A world map composed of a grid of small grey dots, centered on the Atlantic Ocean. The map is rendered in a light grey color against a white background.

K211 Optimal Production Project

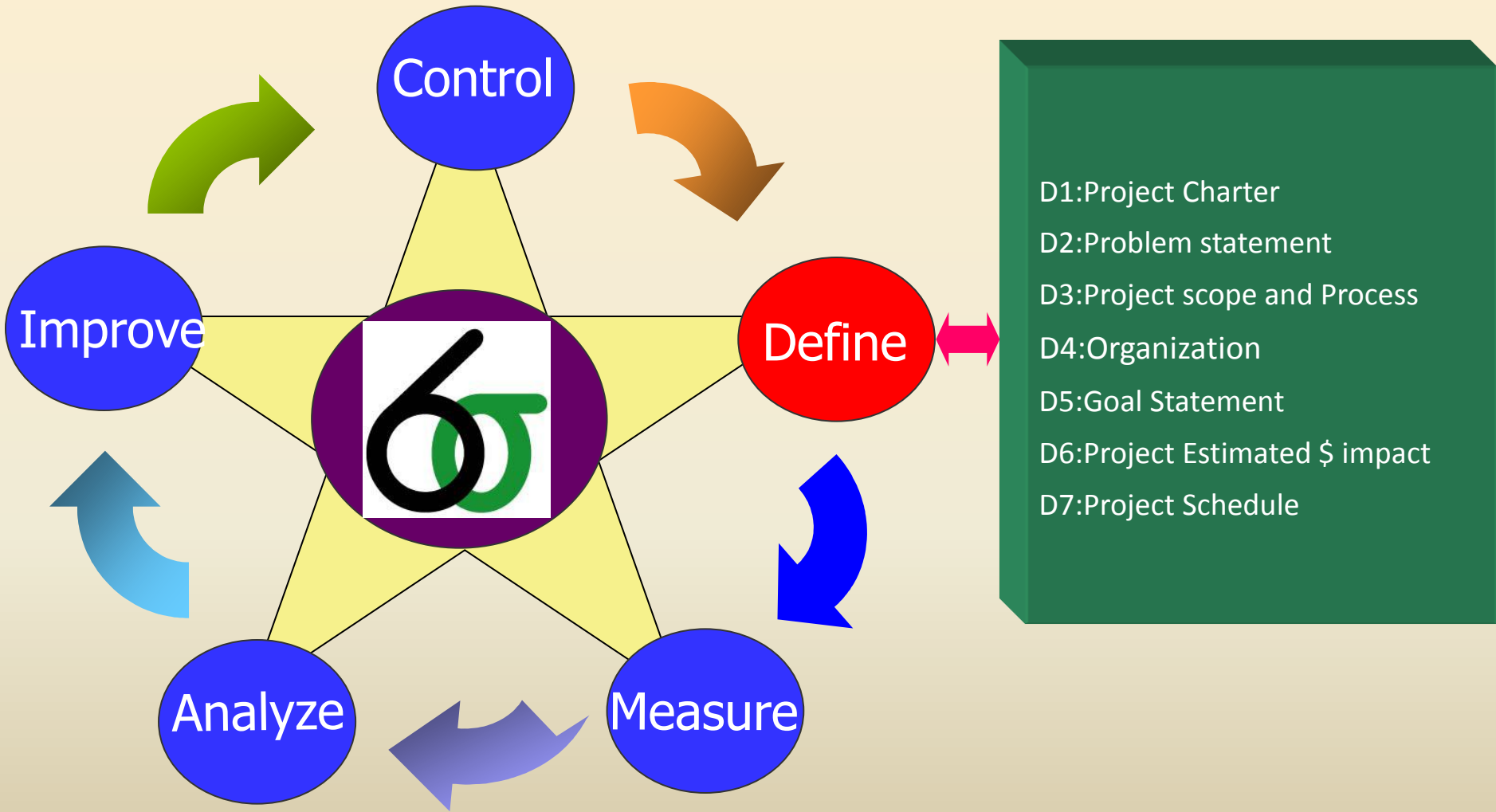
BackGround

K211 is new mass production program, 5*family with 280k annual volume, 4*doors and trunk-lid. Till now the many Kaizen idea in K211, and next month ramp up will be completed. So the goal is optimal utilization lean production line for K211.

Overall Plan

Family	Stage	content	action	lead time
K211	define	standard time	follow CEBU format	2week
		standard motion	follow SGM	
		standard WIP	by station	
		allowance	1.fatigue 2.rest frequency in the working time	
		change over	change level card	
		capacity(T/T, ramp up)	follow log. Plan, 3.20 completed ramp up	
		material feed	warehouse-- feed material frequence	
	measure	cycle time	by stopwatch each family/station	3week
		yield rate	Quality	
		stations Qty.	used and free	
		headcounts	actual DL	
	analysis	line balance	analysis station Qty. , Headcounts, C/T by column mapping	4week
		material layout	wether ergonomics/muda	
		standard time	compare C/T with labor minutes;confirm that labor minutes contain whole motions time	
		defect root cause	reduce DPMO; reduce rework time; reduce Quality excess	
		rework on-line		
	improve	line balance	1. cell line module- keep next station no waiting 2.rearrange station,1 operator for multiple stations 3.optimize motion&process&layout -ECRS	8week
		learning curve	training new operator	
		Part to part inspection		
		reduce waste	steps waste,reach material waste, follow 7 muda	
Control	all improvement	production feedback,if has new ideal,circulate improving	2week	

