



L. J. Institute of Engineering & Technology

LJ Campus, Near Sanand Sarkhej Circle, S.G.Highway

Ahmedabad

Industrial Visit Report

Department of Computer Engineering

Date of Visit

(01/05/2017 & 02/05/17)

Place

(MUNDRA PORT, Kutchh, Gujarat)

Duration of Visit

(2 Days)

BE Semester:

4th CE

No. of Students Participant in Visit: 76

Name of Faculty member/s:

- 1) Prof. Ajay Upadhyaya
- 2) Prof. Ranna Trivedi
- 3) Prof. Hemali Mojidhara
- 4) Prof. Kaushal Madhu



About Adani Foundation:

Adani Foundation spends Rs. 3.5 crore annually for such educational project. As a part of that two (capacity - 40) air conditioned buses from Ahmadabad and accommodation at Shantivihar Guest House is provided. Adani Foundation is continuously organizing two days educational field trip to Mundra at cost of 300 Rs. Per student with a vision to familiarize & inspire the young generation to become successful business people, engineers, managers etc.

Observations during the visit:

We learned lots of thing in this Industrial visit, some of them are:

- **Adani Ports and Special Economic Zone Limited (APSEZ)** is India's largest private multi-port operator. APSEZ is a part of the Adani Group, an integrated infrastructure corporation. The company (earlier known as Mundra Port & Special Economic Zone Ltd) changed its name to "Adani Ports and Special Economic Zone Limited" on January 6, 2012. While earlier the company had one operational port at Mundra, it today operates across eight ports in India.
- In 2013-2014, Mundra Port has handled 100 million tonnes of cargo in a year becoming the first Indian port to do so. It also became India's biggest port by cargo handled
- The journey started on 1st May 2017 5:00 AM. Two A.C. buses from ADANI were waiting to welcome the group. The students along with faculties were ready for an exciting visit. It was still dark and early morning but the students created a very energetic and disciplined environment. The buses were well maintained and comfortable. Within an hour they were on NH947 and speed geared up. First halt was taken at 'Haridarshan Dhaba' at 8:00 for breakfast. They reached the premises at 1:00 p.m. on 1st May 2017. The people at Adani welcomed and allotted rooms according to entries. The rooms were clean and the guest house was very well maintained. Lunch was offered at 2:00 p.m. and after that information about ADANI firm and Mundra port was shared.
- All have departed for the visit of MUNDRA PORT and Oil Refinery and Packaging unit at 3:00 p.m. The mobile phones and cameras were collected from all as photography was restricted. Safety helmets were given to wear into the packaging or the generation part of the industry. At Adani Port Jetti huge

machinery were loading and unloading tons of cargo. ADANI WILMAR- OIL refinery processes various types of edible oils. An engineer gave quick information about the processing of tin canisters as well as the plastic bottles. On the way one can see the oil being filled in the bottles by automated machines. They refine & pack about *3200 Tons oil per day*. They have made 12 Km long pipeline to import oil from the cargo on port. They pack nearly *6000-7000 litres of oil per hour in bottles & 190-200 pouch/hour*.

- In the refining process, the first step was BLEACHING. Under bleaching, the major impurities were removed from the oil which deteriorated the color of the oil. The bleached oil was then FILTERED and the heavy impurities were taken out from it. Finally, the strong smell of crude was to be eliminated to get the final product. Thus the DEODERIZATION of oil was done. This process removed all the impurities which were deteriorating the odor of oil. At 250-270 degrees Celsius, the oil was made to pass high vacuum pressure which refined it completely. Fatty acids, which were removed while deodorizing, were sent to the soap industry. Other impurities which were extracted from the crude while bleaching and filtration were sent to incense stick making industries. And thus, no part of the crude was wasted at any of the step in the refining process. Each process is fully computerized.
- After knowing refining, students were taken to the packaging section of the oil industry. Uniform conveyer belt system that connected the whole packaging process into one. The oil bottles were filled and entered into the station where first they were shut with bottle caps. And then they were further passed to put on the Label. Afterwards, a packaging machine packed 36 bottles each at the same time into three different boxes i.e. 12 bottles in one box. Finally the boxes were sealed with tape and were further sent for storage or export.
- The whole process was fully automatic and was working on PLCs. The PLCs made the work so easy that not a single human was involved in this process at any instance of time. ADANI WILMAR packaging unit has 6 cold storage units in which the temperature is slowly decreased upto -5 degree Celsius. The fully-equipped Adani Wilmar can produce 6000-7000 liters of oil/hour in the industry.
- Everyone was gifted a half-liter FORTUNE Oil bottle while departing for the

