

## Industrial visit to Bosch Global Software Technologies

Date: September 1st, 2023

Mr. Joydeep Pal, Specialist in EMI/EMC at BOSCH Bangalore explained the concept of EMI/EMC. He started his talk with the definition of EMC. He mentioned the EMI/EMC is an emerging field. Every product has to be certified for EMC/EMI. He told that a component/subsystem that is an emitter of electromagnetic energy is the culprit. Any component or a subsystem that is susceptible to EMI is the victim. Electric and magnetic field are orthogonal to each other and there is a chance of coupling with each other which causes interference. There are two aspects to consider: Emission and immunity. Emission could be conducted or radiated. Similarly, immunity could be emitted or radiated. Conducted emission could be intentional or unintentional emitters and receptors. He also explained why EMC regulations are required. They are as follows.

1. Safeguard the consumers
2. Protect the environment
3. Prevent dumping
4. Legal responsibility

After the talk, the experts took us to lab and explained the EMC /EMI set up. The visit ended with question and answers with students



## Industrial visit to Zscaler Technologies, Bangalore

Date of Visit: November 17, 2023

**Purpose of Visit:** To learn more about Zscaler's zero-trust architecture and its cloud security solutions as part of an industry visit organized by BMS College of Engineering.

### Key Findings:

- Zscaler is a leading cloud security company that provides a zero-trust architecture for protecting enterprises from cyberattacks.

- The company's platform offers a wide range of security services, including secure web and SaaS access, threat protection, data loss prevention, cloud access security brokerage (CASB), and application discovery and protection (ADP).
- Zscaler's zero-trust architecture is based on the principle of never trusting anyone, even inside the corporate network.
- Zscaler's platform uses a variety of security technologies, including machine learning, to enforce zero-trust policies and protect against cyberattacks.
- Zscaler's cloud-based platform is designed to be scalable and flexible, and it can be deployed on-premises, in the cloud, or in a hybrid environment.
- The company's platform is also integrated with a wide range of third-party security products and services.

#### **Overview of Visit:**

I recently had the opportunity to visit Zscaler's Bangalore office as part of an industry visit organized by BMS College of Engineering. During my visit, I met with a team of Zscaler engineers and representatives who gave me an overview of the company's zero-trust architecture and its cloud security solutions. I was particularly interested in learning how Zscaler can help organizations protect themselves from the growing threat of cyberattacks. I was impressed by Zscaler's commitment to innovation and its focus on providing a comprehensive cloud security solution. I believe that Zscaler's zero-trust architecture is a valuable tool for organizations that are looking to protect themselves from cyberattacks.

#### **Specific Details of Visit:**

During my visit to Zscaler, I had the opportunity to:

- Meet with a team of Zscaler engineers and representatives
- Get an overview of Zscaler's zero-trust architecture
- Learn about Zscaler's cloud security solutions
- See a demonstration of Zscaler's platform
- Ask questions about Zscaler's products and services

#### **Overall Impression:**

I was very impressed with my visit to Zscaler. I believe that the company is well-positioned to continue to be a leader in the cloud security market. I would recommend Zscaler's zero-trust Architecture and cloud security solutions to any organization that is looking to protect itself from cyberattacks.



Report by : Subhrmanya D S, 5th semester ETE.

## Industrial visit to HAL Museum, Bangalore

Date of Visit: November 17, 2023

The Hindustan Aeronautics Limited (HAL) Museum in Bengaluru stands as a testament to India's rich history and achievements in the field of aeronautics. The primary objective of my visit was to explore the museum's exhibits, understand the technological advancements showcased, and gain insights into the aeronautical industry.

### Objectives

To learn about the history and contributions of HAL to the field of aviation.

To explore various exhibits and gain technical knowledge about aircraft and aeronautical components.

To understand the practical applications of theoretical concepts studied in the classroom.

### Overview of HAL Museum

Hindustan Aeronautics Limited (HAL) is a leading aerospace and defense company in India. The HAL Museum serves as a repository of the company's achievements, housing a diverse collection of aircraft, engines, and aeronautical displays. The museum aims to educate visitors about the evolution of aviation technology and the role played by HAL.

The museum boasts an impressive array of exhibits, showcasing the evolution of aircraft technology over the years. Notable displays include the indigenous HAL Tejas, vintage fighter planes, and a comprehensive collection of aero engines. Technical details provided alongside each exhibit enhanced my understanding of aircraft design and functionality. The visit provided valuable technical insights into the aeronautical advancements made by HAL. The comprehensive explanations of aircraft systems, engine components, and avionics offered a practical perspective that goes beyond theoretical classroom learning. To further enhance the visitor experience, it is recommended that the museum consider implementing guided tours with a focus on specific themes or technologies. Additionally, the inclusion of more interactive displays could contribute to a more immersive learning experience. The HAL Museum visit was an enriching experience that provided a comprehensive view of India's aeronautical achievements. The combination of informative exhibits, technical insights, and hands-on experiences made this visit a valuable addition to my academic journey, offering practical knowledge that will undoubtedly contribute to my future endeavors in the field of aeronautical engineering.