Define Summary

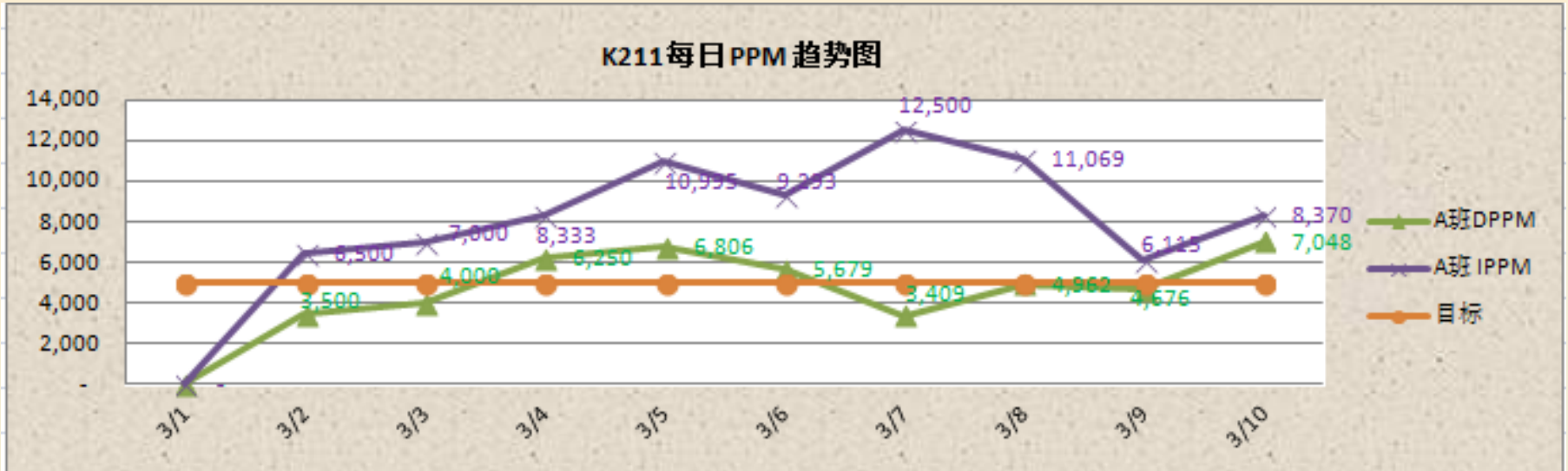




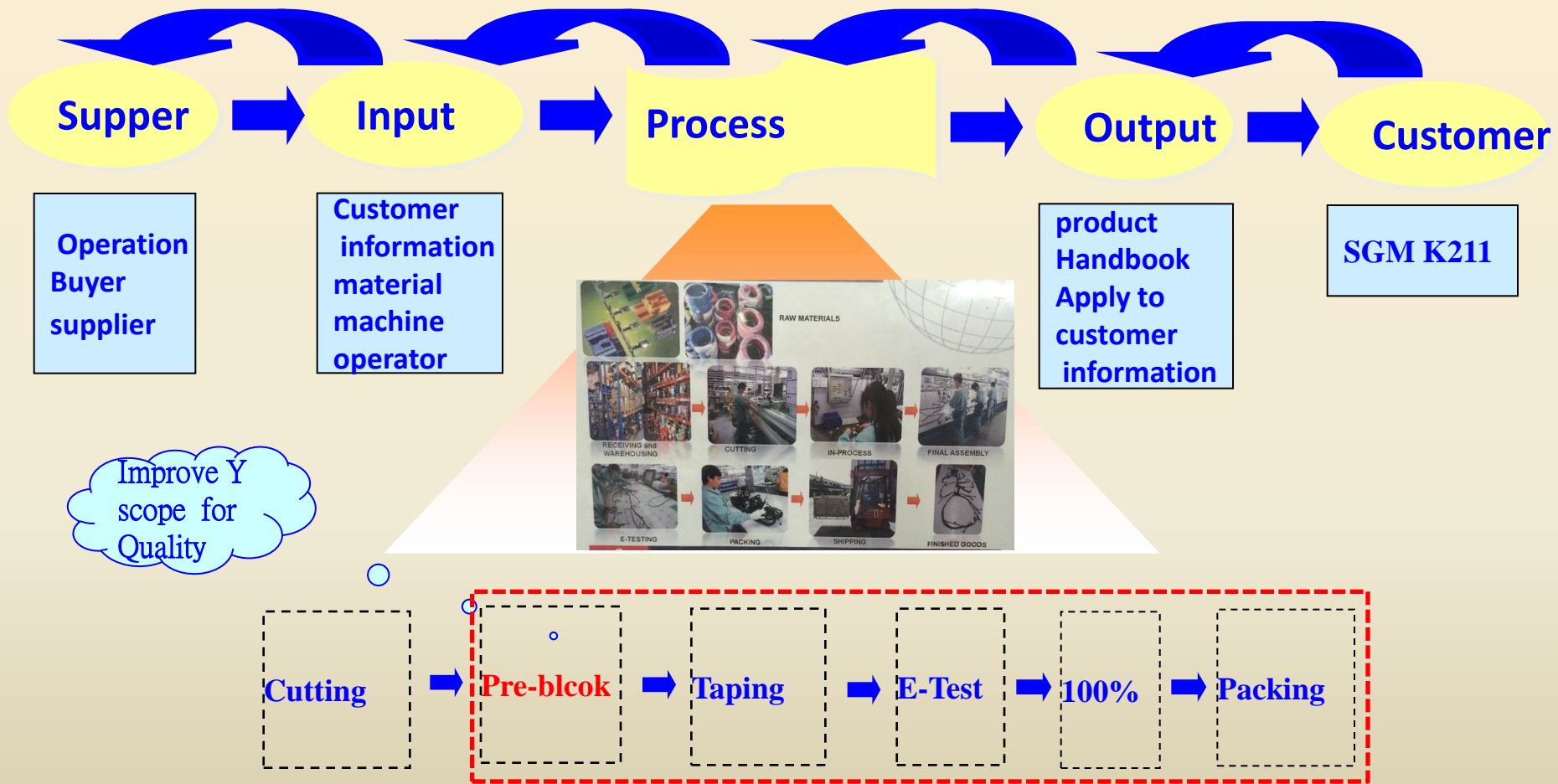
Project Charter

Project Name: SGM-K211 optimal production project method: DMAIC/ 8Muda Dep: K211 Team Member: IE ETE QE Mfg. Logistics WH			Project Plan					
			item	Define	Measure	Analyse	Improve	Control
			start	2.3 ~ 3.1	3.2 ~ 3.20	3.21 ~ 4.1	4.2 ~ 5.15	5.16 ~
			completely	2.3 ~ 3.1	3.2 ~ 3.20	3.21 ~ 4.1	4.2 ~ 5.7	5.7 ~
Problem statement:(5W1H): What 's the current status, time,capacity,headcount, efficiency ? What's the lean production