

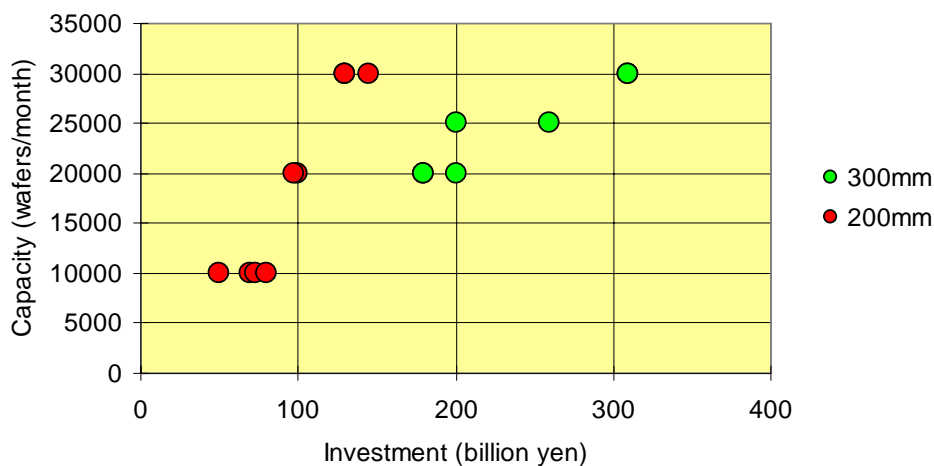
Device Maker's Expectation to EES and e-Diagnostics

Tadashi Kiriseko
Fujitsu Limited



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 1

Investment of New Fab(1) 0.13 μ m Technology

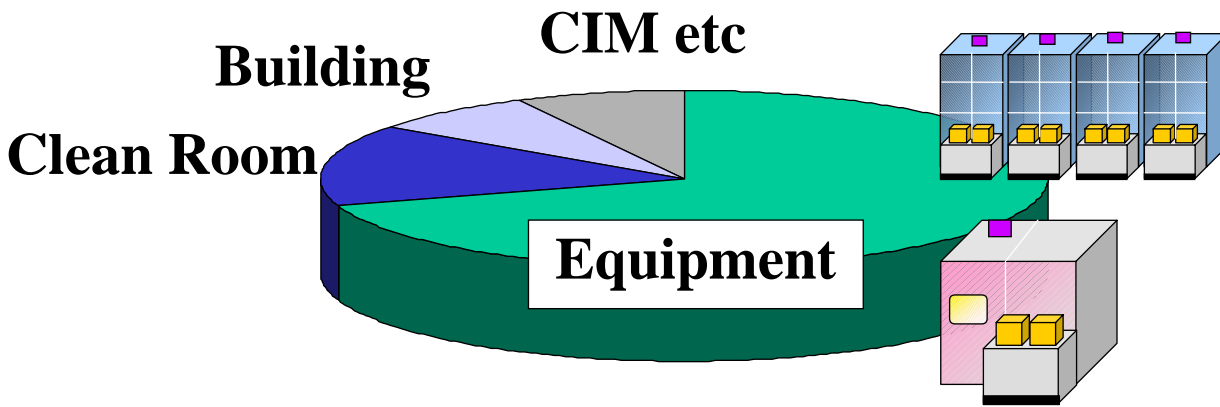


Data : Semiconductor Handbook 2000



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 2

Investment of New Fab(2)

