

The Fastening Boundaries Industrial-University Alliance

Technical Seminar: IoT & Fasteners- A Look into the Future

Date: August 19th, 2015

Place: Fastener World Inc.

by Fastening Boundaries Industrial-University Alliance

► Fastener World President William Liao



The Fastening Boundaries Industrial-University Alliance held the “Fastening Boundaries Industrial-University Alliance (2nd year) technical seminar titled “IoT and Fasteners- A Look into the Future” on Aug. 19, 2015. Special thanks go to Fastener World Magazine for co-organizing the event and its President William Liao for his great support. It was our privilege to have the participation of Dr. Huang Han-pang, life-long distinguished professor of the Department of Engineering, National Taiwan University. He and Dr. Chen Chih-ming, president of the Fastening Boundaries Industrial-University Alliance and professor of the National Chin-Yi University of Technology, gave fabulous speeches. We are very grateful for the distinguished guests for participating in this seminar and anticipate that they will share the results and experiences of cooperation between the industry and academia for promoting common accomplishments.

[13:30~13:50] Address by Distinguished Guests

President William Liao of Fastener World Magazine was the first to address in the seminar. He recognized the efforts made by the people in the industry and mentioned the progress and competition of the entire industry, the changes in total export and import situations as well as the difficulties faced in the international competition. In conclusion he encouraged the people in the industry to work out their brands and quality so they can claim a spot in the global market. President Liao affirmed and commended the activeness and execution of Fastening Boundaries Industrial-University Alliance and encouraged the cooperation between the industry and academia to help small companies gain capability for R&D and new product development. He was followed by the first presentation of the technical seminar, the wonderful speech by Dr. Huang Han-pang, life-long distinguished professor of the Department of Engineering, National Taiwan University.

[13:50~15:10] Robots and IoT

For the first technical keynote speech, we were honored to have Dr. Huang Han-pang, life-long distinguished professor of the Department of Engineering, National Taiwan University who spoke on the topic of “Robots and IoT”, which was moderated by Dr. Chen Chih-ming, president of the Fastening Boundaries Industrial-University Alliance, who affirmed the values of the future application of robots and IoT in the industry and held them as one of the main future trends in transformation and considered them very important in the introduction of automation. At last, he highly recognized and commended the research conducted by Dr. Huang.

Dr. Huang first gave a preliminary introduction on Robots and addressed the concepts of IoT and IOS application in the industry. He provided in-depth introduction on the technical aspect of the application, analyzed the future trends, and described the functions of industrial IoT which most fit the entire industry chain. He proposed certain directions and executive steps for the transformation of smart factories and explained the construction of smart factories with the two main systems, SCADA and MES. He also gave some advice to the industry, mentioning that both the large and small companies have their own methods and the first thing to do is to find their inadequacies and understand their own needs and find the methods which best suit them.



Dr. Huang, Han-pang



◀ Doctor Chen, Chih-ming

▼ President William Liao bestows a souvenir to Dr. Chen



▲ President William Liao bestows a souvenir to Dr. Huang.



require attention. Dr. Chen argued that it is imperative for operators to develop their own brands instead of providing OEM service as the main line of business in order to enter the global market. He also introduced high-value industries including a case of successful transformation.

[15:10~15:40] Discussion

There were 30 minutes set aside for each of the two great speeches for the distinguished guests to exchange views with the attendees with an aim to promote exchanges and progress of the industry and academia. Delicate refreshments were also prepared during the exchange for the participants to take a short break.

[15:40~16:50] Exploration on Future Opportunities of the Fastener Industry from the Perspective of Fastener Boundaries

The second speech was given by Dr. Chen Chih-ming, president of the Fastening Boundaries Industrial-University Alliance, who spoke on the topic of "Exploration on Future Opportunities of the Fastener Industry from the Perspective of Fastener Boundaries", which was moderated by Dr. Huang Han-pang, life-long distinguished professor of the Department of Engineering, National Taiwan University. He affirmed the solid research efforts made by Dr. Chen on the entire fastening boundaries, which have contributed substantively to the development and progress of the fastener industry. He also suggested that small and medium enterprises give emphasis on the cooperation between the industry and academia in order to accomplish results in areas where R&D capability is less sufficient.

Dr. Chen first provided introduction on the fastening boundaries and extended the application of fasteners to define the study areas of fastening boundaries, including the auto industry, electronic industry, machine tools, aerospace, energy, biomedical and automation. He then introduced the development of the fastener industry in recent years including the characteristics, trends and economic conditions of the overall industry, arguing that the strategy of winning by quantity must be changed in the future for developing high-value industries. Based on the analysis of total export volume and export value, the added value of advanced countries such as Japan and Germany was 3.7 and 2.8 times of Taiwan's respectively. This will become a very large gap over time. He also cited actual cases, for example: the United States accused Taiwan for anti-dumping and anti-subsidization of certain steel nails, foreign trade policy and the recent collapse of the wind turbines in Taichung, identifying the details of these incidents which should

In the second half of his speech, he analyzed the trend of linear transmission equipment industry by citing linear slides, ball bearings and ball screws and presented his views on the export trend affected by the international exchange rate issue. For the future of the entire industry, he argued that the automation feature must be added to the products, which is vital to the intelligent key components. He also suggested the use of IoT and mega-data in the entire sales approach and intelligent statistics on the whole product sales and after-sales service for understanding customers' needs and providing proper and fast service at any time. The broader application of these ideas in Industry 4.0 or the Productivity 4.0 advocated in Taiwan will bring about more excellent results.

[16:50~17:00] Opinion Exchange and Discussion

This seminar included two topics: "Robots and IoT" and "Discussion on Future Opportunities of the Fastener Industry from the Perspective of Fastener Boundaries". The two technical speeches addressed the future development and international trends of the current industry and analyzed the general direction. It is hoped that they will be of great help to the audience and we believe that they have benefited much from them. During the opinion exchange session, the people from the industry all presented their views on how to face the future challenges. The two speakers provided pertinent advice that the operators industry must base what they want on what they need instead of merely following the trend to create the progress too big for them to bear. Small companies should not blindly follow the steps of big enterprises, they must review their strengths and weaknesses to make plans suitable for their development. At last, we thank all the attendees for participating in this great event. This technical seminar was very successful and it is our hope that it will enhance the cooperation between the industry and academia for uplifting the strength of the industry and achieve the goal of concerted efforts among the industry and academia for creating competitiveness of the industry.

The third technical seminar organized by the Fastening Boundaries Industrial-University Alliance this year ended with great success. The last technical seminar of this year, with the topics on calibration and processing is scheduled on Sept. 29th. The details are published on the website of the Alliance. ■