line? Where can use Jidoka? Which station is bottle neck? How many waste exist in K211 ? How to reduce the waste ? How to improve quality? When can completed?			Project Scope: Layout/ headcount/ raw material area/ pre-blocking-ass'y-wrap tape-100%-packing					
Project target Baseline:efficiency 80% PPM 10k Target:150% PPM <5k Process target: one piece flow in cell (low WIP) Finance target: efficicncy 150%								
Chamption		6 sigma Exec.	Andy.Wang					
MBB		sigama commissioner						

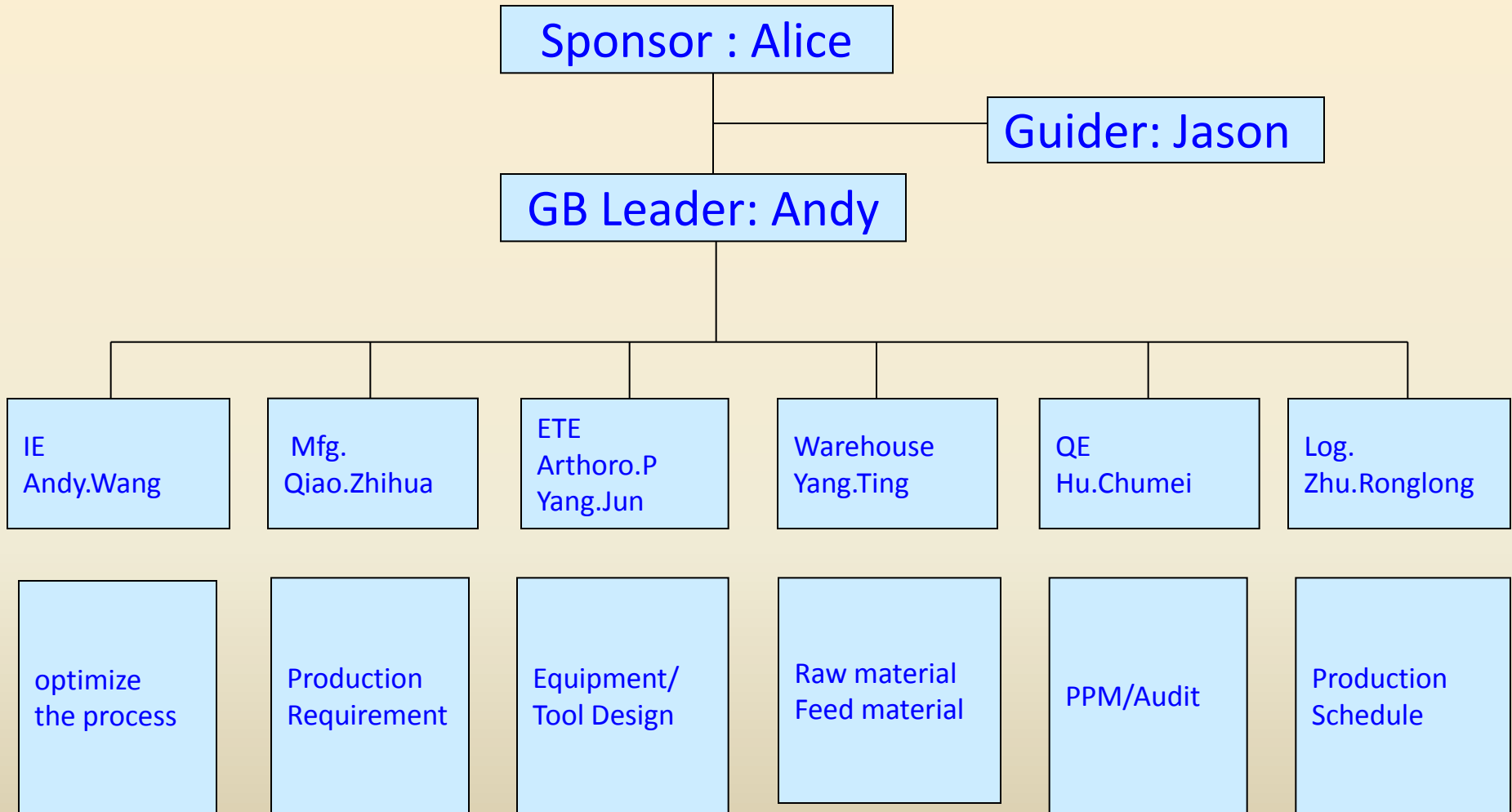
High PPM and 80% eff.



