



INDIAN MARITIME UNIVERSITY

CSR Project Funding Proposals

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1 - Girls Hostel

1. **About the Project:**

IMU Chennai Campus require dedicated Girls Hostel facility with fully furnished and equipped with lighting, fan, water and sanitary system.

A RCC construction of Hostel Block is required for the Girl cadets. Accommodation block is required for minimum 40 Girl cadets. Block might be in ground and two more floors consisting of 21 rooms with Bath attached (150 sq ft of each) in all the rooms.

Location of Hostel block remains inside Chennai Campus Uthandi, in front of Marine Hostel opposite to Auditorium (out of coastal restriction)

2. **Relevance:** At present Girl cadets are staying in empty staff quarters and Director and Deputy Director's quarter as the Marine hostel and Bay of Bengal hostels are occupied by the boys.

Campus has no choice other than to assign the above accommodations for the girls. It is absolutely essential for the campus to have dedicated girl's hostel.

3. **Budget:** Total construction will be $21 \times 150 \text{sq ft} = 3150 \text{sq ft}$
Cost per sq ft may be Rs. 2000
Hence total amount required will be $3150 \times 2000 = \text{Rs. } 63 \text{ Lakhs rupees}$ approximately. And other amenities such as Cot, Bed, Almirah, Table Chair may cost 12 Lakhs in addition.
Hence final fund requirement will be Rs.75 Lakhs (Rupees Seventy Five Lakhs only)

4. **No. of students who will benefit:** 40 students.

5. **Faculty/staff who will operate & maintain the equipment/facility:**

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

-“This equipment / facility is donated for the noble cause of enhancing engineering competence in shipping / maritime by [ABCD]”

8. **Contact Details:**

Mr. Jagmeet Makkar
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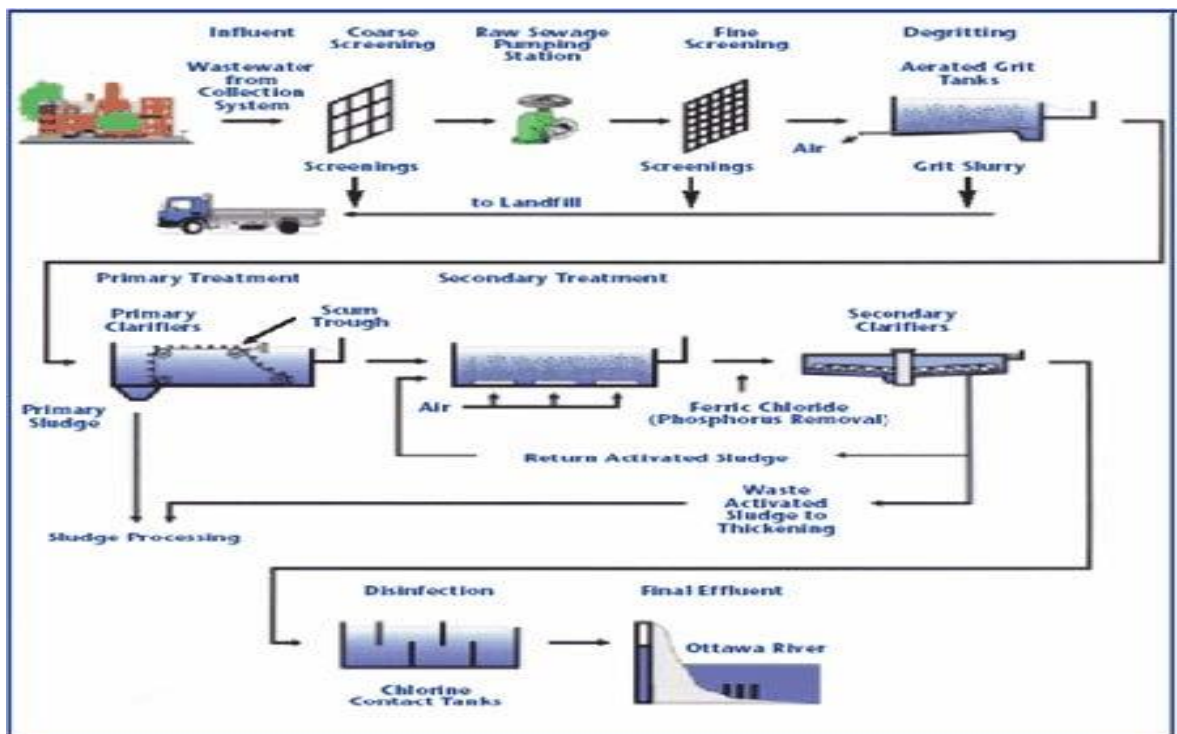
2 - Water Treatment Plant

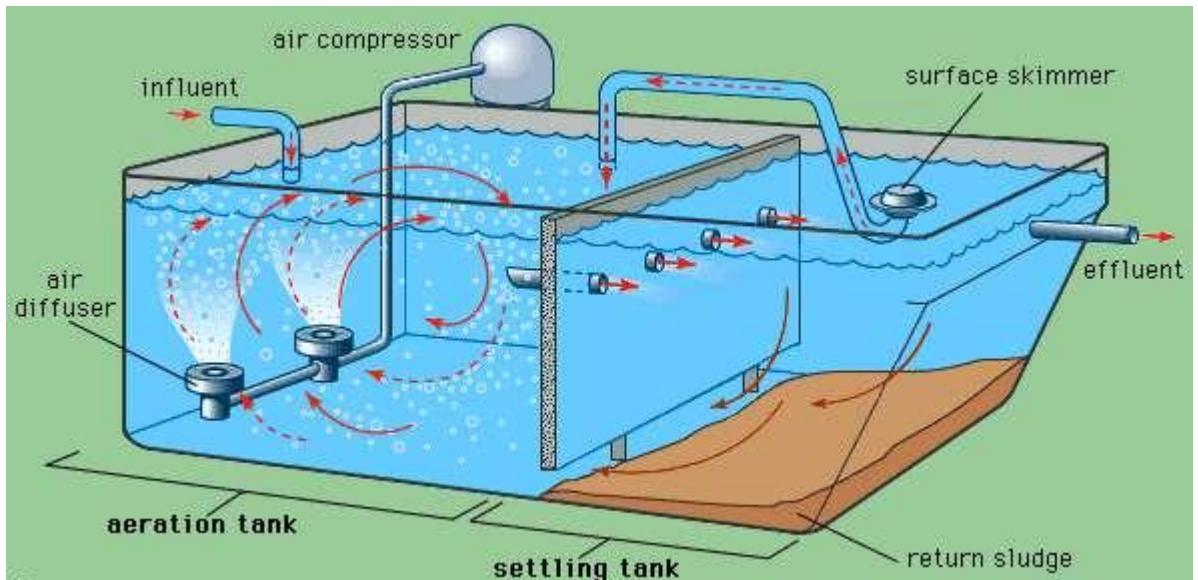
1. **About the Project: Setting up of Sewage Water Treatment Plant in IMU Chennai Campus**

In this day and age, the rapid increase in urban pollution has degraded the water and environment. The sewage water mixes with streams, oceans, and ponds, causing a variety of ailments in living things. These issues can be avoided if sewage is properly treated. The process of removing noxious waste from industrialized/domestic wastewater is branded as sewage treatment. To remove impurities, physical processes, chemical processes, and biological processes are used so as to safely discharge the into the atmosphere. This suits even in the ship environment as per IMO

regulations for clean and green environment. We can not only avoid diseases by using these sewage treatment processes, but we can also recycle industry wastewater for future uses (garden, car cleaning, etc.). As it finds a suitable application of industrial automation, IMU Cadets will acquire practical training on the techniques and processes involved in Sewage Water Treatment.

