V2 Cell Test
Operation Scenario Ver 1.20

拓展视界 提升人类视觉享受

2. Equipment Detail Information

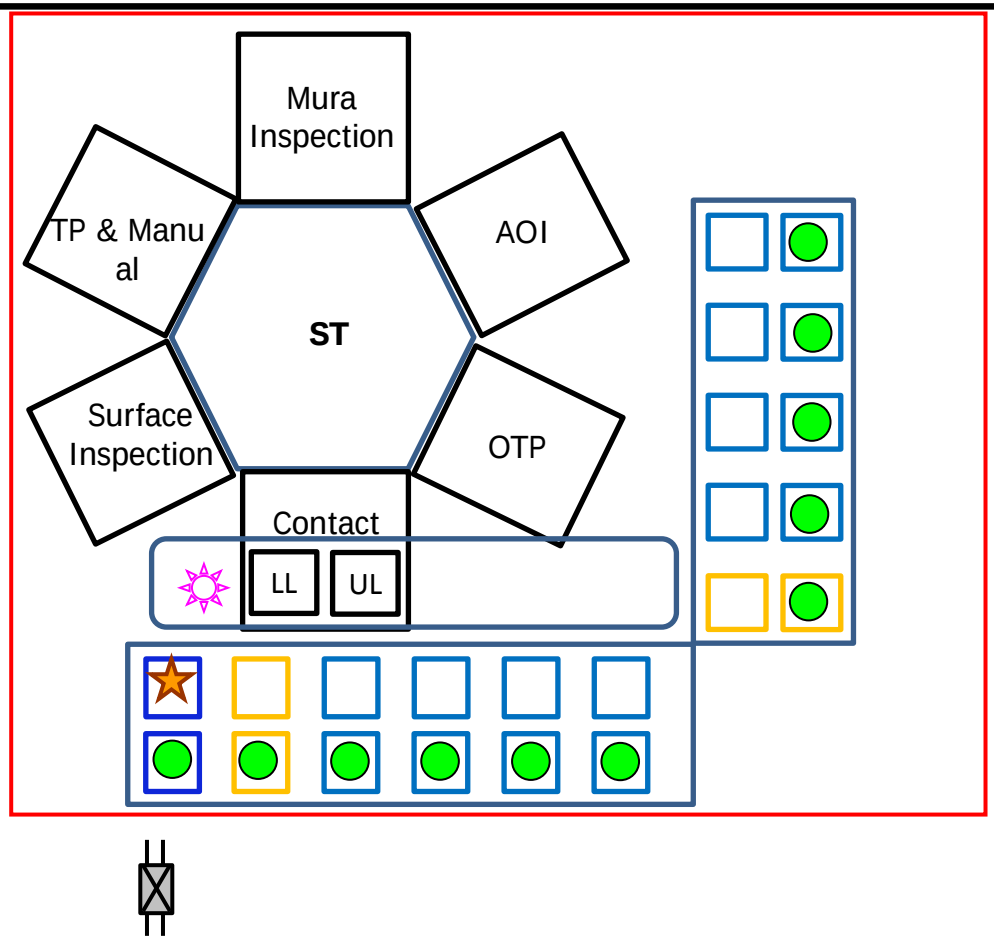
Item	Information
EQP ID	
EQP Name	**Cell Test**
Shop	LTPS ✓ PostCell
EQP Type	Process Measure ✓ Inspection Repair
EQP Structure	In-line ✓ Stand Alone Complex
Transfer	AGV (Stocker Inline) ✓ MGV
Online Mode	✓ Offline ✓ Online Local ✓ Online Remote
CIM PC Vendor	AIM
EQP Vendor	

Item	Information
Glass Type	✓ Flexible ✓ Rigid ✓ Flexible Dummy ✓ Rigid Dummy
Glass Judge	G : Good N : No Good R : Rework P : Re-Pair S : Scrap
Lot Judge	✓ G: Good ✓ N: No Good ✓ R: Rework ✓ P: Re-Pair ✓ H: Hold
Panel Judge	✓ A: A grade ✓ B: B grade ✓ C: C grade ✓ D: D grade ✓ T : T grade ✓ N: No Good ✓ P: Re-Pair ✓ R: Rework
EQ Tray Port Count	11 (50 Tray * 12ea Panel)

Description
1.EQP ID : 2.EQP Vendor 3. Port is 11 in total. Unload Port is 8.so Panel Juege Max is als o 8. 4.the funtion and type of 8 Unload Ports could be change.