Issue	零件号	电测标签时间	线束部件	缺陷件	缺陷描述
TOP1	90765621	15: 05: 04	主驾	连接器	连接器锁片未锁到位
TOP2	26201529	13: 50: 31	行李箱	卡扣	卡扣用错
TOP3	90765623	14: 44: 04	副驾	卡扣	卡扣固定不牢
TOP4	90765623	16: 48: 05	右前门	端子	端子变形
TOP5	90765623	11: 05: 17	右前门	橡胶件	橡胶件未安装到位
TOP6	90765621	16: 34: 16	右后门	卡扣	卡扣尾巴短
TOP7	90765617	11: 45: 36	右后门	ID标签	ID标签位置贴错
TOP8	90765624	18: 25: 01	左后门	卡扣	卡扣方向错
TOP9	90765617	13: 32: 16	右后门	连接器	连接器损坏
TOP10	90765617	16: 47: 50	右后门	胶带	胶带未包好漏线



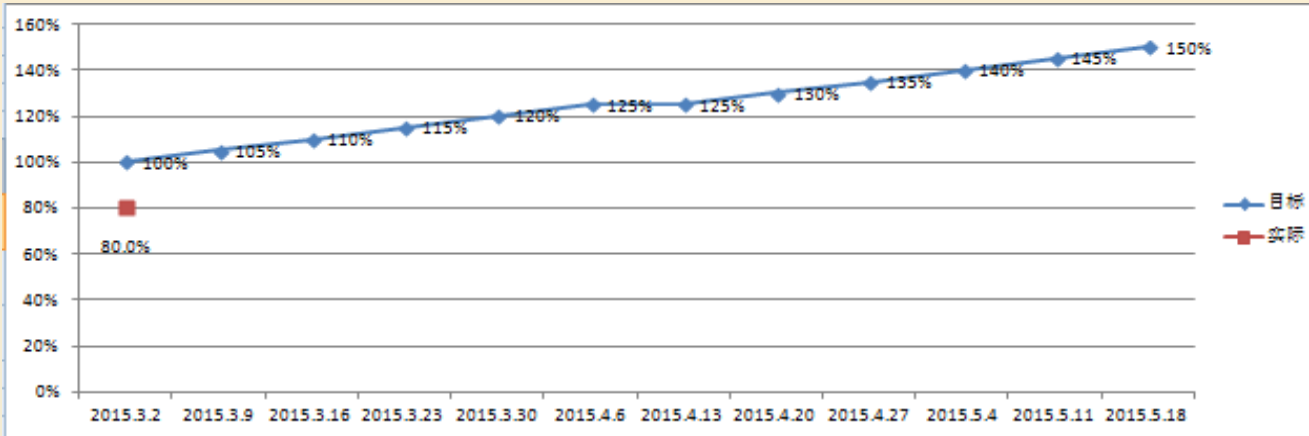
Organization



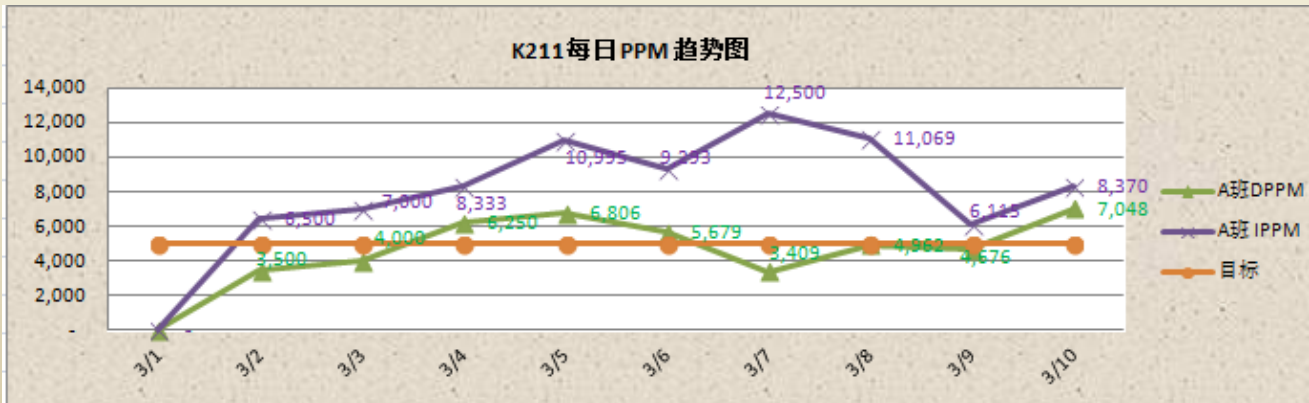
Goal Statement

Target Finance Efficiency 150%











Target PPM below 5000



	2015.3.2	2015.3.9	2015.3.16	2015.3.23	2015.3.30	2015.4.6	2015.4.13	2015.4.20	2015.4.27	2015.5.4	2015.5.11	2015.5.18
目标	100%	105%	110%	115%	120%	125%	125%	130%	135%	140%	145%	150%
实际	80.0%											
人数	85											

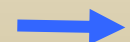


Project Schedule

Item	Plan					Plan Content	
	2月	3月	4月	5月	6月		
Define	  2/2~3/1					Project charter problem target members	
Measure		  3/2~3/20				MSA / Layout Process capability Process mapping	
Analyze		  3/21~4/1				Move/Motion study	
Improve			  4/2~5/15				ECRS/Muda/PDCA
Control				  5/16~			



Project plan time



Project actual time



Measure

Measure Cycle Time/Headcount/Station Qty.

Family	预锁	包胶	电测	包装	Family	预锁	包胶	电测	包装
Driver Door	6.6	7.8	1.3	0.4	Driver Door	396	467	80	25
Passenger Door	3.1	5.4	1.0	0.4	Passenger	188	324	63	25
RR left Door	2.5	3.9	0.8	0.4	RR left Door	151	234	48	25
RR Right Door	2.5	3.9	0.8	0.4	RR Right	151	234	48	25
Trunklid	2.2	3.8	0.8	0.4	Trunklid	134	230	48	25

左前门每站单位小时产出

Station Eff.	60%	70%	80%	90%	100%	120%	130%	140%	145%	150%
预锁1人1站	6	7	8	9.0	10	12	13	14	15	15
预锁2人1站	12	14	16	18.0	20	24	26	28	29	30
Kit	12	14	16	18.0	20	24	26	28	29	30
包胶	5	6	7	8	8	10	11	12	12	12
电测	28	33	37	42	46	56	60	65	67	69
包装	87	101	116	130	144	173	188	202	209	216

右前门每站单位小时产出

Station Eff.	60%	70%	80%	90%	100%	120%	130%	140%	145%	150%
预锁	12	14	16	18.0	20	24	26	28	29	30
包胶	8	9	10	11	12	15	16	17	18	18
电测	35	41	47	53	58	70	76	82	85	87
包装	87	101	116	130	144	173	188	202	209	216

