



Institute for Engineering Leadership  
Faculty of Engineering



# Instrumental to the World

Explore-Eng Endress+Hauser  
28<sup>th</sup> February 2017

"People for Process Automation" – the motto of instrumentation company Endress + Hauser was well evidenced in that many of the company's top-brass were present to interact with 17 NUS Engineering students during a learning visit to the company. The visit was part of the NUS Institute for Engineering Leadership's Explore-Eng series, which gives students an opportunity to visit engineering companies to find out more about their work, innovation in companies and possible career opportunities.

Facilitating the session was Mr. Lim Khay Guan, CEO and Managing Director at Endress+Hauser (S.E.A.) and NUS alumni. Mr. Lim kicked off the session with an insightful presentation of the company's work and culture. Mr. Lim explained that despite being a multi-national corporation, Endress+ Hauser remains a family business and thus its motivations are more long-term as compared to publicly-listed companies. This business ethos encourages the development of deep and long-lasting relationships with their customers ensuring a good understanding of the industries in which they engage. In Endress+Hauser, soft skills are regarded to be as important as technical skills as "people problems" can be as difficult to solve as technical problems.

The Center of Competence for South East Asia works on very complex problems and develops custom-designed solutions based on the needs of its clients. One such example in which this was evident is the case of custody transfer Mass Flow Meter (MFM), where the company developed solutions to help the bunkering industry enhance transparency of the bunkering process and reduce the chances of bunker malpractices and disputes. Moreover, compared to the conventional sounding method, using the MFM system for bunker delivery allows ships to enjoy up to 3 hours or 25% time savings per bunker delivery. With greater efficiency in bunkering operations, the bunker craft operators can also optimize the turnaround time of their bunker tankers to bunker more vessels. The students were given an insightful introduction to the problem and the physical solution during their visit.

The bunkering solution, and several of the other examples shown in the showroom highlighted the interdisciplinary nature of the instrumentation industry. Engineers from varied backgrounds (chemical, mechanical, electrics, civil) are required to provide innovative and safe solutions in a range of industries (food & beverage, oil & gas, life sciences, chemicals etc).

Following the sharing by Mr. Lim and other staff members, students were taken on a tour of the office and facilities. Students visited the showroom where Endress+ Hauser's products were displayed, including the bunkering solution. Innovative solutions were explained giving a good understanding of the innovation timeline of solutions. It was highlighted that while in the past several different meters were required for a given function, these functions can now be carried out with a single meter.

The company was also an early adopter of wireless technology, adding in such modules to its meters from the mid-1990s which allowed data to be centrally collected and analyzed.

To round up the visit, Mr. Lim introduced all the attending Endress+Hauser staff and gave them the opportunity to explain their current job responsibilities and backgrounds. All of them had engineering backgrounds but could also be found in varied functions such as Finance, Marketing, HR and Product Management. The staff emphasized that their engineering knowledge & skills formed the foundation of their competencies, and are essential to them doing their current jobs well even if they are in non-engineering functions. Understanding the engineering perspective behind a product's marketing campaign or the engineering costs of a product is crucial in communicating effectively with their customers and in developing products that best meet their needs. In this way, strong relations are built with their customers.

Michael Ow, a third year Industrial and Systems Engineering student said that the visit helped him learn more about the company's product line and job opportunities. He said: "I also learnt that many engineers sometimes do not use much of what they learn (in university) in their jobs, and have to keep learning on the job". The immersion into a real-world environment was thus an eye-opener to the students allowing them a different perspective of the type of skills they need to build before entering the job market and for them to adopt a continual learning mindset.

The students left with great exposure to the instrumentation industry and new insights on how their engineering backgrounds can lead to many exciting opportunities.



*NUS students and staff in a group picture with Endress+Hauser staff during the visit*



*The various Endress+Hauser representatives who graciously took time out of their day to give a unique insight in Endress+Hauser's culture and solutions*