

IE3100 System Design Project

Simulation Model Development for Semiconductor Foundry

SSMC

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Objective:

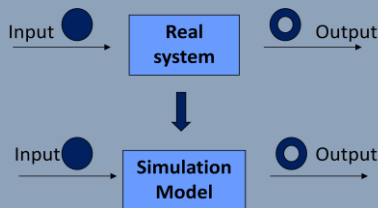
- To build a simulation model that reflects the basic wafer fabrication characteristics of SSMC.
- To use this simulation model to study the impact factors on cycle time

The Wafer Fabrication Process:

- One of the most complicated manufacturing process
- Machines with re-entrant flows
- High product variability

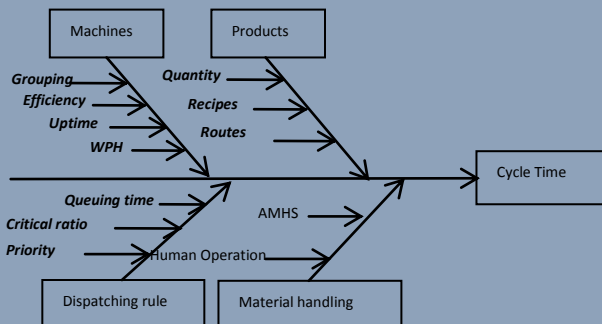
Simulation as a tool to analyze factory performance:

- A simulation is the imitation of the operation of a real-world process of system over time



Model Building:

Impact factors:

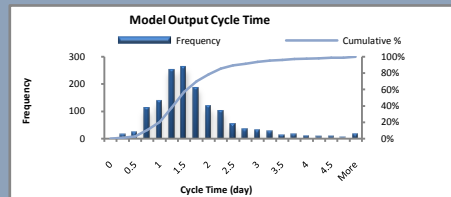
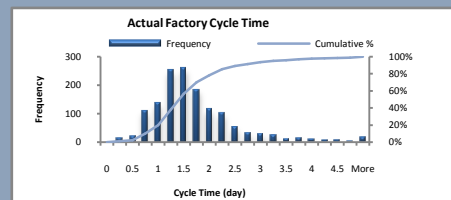


Software Used:

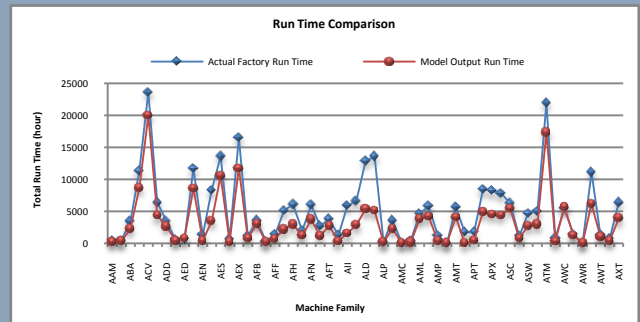
AutoSched AP™: It is a specialized tool in fab simulation.

Results Analysis:

- Cycle time comparison



- Machine running time comparison



Application:

This model can be used to:

- Forecast fab performance
- Decide product mix
- Investigate dispatching efficacy