1. Equipment Layout

Layout

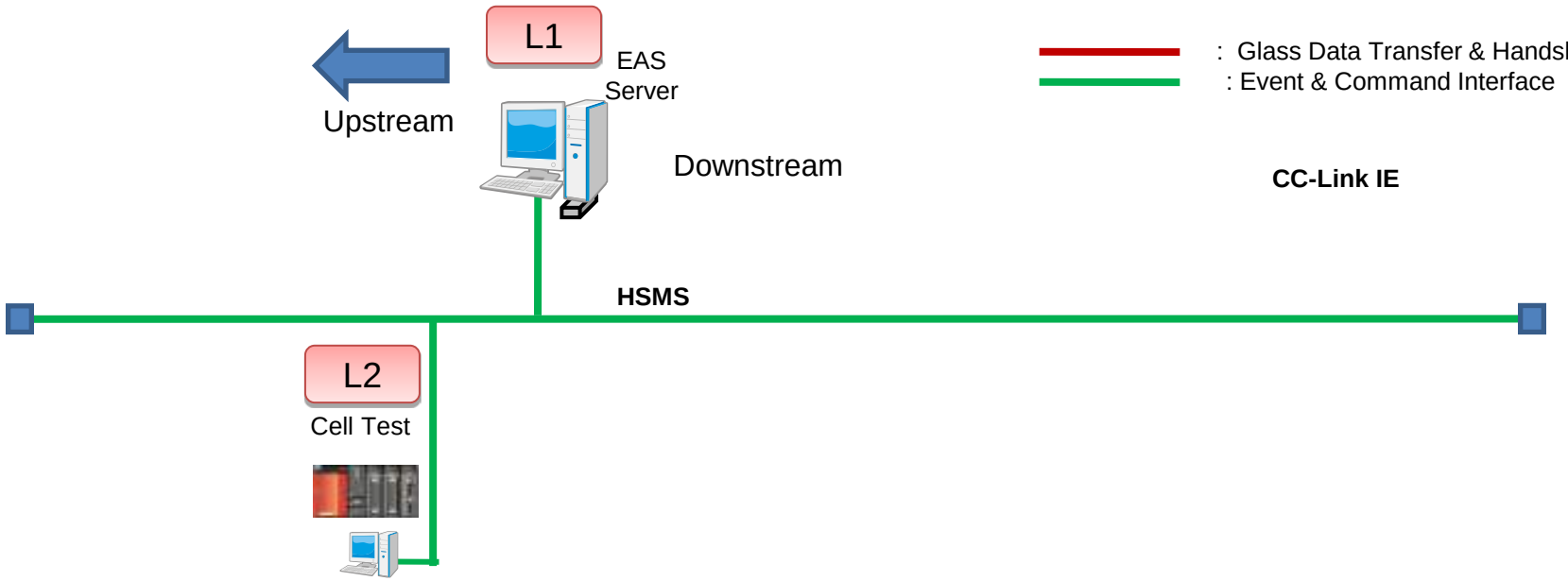


Explain :
The EQP have 6 unit,index way. The unit are 1 LD port ,2 buffer port, 8 ULD port.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

Equipment Configuration - Network



3. Unit Information

ITEM	Unit #1	Unit #2	Unit #3	Unit #4	Unit #5	Unit #6	Unit #7
Unit ID	2PCT01-PCT-PRA	2PCT01-PCT-CON	2PCT01-PCT-OTP	2PCT01-PCT-AOI	2PCT01-PCT-MUR	2PCT01-PCT-TPM	2PCT01-PCT-SFI
Unit Name	Pre-Align	Contact	OTP	AOI	Mura	TP&manual	Surface inspection
VCR Exist	Yes	No	No	No	No	No	No
Alarm Report	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DFS	Yes	Yes	Yes	Yes	Yes	Yes	Yes

5. Index Detail Information

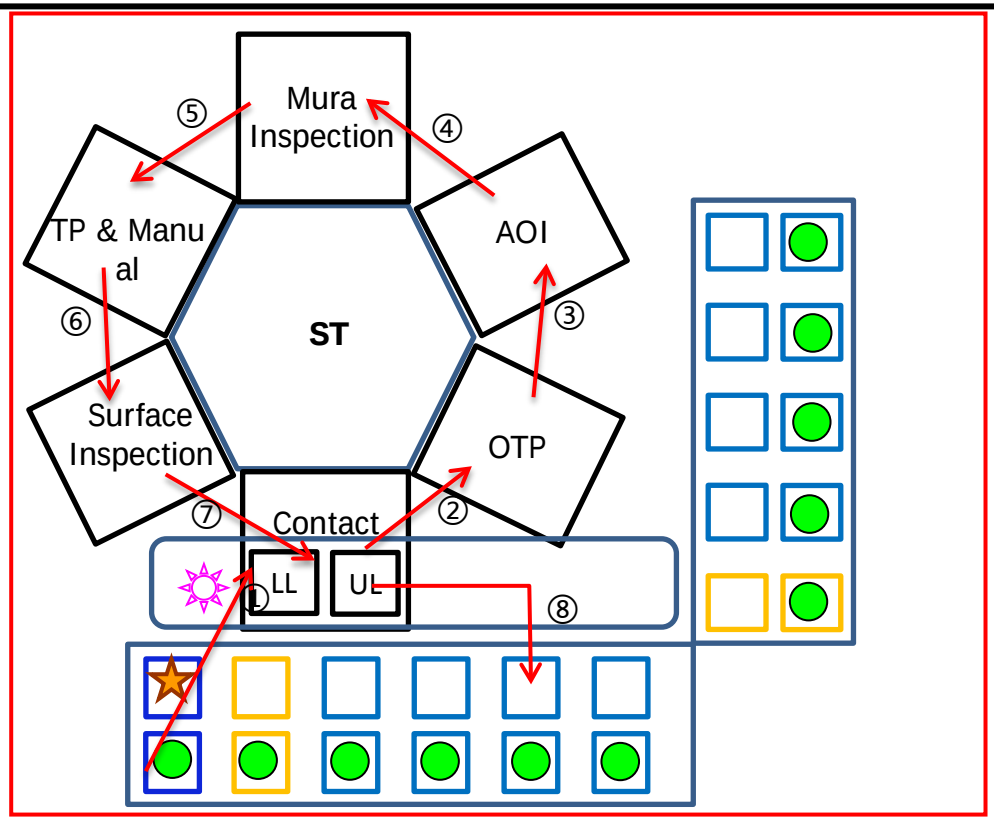
ITEM	Port #1	Port #2	Port #3	Port #4	Port #5	Port #6	Port #7	Port #8	Port #9	Port #10	Port #11
Port ID	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11
Transfer Type	MGV	MGV	MGV	MGV	MGV	MGV	MGV	MGV	MGV	MGV	MGV
Port Type	PL	PB	PU	PU	PU	PU	PB	PU	PU	PU	PU
Port Used Type	OO	OO	GG	GG	GG	GG	OO	NG	NG	NG	NG
VCR(RF) Exist	Y	N	N	N	N	N	N	N	N	N	N
Load Cassette Type	✓ Actual Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty	Actual ✓ Empty
Comment		✓ Port's type can be defined by user									

Type
BCR : Bar Code Reader, **RF** : Radio Frequency Read, **Mapper** : Mapper Sensor,

Port Type	Port Used Type	
PB: Buffer Port (exist empty tray), **PL**: Load Port, **PU**: Unload Port,	**OO**: Normal using type **DM**: Dummy **GG**: Good Unloader port **NG**: NG Unloader port	**RW**: Rework Unloader **RP**: Repair Unloader **SC**: Scrap Unloader **CR**: Crate Port Type Loader **CL**: Cassette Cleaner Type Loader and Unload

