

Joint Symposium eMDC-2017 & ISSM-2017

Invited Speech: **Design and implementation of I4.0 Smart Manufacturing in Semiconductor BE**

Dr. Jonathan Chang

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About the Speaker

Jonathan Yung-Cheng Chang has been working in semiconductor manufacturing including FE/BE for more than 23 years. He is presently Senior Director of Factory Integration in Infineon BE (11 sites – SIN/MAL(4)/WUXI(2)/BAT/RGB/WAR(2)/CEG/LEO/TIJ/KOR/MGH, 16 factories) where he is responsible for Infineon's BE factory integration (operation method and automation system) to improve manufacturing performance (Cost, Quality, OEE, CT, CLIP and People efficiency). He has supported worldwide best semiconductor manufacturing performance in 300mm and worldwide first 450mm production specifications. He leads the team with top Siemens-Camstar certification (modeler, developer, designer) for the most extensive Camstar MES rollout globally.

Jonathan received his Ph.D. degree from the Institute of Manufacturing Information and Systems, National Cheng Kung University and M.S. degree in Industrial Engineering and Management from National Chiao Tung University. He has published more than 18 journal and conferences papers and also owned 16 patents in semiconductor supply-chain and manufacturing areas. He is currently co-chair of Smart Manufacturing Management Lab in Xian JiaoTong University, also Leader for China Infineon Smart Manufacturing Associate supporting China's "Made in China 2025" strategy.

Abstract

According to factory physics, good manufacturing depends on the overall control capability of all deviation in production. Infineon Technologies implemented a "smart factory" for its global semiconductor backend manufacturing. Infineon is a member of Germany Industry 4.0, and Dr. Chang will describe:

- Infineon's principles of top manufacturing performance and Industry 4.0, and how Smart Manufacturing impact Manufacturing performance.
- How to establish (design & implement) factory intelligence as Smart Manufacturing.
- Also important index to ensure effective integration of Smart Manufacturing system to Smart Manufacturing Management. (KPI)
- How Infineon collaborates among diverse resources and consolidates knowledge for advanced know-how of global manufacturing networks - while embracing increased complexity.