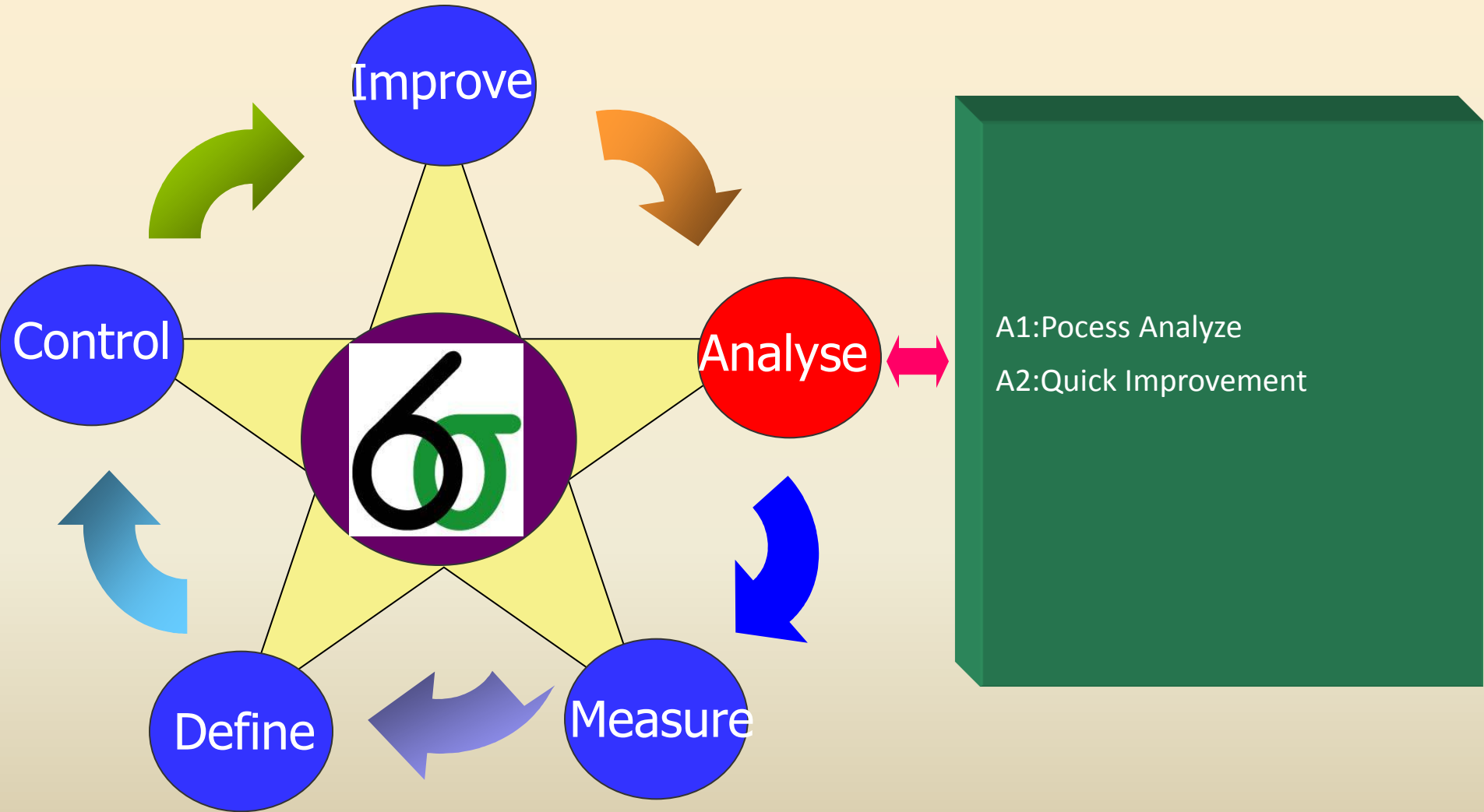
后门每站单位小时产出 (左右后门产能相同)

Station Eff.	60%	70%	80%	90%	100%	120%	130%	140%	145%	150%
预锁	15	17	20	21.6	24	29	32	34	35	36
包胶	10	12	13	15	16	20	21	23	24	24
电测	45	53	60	68	75	90	98	105	109	113
包装	87	101	116	130	144	173	188	202	209	216