6. Glass Flow

◆ Normal Flow1 (OK)



Explain :
EQP normal flow__Flow①→Flow② →… →Flow ⑧。

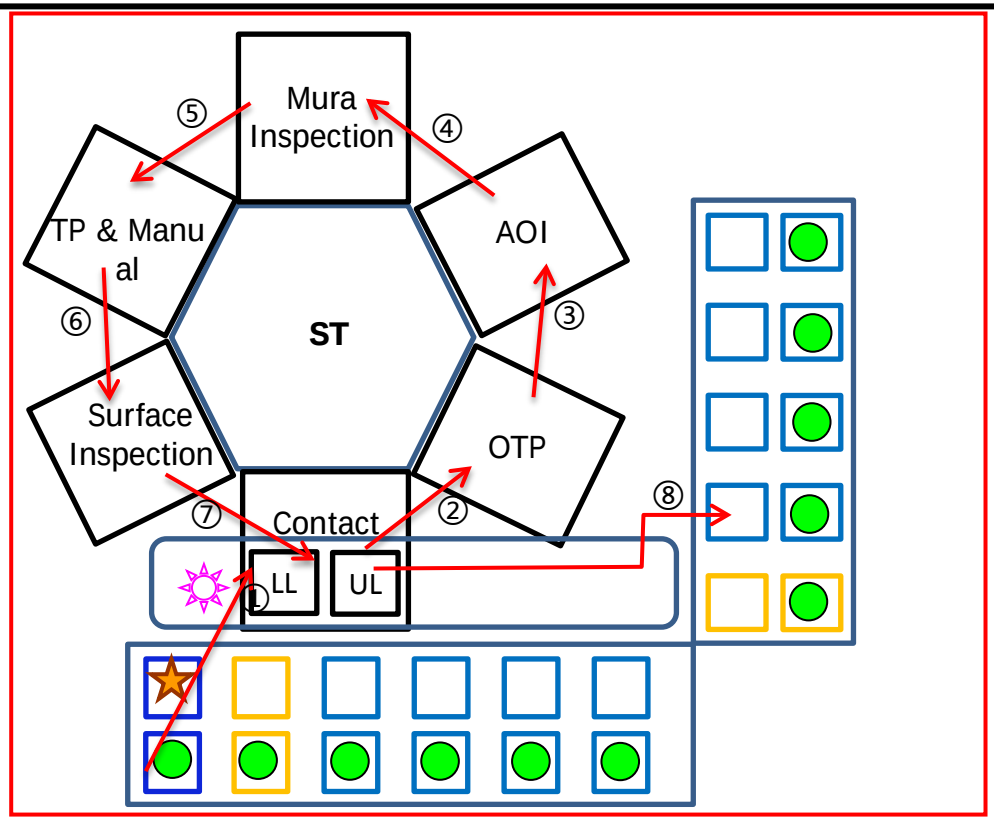
※ if Glass Judge is OK then EQP should be put in OK port

Legend

ST : Stage | : MGV | : VCR | : Equipment | : BCR | : Port ID | : Unit | : LD Tray port | : Buffer Tray port | : ULD Tray port

6. Glass Flow

◆ Normal Flow1 (NG)



Explain :
EQP normal flow__Flow①→Flow② →… →Flow ⑧。

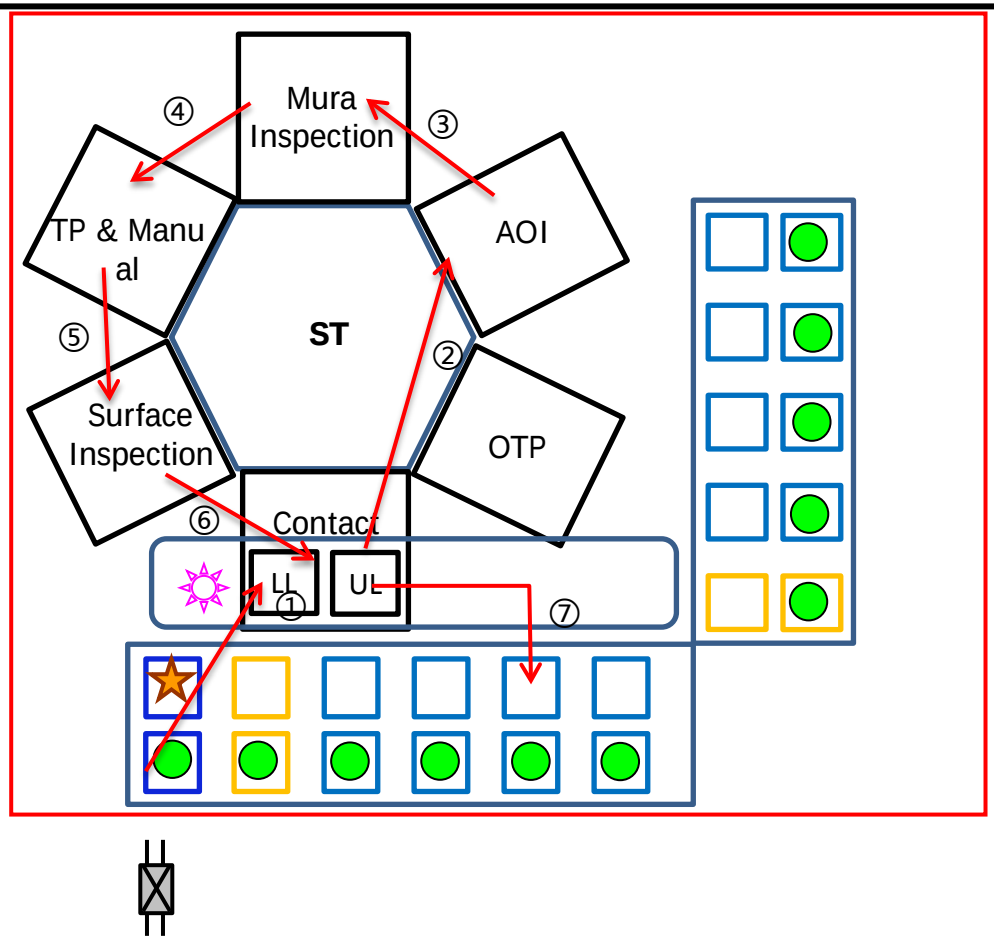
※ if Glass Judge is NG then EQP should be put in NG port

