SARVAJANIK UNIVERSITY

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# Report on Industrial Visit

**to**

## SUMUL Dairy, Surat

**on**

## 2nd December 2025

## Mechanical Engineering Department

**Sarvajanik College of Engineering & Technology, Surat**

## Introduction

An industrial visit to SUMUL Dairy, Railway Station Road, Surat, was organized on 2nd December 2025 by the Mechanical Engineering Department, Sarvajanik College of Engineering and Technology (SCET), Sarvajanik University for the 1st-year B.Tech Mechanical Engineering students. The visit was conducted as a part of their practical learning under the subject Basic Mechanical Engineering.

SUMUL Dairy, a leading unit under the AMUL cooperative network, offered students first-hand exposure to large-scale dairy processing, quality control, automation, and industrial safety practices.

## Objectives of the Visit

The major objectives of the industrial visit were:

- To provide students real-time exposure to large-scale mechanical systems used in dairy processing industries.
- To correlate theoretical concepts of **Basic Mechanical Engineering** with practical applications.
- To understand the functioning of automated packaging, refrigeration, and material-handling systems.
- To study the cooperative dairy model and its socio-economic significance.
- To observe industrial safety, hygiene standards, and maintenance practices followed in food processing industries.

## Attendance Summary

| Total Visitors | Faculty Members | Girl Students | Boy Students |
|---|---|---|---|
| 51 | 2 | 6 | 43 |

A total of **51 visitors**, with the detailed bifurcation shown in the above table, participated in the industrial visit, accompanied by the faculty coordinators: **Prof. (Dr.) Hiren A. Shah** and **Prof. Jainish J. Topiwala**

Upon arrival at Gate No. 2, students underwent a strict entry check, a standard requirement in food-processing industries. Students followed all rules, including the prohibition of photography, audio recording, mobile phones, and bags. As a gesture of hospitality, SUMUL Dairy offered fresh lassi to all visitors, giving them an immediate experience of one of SUMUL's products.

## Orientation Session & Presentation

The visit began in the Visitor Presentation Room, where a 15-minute documentary was shown. This video covered:

- The history and development of SUMUL and AMUL

- Contributions of Dr. Verghese Kurien, Morarji Desai, and leadership of Narendra Modi in promoting cooperative dairy movements
- Overview of AMUL's plants: 4 in Gujarat, 3 in Maharashtra, and 1 in Goa
- Details about milk procurement from Surat and Tapi districts
- SUMUL's daily handling capacity of 25 lakh litres

This session provided students with background knowledge on cooperative supply chains and large-scale operations.

## Major Products of SUMUL Dairy

| Category | Products |
|---|---|
| Milk & Liquid Products | Packaged Milk (all variants), Buttermilk, Lassi |
| Ghee & Butter | Ghee, Table Butter, White Butter |
| Ice Cream & Frozen Items | Ice Cream Cups, Cones, Family Packs, Sticks, Kulfi |
| Paneer & Cheese | Fresh Paneer, Frozen Paneer |
| Milk Powder Products | Skim Milk Powder, Whole Milk Powder, Dairy Whitener |
| Fermented Products | Curd, Masti Dahi, Probiotic Dahi, Flavoured Lassi |
| Value-Added Sweet Products | Shrikhand, Amrakhand, Flavoured Milk |
| Animal Feed (Dan) | Cattle Feed, Calf Starter, Buffalo Feed, Mineral Mixture |

## SUMUL's Other Production Facilities

Navi Pardi Plant: Dedicated to the production of ice cream and frozen value-added products. Equipped with modern freezing, mixing, and fully automated packaging systems ensuring hygiene and consistent product quality.

Bajipura Plant: One of the region's most advanced animal feed (dan) production units, producing high-quality cattle feed using automated mixing and processing technology that supports livestock nutrition and dairy productivity.

## Social Welfare Initiatives

Students learned about SUMUL's contributions to society through programs such as:

- Mid-Day Meal Scheme
- Nutrition for malnourished children
- Support for pregnant women

These initiatives reflect SUMUL's commitment to public health and social responsibility.

## Plant Visit and Unit Observations

Students visited four key automated units:

- Milk Pouch Packaging Unit: High-speed automatic machines handling filling, sealing, and labeling operations with precision and hygiene.

