WP3.1. Deployment and implementation of E-MARE

HCMUNRE - P5 has completed the procurement and installation of the following equipment.

1. **Procurement of equipment**

- The procurement of equipment was initiated after the receipt of equipment purchase financing transferred from the project coordinator (University of Bremen) and approved in April 2021.
- In July 2021, after receiving quotations from the three suppliers, MARE technical team reviewed the equipment quotations and decided on which quotation to select for purchasing.
- Final equipment purchase recommendation was attached in the fund transfer request to MARE project coordinators in July 2021.
- A purchase orders were issued to the shortlisted vendors in October 2021.
- Arrangement for delivery and installation were conducted in November 2021.
- Once installation was completed, the equipment was inspected, tested and all details were recorded in inventory records.
- The use of equipment will be started in December 2021.
- The equipment installation are intended to be used for interactive teaching, seminar and meetings with students, staff, other partners and stake holders.

All relevant documents are available in the folder named: Equipment. Link to view those files at

https://drive.google.com/drive/folders/1-eczi_3CguMlsmBFDDWmuGJVT5XWwjJm?usp=sharing

- 1. 03 quotations from suppliers (attached files)
- 2. 01 contract for supply goods (attached file)
- 3. 01 Invoice (attached file)
- 4. 01 payment transfer to supplier (attached file)
- 5. Information/images of inventory of the equipment

2. Description of the equipment

- Inventory of the equipments: All equipments were installed in room A 309, faculty of Marine Resources and Environment Management, Ho Chi Minh City University of Natural Resources and Environment, 236B Le Van Sy Street, ward 1, Tan Binh District, Ho Chi Minh City, Vietnam.

- Person who is responsible for installing equipment: Mr. Nguyen Cuu Long Giang, Director of Center for Information and Libary, Ho Chi Minh City University of Natural Resources and Environment.

- Person who is taking charge to manage the MARE lab room: Dr. Le Thi Kim Thoa, MARE project manager of HCMUNRE.

No.	Equipment	Qty	Function/program installed	Illustrating photos
1	**Laptop Dell Vostro 5490** - Microprocessor: Intel Core i7 10510U 1.8Ghz Up to 4.9Ghz-8Mb - RAM memory: 8GB, onboard, DDR4, 2666MHz - Hard drive capacity: 512GB M.2 PCIe NVMe Solid State Drive - Fingerprint Sensor:Yes - Monitor: 14.0-inch FHD (1920 x 1080) Anti-glare LED Backlight - Graphics card: NVIDIA® GeForce® MX250 with 2GB GDDR5 graphics	2 pcs	- For teaching and field trip staff	