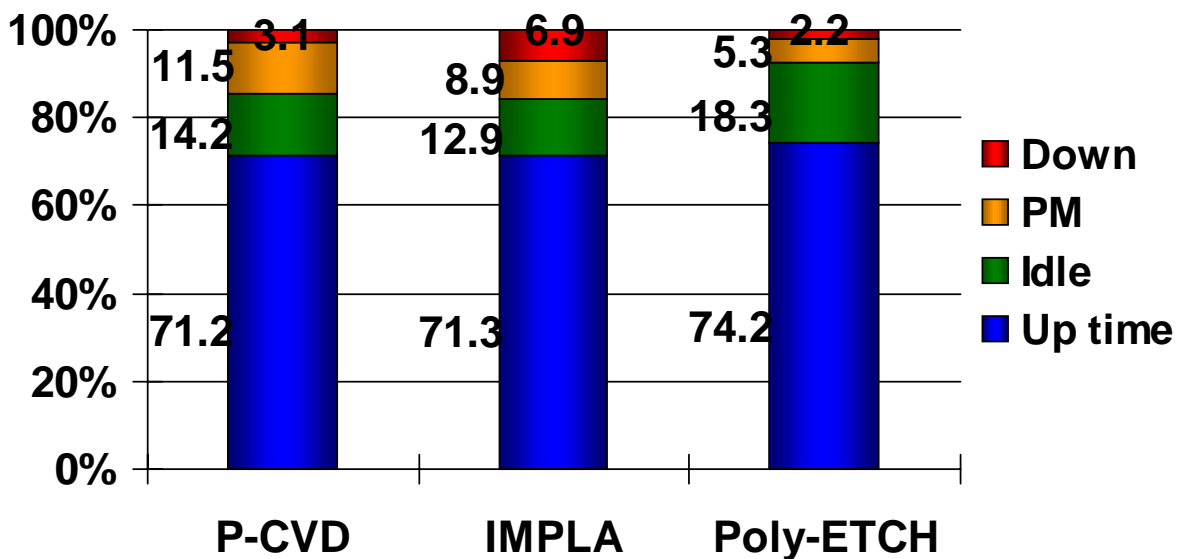


“Equipment Performance” decides Chip Cost



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 3

Reliability of Equipments(1)



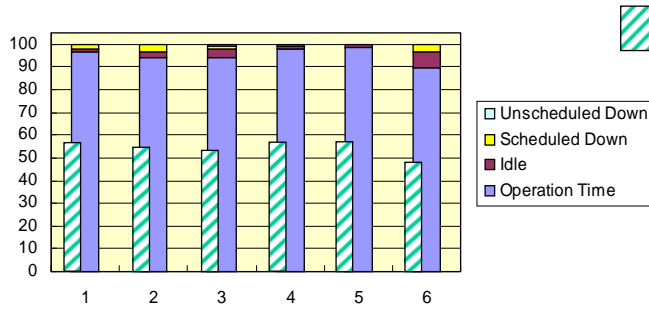
Data : FASL



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 4

Reliability of Equipments(2)