IMU is seeking alumni and industry assistance in order to build a sewage water treatment plant on its Chennai campus. A certified manufacturer can supply and install the machinery and other accessories. Alternatively, installation may be carried out with the assistance of technicians and Cadet volunteers, while procurement may be made from a suitable manufacturer.





2. **Relevance:** The equipment will be used for SMET Cadets' practical training. Faculty and research Scholars will also use the machinery for research and consulting purposes. If a regular workshop/seminar or training is organised, the equipment can also provide some revenue
3. **Budget:** Rs. 15 lakhs (for the installation of a plant with a capacity of 15 - 20 KLD)
4. **No. of students who will benefit:** 500 Cadets per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Technical Staff - 3
6. **Mode of support:**

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3 – Electric Vehicle

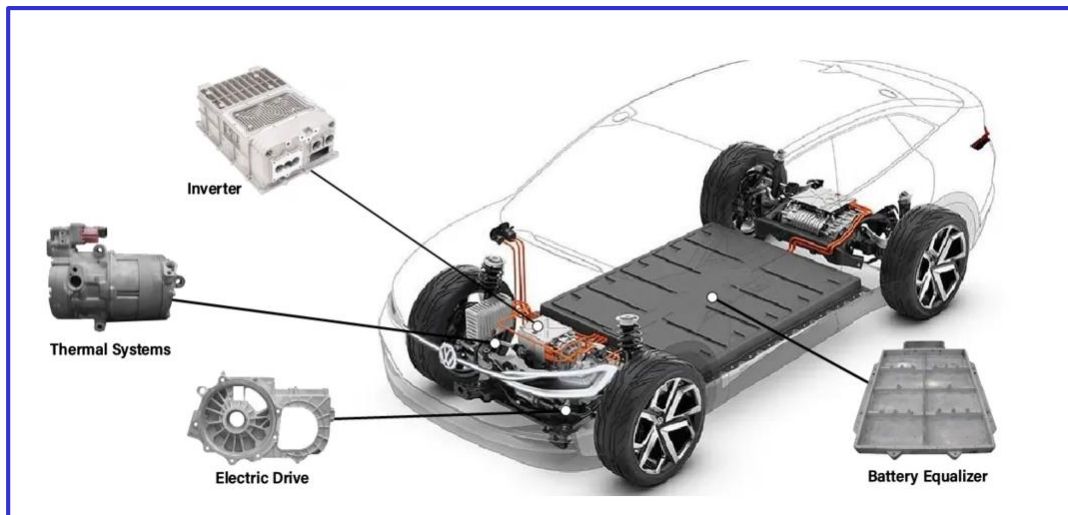
1. About the Project: Design and Fabrication of an Electric Vehicle for the IMU Chennai Campus

Introduction: Transport is an essential part of modern life, but the conventional combustion engine is rapidly becoming obsolete. Petrol and diesel vehicles emit a lot of pollution and are being phased out in favour of all-electric vehicles.

Fully Electric Vehicles (EV) produce no tailpipe emissions and are therefore far better for the environment. An EV has much lower operating costs than a comparable petrol or diesel vehicle. Electric vehicles charge their batteries with electricity rather than using fossil fuels such as gasoline or diesel. So, we propose developing an indigenous electric vehicle that will serve the Green Campus of Indian Maritime University in Chennai.

The distance from the Academic and Administrative Block to the residential block within the Semmencherry premises is approximately 1Km long, and the distance between the Semmencherry and Uthandi premises is approximately 2 km. The commute between the two locations is currently difficult due to a lack of adequate transportation. ***Using an EV to commute will help both in the conservation of university resources and easy means of transport.***

IMU is looking for funding from alumni and other sources. SMET Cadets can obtain the necessary materials/modules based on the project design. The fabrication can be done with the help of technicians and Cadets, while essential units can be purchased from a suitable manufacturer.



2. **Relevance:** The EV will be used to commute within Semmencherry and to shuttle between Semmencherry and Uthandi premises. Environmental protection will be an extra bonus.
3. **Budget:** Rs. 10 lakhs approximately (Some modules' prices are subject to change)
4. **No. of students who will benefit:** 500 Cadets per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Design Stage - 5 Cadets & 2 Faculty Members
Fabrication Stage - 20 Cadets, 5 Technicians & 3 Faculty Members
Testing Stage – Cadets, Technicians & Faculty members as per the requirement (Variable)
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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4 – Digital Lab For SMM

1. **About the Project**: A well-equipped digital lab for the use of Management students and faculty in their research and data search for projects.

SMM can establish the lab in its existing facilities. The use of digital technology in business schools today allows students to learn faster. As part of the SMM programme, the above facility can greatly assist in producing industry-ready shipping/logistics managers who are tech-savvy and ready to integrate into corporate life.

2. **Relevance**: Business school students require a well-equipped digital laboratory because they are constantly preparing mini-projects, research reports, summer training reports, etc. In addition, it facilitates students' research for assignment preparation, learning new topics online, creating study notes from digital resources, and using statistics tools and software for data analysis.

SMM, IMUCC seeks sponsoring from its esteemed Alumni to set up a Digital Lab with access to the online tools and resources for all the above. This will benefit about 150 Post graduate students and about 120 undergraduate students every year. Research scholars and Faculty can also benefit from the resource

3. **Budget:** 17 lakhs approx.

S.No	Product	Unit	Price p.u	Units proposed	Price
1	Desktop -12 Gen Intel i5 core, 8 GB RAM	1	65,000	20	13,00,000.00
	Laptop Dell -11th Gen Intel® Core™ i5-1135G7	1	65,000		
2	HP LaserJet Pro MFP M128fw	1	30,000	2	60,000.00
3	Projector -EGate i9 Pro-Max 1080p Native Full HD Projector 4k Support 3600 L (330 ANSI) 150" (381 cm) Large Screen VGA, AV, HDMI, SD Card, USB, Audio Out (E03i31 / E04i32) Black	1	10,000	1	10,000.00
4	Three Phase 20 KVA Numeric UPS, For Industrial, 380-400-415 V 3ph+n	1	3,00,000		3,00,000.00
			Total estimated Cost		16,70,000.00

4. **No. of students who will benefit:**

5. **Faculty/staff who will operate & maintain the equipment/facility:**
Technical Staff (ONE).

