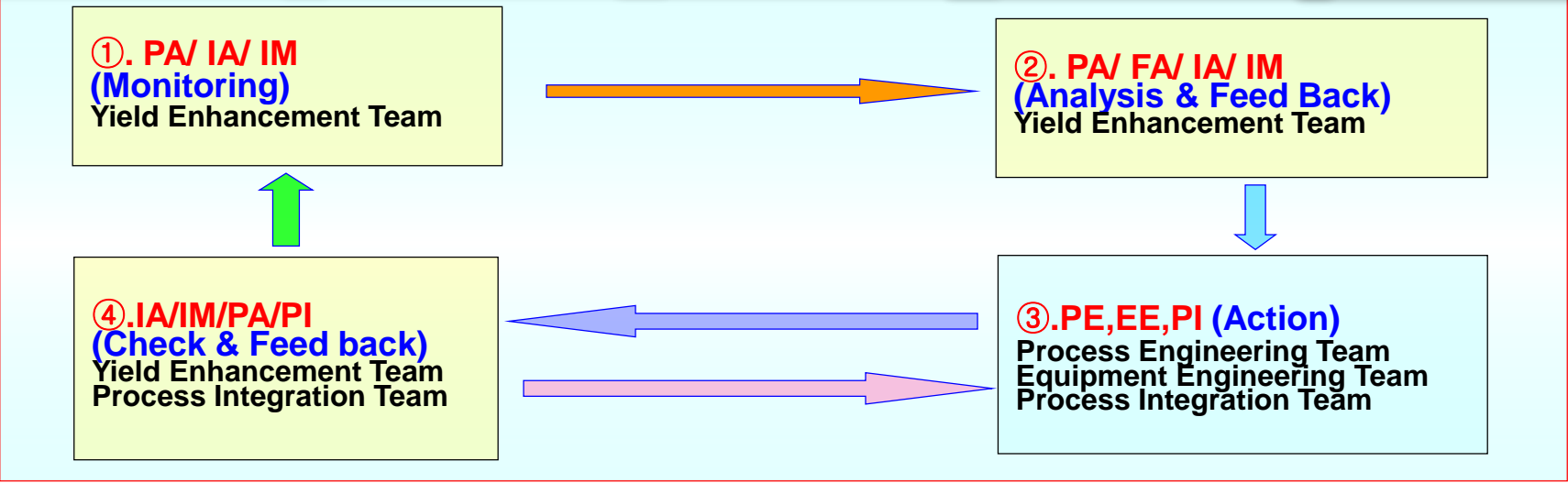


# Yield Monitoring & Improvement

Quality Assurance  
Quality & Reliability Assurance

# Yield Improvement Procedure



**Daily Yield Reporting (by PA)**  
:Probe Tested Wafer BMW & Fail Trend Monitoring

**Wafer Base Analysis (by PA/FA)**  
:Statistical Analysis :HIENG System  
:Physical Analysis BIT Mapper,Phemos..

**Process Engineering Group**  
:Root cause Define and Corrective Action  
Yield Enhancement Team  
:After action to confirm corrected or not.

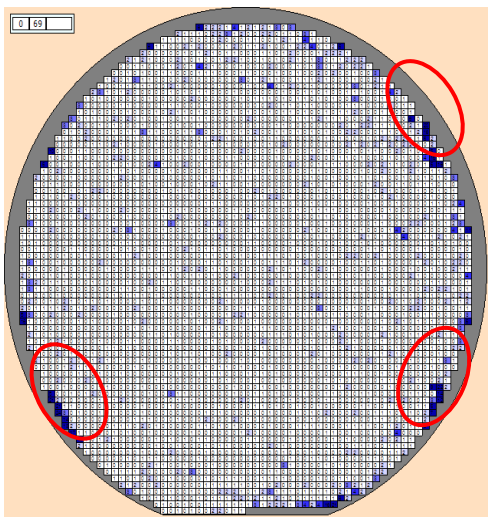
**Analysis Result Feed Back (by PA/FA)**  
To Unit Process Engineering Group

\*. Team or Part Name

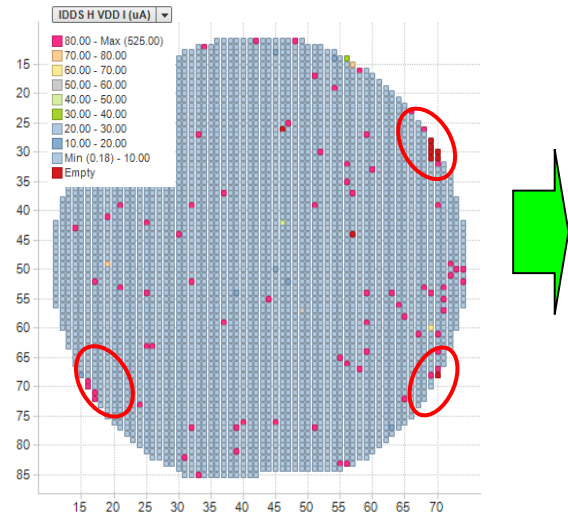
- .PA : Process Analysis
- .FA : Failure Analysis
- .PE : Process Engineering
- .EE : Equipment Engineering
- .PI : Process Integrated
- .IA : Inspection & Analysis
- .IM : In-Line Monitoring