行李箱每站单位小时产出

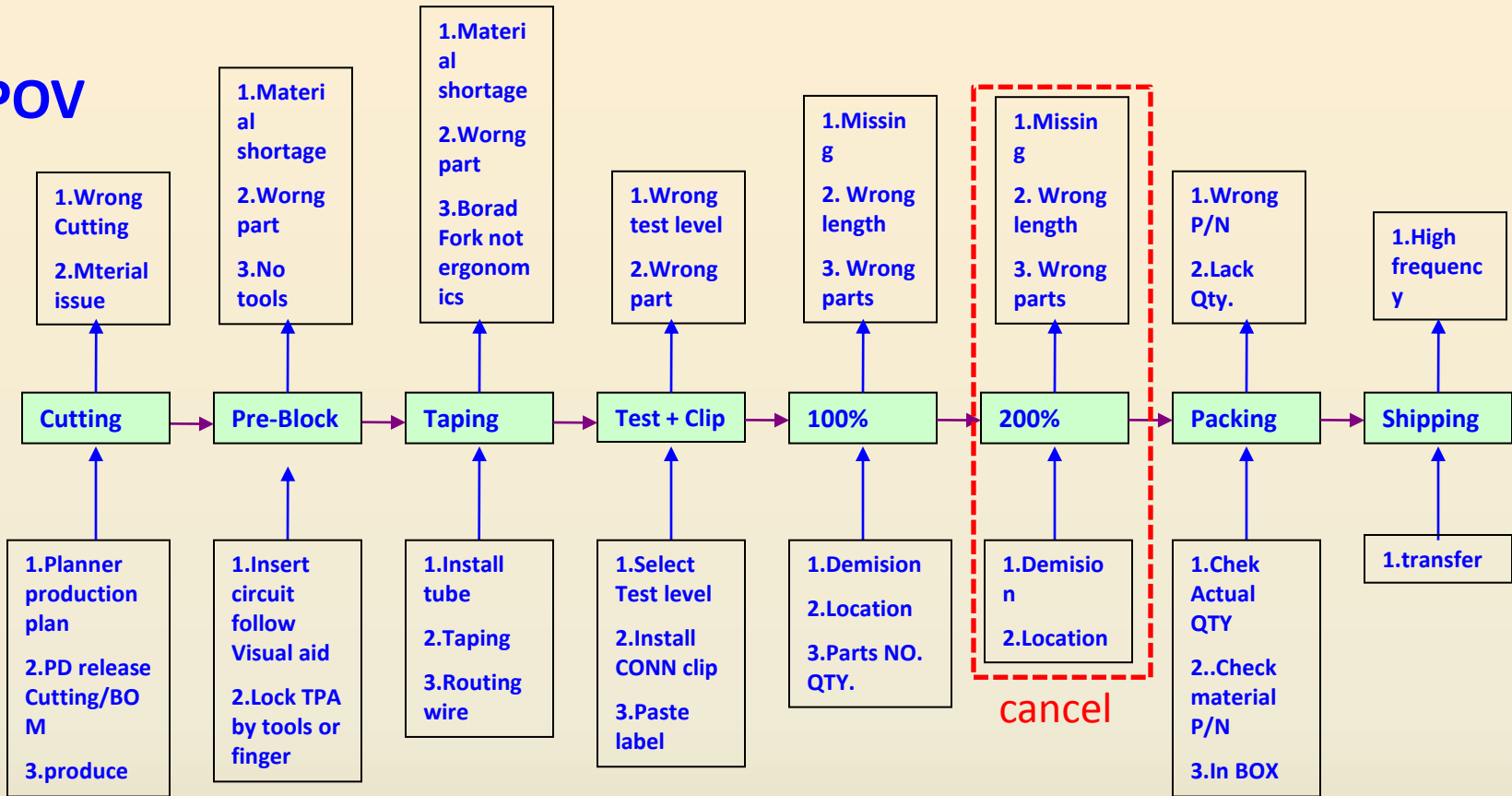
Station Eff.	60%	70%	80%	90%	100%	120%	130%	140%	145%	150%
预锁	17	19	22	24.3	27	33	36	38	40	41
包胶	10	12	13	15	16	20	21	23	24	24
电测	45	53	60	68	75	90	98	105	109	113
包装	87	101	116	130	144	173	188	202	209	216