6. **Mode of support:**

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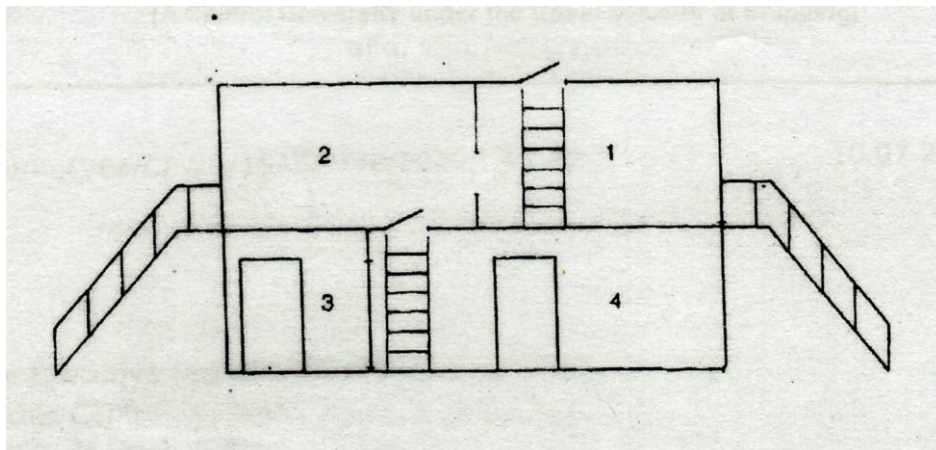
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5 – Fire Mock Station For Fire Fighting Training

1. **About the project :** FIRE MOCK STATION FOR FIRE FIGHTING TRAINING

I.M.U Kochi campus would like to setup a fire mock up to train the BSc (NS) cadets in Fire fighting



The proposed training building for smoke and fire drills has to be constructed from two Steel containers, one on top of the other, as illustrated above. The dimensions of both containers should approximately be 7 m x3 m x 2 m.

The different rooms in the building should be designed as follows:

- a. A Cabin
- b. A Corridor/Open room
- c. An Electric Switchboard room.
- d. An Engine room with a grating floor.

Every room in the building must necessarily be accessible from the outside as a safety precaution. There should access

- a. between rooms (1) and (2) by a manhole
- b. between (2) and (4) by a manhole and vertical ladder
- c. between (3) and (4) by a door.

The proposed building and associated structures must be built in line with standard safety procedures to ensure safety and security of personnel involved in training.

2. **Relevance:** The mock up will be used for practical training of B.Sc (Nautical Science) students as a part of the STCW course
3. **Budget:** 20 lakhs
4. **No. of students who will benefit:** 120 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:** Associate Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

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6 – Electronic Chart Display and Information Systems

1. **About the Project**: ECDIS (Electronic Chart Display and Information Systems) in IMU Kochi Campus.

Recognising the advantages of ECDIS for navigation, in 2009, IMO adopted amendments to regulation V/19, to make mandatory the carriage of



ECDIS. The amendments entered into force on 1 January 2011, making ECDIS mandatory for new ships built after set dates and also phasing in requirement for the existing Ships. IMU cadets need to undergo practical training on ECDIS as a part of the new syllabus being implemented from August 2021. The equipment can be procured from ARI or any other Suitable supplier.

2. **Relevance:** The equipment will be used for practical training for B.Sc (Nautical Science) students as a part of the mandatory practical training requirement as per the latest syllabus. Faculty members can also update themselves on the latest development in ECDIS. The equipment can in addition provide some earnings to IMU Kochi Campus for its development by facilitating value added courses to the students who require familiarisation on ECDIS.
3. **Budget:** Rs 4 lakhs (for 2 stations)
4. **No. of students who will benefit:** 120 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
 - Associate Professor – 1
 - Assistant Professor – 1
 - Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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7 – Compressor For Charging SCBA – Procurement

1. **About the Project: COMPRESSOR FOR CHARGING SCBA – PROCUREMENT**

The SCBA set air cylinder need to be recharged after each demonstration for which a charging air compressor is needed

The compressor should be a High Pressure Air Cooled Breathing Air Compressor used for re-filling / re-charging of air cylinders for SCBA Sets at a pressure of 200 &/or 300 bar. The compressor will be a multi-stage unit with free air delivery of 100 lpm for standard filling norm 0 to 200 bar. The compressor should be provided with air intake filter, inter coolers, after cooler and final pressure safety valve.

Compressor should be provided with special adopters for filling 300 bar cylinders)

PRIME MOVER: 3 kW 400V 50 Hz Three Phase Electric Motor

FILLING CONNECTION: One Meter long hose with filling adapter for 300 bar

2. **Relevance:** The equipment will be used for practical training for B.Sc (Nautical Science) students as a part of the mandatory practical training requirement
3. **Budget:** Rs 40000
4. **No. of students who will benefit:** 120 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
 - Associate Professor – 1
 - Assistant Professor – 1
 - Technical Support Staff – 2.
6. **Mode of support:**
 - Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.
 - [or]
 - Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.
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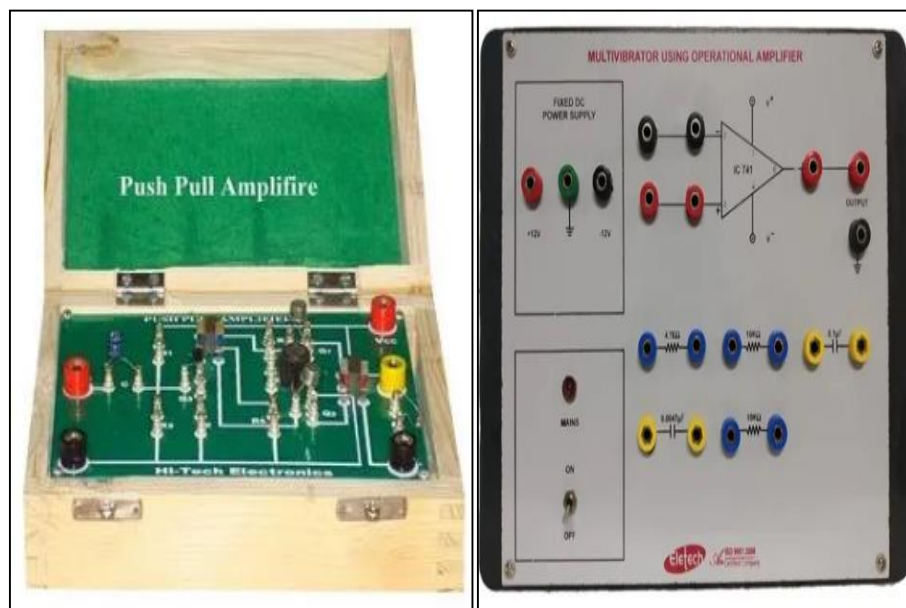
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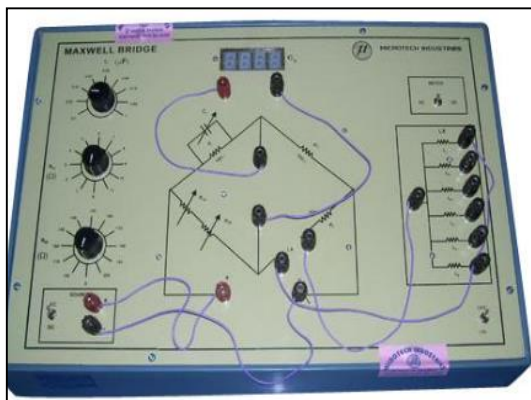
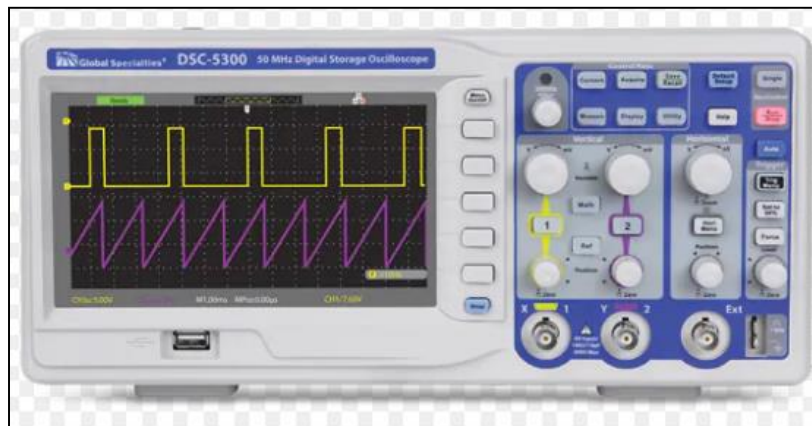
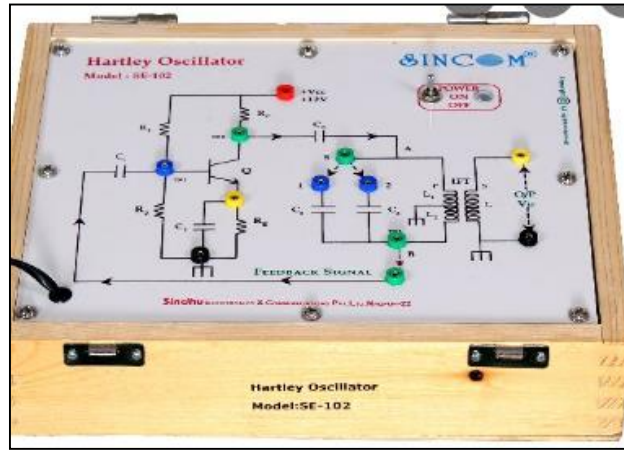
8 – Trainer Kits For Physics, Electronics And Applied Physics Practical

