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Industrial Visit to BEL

The department of **Electronics and Communication Engineering** organised an **Industrial Visit to BEL Nalanda Academy** on **15-10-2025**.

On 15th October 2025, a group of 82 students from the Electronics and Communication Engineering department, accompanied by 4 faculty members, visited Nalanda Bharat Electronics Limited (BEL) for an industrial exposure program. The visit commenced with an inauguration by Dr Umesh Sir, followed by three highly informative technical sessions.

Objectives of the Event

- To provide students with exposure to cutting-edge technologies in System-on-Chip (SoC) design, semiconductor activities, and defence applications of AI
- To understand BEL's role in secure microcontroller development, defence communication systems, and innovation in product development.
- To bridge the gap between academic learning and industrial practices through expert lectures and demonstrations.

Event Overview

The visit aimed to provide students with practical exposure to advanced technologies in defence electronics, semiconductor design, and communication systems. The program began with an inauguration by Umesh Sir, followed by three technical sessions. The first lecture by Dr Saravanan focused on "SoC Evolution and Semiconductor Activities at BEL", covering the transition from legacy bipolar technology to fabless design and BEL's work on ARM-based secure microcontrollers. The second session, delivered by Jyotheshwar J from CRL, BG, was titled "Revolutionizing Defence with AI – BEL Perspective", highlighting AI applications in defence and the Infrared Search and Track (IRST) system for Su-30 MKI aircraft. The third lecture by Chethish Singh provided an "Overview of Ship Communication", explaining communication protocols and processes like CAT and CCMT. After the lectures, a felicitation ceremony was conducted by the Head of BAE and AGM Rajendra Babu. Students

then visited the Product Development and Innovation Centre (PDIC), where they explored ongoing projects and observed advanced components and prototypes. The visit successfully achieved its objective of bridging theoretical knowledge with real-world applications, offering students valuable insights into defence technologies and innovation practices.

The figure below shows the students of the ECE Department during the Industrial Visit to Bharat Electronics Limited (BEL), travelling in buses to Nalanda Campus - 15 October 2025

Figure 1: ECE students in bus number 1 on their way to Bharat Electronics Limited (BEL) for the industrial visit – 15th October 2025

Figure 2: ECE students in bus number 2 on their way to Bharat Electronics Limited (BEL) for the industrial visit – 15th October 2025

Figure 3: Dr. Remashan, Senior Professor, ECE Department, receiving a memento at BEL during the Nalanda Industrial Exposure Program.

Figure 4: ECE students attending an interactive session at BEL as part of the Nalanda Industrial Exposure Program.

Outcomes and Impact

Students gained first-hand knowledge of semiconductor design trends, AI applications in defence, and naval communication systems, enhanced their understanding of industry expectations, secured microcontroller development, and innovation processes. Strengthened industry-academia linkage, opening avenues for internships and collaborative projects.

Figure 5: Group photo of ECE students and faculty members during the Nalanda Industrial Exposure Program at BEL.

Conclusions

The industrial visit to BEL Nalanda was highly informative and aligned to expose students to real-world technological advancements. The expert sessions and PDIC tour provided valuable insights into defence electronics, AI integration, and semiconductor innovations, fostering a deeper interest among students in emerging technologies.

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