

Advanced Equipment Control (AEC) - Use knowledge Management Concept in Semiconductor Equipment

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We have developed an AEC system which is an easy to use and new implement concept to assist increasing Semiconductor Equipment utilization rate and performance.

There are too many difference types of equipment are used in production line to produce logic device. Such as lithography, track, deposition, etchK.etc. Semiconductor process which is a sequentially flow to make a device. Therefore, one of these tools was down (functionality failed). It must impact all fabs production flow and plan. We developed a program and help the on site engineer to easily handle the problems, and to recover the tool efficiently.

The chief characteristic of the AEC system which we have developed a program that are classified into two types : one is the normal operation program which maintain and trace systems each events, that can help on- site engineers to know the system historical data. The other one is abnormal operation program which means, when system has any fault or warning, the program can help to show up the message to the graphic user interface to alert the on-site operation people, also we have developed a knowledge management algorithm to assist on site engineers to make quickly decision and look for resource to recover the tool back to normal as soon as possible. In this paper, we are reporting design methodology and simulation results of implementing AEC on etching process equipment.