



## **INDUSTRIAL VISIT REPORT**

**NAME OF THE INDUSTRY: ADANI PORTS, MUNDRA**

**DATE: 2<sup>ND</sup>, MAY, 2017**

**VENUE: ADANI PORTS, MUNDRA, KUTCH, GUJARAT**

**NO. OF STUDENTS PARTICIPATED: 74(Second Year EC and EE Students)**

**FACULTY MEMBERS: 04**

Prof. Rohit Parmar

Prof. Parthesh Mankodi

Prof. Kavindra Jain

Prof. Ravi Tanna

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.

APSEZ is India's first multi-product port-based special economic zone (SEZ). The company currently has an annual cargo handling capacity 185 MMT as of 2014.

### **Mundra Port**

The development of Adani Port & Special Economic Zone Limited was conceptualized by the entrepreneur Mr. Gautam Adani. Mundra port was the first one to be developed in October 1998 with just one berth. In a short span of just 12 years Mundra Port achieved 100 million

metric tonnes of commercial cargo in a year thereby becoming India's largest commercial port. APSEZL has registered the fastest CAGR of over 35% in the port sector across in the India. The Mundra port is located in the Northern Gulf of Kutch, en route major maritime routes and connected through rail, road, air & pipelines. This makes it a preferred gateway for cargo bound westwards. The port has been designed to handle all types of cargo viz. containers, dry bulk, break bulk, liquid cargo and automobiles.



APSEZ has a capacity to handle 185 million tonnes of cargo per annum – the largest amongst all operational ports in India. APSEZ handled 64 million tonnes of cargo in the financial year 2011–12. APSEZ was ranked fourth amongst all commercial ports in India in terms of the total volume of cargo handled in a financial year.

APSEZ has not only pioneered the concept of deep draft integrated port model, but also of port based SEZ. The multi-product SEZ consisting Mundra Port and its surrounding areas is planned to be spread over 135 square kilometres (13,500 hectares). Currently, notified Multi-product SEZ is spread over an area of 6473 Hectare, with an additional 168 Hectares notified as a Free Trade Warehousing Zone.

### **Port layout and infrastructure**

The port has a deep draft that facilitates large vessels including fully laden capsized vessels to dock alongside its berth.

APSEZ has commodity-specific storage areas. The Port has 225,000 sq. metres of closed godowns and 3,150,000 sq. metres of open storage yards for storage of import or export cargo within the port premises. The Liquid Terminal at ASPEZ consists of 97 tanks of different sizes and attributes with a total storage capacity of 425,000 kilolitres for storage of various liquid commodities.

APSEZ has also developed adequate infrastructure for evacuation of cargo keeping in mind the concept of the inverted funnel. According to the concept, the capacity of a port's evacuation infrastructure should be more than its marine infrastructure.

APSEZ has developed commodity-specific infrastructure for handling, storage and evacuation of cargo. The Fertilizer Cargo Complex (FCC) is a fertiliser handling facility. The FCC has 2

operational lines with 44 bagging machines with a capacity to bag 660 nos. of 50-kg bags per minute and a capacity to load and evacuate 8–10 rakes per day i.e. 25,600 tonnes per day.

The steel yard is a steel storage area spread over 120,000 sq metres and consists of equipment for handling steel cargo. The steel yard is equipped with 8 Goliath cranes and 2 mobiles cranes with vacuum lift attachments, 6 forklifts with multiple attachments to handle steel coils, slabs and plates, 1 reach stacker and 60 trailers for internal transportation.

Besides the port area there is a large land area for development. A part of this area is now notified and functional SEZ which is now largest port based Multi- product SEZ of the country. This SEZ is suited to service the hinterland of north and northwest India which account for two-third of India's GDP. The area is connected with National road, rail and pipeline network. Being spread over an area of 84 km<sup>2</sup> it includes port, container terminals, rail, airport, container freight station, storage tanks.

APSEZ is being developed as a business location for sectors like Light and Heavy Engineering, Project cargo, Auto and Auto Component, Textiles and Apparel, Pharmaceuticals, Dyes and Specialty chemical, Agri-product processing, Plastic processing, Timber and Furniture, Global trading, Metal and Mineral etc.

It claims to have considerable distance advantage over other ports to most destinations in Rajasthan, Haryana, Punjab, Delhi-NCR, Uttar Pradesh, Madhya Pradesh, Jammu and Kashmir, Himachal Pradesh and Uttarakhand.