1. **About the project :** TRAINER KITS FOR PHYSICS, ELECTRONICS AND APPLIED PHYSICS PRACTICAL

A Nautical Science career in Non-academic areas, demands a very high level of discipline and overall growth of an officer to take up a highly demanding job of a Navigating Officer aboard a modern merchant ship. The knowledge of Basic Electronic Equipments and Physics is very important to tackle the critical situations.

IMU cadets need to undergo practical training on the basic electronic equipments onboard ship and to prepare them for the future work environment.





IMU is seeking support from Alumni and the Industry in IMU Kochi Campus. The trainer kits will give those hands on ideas about the equipments and can be procured on the GeM portal by properly floating the tender.

2. **Relevance:** The equipment will be used for practical training for future Nautical Officers. Faculty and Scholars will also make use of the equipment for basic testing.
3. **Budget:** Rs 20 lakhs
4. **No. of students who will benefit:** 100+ students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 2
Technical Support Staff – 2.
6. **Mode of support:**

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9 – Badminton Court

1. **About the Project:** Badminton Court in IMU Kochi Campus.

At present IMU Kochi has Basketball Court, Football Court & Volleyball court.
There is no Badminton Court.

2. **Relevance:** Addition of one more court will Benefit the students
3. **Budget:** Rs 25 lakhs
4. **No. of students who will benefit:** More than 300 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Sports Trainer
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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10 – Repair of Volleyball Court

1. **About the Project:** Repair of Volleyball Court in IMU Kochi Campus. The synthetic turf of the volleyball court is torn at many places. The turf need to be renewed.
- 2.



3. **Relevance:** Make the existing court fully useful
4. **Budget:** Rs. 4 lakhs
5. **No. of students who will benefit:** More than 300 students per year
6. **Faculty/staff who will operate & maintain the equipment/facility:**
Sports trainer
7. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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11 – Gymnasium equipments

1. **About the Project:** Procurement of Gymnasium equipment's in IMU Kochi Campus.

At present IMU Kochi has only one work station



2. **Relevance:** Addition of two multigym equipment's will Benefit the students
3. **Budget:** Rs. 15 lakhs
4. **No. of students who will benefit:** More than 300 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**

Sports trainer

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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12 – Liquefied Gas Mini Storage and Dispenser

1. **About the Project:** Liquefied Gas Mini Storage and Dispenser in IMU Kolkata Campus

With the IMO’s recent and forthcoming regulations related to decarbonisation efforts, alternate fuels such as LNG, Hydrogen, and Ammonia are being explored to replace low sulphur fuel oil.

IMU cadets need to undergo practical training on the working principles of liquefied gases to prepare them for the future work environment.

IMU is seeking support from Alumni and the Industry to install a Liquefied Gas Mini Storage and Dispenser in IMU's Kolkata Campus (formerly DMET/MERI Kolkata). The equipment can be procured from Linde or Chart industries or any other suitable manufacturer.



2. **Relevance:** The equipment will be used for practical training for UG and PG students. Faculty and Scholars will also make use of the equipment for research and consultancy works. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses, consultancy and research.
3. **Budget:** Rs. 25 lakhs (estimated US\$32,000)
4. **No. of students who will benefit:** 1200 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Associate Professor – 1
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

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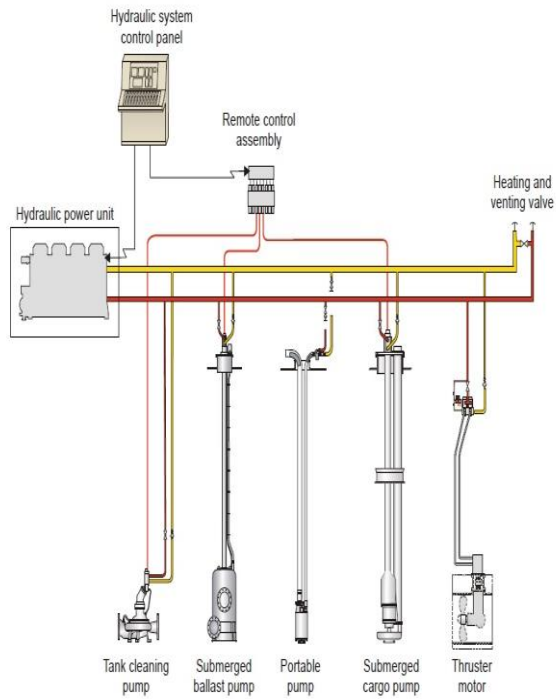
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13 – Framo Hydraulic Cargo Pumping System

1. **About the Project: A small unit of Framo Hydraulic Cargo Pumping System in IMU Kolkata.**

Most of the world’s production of vegetable oils, commodity chemicals and refined petroleum products are transported on the large fleet of modern chemical/product tankers. Framo hydraulically driven submerged cargo pumps provide safe, efficient and flexible cargo handling of any type of liquid cargo.



IMU cadets need to undergo practical training on the working of liquid cargo pumping system to prepare them for work on tankers.

