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Invioted Speech: **Using Real-Time Data Acquisition and Big Data Analytics Across Global Semiconductor Manufacturing Chains**

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About the Speaker

Calvin serves 22 years in several positions in equipment, product, and test engineering, operation engineering at ASET, Genesis, STM and Atmel. Calvin holds a master degree in Computer and Communication, and currently is Senior Customer engagement Manager at Qualtera. His current assignment is to provide technical support and customer engagement for APAC customers.

Abstract

In semiconductor manufacturing chains, it is increasingly business critical to be able to realize steep production ramps while at the same time improving manufacturing yields, product quality and operational excellence at reduced costs. This is particularly the case in mass-production environments with increasingly complex supply chains and advanced manufacturing processes where additional constraints such as process variability, capacity management, yield and quality management are crucial.

The application of modern information and communication technologies like cyber-physical systems, big data analytics and cloud computing in the semiconductor manufacturing chain help with early detection of defects and production failures, thus enabling their prevention and increasing productivity, yield, quality, and agility benefits that bring significant competitive value.

This presentation addresses the industrial implementation and benefits of large scale test data acquisition throughout complex global supply chains, combined with real-time expert systems and high-performance big data analytical engines.

Keywords—Industry 4.0, big data analytics, operational intelligence, test and manufacturing data analysis, data mining, yield, quality, real-time data collection, industrial Internet.