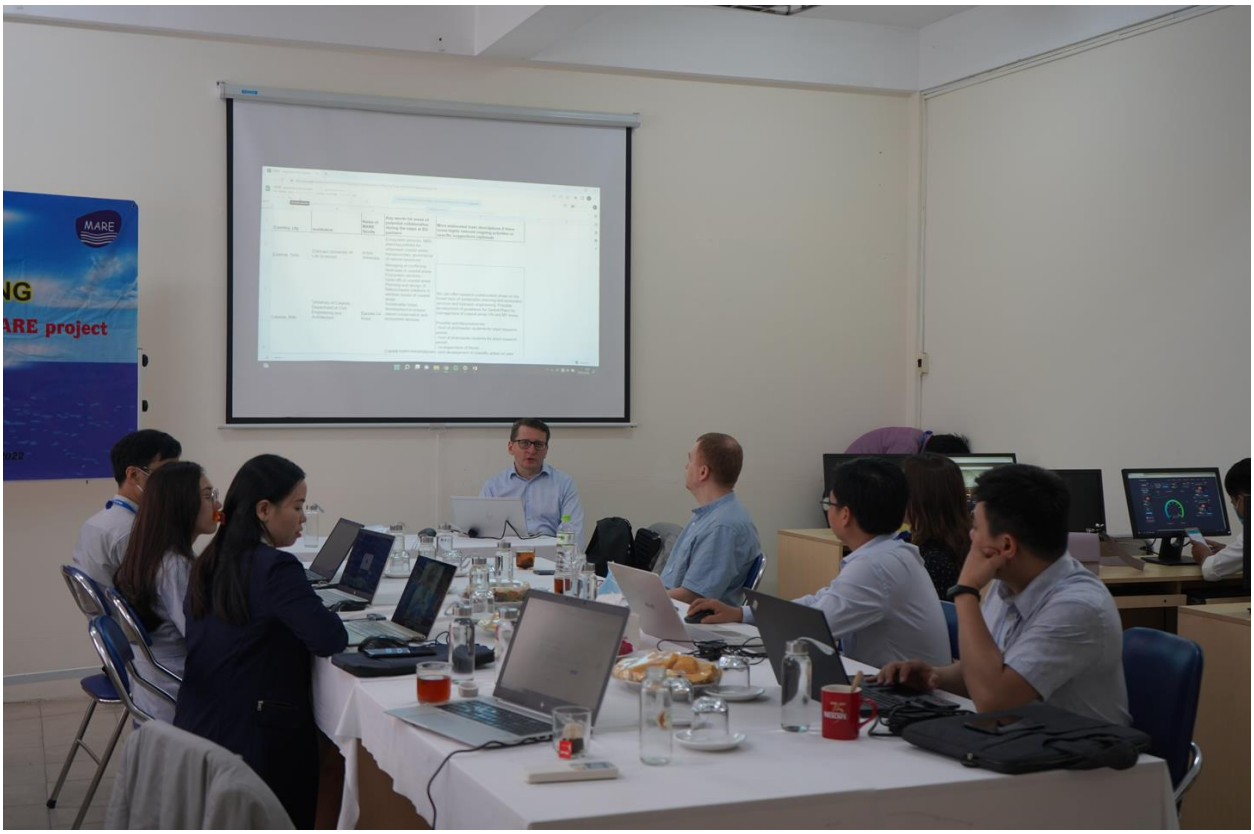
	memory - Connection: 802.11ac 1x1 WiFi and Bluetooth - Operating system: Windows 10 Home - Battery: 3-Cell, 42 WHr, Integrated battery - Ports: 1Micro SD Media Card Reader (SD, SDHC, SDXC) -1Headphone/Microphone combination jack - 1 Ethernet RJ-45 - 1 USB 2.0 - 1 Wedge-Shaped Lock Slot - 1 Power In - 1 HDMI 1.4b - 2 USB 3.1 Gen 1 Type-A - 1 USB 3.1 Gen 1 Type C - Colour: Urban gray			
2	**CPU Dell OptiPlex 5070 SFF and Monitor Dell 20" Professional P2018H LED** - Processor: Intel® Core™ i7-9700 (8 Cores /12MB/8T/3.0GHz to 4.8GHz/65W) - Mainboard: Intel Q370 Chipset - Ram: 8GB 2666MHz DDR4 Memory; 2 slots support up to 64GB 2666MHz DDR4 Memory - Hard Drive: 1TB 7200 RPM SATA 6Gb/s (64MB Cache) - Graphics: Intel UHD 630 Graphics with shared graphics memory - Audio: Realtek High Definition Audio Codec (supports multiple streaming) - Optical Drive: 8x DVD+/-RW 9.5mm - Ports: 1 USB 3.1 Gen 2 Type-C™ (front); 5 USB 3.1 Type-A (1 front/4 rear); 4 USB 2.0 (2 front/2 rear); 1 RJ-45; 2 Display Port 1.2; 1 UAJ; 1 Line-out; 1 optional Port (VGA/DP/HDMI 2.0b/Serial+PS/2) - Number of Bays (max): 1 x 3.5” hoặc 2 x 2.5” HDD - Expansion Slots: 1 x Half Height PCIe x16; 1 x Half Height PCIe x16 (wired x4); 1 x M.2 for storage (22x80mm or 22x30mm); 1 x M.2 for wireless (22x30mm) - Networking: Integrated Ethernet LAN 10/100/1000 - Keyboard: Keyboard Black (English)	20 set	- For students and staff teaching, practicing and training.	 