IMU is seeking support from Alumni and the Industry to install a small system of Framo. The system may consist of the following:

- a. One small stainless steel tank (IMU KC swimming pool can also be utilised as reservoir)
- b. One submerged Framo Cargo Pump.
- c. Hydraulic Power Unit with pimp control unit.
- d. 2 Framo Pumps (SD 150 and above)
- e. Pipeline System.
- f. Other parts to make the system operational.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses and consultancy.

3. **Budget:** Not available, may be procured from Aalang / used vessels.

4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Associate Professor – 1
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

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14 – Programmable tank cleaning machine

1. **About the Project:** Programmable tank cleaning machine used on ships for IMU Kolkata (COW machine with Programmable Control)

The primary purpose of tank cleaning aboard oil, product and chemical tankers is to remove the most recent cargo from the vessel's containment systems (tanks/lines/pumps) in readiness for the next cargo. Cleaning also prevents the accumulation of cargo residues and is a necessary step in preparing cargo tanks for gas-free entry.

The principle means of tank cleaning aboard all tanker vessels is the 'Butterworth' tank cleaning machines, which nowadays are permanently mounted in the most efficient locations within each cargo compartment to effect optimum coverage of the tank surfaces and are rated according to tank capacity. Alternatively, some vessels employ portable tank cleaning machines (with and without 'fixed' systems), raising and lowering them to 'drop' levels within the tank to achieve optimum coverage.

IMU cadets need to undergo practical training on the working of cargo tank cleaning system (automated or portable) to familiarise them for work on tankers. They also need to know the mechanism of the nozzle operation.

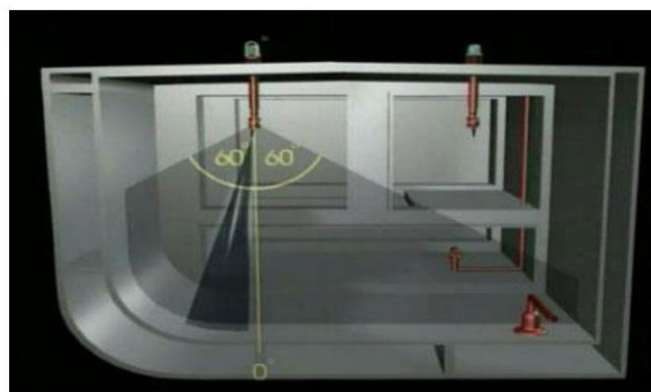


Figure 4: Fixed machine

IMU is seeking support from Alumni and the Industry to install a small system of Tank Cleaning System.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses.
3. **Budget:** Not available, may be procured from Aalang / used vessels.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

-“This equipment / facility is donated for the noble cause of enhancing engineering competence in shipping / maritime by [ABCD]”

8. **Contact Details:**

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imei.chair@imu.ac.in

15 – Inert Gas Generator

1. **About the Project:** Inert Gas Generator with complete fittings for demonstration for IMU Kolkata.

Maintaining a safe atmosphere on ships is very important and Inert gas system on ships are fitted for the same reason. IG system on ship helps to maintain an inert atmosphere inside the cargo holds to avoid any explosion or accidents.

A device, similar to a boiler, in which fuel is burnt to create exhaust gases which contain less than 5% oxygen. Inert gas generator consists of a combined burner and scrubber, both water-cooled. Marine diesel or heavy fuel oil is burnt to produce flue gas with oxygen content of 2-4%. The gas then enters the scrubber part, where it is cooled and cleaned by sprayed water before being led to the deck area.

IMU cadets need to undergo practical training on the working of IGG Plant including operation, maintenance, alarms and trips.



IMU is seeking support from Alumni and the Industry to install a small system of Inert Gas Generator.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses.
3. **Budget:** Not available, may be procured from Aalang / used vessels.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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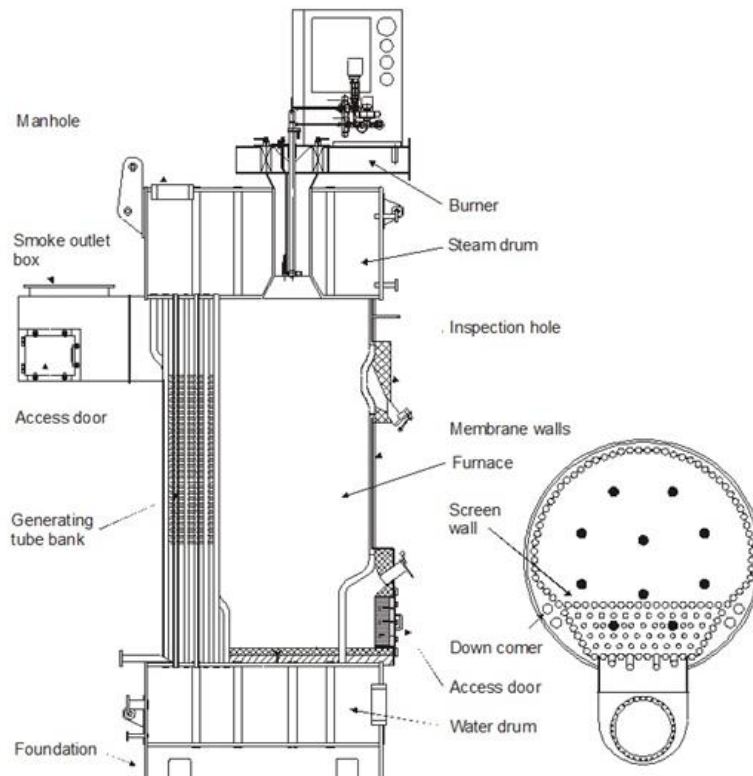
8. **Contact Details:**

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16 – Vertical Water Tube Boiler

1. **About the Project:** Vertical Water Tube Boiler with steam / air jet burners mount on top with all mountings and safety fittings. Capacity 2T/hr, 7kg Pressure for IMU Kolkata.

As more and more Chemical and Product tanker vessels are in operation, a vertical water tube boiler with pressure range 9 to 14 bar with high evaporation rate are in use now a days on ships. The vertical two drum water tube boiler used normally on ships is top-fired and equipped with a steam atomising burner. As the burner, the local control panel and all relevant boiler mountings are mounted on top of the boiler, this can easily be operated and monitored from the burner platform.



IMU cadets need to undergo practical training on the working of Boiler Plant including operation, maintenance, alarms and trips, water testing and watch keeping, fault finding etc.

IMU is seeking support from Alumni and the Industry to install a Vertical Water Tube Boiler Plant with all mountings and automation system for fire and feed regulations.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses and consultancy (MEO and NCV students)
3. **Budget:** Not available, may be procured from Aalang / used vessels. OR New.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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17 – Different Parts of Marine Main & Auxiliary Machineries

1. **About the Project:** Different Parts of Marine Main & Auxiliary Machineries used on Ships for IMU Kolkata.

Marine main and Aux lab will enable cadets to have practical hands-on training.

Currently the facility required does not exist in the lab. Physical presence of ship equipment would impart better clarity in understanding ship systems. It will improve the quality of education, enhance training and better understanding of Marine Machineries before joining the ship.