## Industrial Visit to ISRO, Bangalore

Date: 17.1.2024

The 5th-semester ETE students participated in an organized industrial visit to ISRO, where an industry expert initiated discussions on Leo, Geo, and Meo satellites. The expert elaborated on point-to-point communication and the satellite-ground station communication process. Various satellite components, including payload, were explained, alongside insights into ground station control of satellite uplink and downlink. The evolution of satellite models, from

Aryabhata to Chandrayana 3, was detailed, alongside discussions on upcoming missions. The students were afforded the opportunity to observe satellite construction and were briefed on the transportation of satellites from the Bangalore center to their launch site in Srihari Kota.



### Industrial Visit to Stellapps Technologies, Bangalore

Date: 17.1.2024

Stellapps is an end-to-end dairy technology solutions company – the first of its kind in India. We are an IIT-Madras incubated company founded by a group of IITians and technologists with a strong industry background and rich experience including IIT-Madras, IIT-Kharagpur and IIM.

Stellapps is funded by Omnivore Capital – a fund anchored by Godrej Agrovet Limited and investment patrons include a large group of IIT alumni.

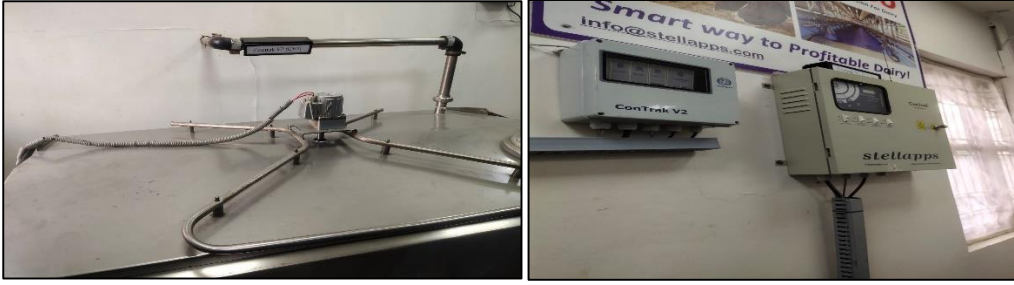
SmartMoo IoT router and in-premise IoT Controller acquire data via sensors that are embedded in Milking Systems, Animal Wearables, Milk Chilling Equipment & Milk Procurement Peripherals, and transmit the same to the Stellapps SmartMoo Big Data Cloud Service Delivery Platform (SDP) where the SmartMoo suite of applications analyse and crunch the received data before disseminating the Analytics & Data Science outcome to various stakeholders over low-end and smart mobile devices.

The contents that were covered during Stellapps visit were, how their organization works, what are the products and their usage.



tank for stirring and keeping the milk cool.

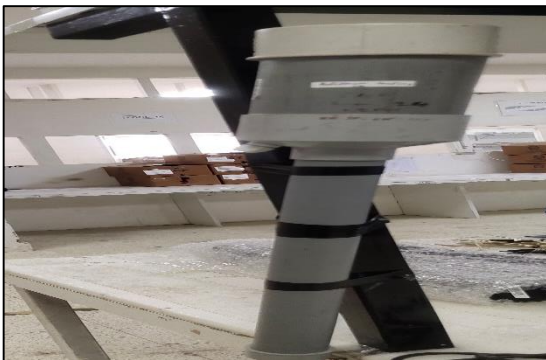




In the above two figures, the first figure is the conTrak V1 and V2. ConTrak V1 is the traditional machine which measures the how many litre the milk is and what is the temperature of the milk. ConTrak V2 is the advanced version of ConTrak V1. Hence, these machine measures and sends to ConTrak V2.



This machine receives all the information which is sent by ConTrak V2. All the information received from the V2 will be sent to Cloud. Hence, this the medium where it receives information from V2 and sends those information to cloud. Therefore, all the information will be stored in the cloud.



In the above figures, it is the hardware part where the black machine which is called as Bluetooth, is tied to the cow's leg. The machine checks whether the cow is healthy or not, what are the current issues in cow, what is the temperature of the milk and many other health related factor is checked and measured by that black machine.

It works upto 5-6 Km radius around the station is located. Hence, all those information is stored in the machine. It has a built-in Wi-Fi system. Hence, all these information will be sent to cloud again. Therefore, we can get to know health related information of the cow.