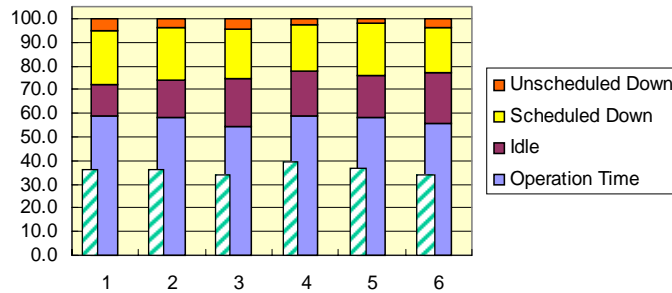
High Reliability



Value-added

Average 52%

Low Reliability

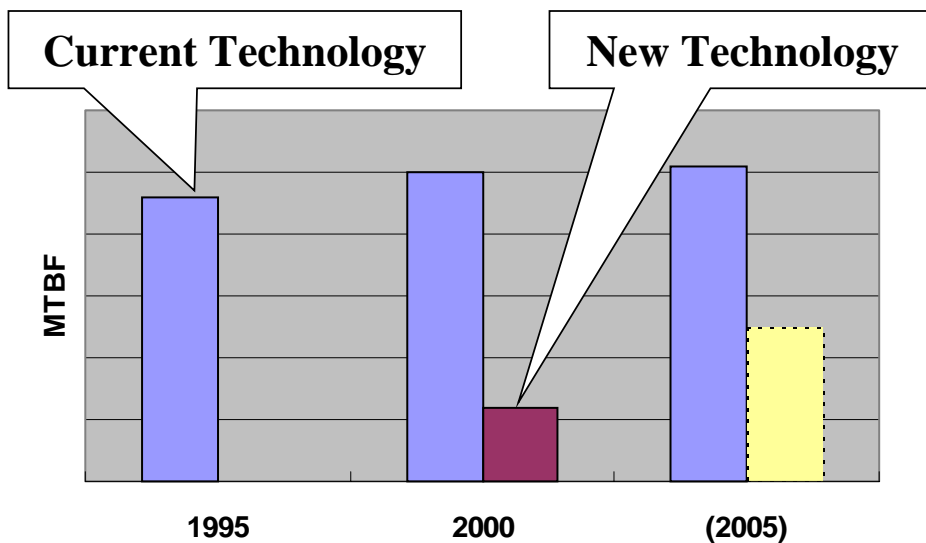


Average 37%

Data : FASL



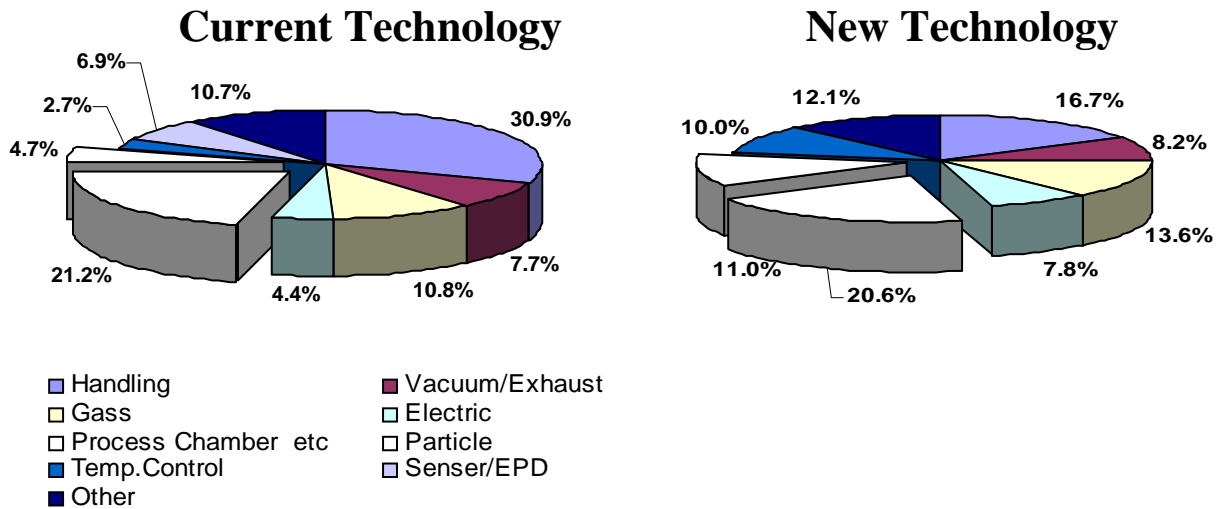
Reliability of Equipments(3)



Data : FASL



Reliability of Equipments(4)



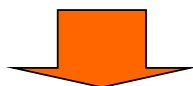
Data : FASL



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 7

Loss in Unscheduled Down

- **Maintenance in House**
 - Diagnosis of Equipment State by TSG
 - Spare Parts Exchange
 - Adjustment of Equipment Parameter



Maintenance Delay

- **Purchase of Spare Parts**
- **Supplier Support**



SEMI Workshop on e-manufacturing & APC/FDC— Speaker Name — Slide 8

Loss in Scheduled Down

- **Daily Check by Test Recipe**
 - Particle Check
 - Equipment SPC
- **PM**
 - Spare Parts Exchange
 - Adjustment of Equipment Parameter



Loss in Production

- **Send ahead**
 - Feed Forward to Lot
 - Results Deviation in Previous Process
 - Machine to Machine Difference
 - Equipment Condition Change
- **Dummy Run(NPW)**
 - Stabilization of Process Chamber Condition



Loss in Standby

- **Limited Usage**
 - **Compensation of Equipment Character**
 - **Small Cp/Cpk**
 - **Machine to Machine Difference**
 - **Equipment Condition Change**



Equipment Performance

- **Loss of Utilization**
 - **Maintenance Delay/Repair Time/Engineering Run**
 - **Send Ahead/Dummy Run/Limited Usage of Equipment etc**



Improvement of COO/OEE/OFE

- **Reduction of Equipment Loss**
 - **Gathering/Analysis/Use of Detailed Equipment Data**



Introduction of New IT Infrastructure



New IT Infrastructure(EES)