	- Optical Mouse , 200W PSU - Hardware Security - Trusted Platform Module (TPM) 2.0, Chassis lock slot support; - Genuine off-host verification tool, protecting BIOS from attack (authenticate BIOS against comparison with manufacturer's BIOS version via secure cloud environment) - Systems Management Options: Genuine software support for users or IT administrators to download and use for the following jobs: - Set BIOS settings through an easy-to-use graphical user interface: + Restrict access to USB ports + Disable / enable TPM + Install the Boot order + Set Auto Recovery in case the BIOS is corrupted + Export a file of BIOS settings so that the administrator can apply it to other computers as needed - Allow IT to check, change the computer hardware settings with PowerShell administrative commands - Device Type: LED-backlit LCD monitor - 20" - Panel Type : TN (Twisted Nematic) - Native Resolution: 1600 x 900 at 60Hz - Contrast Ratio: 1000: 1 (typical) - Color Gamut (typical):84% (CIE 1976), 72% (CIE 1931) - Color Depth: 16.7 Million colors - Features: USB hub - Aspect Ratio: 16:09 - Brightness: 250 cd/m2 (typical) - Response Time: 5 ms (black to white) - Input Connectors: HDMI, VGA, DisplayPort			
3	**Sony FDR-AXP55 4K camcorder (built-in projector)** - Recording format: XAVC S 4K, XAVC S HD, AVCHD, MP4 - Image sensor: 1/2.5 type(7.20mm) back-illuminated Exmor R CMOS Sensor - Still image resolution: 8.29 MP - Internal memory: Flash Memory 64GB	1 pcs	- For recording video lecture and field trip	

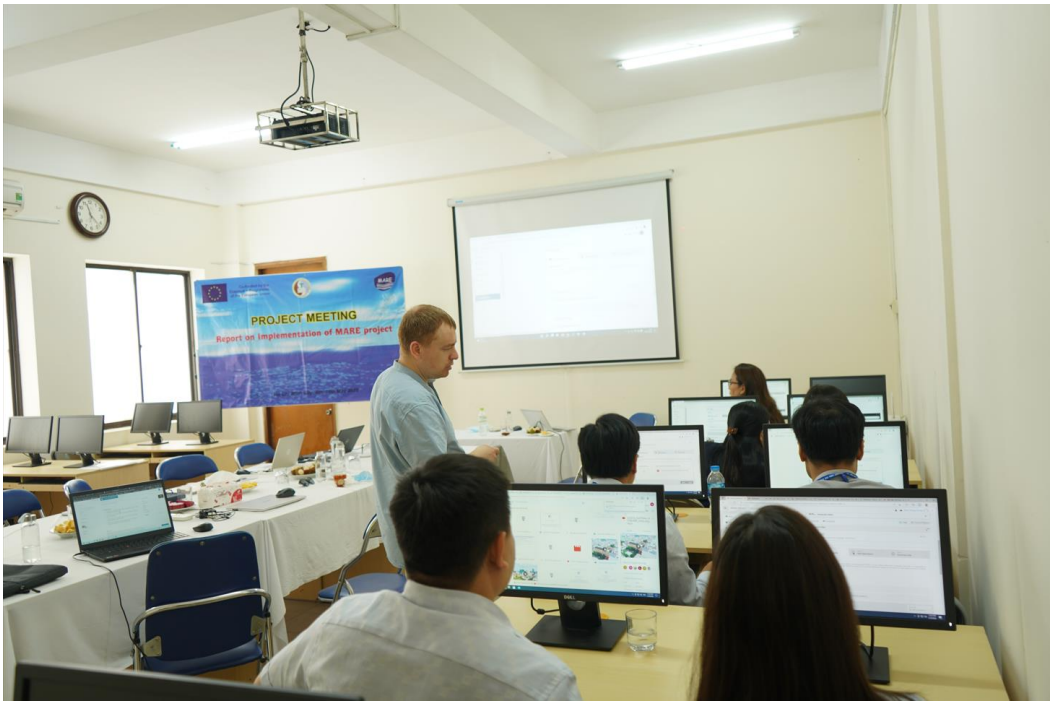
	- Image processor: BIONZ X - Image stabilization: Balanced Optical SteadyShot w/ Intelligent Active mode(5-axis) - Lens : ZEISS Vario-Sonnar T* - Focus angle of view (35mm conversion): 26.8mm - Aperture : 2.0 - 3.8 - Optical zoom: 20x - Clear zoom image: 30x (4K), 40x (HD) (zoom KTS: 250x) - Sound: 2ch (XAVC S), 5.1ch (AVCHD) - Advanced features: High-speed movie recording, High-speed recording, Timelapse recording in 4K format, Golf Shot, Night Shot, Focus Lock, Voice noise reduction - Wifi/NFC : Yes - LCD monitor : Xtra Fine LCD™ display(921,600dots) Wide(16: 9), 3.0 type, touch screen. - Electronic viewfinder : 0.24 type, 1,555,200dots - Recording time: about 75 minutes (XAVC S 4K 30p), about 105 minutes (AVCHD FH) - Compatible memory cards + XAVC S 4K format (100Mbps): SDXC Memory Card (UHS-I U3 and above) XAVC S 4K (60Mbps): SDXC Memory Card (Class10 and above) XAVC S HD: SDXC Memory Card (Class10 and above) + AVCHD format, still images: Memory Stick PRO Duo (Mark 2), Memory Stick PRO-HG Duo, Memory Stick XC-HG Duo, SD / SDHC / SDXC Memory Card (Class 4 and above) - Size: about 77mm x 80.5mm x 166.5mm - Weight: about 565g (excluding batteries) - Accessories: NP-FV70 battery, AC - Adapter, HDMI (mirco) cable, Integrated USB Cable connection, Power cord, SF-M64 / T2 memory card			