The two cards represents the identification of farmer and stellapps. One card on the left, is the farmer identification card for using stellapps, as it contains ID and Name of the consumer using the product. The other card is the stellapps identification card.



1. It is called as Stirrer. Here, a small amount of milk is taken and stirred to remove the bubble contains in the milk and also it is used for testing the milk. Therefore, it measures Quality, Fat, and SNF. The rate and amount of the milk is decided upon the fat and SNF contains in the milk. It measures the quality of the milk whether it is good or bad.

2. It displays the Quality, Fat, SNF, Rate and Amount of the milk.

3. It is the scanner used for scanning the cards.

4. It is Wi-Fi computer where all the value measured is noted down.

5. It is basically a printer which prints all the value measured.

6. It is the measurement tool used for measuring the milk.

Hence, all the system are interconnected to each other with Wi-Fi and all the information will be stored in cloud.

**BMS College of Engineering**  
**Department of Electronics and Telecommunication Engineering**

**Report on – Nokia Labathon and Makeathon**

Place: Nokia

Date: Labathon – 15 March 2024

Makeathon – 3 April 2024

The Labathon organized by Nokia proved to be engaging and enlightening for all participants. Planned for the 15th of March, the event featured sessions covering three different topics. The first session provided a comprehensive overview of cellular technology and the evolution of modern networks. It offered informative details about each generation, from the groundbreaking 1G and 2G to the current innovative and highly useful 5G. We gained insights into how 5G is better than its previous generations and how much ahead it is compared to its predecessors.

Next, we were taken to the lab where all the hardware was maintained. There, we received a detailed walkthrough of the server infrastructure and received explanation about its working. Then, they demonstrated the supporting hardware for all network generations, from 1G to 5G.

The following two sessions included demos of radio setup and the 5G call flow. These were particularly important sessions as we were expected to build the radio/antenna during the Makeathon. We were shown the different components of the 5G setup and how to make the necessary connections. Additionally, they demonstrated how to load the software files to make the antenna functional. We took notes on the steps to be performed, as we would be working hands-on during the Makeathon.

Later we received a brief overview of the 5G call flow theory and a demo on packet tracing/call tracing using Wireshark software. We became familiar with the software and learned how to analyze the flow of the given data.

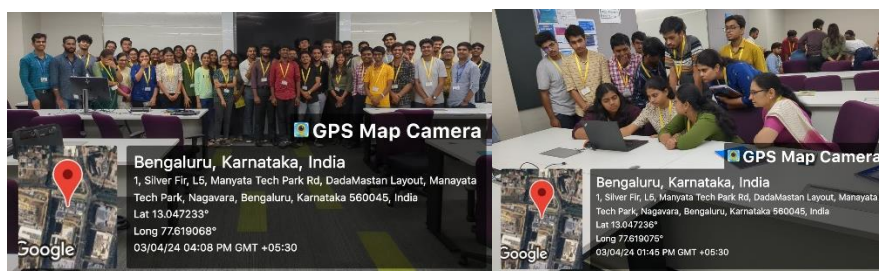


On April 3rd, we participated in the Makeathon event. This event started off with an informative session about ESD (Electrostatic Discharge). We learnt how important it is to prevent ESD and why it's crucial for everyone entering the labs to take preventive measures. We were shown how even a small discharge could damage electronic gadgets in the lab. The session covered different ways to prevent ESD, including using wrist straps, which we actually used during the hands-on activity of building antennas. Following the theory session, we had a fun and quick quiz to test our understanding of what we learnt.

After a short break, we began the hands-on antenna-making activity, where we were divided into groups. Our first task was to establish hardware connections, linking the SM (System Module) to the BB (Baseband Module) and the RF (Radio Frequency) module. Once these connections were made, we uploaded the configuration file provided by the instructors to initiate the connection process. With guidance on the software setup, we uploaded the file and confirmed the successful establishment of our connection.

The final part of the event was the call flow activity. In this activity, we were presented with scenarios where errors occurred in the transmission of packets during a call. Once again, we were split into groups. Our task was to pinpoint the exact step in the call flow where the error happened and provide a brief explanation of what went wrong. The instructor guided us through the process, offering tips on navigating the options. They also gave us hints to help us identify the errors. Later on, we received a brief explanation of why each error occurred, providing valuable insight into the workings of call flows.

Our visit to Nokia proved to be an enriching and insightful experience, offering a comprehensive understanding of the telecommunications industry. We gained a deeper appreciation for the technological advancements driving the industry forward and the importance of preventive measures in maintaining equipment integrity.



Report By Sowrav, 6<sup>th</sup> sem ETE

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