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Normal Flow2**



Explain :

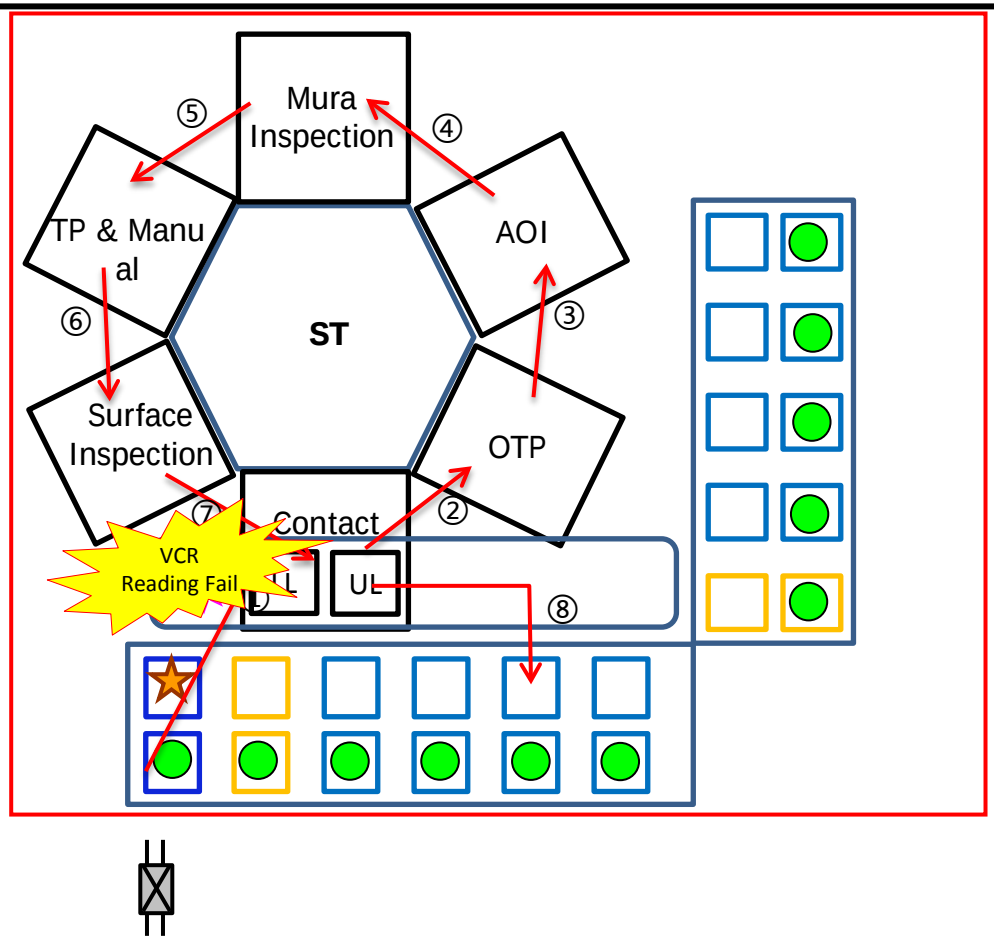
1. each of Unit could be fix to skipping but need to record the unit that did n't inspecting.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Abnormal Flow1**



Explain :

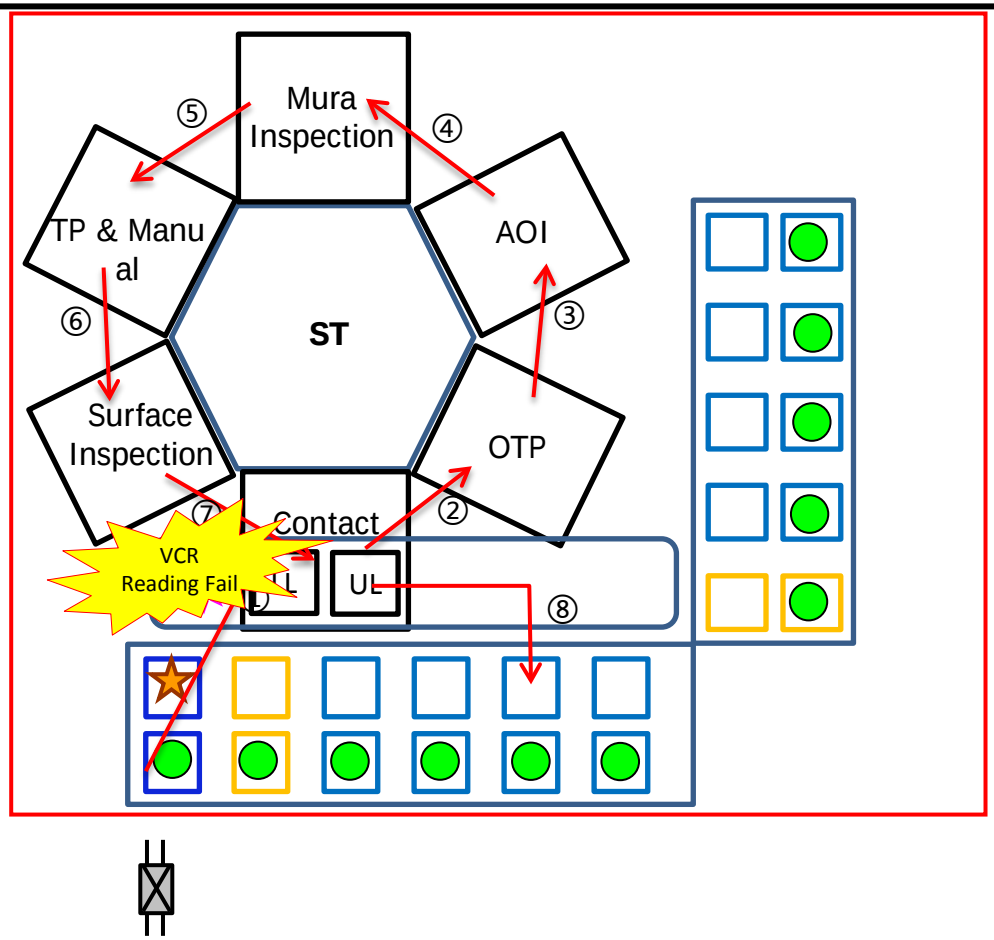
if BCR fail to reading then the EQP dow n and alarm & OP call.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Abnormal Flow2**