### **Terminals and berths**

The marine infrastructure at APSEZ consists of 10 berths for handling dry bulk & break bulk cargo, 3 berths for handling liquid cargo, 6 container berths including a Ro-Ro berth, three 3 mechanised import cargo berths and 2 single point moorings for crude oil imports. The mechanised import cargo berths can handle vessels with maximum draft of 19 meters and other berths can handle vessels with maximum draft of 17 meters. The SPM facility offers a draft of 32 meters.

The Port has its own fleet of tugs and pilots. APSEZ also owns a fleet of dredgers to carry out the capital and maintenance dredging activities and thereby ensuring that APSEZ has the deepest draft amongst all ports in India.

### **Key Points about Adani Port**

- 1350 employees are working on port most of them are on contract bases.
- Medical facilities are given to employees only
- Current year profit is 15k Cr. Rs.
- The port has natural draft of 17.5 M
- Largest port handling cargo
- They mainly deal with coal, fertilizer, steel etc.
- Land area of Adani port is 10,000 Acers.
- Largest, Notified and Functional Port based multi-product SEZ in India.
- Strategically positioned Port based location with effective access to major international sea ports.
- An Integrated Self sustained SEZ for setting up an Industrial Hub along with Social infrastructure needs.
- Multi-modal connectivity offering competitive logistic advantage with:

- In-zone Port with Container Terminals
  - Fully mechanized efficient port with one of the lowest turnaround time in India.
- In-zone Road & Rail connectivity:
  - Well connected with National & State Highways
  - 117 Kms Private Rail line connects to National Rail Network.
- In-zone private Airport
  - Proposed International Air Cargo Hub

## **The West Port**

The West Port basically serves the purpose of coal handling, mainly coal import.



### **Berths**

Three dedicated mechanised berths with a quay length of 1120 metres and an annual capacity to handle nearly 60 million tonnes annually. Deep-draft berths (19.5 meters at the berth face in phased manner) to cater to fully-laden cape-size vessels.



### **Ship loaders / Unloaders**

Seven grab ship unloaders (GSU) with CBM grabs. Each GSU has a rated capacity to discharge 2000 tonnes cargo per hour.



### **Conveyors**

21 Kms of dedicated conveyor systems with 7.5 metres per second conveying speed for transporting cargo from the jetty to backup and back to cargo evacuation points. The conveyor system has a capacity to transport 6000 tonnes cargo per hour.



### **Coal stack pile**

Well planned coal stack piles for storage of coal



### **Stacker reclaimers**

Three stacker reclaimers with 6000 tonnes per hour stacking capacity and 2500 tonnes per hour reclaiming capacity and one reclaimer with 2500 tonnes per hour reclaiming capacity



### **Coal stack pile**

Well planned coal stack piles for storage of coal

Dedicated storage yard with a (Phase I) capacity to store is 3.2 million tons cargo. Cargo is stored customer-wise and grade-wise in designated storage yards.



### **Fully automatic control system**

Fully mechanized control system for coal yard operations



### **Truck loading system**

Mechanized truck loading system consisting 3 silos and daily capacity to load 12000 tonnes



### **Rail loading system**

Rapid wagon loading system with 2 rail lines and daily capacity to load 88000 tonnes

At 2:00 am the journey started from vidyanagar. The 74 students along with 4 faculties were ready for an exciting visit. Sharp at 4 o'clock early in the morning two buses of Adani arrived. It was still dark and chilly morning but the students created a very energetic and disciplined environment. The buses were well maintained and comfortable. Within an hour we were on NH947 and our speed geared up. We were yet to cover around 300kms to reach our destination.

As our fun time started we started to feel hungry and luckily the first halt was not far away. We took our halt at a hotel and we were served breakfast. And after that the journey resumed and we started to play fun games like cards on the way.

After a long and fun filled journey we reached a very secluded and poised place named 'Shanti Vihar'. We were mesmerized by the view of the place and a spiritual vibe was felt by the 'Shanti Nath' temple.

We were received by the in charge of 'Shanti Vihar'. Rooms were allotted to us in a group of three. We found out the rooms very spacious and equipped with all the basic amenities that an individual needs.

After some rest we were called by a whistle for lunch in the mess. The meal was very delicious and hygienic as well. Also the service was excellent. After lunch we again went back to our room.

One of the most significant part of the visit was that our electronic gadgets were taken. And this was done for rules and also the fact that we can focus on learning rather than posing for pictures.

At 3:00PM we left accommodation for the purpose we came for. With all the safety instructions and helmets we kick-started our crusade of learning about the industry. The buses took us to the Adani Port. Meanwhile we saw huge machinery and were astonished to see tons of cargo loading and unloading. Heaps of coal was alongside the road.

The coal was unloaded to conveyer belts by huge grabbers. Throughout the travel to port we were amazed to see the work of mechanics. About an hour later we reached the port. The authority received us and gave facts and information about the port.