guest house in the evening at 6:30PM

- At 7.30 pm *MAHA AARTI* was arranged at the Shanti Nath temple. The temple was a piece of art in itself. The garden and fountains were well maintained. At 8:00 pm it was time for dinner and it was equally delicious as lunch. After dinner we went in gallery and played games. The first day ended with full of joy at 11:00 p.m
- The day started with a knock on doors as a wakeup call at 5:30am. After gathering in the garden, an inspiring lecture was given about healthy lifestyle and yoga which ended with laughing session. Breakfast was served in cafeteria at 8 a.m. After breakfast we have started for last spot **Adani West Base**. Again the journey to port was interesting in itself. Heaps of coal was again there but this was less dusty than before. The fact behind this we came to know later that this base uses modern grabbers which stack the coal without much dust. The atmosphere was pleasant on west base. The port was made in a curve which was actually in a 'C' shape. This port also held the record for unloading in minimum time in India. Also there was a 22 km long which loaded with coal for transportation. Along with these amazing facts we continued our journey.
- Next stop was **Adani Power Plant** which is multistory building with boilers at the basement and controlling unit above. At control unit engineer gave information about the power generation. The steam was generated by boiling water with the help of coal as a fuel and high pressure steam produce electricity. The power plant supplied 4620 Mega Watts of energy. Out of these 2000 is supplied to HARYANA, 2000 to GUJARAT government, & 620 is internally used. It uses HVDC (High Voltage DC) for transmission to HARYANA as it is a long distance transmission it is to be converted into DC first & then it is again recovered. Live status of frequency and power generated was available in the control room.
- After the power plant visit, all returned to the cafeteria for lunch and boarded buses for back to Ahmedabad journey.

Subject/s or topic related to visit: Machine Automation
Human less computer based power plant
Computerized automated Oil Refinery with 0% Error.

Outcomes/Understanding from the visit:

- Familiarize & inspire the young generation to become successful business people, engineers, managers etc.
- To provide industrial exposure to our students with the current technology in Computing engineering.
- To provide platform for students to know the way industry works and to motivate them to work in good industry for better future.
- Students are familiar about power generation of thermal power plant and various Controlling systems.

Feedback of Students:

- **Student 1:** It was a great experience. We explored some amazing industries and machines. We came to know about the process of how electricity is made from coal. And how import & export is done. We also came to know about the oil refineries. It was an awesome experience all together.
- **Student 2:** It was truly an honour being a part of such visit. I have learnt so much about advanced robotics in manufacturing process and port management.
- **Student 3:** It was an awesome experience. The management was so accurate and quick.
- **Student 4:** It was an experience of life time to visit Asia's biggest industry.
- **Student 5:** It was amazing experience, I learned about how oil and electricity is produced. Learned about how coal is imported. I saw engineering miracles.

- **Student 6:** It was really great , learned a lot from it.
- **Student 7:** I suggest you to continue this "Udaan" for every students as an inspiration and knowledge.

The overall visit was really resourceful and has helped the students to understand the use of computer and IT in such big Non- IT industries. We are very thankful to our **HOD Prof. Shweta Yagnik** and **Director Dr. Anil Suthar** for putting faith on us and permit us to become a part of this Industrial visit.

From

Prof. Ajay N. Upadhyaya
Assistant Professor, CE Dept, L.J. Institute of Engineering & Technology

To

Prof. Shweta Yagnik
HOD CE Dept, L.J. Institute of Engineering & Technology

Name of Department: <u>Computer Engineering Department</u>							
Sr. No.	Date of visit	Semester	Name of Company/ Industry	Address	No. of students participated	No of faculty participated	Remarks
2	01/05/2017 & 02/05/2017	4	Adani Foundation	MUNDRA PORT, Kutchh, Gujarat	76	4	-