4	**Cisco AIR-AP2802E-S-K9 802.11ac W2 AP w / CA Wifi transmitter** - Integrated antennas : Flexible radio (either 2.4 GHz or 5 GHz) - 2.4 GHz, gain 4 dBi, External antenna, omnidirectional in azimuth - 5 GHz, gain 6 dBi, External directional antenna, elevation plane beamwidth 90° - Dedicated 5-GHz radio - 5 GHz, gain 5 dBi, External antenna, omnidirectional in azimuth - Interfaces: 2x100/1000BASE-T autosensing (RJ-45) - Management console port (RJ-45) - USB 2.0 (enabled via future software) - Indicators: Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors	2 pcs	- wifi conection to other device and access the lab system when necessary.	 

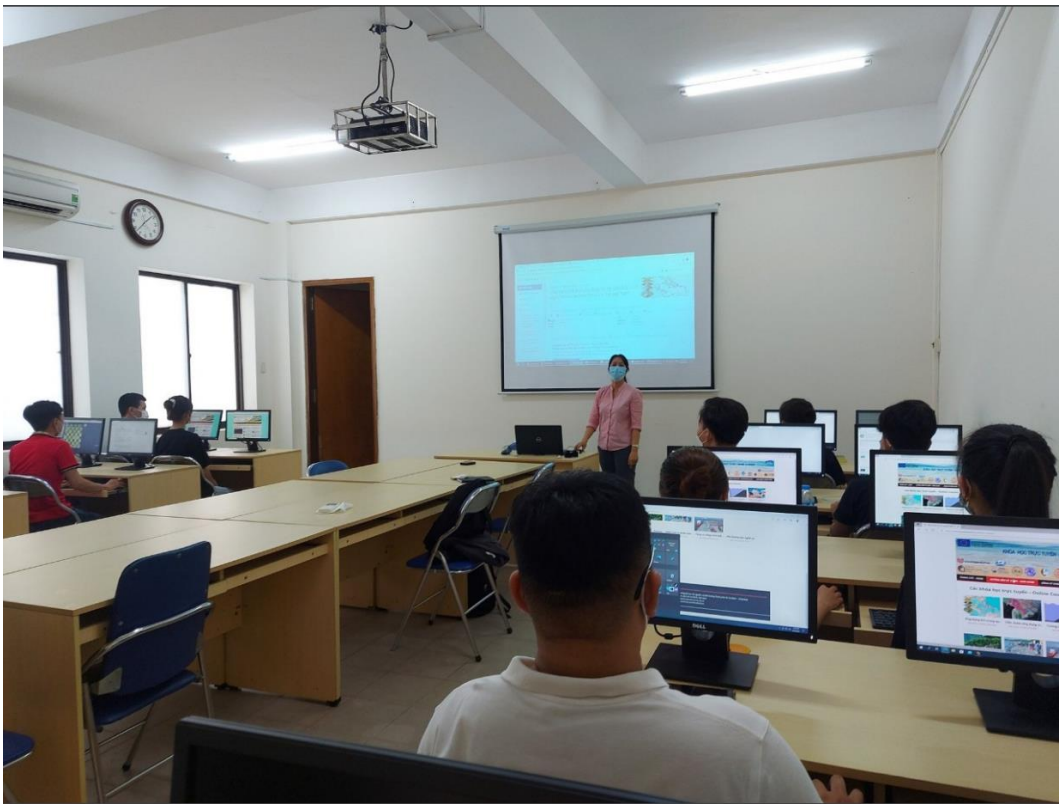
1. Meeting, serminar in the MARE Lab



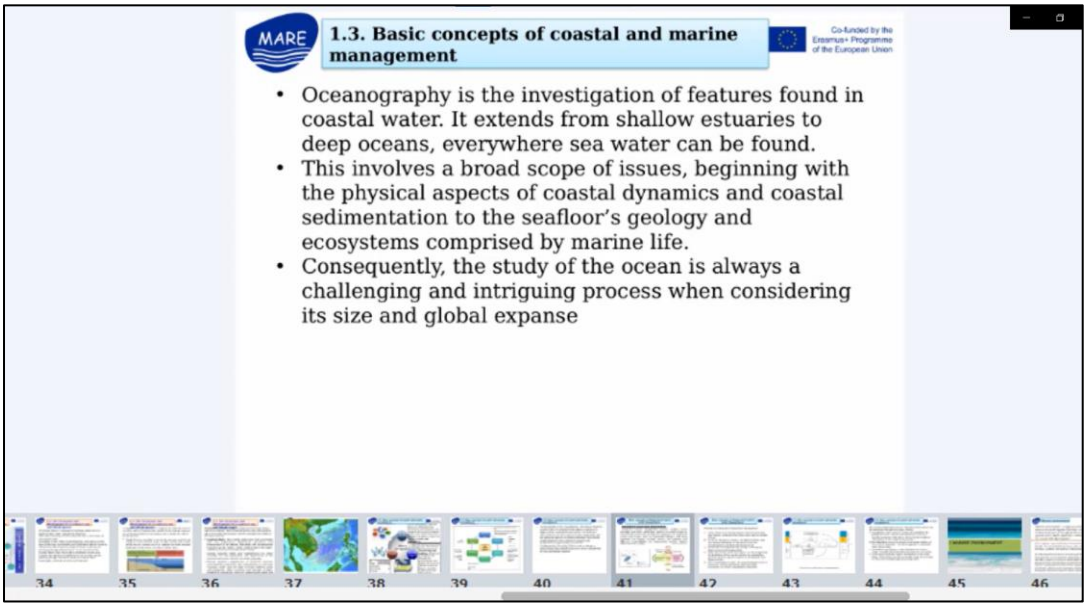
2. Training lecturers in the MARE Lab



3. Teaching students in the MARE Lab



4. Video, photos lecture using camera of the MARE project.

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