Analyze Summary



Process Analyze

KPOV

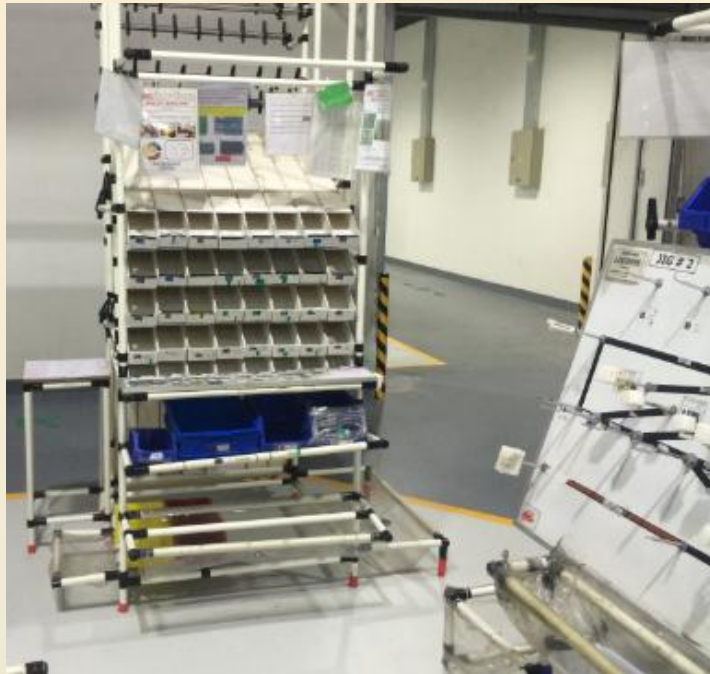


KPIV

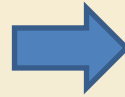
N = Noise Factor
C = Control Factor
S = SOP Factor
X = Key Factor