Explain :

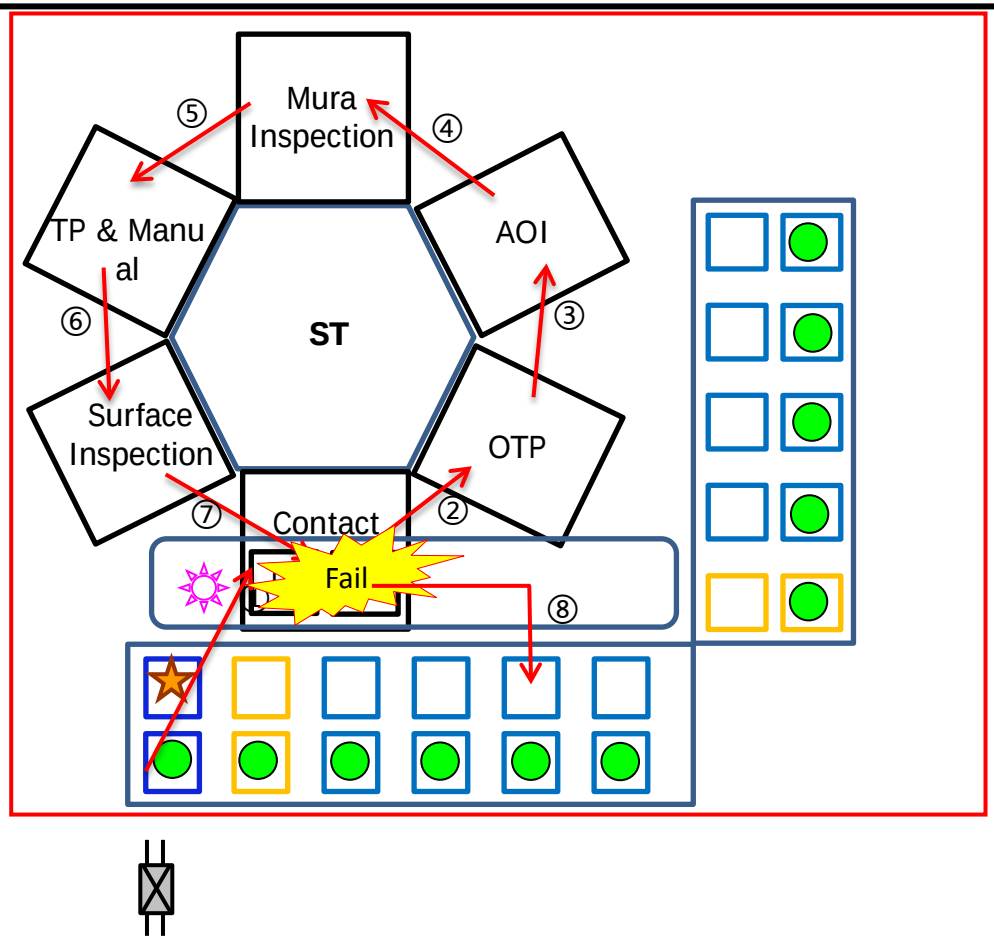
1. IF VCR reading fail downstream unit will not projecting but going to rework port im midiatly.
2. IF VCR reading fail continuity 3 times,then the EQP down and alarm to OP.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Abnormal Flow3**



Explain :

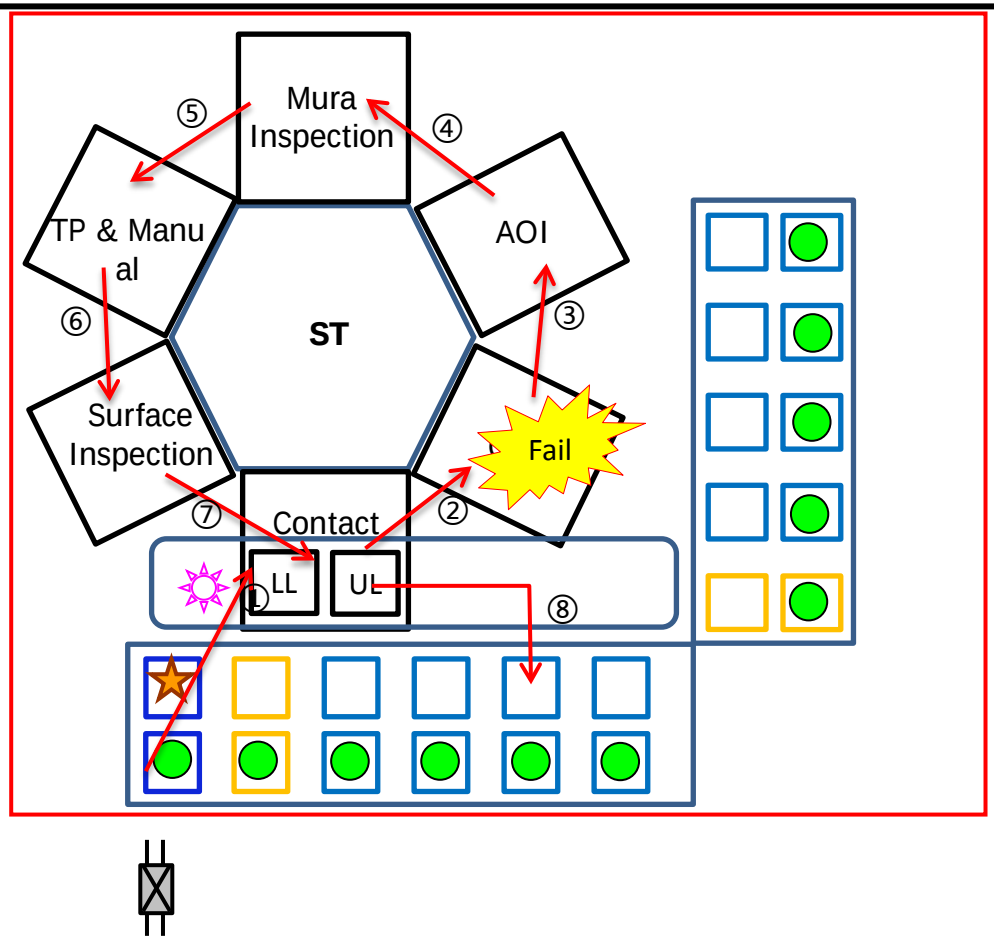
1. If Unit ① have teaching fail downstream unit will not projecting but going to rework port immidiatly.
2. IF VCR reading fail continuity 3 times,then the EQP down and alarm to OP.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Abnormal Flow4**