- a. Air compressor multi stage with all sensor, safety devices and un-loader with motor.
- b. Air conditioning system compressor with un-loader for demonstration.
- c. Incinerator.
- d. Fresh Water generator.
- e. Sewage Treatment Plant.
- f. Oily water separator.
- g. Marine 2 Stroke Engine Components (Exhaust Valve, Fuel Pump, Cylinder Head, Air Starting Valve, Fuel Injectors, Piston, Liner)

IMU is seeking support from Alumni and the Industry to supply different parts of marine main propulsion engine and other auxiliary machineries to impart training to the cadets studying in IMU KC.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses (for MEO or NCV / Sagarmala Training)
3. **Budget:** Not available, may be procured from Aalang / used vessels.

4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 2
Technical Support Staff – 4.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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18 – Ship Like Mast

1. **About the Project: Ship Like Mast for IMU Kolkata.**

The mast of a sailing vessel is a tall spar, or arrangement of spars, erected more or less vertically on the centre-line of a ship. Nowadays its purposes include giving necessary height to a navigation light, look-out position, signal yard, control position, radio aerial, ship’s horn or signal lamp. Large

ships have several masts, with the size and configuration depending on the style of ship.



2. **Relevance:** The equipment will be used for practical training for UG students. Cadets need to be familiarise regarding the Ship Like Mast, different flag hoisting and working aloft. Also It is a requirement of DG Shipping with respect to CIP compliance.
3. **Budget:** Not available, may be procured from Aalang / used vessels. OR New.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 1
Marine Support Staff – 1.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor**: The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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19 – Electrical_Engineering_Lab Equipments

1. **About the Project**

Proper insulation system is crucial factor in order to make system reliable. There are different types of insulations which are widely used in marine ships. The most common insulations which are Mineral Wool Insulation, Micro porous Structural Insulation, Hull boards Insulation, Fiberglass Insulation, Elastometric Pipe Cover Insulation, Fiber Blanket, Aluminum Coating Insulation, Foam Insulation, and Wired Mat Insulation.

IMU cadets need to undergo practical training on the working and condition monitoring of Insulations onboard ship and to impart training to the cadets regarding the present trend and make them at par with industry.

IMU is seeking support from Alumni and the Industry to procure the following equipments for the Electrical Lab at IMU Kolkata Campus so that the cadets

are aware of the different types of Insulations on board ship. The equipment can be procured from GeM portal or suitable manufacturer.

Sl. No.	Facilities or Equipment (Priority wise)	Why the facility/ equipment are required?	Requirement
1.	Electrometer 6517B	To Measure the dielectric response of different insulating material	01
2.	IDAX 300	To Measure % moisture present in insulation system.	01
3.	Dissipation Factor testing kit	To Test tan delta	01
4.	Breakdown Voltage of Oil Testing Machine	To test BDV of liquid insulation.	01
5.	DIRANA Dielectric Frequency Response Analyzer	To measure frequency response from insulating material	01
6.	Bushing and 3 phase 15 KVA Transformer	For real life testing	01



BDV Kit



KEITHLEY Electrometer



15 KVA Transformer

2. **Relevance:** The equipment will be used for practical training for UG and PG students. Faculty and Scholars will also make use of the equipment for research and consultancy works. The equipment can in addition provide earnings to DMET / MERI Campus for its development by facilitating value added courses, consultancy and research.

3. **Budget:** Rs. 20 lakhs-30Lakhs (depends on the manufacturer)

4. **No. of students who will benefit:** 1200 students (approximately) and PhD Scholars.

5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Professor – 1
Technical Support Staff – 2.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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20 – Roller

1. **About the project:** Ground Roller for IMU- Kolkata Campus.

Due to Govt. procedures the hiring of services is delayed and repetitive nature of the work due to periodic rains, weed growth justifies the roller. CPWD which is involved in maintenance charges very high rates and difficulty in coordination consumes too much of administration time.



2. **Relevance** The equipment will be used for preparation the playground for UG and PG students. Availability of the ground in good condition for a long duration rather than the present utility for about 5 months only.
3. **Budget:** RS. 7 Lakhs.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Director Sports -1
A/E Civil – 1
Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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21 – Mini tractor

1. **About the project-** Mini tractor with tractor power rotary weed cutter

Kolkata soil and weather conditions create too much of weed growth and time to maintain the field becomes excessive and students lack interest. Procuring a unique product is riddled with procedural red tape and vendor side issues, which are long drawn.



Mahindra
JIVO



2. **Relevance:** Availability of the ground in good condition for a long duration rather than the present utility for about 5 months only.
3. **Budget:** RS. 7 Lakhs.
4. **No. of students who will benefit:** 1200 students per year.
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Assistant Director Sports -1
OIC- Workshop - 1
Technical Support Staff – 2.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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22 – Desmi Pump

1. **About the Project:** Desmi Pump Vertical Inline Pump of Capacity about 1000 cu.m/hr with stainless steel impeller and parts / Slurry application with starter, valves and Piping.

Flooding in the campus is a major hindrance to sports, academics and overall student and academic activity. A Large dredge / slurry pump with high capacity of robust design and make with piping is required. We cannot buy this product due to procedural issues with purchase and a proprietary equipment.



2. **Relevance:** Lowest point in front of gallery class rooms of old academic building. The overall outlook of the campus, prevention of deterioration of civil structures, work shop machinery, improvement in health, availability of ground / infrastructure for use.
3. **Budget:** RS. 6 Lakhs.
4. **No. of students who will benefit:** 1600 students per year.

5. **Faculty/staff who will operate & maintain the equipment/facility:**

AE (Civil) – 1

AE (Electrical) – 1

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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23 – Liquefied Gas Mini Storage and Dispenser

1. **About the Project:** Liquefied Gas Mini Storage and Dispenser in IMU Mumbai Port Campus

With the IMO’s recent and forthcoming regulations related to decarbonisation efforts, alternate fuels such as LNG, Hydrogen, and Ammonia are being explored to replace low sulphur fuel oil.

IMU cadets need to undergo practical training on the working principles of liquefied gases to prepare them for the future work environment.

IMU is seeking support from Alumni and the Industry to install a Liquefied Gas Mini Storage and Dispenser in IMU's Mumbai Port Campus (formerly DMET/MERI Mumbai). The equipment can be procured from Linde or Chart industries or any other suitable manufacturer.



2. **Relevance:** The equipment will be used for practical training for UG and PG students. Faculty and Scholars will also make use of the equipment for research and consultancy works. The equipment can in addition provide some earnings to DMET / MERI Campus for its development by facilitating value added courses, consultancy and research.
3. **Budget:** Rs. 25 lakhs (estimated US\$32,000)
4. **No. of students who will benefit:** 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
 - Associate Professor – 1
 - Assistant Professor – 1
 - Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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24 – Dedicated Marine Aux Lab

- 1. About the Project:** Establishment of Dedicated Marine Aux Lab comprising of following

- (a) Incinerator
- (b) Fresh Water generator
- (c) Sewage Treatment Plant
- (d) Oily water separator
- (e) Cut section of various pumps/ valves

Similar Items which may be available that can enhance practical skill of cadets in IMU Mumbai Port Campus



2. Relevance: Marine Aux lab will enable cadets to have practical hands-on training. Currently the facility required does not exist in the lab.

Second hand item may also be procured from Alang ship breaking yard.

