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Title:

An example of applying blockchain technology to semiconductor fabrication.

Abstract:

This talk presents an example of applying blockchain technology to semiconductor fabrication. Fabrication engineers typically modify the set values of control parameters to alter behavior properties of fabrication equipment. If the set value happens to be assigned incorrect value, the equipment could show an unexpected behavior, causing a painful recovery. Unfortunately, this erroneous case can occur in a semiconductor fabrication factory embellished with state-of-the-art systems. Surprisingly, it is very simple to draw idea that prevents the set value error as follows: (1) Prepare ledgers specifying correct values of the control parameters (2) Check the set value with the ledgers. However, it requires sophisticated protocols to implement the idea as an executable system. We are strongly inspired to make the system with blockchain technology featuring decentralized and tamper-resistant digital ledger. This presentation shows how to adopt blockchain technology for building the system that detects the set value error.

Biography:

Myoung Soo Choi was born in Incheon, South Korea. He received a Master's degree in Graduate School of Department of Electrical & Computer Engineering, Hanyang University, South Korea, 2005. From Mar 2003 to Nov 2011, he was a Principal Engineer at Mechatronics & Manufacturing Technology Center in Samsung Electronics, South Korea. After that from Dec 2011 to Dec 2018, he was a Vice President (VP) at Mechatronics R&D Center of Samsung Electronics, South Korea. In 2019, he was an Invited Researcher of Tottori University, Japan. Since Apr 2020, he has been a Ph.D. student in Tottori University, and he began working as a Senior Vice President (SVP) of SK Hynix, South Korea from Oct 2020. His research interests are smart software and equipment for semiconductor manufacturing.