

Post-Event Report: One-Day VR-Based Training Program

Program Title: Industrial Energy Efficiency and Decarbonisation Using Virtual Reality-Based Digi-Twin Training Simulator

Organized By: National Productivity Council (NPC), under the Ministry of Commerce & Industry, in collaboration with GIZ, Germany.

Date: 27th February 2025

Venue: Aaryabhata Hall, L.D. College of Engineering, Ahmedabad.

1. Introduction & Background

A one-day training program on "Industrial Energy Efficiency and Decarbonisation Using Virtual Reality-Based Digi-Twin Training Simulator" was successfully conducted on 27th February 2025. The event was a collaborative effort between the National Productivity Council (NPC) and GIZ, Germany, hosted at L.D. College of Engineering (LDCE), Ahmedabad.

The primary goal of this program was to introduce undergraduate engineering students to advanced concepts of industrial energy efficiency and decarbonization. By leveraging immersive Virtual Reality (VR) and Digi-Twin simulator technology, the program aimed to bridge the gap between theoretical classroom learning and practical industrial applications, providing students with a unique, hands-on learning experience. The target audience for this training was the undergraduate students from the Chemical, Mechanical, and Electrical Engineering departments of LDCE.

2. Program Objectives

The main objectives of the training program were:

- To educate students on the principles of energy efficiency in key industrial utility systems.
- To provide hands-on experience with VR-based simulators for process understanding and optimization.
- To demonstrate the role of decarbonization and modern digital tools in achieving sustainable industrial practices.
- To foster collaboration between industry bodies, international agencies, and academic institutions.

3. Event Proceedings & Schedule

The program was executed as per the planned agenda, under the expert guidance of Mr. M. Joel Franklin Asaria and his team from the National Productivity Council. The event was coordinated by LDCE faculty members Dr. P.H. Rana, Dr. R.R. Patel, and Dr. T.S. Rajaraman.

The day's schedule was as follows:

Time	Activity	Description
09:30 - 10:00	Registration	Participants registered for the event at the Aaryabhata Hall.
10:00 - 11:15	Session 1: Steam Systems	The first technical session focused on VR-based energy efficiency in steam generation and distribution systems.
11:15 - 11:30	Tea Break	A short networking break for participants and experts.
11:30 - 13:00	Session 2: Compressed Air Systems	This module consisted of VR-based practical sessions on achieving energy efficiency in compressed air systems.
13:00 - 14:00	Lunch Break	

14:00 - 15:15	Session 3: Pumping Systems	Post-lunch, participants engaged in VR practicals focused on energy efficiency in pumps and pumping systems.
15:15 - 15:30	Tea Break	A second brief break.
15:30 - 16:45	Session 4: Fan Systems	The final technical module covered VR-based practical sessions on energy efficiency in fan systems.
16:45 - 17:00	Feedback & Valedictory Session	The day concluded with a session for feedback and discussions, followed by a valedictory ceremony where participants were felicitated.

4. Key Highlights

- **Immersive Learning:** The core of the program was the use of VR simulators, which allowed students to interact with digital twins of industrial systems. This hands-on approach facilitated a deeper understanding of complex processes.
- **Expert Guidance:** The sessions were led by Mr. M. Joel Franklin Asaria and his team from

NPC, who brought valuable industry experience and technical knowledge to the students.

- **Strong Participation:** The event saw enthusiastic participation from students of the Chemical, Mechanical, and Electrical Engineering departments, who filled the Aaryabhatta Hall.
- **Industry-Academia Collaboration:** The program was an excellent example of a successful partnership between a premier government body (NPC), an international cooperation agency (GIZ), and a leading engineering institution (LDCE).

5. Conclusion

The one-day training program was a resounding success. It effectively introduced future engineers to cutting-edge VR technology and its application in promoting industrial energy efficiency and sustainability. The interactive sessions, expert-led demonstrations, and hands-on VR experience were highly appreciated by the students. The event successfully met its objective of providing practical, industry-relevant knowledge to complement academic curricula.

Annexures: Event Photographs and Participant Attendance List

Annexure: Event Photographs











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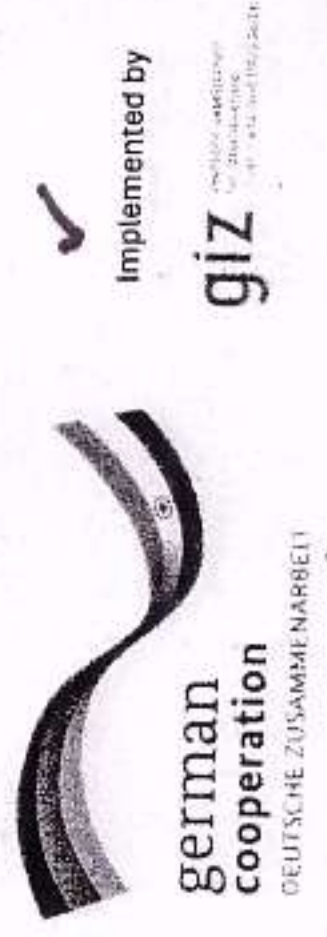


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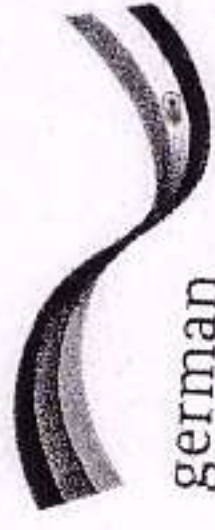


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