



Vidyavardhini's College of Engineering and Technology

K.T.Marg, Vasai Road (west); Dist-Palghar; Pin-401202

26_Energy Conservation Week expert session on "Application of IoT and ML in Management of Energy Utilities" by Dr Hemant Wamburkar, Director, Innovative Digital Energy Applications & Solutions, Pune

Academic Year	2021-22		
TITLE	Energy Conservation Week expert session on "Application of IoT and ML in Management of Energy Utilities" by Dr Hemant Wamburkar, Director, Innovative Digital Energy Applications & Solutions, Pune		
Organizing Committee	Mechanical Engineering		
Date:	14/12/2022	Time	10 am
Venue of the Event	Seminar hall		
No of participating Students	63		
No of participating faculty	2		

Swapnil Mane
Faculty In-charge


HOD,
HEAD
Dept. of Mechanical Engg.
Vidyavardhini's College of
Engineering & Technology
Vasai Road-401202.



VIDYAVARDHINI'S COLLEGE OF ENGINEERING & TECHNOLOGY

Founder President Late Padmashri H. G. Vartak
(Approved by AICTE and Affiliated to the University of Mumbai)
Four Branches Permanently Affiliated by University of Mumbai



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Report on Energy Conservation Day 2021

Program	Energy Conservation Day 2021
Date	14/12/2021
Mode	Online
Description	<p>Every year, Department of Mechanical Engineering, Vidyavardhini's College of Engineering and Technology (VCET), Vasai (west), organizes "Energy Conservation Week". The event is organised on the occasion of "World Energy Conservation Day" i.e 14th December to highlight the importance of energy consumption and its use in our day-today life.</p> <p>On this occasion, an Expert session on "Application of IOT and ML in Management of Energy Utilities" was scheduled at 10:30am to 11:45 am on 14th December 2021 through Online mode by Dr Hemant Wamburkar.</p>
Organizing Committee	<p>Coordinator: Mr Swapnil R Mane, Assistant Professor, Mechanical Engineering</p> <p>Chief Guest: Dr Hemant Wamburkar, Director, Innovative Digital Energy Applications & Solutions, Pune</p>
Participation Details	63 participants from and across various colleges participated in this online session and certificates were provided for those who actively participated in the workshop
Total Number of Participants	63
Google Meet link	https://meet.google.com/iid-oyyx-ihe
Whatsapp link	https://chat.whatsapp.com/EJHFNybNVDiD8Pvxm6lEh9
Description of Event	<p>Topics Covered</p> <p>Energy optimisation in smart manufacturing</p> <p>Automated Energy Meter Reading: -</p>

	<p>Smart Alerting System for Proactive Response: -</p> <p>Automated Reporting System for Routine Analysis: -</p> <p>Analytical Tools for Diagnostics and Optimization:</p> <p>Visibility for Improved Productivity: -</p> <p>2) Use of IOT (AI and ML) for Energy Data. Going beyond EMS with Plant connect. The guest explained about how Internet of Things and concepts of AI and ML can help data managers acquire useful information with Energy Management system.</p> <p>3)Digital Utilities</p> <p>Using continuous data obtained from IoT and from Big Data provide inputs for optimizing energy, water and asset performance from energy signature of machines and systems at part loads (Continuous re-commissioning)</p> <p>This uses the dynamic modelling of fluid (Liquids/Gases) systems from energy, and derive fluid and thermal energy flows and efficiencies</p> <p>So data of parameters like Energy, Power, Electrical, Temp, Pressure, RH, vibration provide useful insights for altering the operating machines at part loads for maximizing their energy performance.</p>
Feedback	Feedback and constructive comments were given by students and the events was successfully organized with certificates being presented to successful students.

Mr Swapnil Mane

Co-ordinator, Startup Cell

Glimpses of the Event



VIDYAVARDHINI'S COLLEGE OF ENGINEERING & TECHNOLOGY



**INSTITUTE INNOVATION COUNCIL
ENERGY CONSERVATION WEEK 2022**

Session 1
10:30am to 11:45am
14th December 2021
Application of IOT and ML in Management of Energy Utilities



Dr. Hemant Wamburkar
Ph.D. Energy & Efficiency
Certified Energy Auditor
Director, Innovative Digital Energy Applications & Solutions, Pune

Come Join Us for a Better Future

Mr. Swapnil R. Mane
Startup Cell Coordinator

Dr. Madhavi Waghmare
Convenor-IIC

Dr. Ashish Chaudhari
President-IIC

Dr. Harish Vankudre
Principal

The screenshot shows a Google Meet interface. The main window displays a presentation slide with the following content:

- What is IoT/IIoT/Industry 4.0**
- Industry 4.0 :** Today's Era of Connected world through connected devices from mobile/tablet /computers/watches/AR/VR to machines and automobiles through telemetry using mobile technologies & Internet
- Gateways/Converters:** A device which aggregates the data from devices like various sensors/PLCs/SCADA/DCS/HMIs/Relays etc electronically using wired or wireless technologies and sends it to the local server or cloud server on which some software is installed to process this data and provide UI , statistics and analytics and offer reports, intelligence, and alerts etc
- Wireless technologies:** GPRS / Bluetooth, Wi-Fi, Lora etc
- Protocol:** Modbus, Profibus, HART etc
- Sensors:** A physical device which senses the data as parameter and displays and or transmits this data
- IoT- Internet of things**
- IIoT-Industrial Internet of Things**
- Cloud Server:** Amazon, Alibaba, Private Clouds
- Local Server :** Local high grade computer (On Premise)

The slide also features the 'PlantConnect Sectors' logo. The meeting controls at the bottom show a recording icon (REC) and the presenter's name, Swapnil Mane. The participant grid on the right includes Dr. Hemant Wamburkar, Rahul Krishna, Dr. Harish Vankudre, Vartak Manal Ajit, Shaista Khan, viren.180622101 vcet, Apurva Pendbhaje, and 6 others. The system tray at the bottom indicates the time is 10:32 AM on 14/12/2021.