- Ghee Pouch Packaging Unit: Advanced filling systems for viscous products, ensuring consistency, airtight sealing, and controlled temperature environment.
- Paneer Packaging Unit: Semi-automated processes for pressing, cutting, and hygienic pouch packing of paneer blocks.
- Butter Packaging Unit: Low-temperature automated molding, slicing, and wrapping systems ensuring product quality and shape.
- Areas Not Visited: Due to safety and technical reasons, the following units were restricted: Boiler house, Refrigeration unit, Milk powder plant


***Group Photograph***

## Guidance during the Visit

The group was accompanied by **Mr. Vipul Thorat**, Junior Executive (B.Tech – Dairy Technology), who explained each unit in detail, covering technical, operational, and quality-control aspects. Support for coordination and documentation was provided by **Mr. Chirag Baraiya** and **Mr. Pravin Jadeja** from **HRD & ER Department**, SUMUL Dairy.


***As a token of gratitude, a letter of appreciation and a memento were presented to Mr. Chirag and Mr. VIpul for their valuable support and contribution.***

## Relevance to Mechanical Engineering Students

The visit reinforced important concepts of **Basic Mechanical Engineering**, including:

- **Mechanical Systems and Machinery:** Students observed pumps, compressors, conveyors, valves, pipelines, and high-speed automated machines—directly related to course topics.
- **Thermodynamics and Heat Transfer:** Processes like pasteurization, chilling, and ghee heating illustrated practical application of heat exchangers and thermodynamic principles.
- **Automation and Mechatronics:** Exposure to PLC-controlled systems, sensors, actuators, and automated packaging lines enhanced their understanding of integrated mechanical-electronic systems.
- **Maintenance and Industrial Safety:** Students learned about preventive maintenance, lubrication systems, industrial layout planning, and strict safety protocols.
- **Engineering Design Considerations:** Observations of equipment materials, design for hygiene, efficiency improvements, and environmental standards connected theory with real industry practice.

## Media Coverage

The industrial visit to SUMUL Dairy by the 1st Year Mechanical Engineering students of SCET, Sarvajanik University was featured in the Gujarati language daily newspapers *Dhabkar* and *Pratap Darpan*. The news highlighted the students' participation and the learning gained about milk processing, automation, and cooperative dairy operations.

સ્કેટ કોલેજના પ્રથમ વર્ષના મેકેનિકલ વિભાગના વિદ્યાર્થીઓએ સુમુલ ડેરીની મુલાકાત લીધી

ધબકાર પ્રતિનિધિ,
સુરત, તા. ૦૩

સ્કેટ, સાર્વજનિક યુનિવર્સિટીના મેકેનિકલ ઇજનેરી વિભાગ દ્વારા પ્રથમ વર્ષના બી.ટેક. મેકેનિકલ ઇજનેરીના વિદ્યાર્થીઓ માટે સુરત સ્થિત સુમુલ ડેરી ખાતે ઔદ્યોગિક મુલાકાતનું આયોજન કરવામાં આવ્યું હતું. કુલ ૫૧ વિઝિટર્સએ મુલાકાત લીધી હતી. વિદ્યાર્થીઓએ દૂધ પાઉચ પેકેજિન્ગ પ્રક્રિયા, ઓટોમેશન, પનીર-ઘી-બટર ઉત્પાદન તથા સહકારી ડેરી વ્યવસ્થાની મહત્વપૂર્ણ માહિતી મેળવી હતી. સુમુલ ડેરીના અધિકારીઓ અને કર્મચારીઓના માર્ગદર્શનથી આ મુલાકાત માહિતીપ્રદ અને સફળ રહી હતી.

ધબકાર ૨૭મું વર્ષ ધબકાર www.dhabkar.com DHABKAR DAILY NEWSPAPER-SURAT

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2 ગુરૂવાર, તા.૪ ડિસેમ્બર ૨૦૨૫ પ્રતાપ દર્પણ PRATAP DARPAN

સ્કેટના વિદ્યાર્થીઓ સુમુલ ડેરીની મુલાકાતે

સુરત, તા.૪

SCET, સાર્વજનિક યુનિવર્સિટી ના મેકેનિકલ ઇજનેરી વિભાગ દ્વારા પ્રથમ વર્ષના બી.ટેક. મેકેનિકલ ઇજનેરીના વિદ્યાર્થીઓ માટે સુરત સ્થિત સુમુલ ડેરી ખાતે ઔદ્યોગિક મુલાકાતનું આયોજન કરવામાં આવ્યું હતું. કુલ ૫૧ વિઝિટર્સ એ મુલાકાત લીધી હતી. વિદ્યાર્થીઓએ દૂધ પાઉચ પેકેજિન્ગ પ્રક્રિયા, ઓટોમેશન, પનીર–ઘી–બટર ઉત્પાદન તથા સહકારી ડેરી વ્યવસ્થાની મહત્વપૂર્ણ માહિતી મેળવી. સુમુલ ડેરીના અધિકારીઓના માર્ગદર્શનથી મુલાકાત માહિતીપ્રદ અને સફળ રહી.

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