### **PHOTOGRAPHS**







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Department of Electronics & Communication Engineering  
G. H. PATEL COLLEGE OF ENGINEERING & TECHNOLOGY, VALLABH VIDYANAGAR  
(A Charutar Vidya Mandal Institution)



## SIGNATURE LIST

	<b>G H PATEL COLLEGE OF ENGINEERING &amp; TECHNOLOGY</b> <b>VALLABH VIDYANAGAR</b> <b>ACADEMIC YEAR 2016-17 TERM: EVEN</b> <b>DEPARTMENT : ELECTRONICS &amp; COMMUNICATION</b>	
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### INDUSTRIAL VISIT TO ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED (APSEZ), MUNDRA, MUNDRA

Signature List:

Sr. No.	Name of the Student	Signature	Sr. No.	Name of Student	Signature
1.	Bhumi Thacker	<i>Bhumi Thacker</i>	2.	Jethva Ravi	<i>Jethva</i>
3.	Dhruvi KaPatel	<i>Dhruvi</i>	4.	Patel kaumil	<i>Patel</i>
5.	Komal Parikh	<i>Komal</i>	6.	Shah Tej	<i>Tej</i>
7.	Nehali Hatiya	<i>Nehali</i>	8.	Shah Namra	<i>Namra</i>
9.	Priyansi Patel	<i>Priyansi</i>	10.	Shah Parth S	<i>Parth</i>
11.	Rajnandini Tiwari	<i>Rajnandini</i>	12.	Patel Priyank	<i>Priyank</i>
13.	Riddhi Patel	<i>Riddhi</i>	14.	Makwana Nikhil N	<i>Nikhil</i>
15.	Shivani Shah	<i>Shivani</i>	16.	Dobariya Tejas A	<i>Tejas</i>
17.	Urvi Gherwada	<i>Urvi Gherwada</i>	18.	Shirude Mayur M	<i>Mayur</i>
19.	Vasudha Singh	<i>Vasudha</i>	20.	Parmar Bhavesh A	<i>Bhavesh</i>
21.	Kairavi Patel	<i>Kairavi</i>	22.	Patel Parth	<i>Parth</i>
23.	Aesha Shah	<i>Aesha</i>	24.	Kunal Rohit Patel Gorakh Shereyans Patel	<i>Kunal</i>
25.	Kindil Shah	<i>Kindil</i>	26.	Manthan Patel	<i>Manthan</i>
27.	Aditi Gor	<i>Aditi</i>	28.	Dhruvin Gotecha	<i>Dhruvin</i>
29.	Yatri Patel	<i>Yatri</i>	30.	Aditya Pandey	<i>Aditya</i>
31.	Shaili Shah	<i>Shaili</i>	32.	Aman Joshi	<i>Aman</i>
33.	Khushboo Raval	<i>Khushboo</i>	34.	Aman Sinha	<i>Aman</i>
35.	Patel Forum H	<i>Patel</i>	36.	Ankur Bhanderi	<i>Ankur</i>
37.	Rathwa Sejal P	<i>Rathwa</i>	38.	Anuj Ghadecha	<i>Anuj</i>
39.	Manvar Vatsal A	<i>Manvar</i>	40.	Arnav Katpalia	<i>Arnav</i>
41.	Patil Pritesh V	<i>P.V. Patil</i>	42.	Bhaumik Kotiya	<i>Bhaumik</i>
43.	Parmar Bhagvanji	<i>Bhagvanji</i>	44.		



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VALLABH VIDYANAGAR  
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45.	Gondaliya Dhruval		46.	Deep Maheshwari	
47.	Dhruv Joshi		48.	Pintu Virparia	
49.	Dhruvesh Patel		50.	Prit Patel	
51.	Divya Shah	D.V.Shah	52.	Rakesh Chauhan	
53.	Gaurav Tiwari		54.	Shivam Roy	
55.	Harl Desai		56.	Smit Patel	
57.	Harsh Patel		58.	Sumit Badal	
59.	Harsh Shah		60.	Jay Joshi	
61.	Het Shah		62.	Divyesh Bhuva	
63.	Jay Shah		64.	Patel Vandan	
65.	Jeet Sakariya		66.	Patel Jil	
67.	Jenis Bhandari		68.	Rohit Kamlesh	
69.	Karan Patel		70.	Hardik Ramani	
71.	Kevin Shah		72.	Harsh Thakkar	
73.	Manan Patel				
74.	Meet Kansara				
75.	Morvin Bhungalia				
76.	Ninad Gandhi				

Name of Faculties:

Prof. Rohit Parmar

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