Explain :

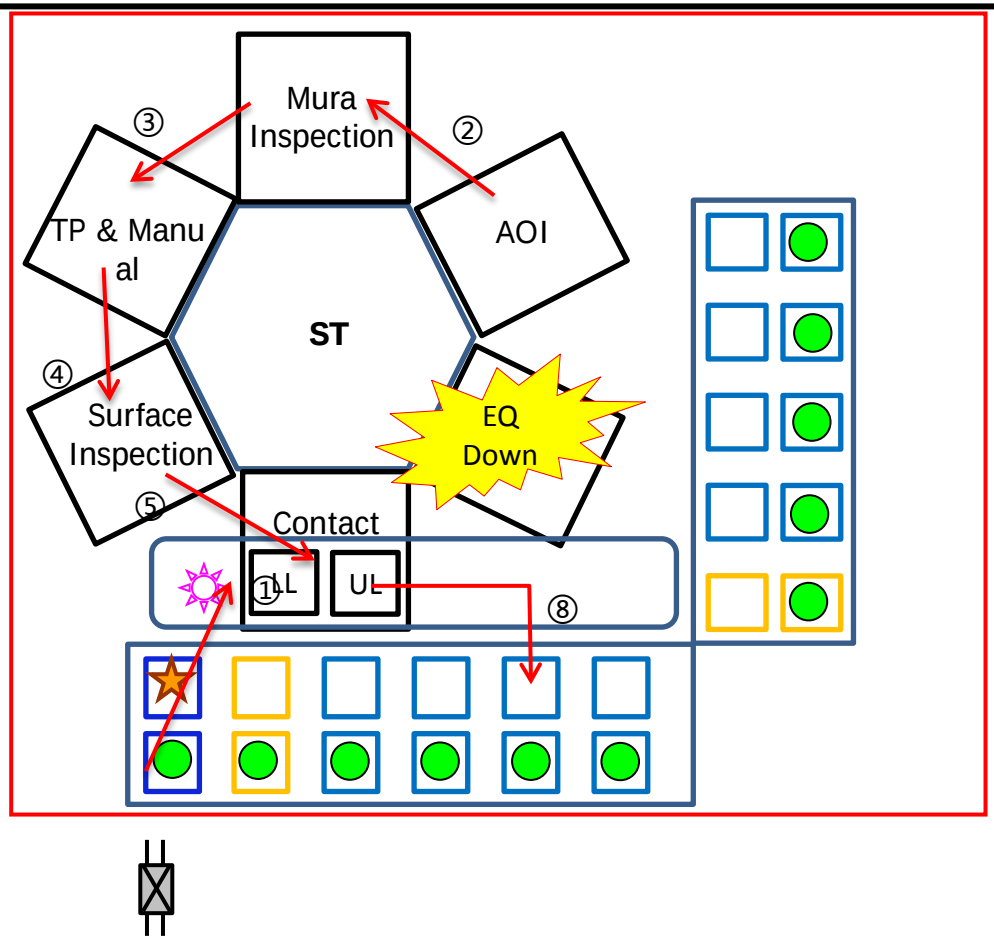
1.If Unit ② fix fail then unit④ could select t o not projecting and going to rework port i mmidiatly.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : **Abnormal Flow5**



⑧

Explain :

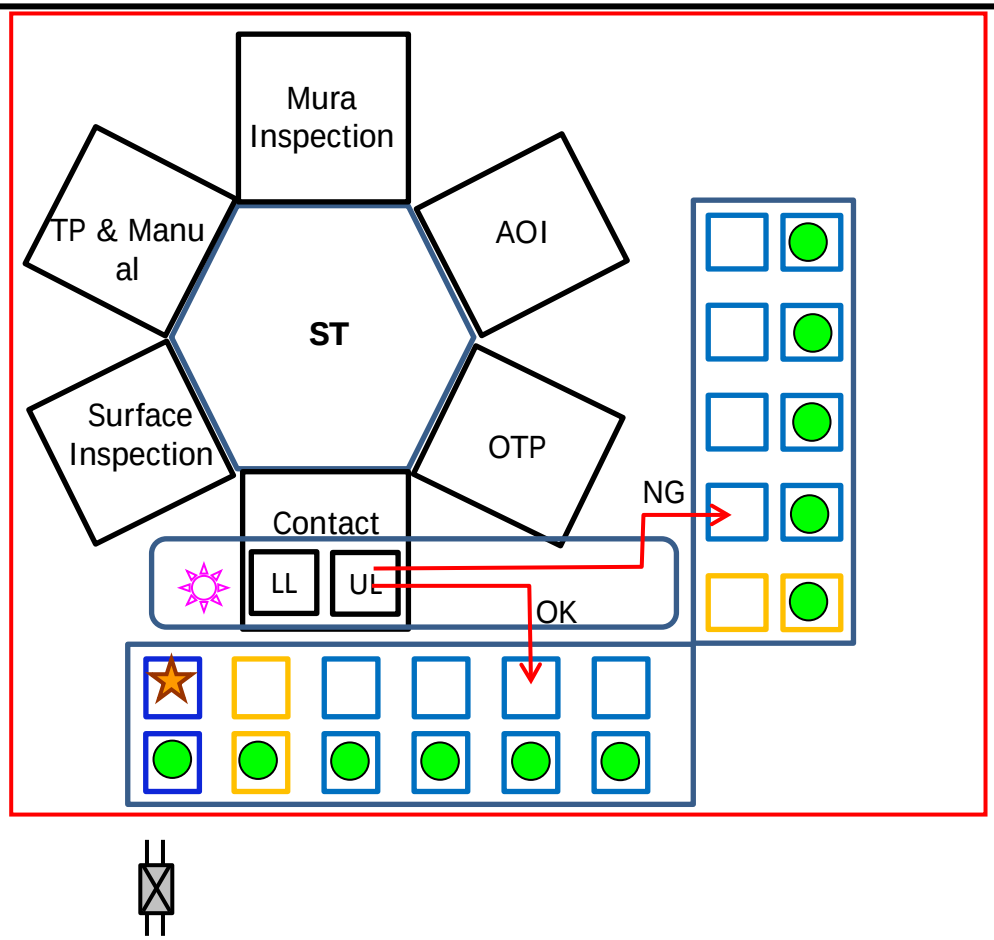
If one of Unit down then downstream u nit will flowing normaly but upstream u nit will loding stop.upstream unit glass will going back to rework port immidiat ly.

Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

6. Glass Flow

◆ : Cell unloading ports instruction



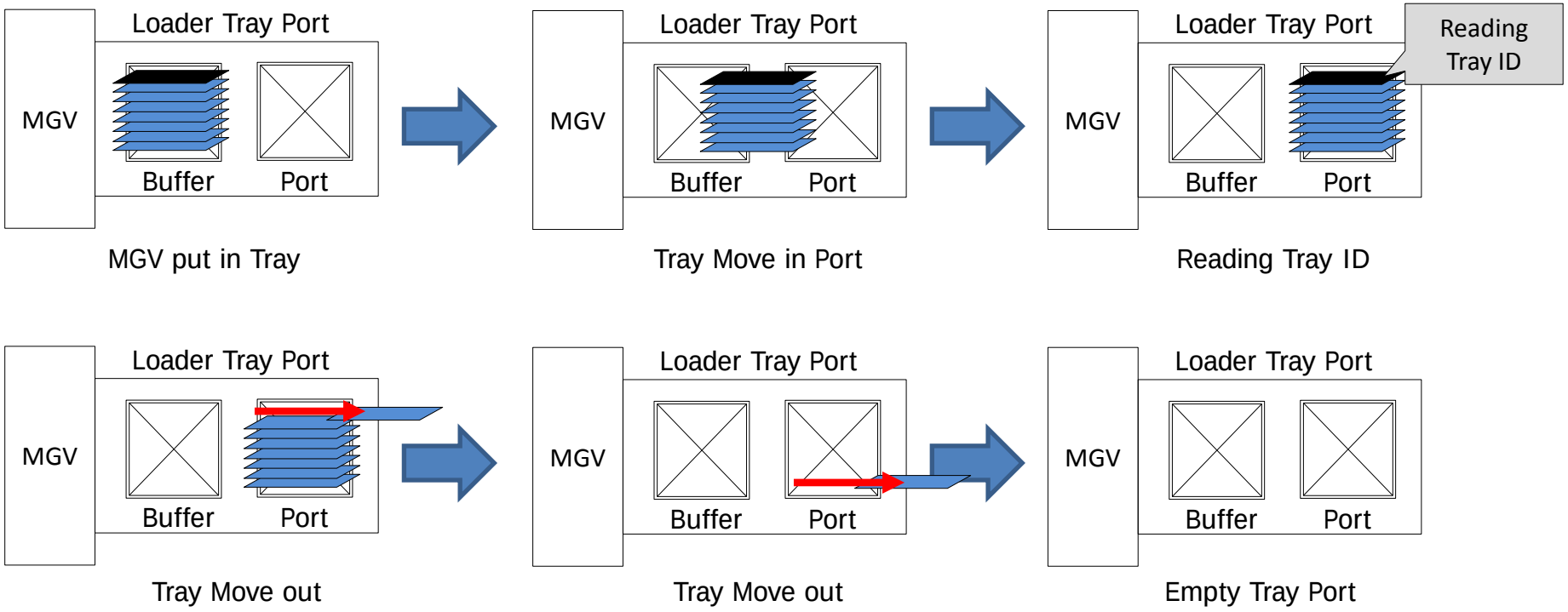
Unload Explain :

1. Particular NG vlue glass should going to particular ULD Port. If NG glass hav e particular NG should going particula r port in unload.
2. ULD port type should fix by End User.
3. If Tray port and ULD full （The Empty Tray stop when it need to ULD） EQP Alarm.

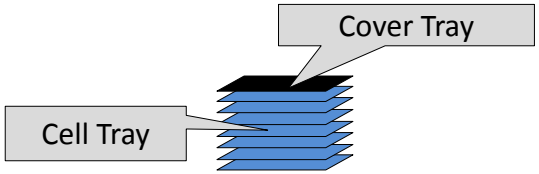
Legend

ST : Stage : MGV : VCR : Equipment : BCR : Port ID : Unit : LD Tray port : Buffer Tray port : ULD Tray port