# Statistical Yield Analysis by using HiTAS

## 1. Probe Map view



## 2. Current Map view



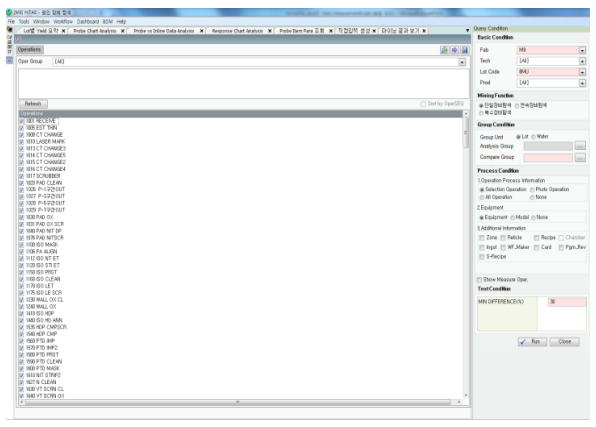
## 3. Good /Bad List-up

Meas. Date	Lot ID	M/J WFs	M/O WFs	Yield	ePT1	ΣMar	ΣISB	IDD
Grand Total	Count: 18	419	419	99.00	101.29	2.28	3.71	
2010-07-09	8MU0064	24	24	100.25	101.92	1.67	3.10	
2010-07-10	8MU0077	25	25	97.38	100.73	3.36	4.27	
2010-07-09	8MU0069	24	24	97.26	101.29	4.04	3.50	
2010-07-10	8MU0067	23	23	99.14	102.02	2.88	3.00	
2010-07-27	8MU0119	22	22	99.18	100.92	1.74	4.10	
2010-07-28	8MU0222	25	25	100.53	102.93	2.40	2.09	
2010-07-10	8MU0074	24	24	97.51	101.36	3.85	3.66	
2010-07-26	8MU0153	25	25	101.43	102.48	1.05	2.54	
2010-07-08	8MU0065	24	24	99.81	102.05	2.24	2.97	
2010-07-04	8MU0015	24	24	99.59	101.02	1.43	4.00	Edge 356
2010-06-02	8MU0022	24	24	97.26	100.85	3.59	4.17	Edge 356
2010-07-05	8MU0049	24	24	98.32	100.52	2.20	4.50	Edge 356
2010-07-05	8MU0081	25	25	100.32	101.92	1.60	3.10	Edge 356
2010-07-11	8MU0040	25	25	97.62	99.30	1.69	5.52	Edge 356 (M4C 5/23)
2010-06-04	8MU0126	25	25	99.95	101.40	1.45	3.62	Edge 356 (PAS103 5/22)
2010-06-15	8MU0066	24	24	99.50	100.72	1.22	4.30	Edge 356 (PAS103 5/22)
2010-06-07	8MU0060	8	8	98.63	100.40	1.77	4.62	Edge 356 (PAS103 5/22)
2010-06-03	8MU0125	24	24	98.00	100.66	2.67	4.35	Edge 356 (PAS103 5/23)

Same sequence of Foundry Product.