1. Pre-Block&Taping layout change



90 degree



One line

Advantage: reduce body turn-back motion

Disadvantage: no

DRI: Mfg. Ning Bo



2. Use fixed fixture to through the circuit

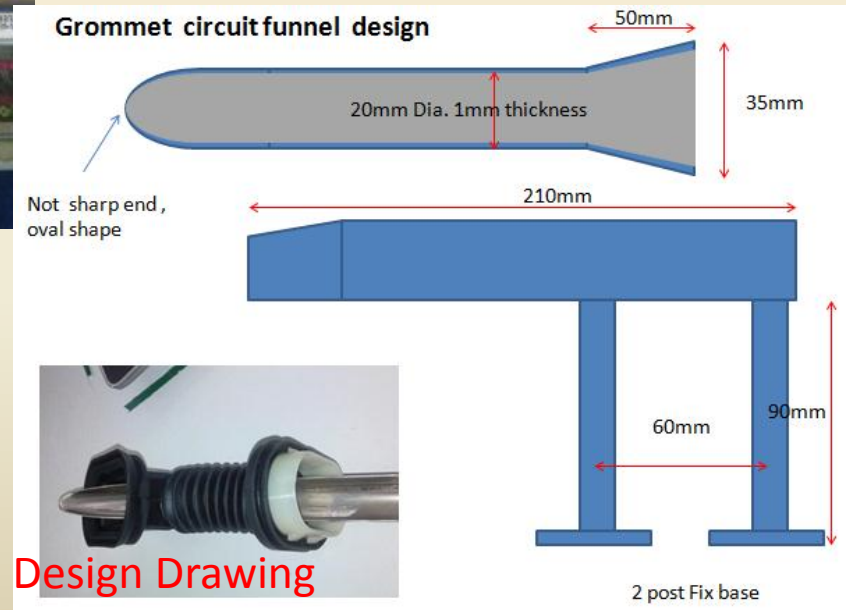


Before: one hand hold rubber , the other hand hold circuit and through

After: Rubber install on fixture, and double Hand hold circuit to through

Advantage: more convenient than no fixed fixture or manual

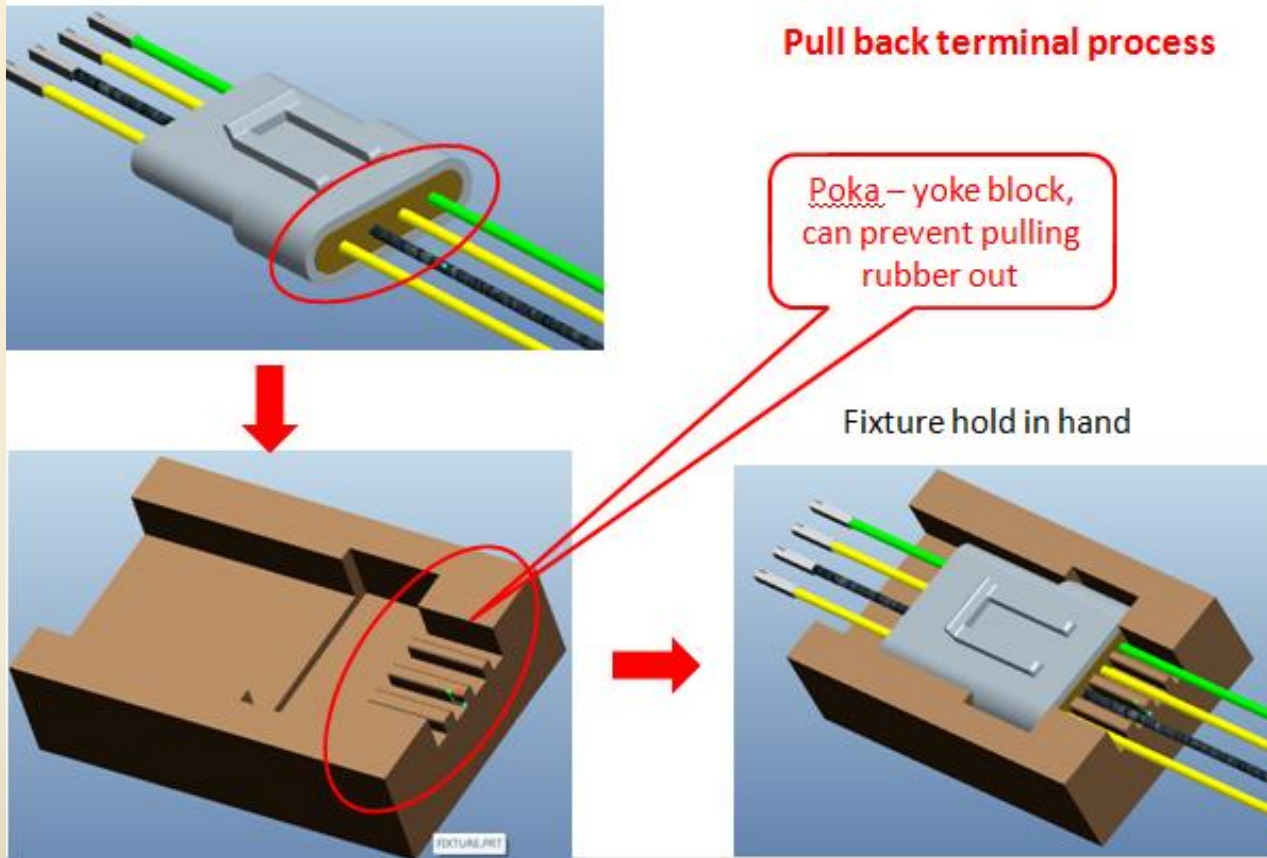
Disadvantage: no



DRI: ETE. Arturo



3. Pull terminal fixture design



Advantage: can prevent rubber out effectively

Disadvantage: no

Drawing: Li Pengchao

DRI:Joce



4. Blind plug concentrated operation



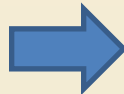
Advantage: centralize manage, improve line balance, low WIP

Disadvantage: no

DRI: Mfg. Qiao ZhiHua



5. Tube box change



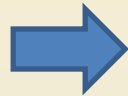
Advantage: 1.reduce arrange tube time
2. 5s

Disadvantage: no

DRI: Mfg. Qiao ZhiHua



- 6. 1 Tube box change
- .2 Reduce length of Circuits Boxes



Advantage: 1. less times to feed material
2. get material easily

Disadvantage: no

DRI: IE. Andy

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