



CPD on High Speed Trackwork Design and Construction

Reported by Sr Tony Hon

The CPD seminar on High Speed Trackwork Design and Construction was held successfully on 25 July 2014. We had the honour of inviting Ir Eric KW Li, Senior Construction Engineer (Trackwork) of the MTR Corporation, to enlighten us on the design principles for high speed track construction projects. The seminar was very informative and attracted over 57 participants.

Ir Li introduced the differences between the high speed rail and Mass Transit Railway systems. A rail system's trains should have a minimum speed of at least 200 km/h in order for it to be considered a high speed network. Due to such high operating speeds, there are special requirements for a high speed network's alignment and tolerances in its trackform construction. Ir Li also explained the characteristics of the different trackforms and the workflow of quality checks during the construction of a high speed network. Throughout the seminar, the attendees gained a better understanding of the methods of trackform construction, the subsequent tests, and the commissioning requirements of a high speed rail construction project.



CPD Seminar on “Unmanned Aerial Vehicles, the Herald of the Fourth Industrial Revolution?”

Prepared by Miss Jenny Yuen and Sr Paddy Ng

The CPD seminar on “Unmanned Aerial Vehicles, the Herald of the Fourth Industrial Revolution?” was successfully held on 11 July 2014. Our honourable guest speaker, Sr Tommy Au Chi-ho, Land Surveyor from the government's Lands Department, introduced the latest developments in aerial photogrammetry technology through the use of unmanned aerial vehicles (UAVs). Over 80 participants attended this CPD, including guests from the Hong Kong Institution of Engineers, the Hong Kong Institute of Landscape Architects, and the Hong Kong Design Institute.

Sr Au shared with us the historical background of and working principle behind aerial photogrammetry and the development of UAV technology. By applying global positioning system (GPS) technology, an inertial measuring system (IMS), and a metric camera on a UAV, it could capture images that can be used for 3D modelling and photo interpretation of geometrical and qualitative evaluations. Such technology can be employed in different areas such as mapping, structural modelling, urban planning, site reconnaissance, heritage preservation, emergency surveying, etc. During this seminar, the participants gained a better understanding of aerial photogrammetry technology via UAVs and its potential developments in the future.



3D model of Tsui Sing Lau Pagoda (聚星樓) at Yuen Long



3D model of Yu Yuen (娛苑) at Yuen Long



UAV equipped with LIDAR

