement No. 12

Sr. No.	Title	Details
1	**Theme**	**Cleanetech & Greentech**
2	**Student**	**School**
3	**Problem Statement**	**Water harvesting for Home >** *Create easy to use and easily maintainable module and processes for home/ small scale use.*
4	**Details of Industry / Organization**	Name: Engineering Technique Contact Person Name: Rudresh Vyas

		Designation: Education Head Email Id: rvyas@EnggTechnique.com | GMAIL rudreshv@gmail.com Mobile No. 9376211272
5	**Category**	**Hardware**
6	**Challenge Description**	**Water harvesting for Home >** *Create easy to use and easily maintainable module and processes for home/ small scale use.*
7	**Expected Outcomes**	**For Water harvesting for Home** *Create easy module for home/ small scale* *Check point for working conditions & maintenance* *Processes for first rain till last rain to be held*

Problem Statement No. 13

Sr. No.	Title	Details
1	**Theme**	**Cleanetech & Greentech**
2	**Student**	**School**
3	**Problem Statement**	**Green Waste for Home >** Create easy to use and easily maintainable module and processes for home/ small scale use.

4	**Details of Industry / Organization**	Name: Engineering Technique Contact Person Name: Rudresh Vyas Designation: Education Head Email Id: rvyas@EnggTechnique.com | GMAIL rudreshv@gmail.com Mobile No. 9376211272
5	**Category**	Software or **Hardware**
6	**Challenge Description**	**Green Waste for Home >** Create easy to use and easily maintainable module and processes for home/ small scale use.
7	**Expected Outcomes**	**For Green Waste for Home** Create easy module for home/ small scale Check point schedule for maintenance Processes for effective use/ implementation