

PSDC TRIP ON INDUSTRY 4.0 AND NEW INNOVATIONS

VENUE : PENANG SKILLS DEVELOPMENT CENTRE
DATE : 19 SEPT 2018
TIME : 3.00 – 5.40 PM

Industry 4.0, termed the fourth industrial revolution is making a wave among industry players. This revolution encompasses the 9 technological pillars which includes cyber-physical systems, the Internet of things, cloud computing, artificial intelligence (AI) augmented reality (AR) and etc.

In the manufacturing industry, it is often related to “smart factory.” Within modular structured smart factories, online and integrated systems monitor physical processes, create a virtual information and data of the current activity in the process line and make key decisions based on these information automatically. Connecting through Internet of Things, these virtually data-based systems communicate and cooperate with each other and with humans in real-time across organizational services offered throughout the supply chain.

Moving on par with this revolution of Technology advancement, Penfabric embraces these changes and is moving ahead. Various advancement had been implemented in PAB such as utilization of 3D Printing technology for our parts, spotfire for big data analysis, DMS, IOT yardage counter, RFID and etc.

Hence a technical visit to PSDC was organized to enhance our understanding in Industry 4.0 which consists of a total 13 participants from Mill 1, 2, 3 and 4. The participants were greeted by Mr Prakash, Senior Manager of the PSDC Industry Collaboration Division. Our visit started off with the machining lab where various CNC and cutting machines were fitted with sensors to monitor their efficiency, running hours and output.

In addition some of the machines were old machines and retrofitted to perform the required current works. A demo on augmented reality (AR) which is based on shape/visual recognition were shown where a Samsung tab was used to scan a specially-designed sticker at the machine and an AR-based interface pops up which contains info such as the machine power is On or Off, spindle running speed, output and etc.

Our visit then proceed to the IOT lab where various products from various suppliers were showcased which includes 3D Printed block consisting of double filament print, a demo on a 6 axis robotic arm which is able to recognize the required direction for part placement and self-adjustment of the robotic arm orientation to meet the shown direction, a small conceptual smart factory build up and etc.

The final area for our visit was to the Virtual Reality (VR) lab where participants had a chance to experience VR and it was demonstrated on a virtual factory to simulate the inner view of a manufacturing plant.

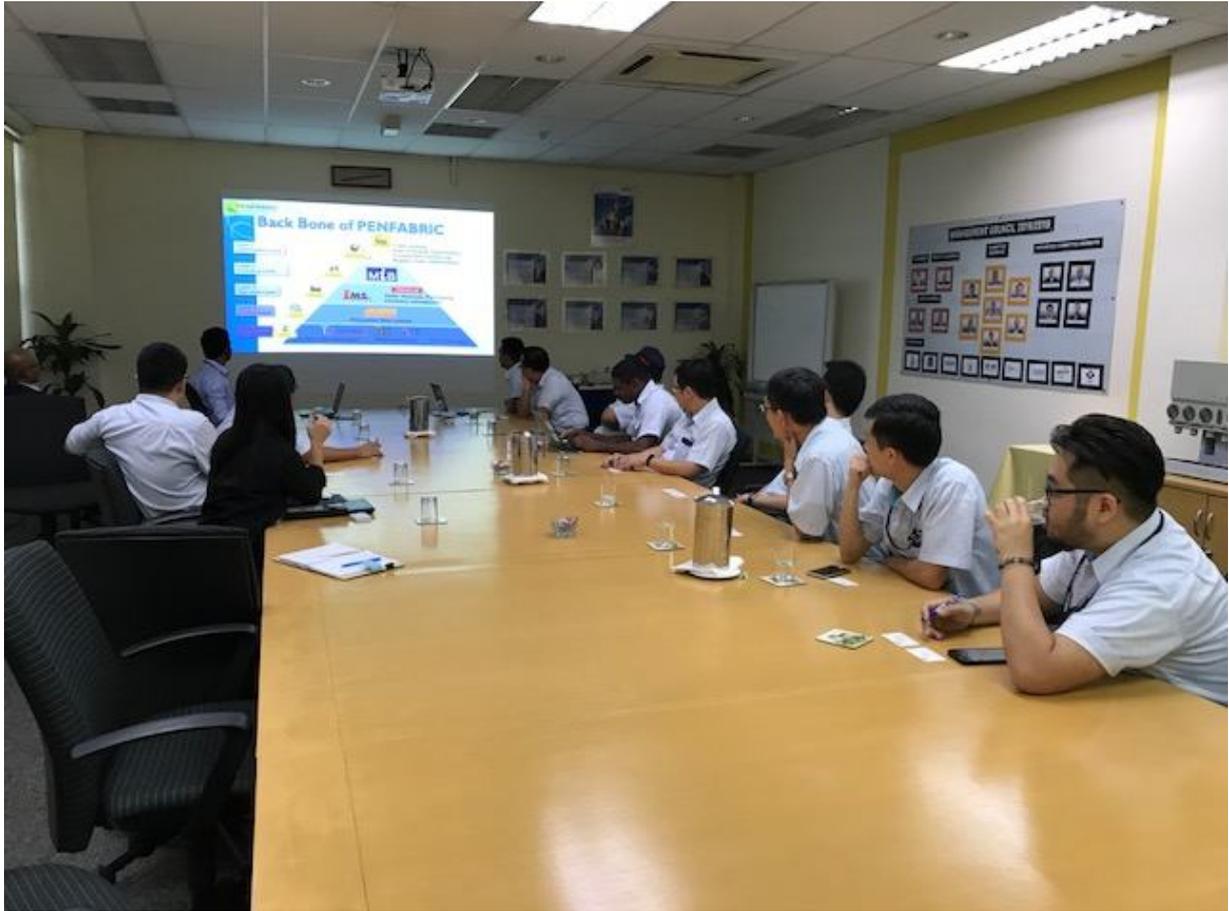
Key Points extracted from Trip:

- 1. AR Interface could also be linked to PAB Ipad and special stickers could be placed direct at machine site which can showcase various key info of the machine.**
- 2. A formal training on industry 4.0 elements which could be organsied by PSDC for PAB in-house and HRDF claimable.**

-Reported by Johnny, Eng Dept M4



Penfabric Participants at the PSDC Industry 4.0 Trip



Penfabric's Company Introduction Presentation by Mr Fadzil



PSDC Introduction by Mr Prakash



Explanation of the IOT Lab by Ms Diana, PSDC



AR Interface On Their Machine



PSDC Virtual Reality Lab