Operational / Non-operational machines, cut section etc can also be procured from Alang for the Marine Auxiliary lab.

Will improve the quality of education.

Enhanced training, better understanding of Marine Machineries before joining the ship.

3. Budget: Rs. 60 lakhs (estimated US\$76,000)

4. No. of students who will benefit: 1000 students per year

5. Faculty/staff who will operate & maintain the equipment/facility:

OIC-Workshop – 1

Assistant Professor – 1

Technical Support Staff – 2.

6. Mode of support:

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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25 – Dedicated Internal combustion engineering Lab

1. **About the Project:** Setting of Dedicated Internal combustion engineering

Lab:

- a. Cut/Full section of Main engine piston
- b. Liner of main engine
- c. Exhaust valve of main engine
- d. Cylinder head of main engine
- e. Stuffing Box
- f. Fuel Injectors
- g. Gen Set

Similar Items which may be available that can enhance practical skill of cadets



2. **Relevance:** Cut section of Main Engine piston, display of Main engine liner, stuffing box, cut section of fuel valve, fuel valve testing machine, Main engine cylinder head etc are not available at our campus.

Will improve the understanding of Diesel engine construction.

Will also improve the quality of education

3. **Budget:** Rs. 60 lakhs (estimated US\$76,000)
4. **No. of students who will benefit:** 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:** OIC-
Workshop – 1
Assistant Professor – 1
Technical Support Staff – 2.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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26 – 3D printer

1. **About the Project:** Setting of 3D printer



2. **Relevance:** For modelling and quick implementation of designs related to marine.

To quickly fabricate parts and test in the environment.

Will enable upgradation of facilities to international standards

Creating environment of creativity and Innovation

3. **Budget:** Rs. 7 lakhs (estimated US\$9,000)

4. **No. of students who will benefit:** 1000 students per year

5. **Faculty/staff who will operate & maintain the equipment/facility:**

OIC-Workshop (Electrical & Electronics)– 1
Assistant Professor – 1
Technical Support Staff – 2.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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27 – VR head set simulator

1. **About the Project:** Setting of VR head set simulator



2. **Relevance:** With VR technology cadets in the I/II semester of 1/4-year Programme can get exposure of ships know how. Better familiarization of engine room.
3. **Budget:** Rs. 7 lakhs (estimated US\$9,000)
4. **No. of students who will benefit:** 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
OIC-Workshop (Electrical & Electronics) – 1
Assistant Professor – 1
Technical Support Staff – 2.
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

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28 – Volley Ball Court

1. **About the Project:** Installation of Sports Facility - Volley Ball Court



This sport court will help in the fitness of the cadets and increase concentration in the studies. Game for group activity will motor coordination, flexibility, endurance and develop life skills.

2. **Relevance:** The sports facilities will be used for physical training and improving concentration for UG, PG and Post-graduate course students. Faculty and Staff will also make use of the equipment for physical fitness.
3. **Budget:** Rs. 15 lakhs [estimated US\$18,750]
4. **No. of students who will benefit:** Approx. 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:** Physical Training Instructor and Hostel Warden
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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29 – Basket Ball Court

1. **About the Project**: Installation of Sports Facility - Basket Ball Court



This sport court will help in the fitness of the cadets and increase concentration in the studies. Game for group activity will motor coordination, flexibility, endurance and develop life skills.

2. **Relevance:** The sports facilities will be used for physical training and improving concentration for UG, PG and Post-sea course students. Faculty and Staff will also make use of the equipment for physical fitness.
3. **Budget:** Rs. 15 lakhs [estimated US\$18,750]
4. **No. of students who will benefit:** Approx. 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Physical Training Instructor and Hostel Warden
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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30 – Snooker

1. **About the Project:** Installation of Sports Facility - Snooker-2 units



This sport facility will help in the fitness of the cadets and increase concentration in the studies.

2. **Relevance:** The sports facilities will be used for physical training and improving concentration for UG, PG and Post-sea course students. Faculty and Staff will also make use of the equipment for physical fitness.
3. **Budget:** Rs. 04 lakhs [estimated US\$5,000]
4. **No. of students who will benefit:** Approx. 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:** Physical Training Instructor and Hostel Warden
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

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31 – Football

1. **About the Project**: Installation of Sports Facility - Football/Soccer-2 Units



This sport facility will help in the fitness of the cadets and increase concentration in the studies. Game for group activity will motor coordination, flexibility, endurance and develop life skills. Football & Soccer will keep cadets active. **Foosball** also helps improve hand-eye coordination. Improve reaction times and reflexes.

2. **Relevance:** The sports facilities will be used for physical training and improving concentration for UG, PG and Post-sea course students. Faculty and Staff will also make use of the equipment for physical fitness.
3. **Budget:** Rs. 01 lakh [estimated US\$1250]
4. **No. of students who will benefit:** Approx. 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
Physical Training Instructor and Hostel Warden
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

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32 – Netting for Courts

1. **About the Project:** Installation of Sports Facility - Netting for courts (up to 10 meters height for cricket, football, Volley Ball-mini playground including court)



Sports Fencing Net

This sport courts will help in the fitness of the cadets and increase concentration in the studies. Game for group activity will motor coordination, flexibility, endurance and develop life skills.

IMU MPC has limited space for a full-fledged sports ground. The space inside the campus can be utilised for playing various sports by providing a high netting supported by GI poles.

2. **Relevance:** The sports facilities will be used for physical training and improving concentration for UG, PG and Post-see course students. Faculty and Staff will also make use of the equipment for physical fitness.
3. **Budget:** Rs. 30 lakhs [estimated US\$38,000]
4. **No. of students who will benefit:** Approx. 1000 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:** Physical Training Instructor and Hostel Warden

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

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33 – Recreational Rooms

1. **About the Project: RECREATIONAL ROOMS**



Recreation rooms in Hostels for Cadets to be up-graded / renovated with furniture and indoor games.

New Hostel – 01 Boys Hostel

01 Girls Wing

Old Hostel – 01 Boys Hostel

2. **Relevance:** Recreational activities to manage stress level during free time. Essential for basis entertainment and wellness of all college campuses.
3. **Budget:** Rs. 15 lakhs
4. **Number of students who will benefit:** Full strength
5. **Faculty / staff who will operate & maintain the equipment / facility**
Wardens
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

-"This equipment / facility is donated for the noble cause of enhancing engineering competence in shipping / maritime by [ABCD]"

8. **Contact Details:**

Mr. Jagmeet Makkar

IME(I) Chair

Indian Maritime University

imei.chair@imu.ac.in

34 – Tanker Work Lab (Anti-Pollution Gear & Tanker Gear) Mimic Pipeline System

1. **About the Project:** TANKER WORK LAB (ANTI POLLUTION GEAR & TANKER GEAR) MIMIC PIPELINE SYSTEM



2. **Relevance:** Enhance tanker/chemical tanker and gas tanker practical knowledge. The basic knowledge of how to use the Will help our cadets to have practical knowledge of tanker work which will help them get better placements. Most of the major shipping companies and Ship Managers have a considerable fleet strength of tankers/chemical carriers /gas carriers which make it advantageous to have our cadets have some extra training on tanker work.
3. **Budget:** Rs. 20-25 lakhs
4. **Number of students who will benefit:** Full Strength
5. **Faculty / staff who will operate & maintain the equipment / facility:** Faculty
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