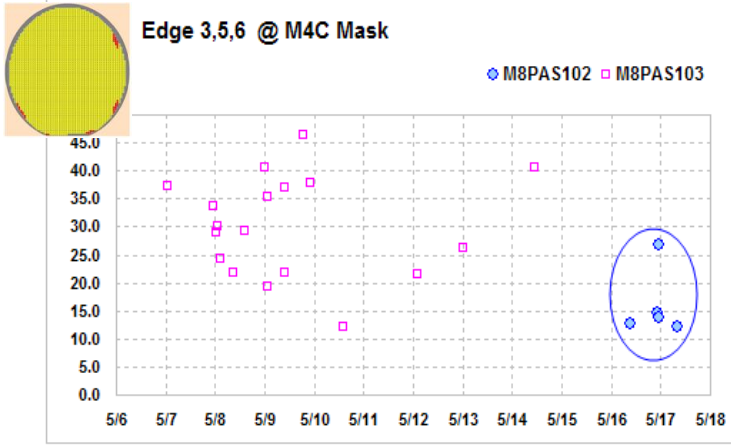
RULE	Target Group Progress	Compare Group Progress	Value
1 8750 M4C MK: M8PAS103	100.00	33.30	65.70
2 2050 SOLDER BALL MOUNT: M8PCE301	83.00	27.00	56.00
3 6100 NMS MASK: M8PXT304	8.00	62.00	54.00
4 8685 IMD3 CMP: M8CCM405	75.00	22.00	53.00
5 2700 TNV MASK: M8PSF403	100.00	47.00	53.00
6 2050 SOLDER BALL MOUNT: M8PCE404	17.00	69.00	52.00
7 4760 LB MASK: M8PAS102	100.00	49.00	51.00
8 4760 LB MASK: M8PAS201	0.00	51.00	51.00
9 1100 1ST DIE ATTACH: M8PXT304	92.00	42.00	50.00
10 1100 1ST DIE ATTACH: M8PXT303	8.00	58.00	50.00
11 2700 TNV MASK: M8PSF303	0.00	49.00	49.00
12 2160 PFS MASK: M8PAS102	0.00	49.00	49.00
13 6120 NMS IMP: M8H1301	58.00	9.00	49.00
14 1640 VT SCRIN OX: M8DFN107	75.00	27.00	48.00
15 6800 PDN MASK: M8PXT401	92.00	44.00	48.00
16 3686 SPACER PR: M8EPU404	58.00	11.00	47.00
17 1640 VT SCRIN OX: M8DFN112	8.00	53.00	45.00
18 6800 PDN MASK: M8PXT304	8.00	53.00	45.00
19 8000 M1 MASK: M8PXT304	75.00	31.00	44.00
20 7475 M1C ARC DP: M8TAC406	83.00	40.00	43.00
21 4240 MOC CLEAN: M8EWS801	8.00	51.00	43.00
22 8520 M2C PRST: M8PEAD02	0.00	42.00	42.00
23 1243 I/A ON SCR: M8DSC601	75.00	33.00	42.00
24 6100 NMS MASK: M8PXT301	75.00	33.00	42.00
25 9020 M2 CLEAN: M8TWSA01	17.00	58.00	41.00
26 7195 SPO TEOS: M8DHL406	0.00	40.00	40.00
27 8010 M1 ETCH: M8EAD106	83.00	44.00	39.00
28 3720 CSP NIT DP: M8BPE203E	83.00	44.00	39.00
29 8420 M1 HM ETCH: M8BELF506	8.00	47.00	39.00
30 8420 M1 HM ETCH: M8BELF504	92.00	53.00	39.00
31 3720 CSP NIT DP: M8BPE202E	17.00	56.00	39.00
32 8706 M2 TE DEP: M8TPE005	58.00	20.00	38.00

## 3. HiTAS Statistical analysis

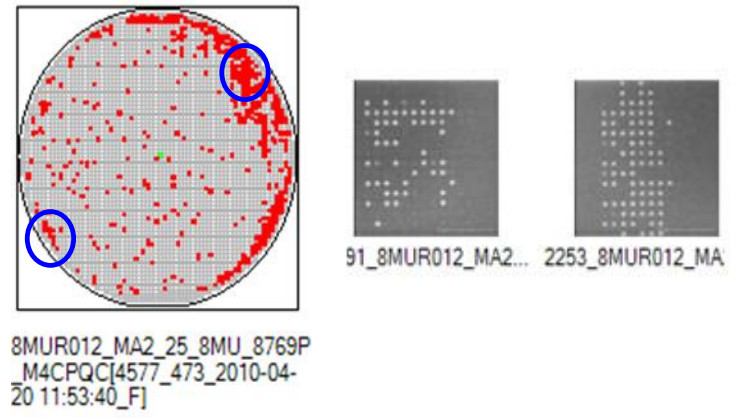


# Statistical Yield Analysis by using HiTAS

## 4. Analysis



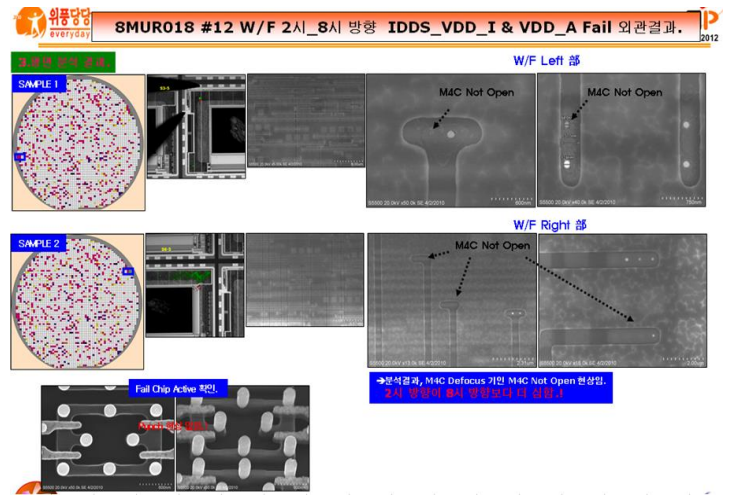
## 5. Confirmed In-Line Inspection Result



## 7. Corrective action

- ▷ Process Eng'r Inform / In-Line Analysis
  - ➔ M4C MK M8PAS103 Stop
  - ➔ M4C MK M8PAS103 Matrix Evaluation
  - ➔ M4C PQC Edge QC Point Insert
- ▷ Improve Action
  - ➔ M8PAS103 M4C MK Edge Multi Tuning
  - ➔ M4C PR Lower THK Evaluation (8MU0019)

## 6. FA Analysis



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EoD