

Renesas's EES Implementation Strategy and Experience

Based on EEQA

By Shigeru KOBAYASHI

Kobayashi.shigeru2@renesas.com

Chief Engineer, Manufacturing System Technology Department,
Production Engineering Division, Renesas Technology
Tokyo, Japan

EES (Equipment Engineering System) is a system concept that is intended to contribute to the better efficient semiconductor manufacturing with enabling closer collaboration between the equipment suppliers and device makers. Renesas has started EES implementation with dividing EES into two activity regimes; EEQA (Enhanced Equipment Quality Assurance) and EEQM/T (Enhanced Equipment Quality Management and Tracking). EEQA is a scheme in which equipment suppliers are to validate performances of equipment's individual and integrated capabilities with the EE (equipment engineering) data at the time of equipment delivery. EEQA will be followed by EEQM/T to assure the tool functional quality during mass production.

This paper will describe the significance of EE data in EES implementation. EE data needs to directly describe equipment capability activity such as process actuators' activities in order to enable effective EEQA and EEQM/T, and for this reason the so-called 2nd data port has been required.

EEQA is one of the important enabler to increase the tool reliability that is very much required in the next generation high mix fab, and it will be stressed that the industry needs to consider to adapt EEQA concept for this reason. The other important enabler is a new concept of equipment level fault detection capabilities of equipment base functions that will be made possible only with the second port data.

This paper will share the EES implementation strategy and experience at Renesas's N3 factory and future issues will be also discussed.

*Would like to have 45minutes for presentation plus 10minutes for discussion.