-“This equipment / facility is donated for the noble cause of enhancing engineering competence in shipping / maritime by [ABCD]”

8. **Contact Details:**

Mr. Jagmeet Makkar
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Indian Maritime University
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35 – Hydraulic And Pneumatic Training Unit

1. **About the Project:** HYDRAULIC AND PNEUMATIC TRAINING UNIT
2. **Relevance:** For training on hydraulic systems and pneumatics systems. Since most of the deck machinery / equipment on ship needs an understanding of basic hydraulics and pneumatics. Mooring equipment, hydraulic valve operation, framo pumps, pneumatic gangway motors etc all have a basic theoretical and practical understanding about hydraulic and pneumatic.
3. **Budget:** Rs. 25 lakhs
4. **Number of students who will benefit:**
5. **Faculty / staff who will operate & maintain the equipment / facility:**
Workshop Supervisor
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor**: The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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8. **Contact Details:**

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Indian Maritime University
imei.chair@imu.ac.in

36 – New Corrosion Protection And Surface Preparation Painting Workshop Area With Demo Hydro Blasting Machine And Other Associated Machinery

1. **About the Project**: NEW CORROSION PROTECTION AND SURFACE PREPARATION PAINTING WORKSHOP AREA WITH DEMO HYDRO BLASTING MACHINE AND OTHER ASSOCIATED MACHINERY, etc.



2. **Relevance:** For training corrosion protection /painting/surface preparation which is important aspect of ship maintenance and also a essential part of cadet training.

In depth knowledge both theoretical and practical about corrosion prevention, equipments used in modern ships for purposes of maintenance-spray painting machines and the safety precautions involved, hydro blasting machines and the safety precautions associated.

All the above are essential features which a cadet should know and will give an edge over other MTIs

3. **Budget:** Rs. 20 lakhs
4. **Number of students who will benefit:** Full Strength
5. **Faculty / staff who will operate & maintain the equipment / facility:**
Seamanship Instructor
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

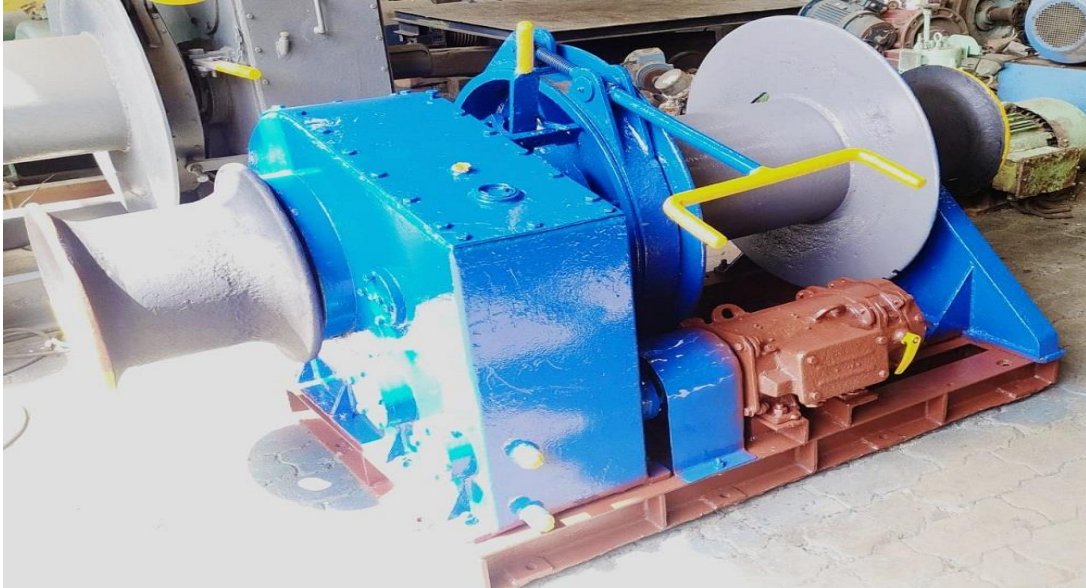
7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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8. **Contact Details:**
Mr. Jagmeet Makkar

37 – Mooring Winches

1. **About the Project: MOORING WINCHES**



2. **Relevance:** Practicing mooring station safety aspect n operations.
Practical understanding of mooring operations gear, Safety precautions.
3. **Budget:** Rs. 25 lakhs
4. **Number of students who will benefit:** Full Strength
5. **Faculty / staff who will operate & maintain the equipment / facility:**
Seamanship Instructor
6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor**: The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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8. **Contact Details:**

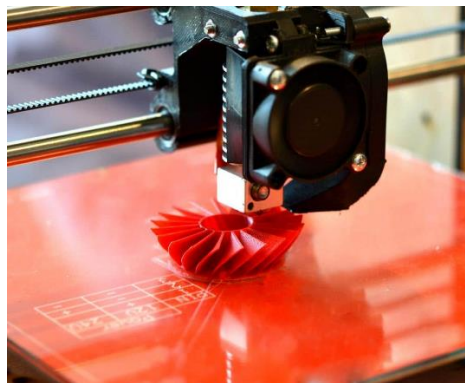
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38 – Model making facility

1. **About the Project**: Model making facility in IMU Visakhapatnam Campus

The Ship model making facility will be used for manufacturing a geometrical similar scale ship model; equipped with propellers, thrusters and rudders; the model will be used for testing the hydrodynamic characteristics of the ship in hydrodynamic test facilities for resistance, propulsion, sea keeping and manoeuvring behaviour responses.





ITTC recommended procedures and guidelines for ship model making is well established as a standard which is accepted by all model testing facilities. The model manufacturing is either by wood or FRP based on weight requirements.

3D printing is also one means for manufacturing model propellers, considering the size and complexity in shape. 3D printing method of manufacturing is weight saving, significant reduction in lead time and efficient in redesigning small components.

IMU students in Naval Architecture and Ocean Engineering domain area need to undergo practical training on the working principles of fabricating a ship model and to prepare them for the future work in industry or research organizations.

Students from other campuses can also benefit from this facility.

IMU is seeking support from Alumni and the Industry to install a Ship Model making facility in IMU's Visakhapatnam Campus.

2. **Relevance:** The equipment will be used for practical training for UG and PG students. Faculty and Scholars will also make use of the equipment for research and consultancy works. The equipment can in addition provide some earnings to IMU Visakhapatnam Campus for its development through consultancy and research work.
3. **Budget:** Rs. 100 lakhs

4. **No. of students who will benefit:** 500 students per year
5. **Faculty/staff who will operate & maintain the equipment/facility:**
 - Associate Professor – 1
 - Assistant Professor – 1
 - Technical Support Staff – 2.

6. **Mode of support:**

Option 1: Purchase the equipment and donate to IMU – no tax benefits available under the Income Tax Act.

[or]

Option 2: Transfer funds to IMU for procurement – limited tax benefits available under Section 80G of the Income Tax Act.

7. **Recognition of donor:** The equipment installed will be named as below to recognise the donor [ABCD] with a permanent fixture

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8. **Contact Details:**

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