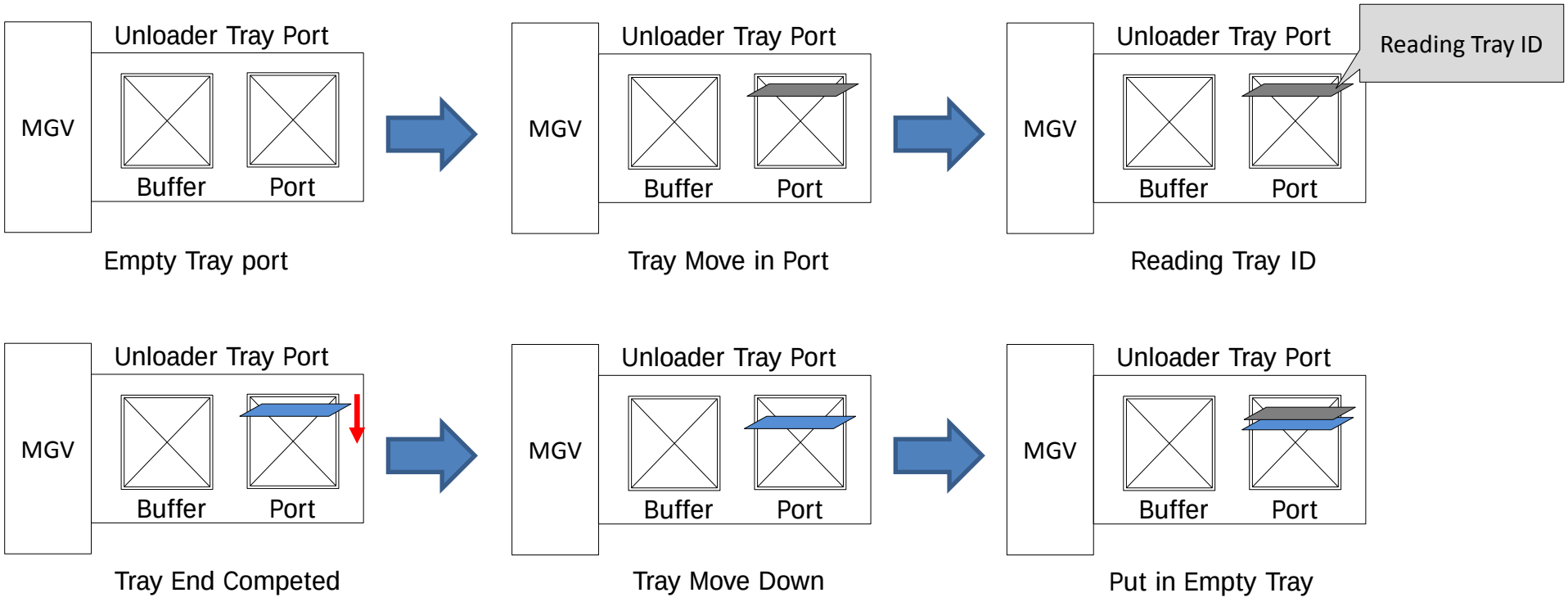
7. Tray Port Management



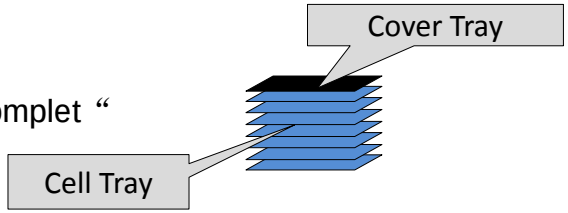
1. Tray Move to Port Position then EQP should be Report "Load Complete"
2. EQP Must be Reading Cover Tray ID (by BCR)
3. Tray Fetched out Load Port then EQP should be Report "Tray Move out"
4. Last Tray Fetched Out Load Port then EQP should be Report “Unload complete “
5. If Port have abort event then EQP must be put in Cover tray



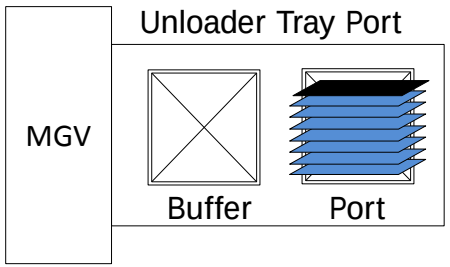
7. Tray Port Management



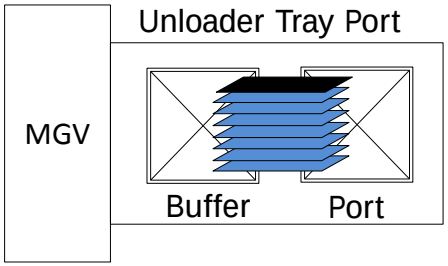
1. Tray Stored in Unload port then EQP should be Report "Tray Move in"
2. One cell stored in tray then EQP should be Report "Cell in unit or Port Report"
3. Tray is full then EQP Should be Report "Tray End Complete Report"
4. Tray Port is Full then EQP should be Report "Tray Port End Complete Report" and "Unload Complet “
5. If Port have abort event then EQP must be put in Cover tray



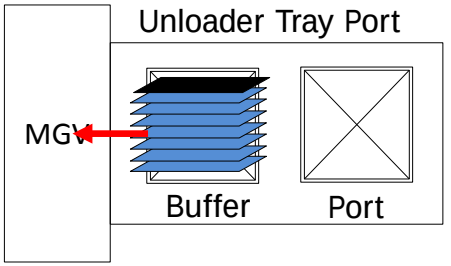
7. Tray Port Management



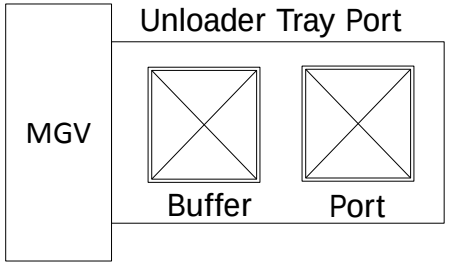
Tray Group End Competed



Tray Move out

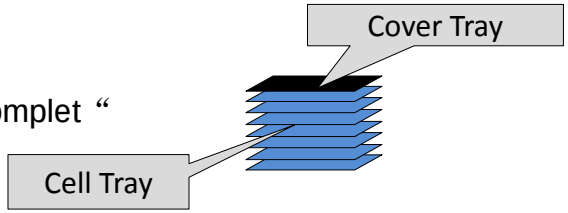


Empty Port
(Tray Move out -> MGV)



Empty Port

1. Tray Stored in Unload port then EQP should be Report "Tray Move in"
2. One cell stored in tray then EQP should be Report "Cell in unit or Port Report"
3. Tray is full then EQP Should be Report "Tray End Complete Report"
4. Tray Port is Full then EQP should be Report "Tray Port End Complete Report" and "Unload Complet “
5. If Port have abort event then EQP must be put in Cover tray



8. Equipment Function – Special Item

1. Equipment Function – Special Item

◆Unit & Equipment State

Priority：

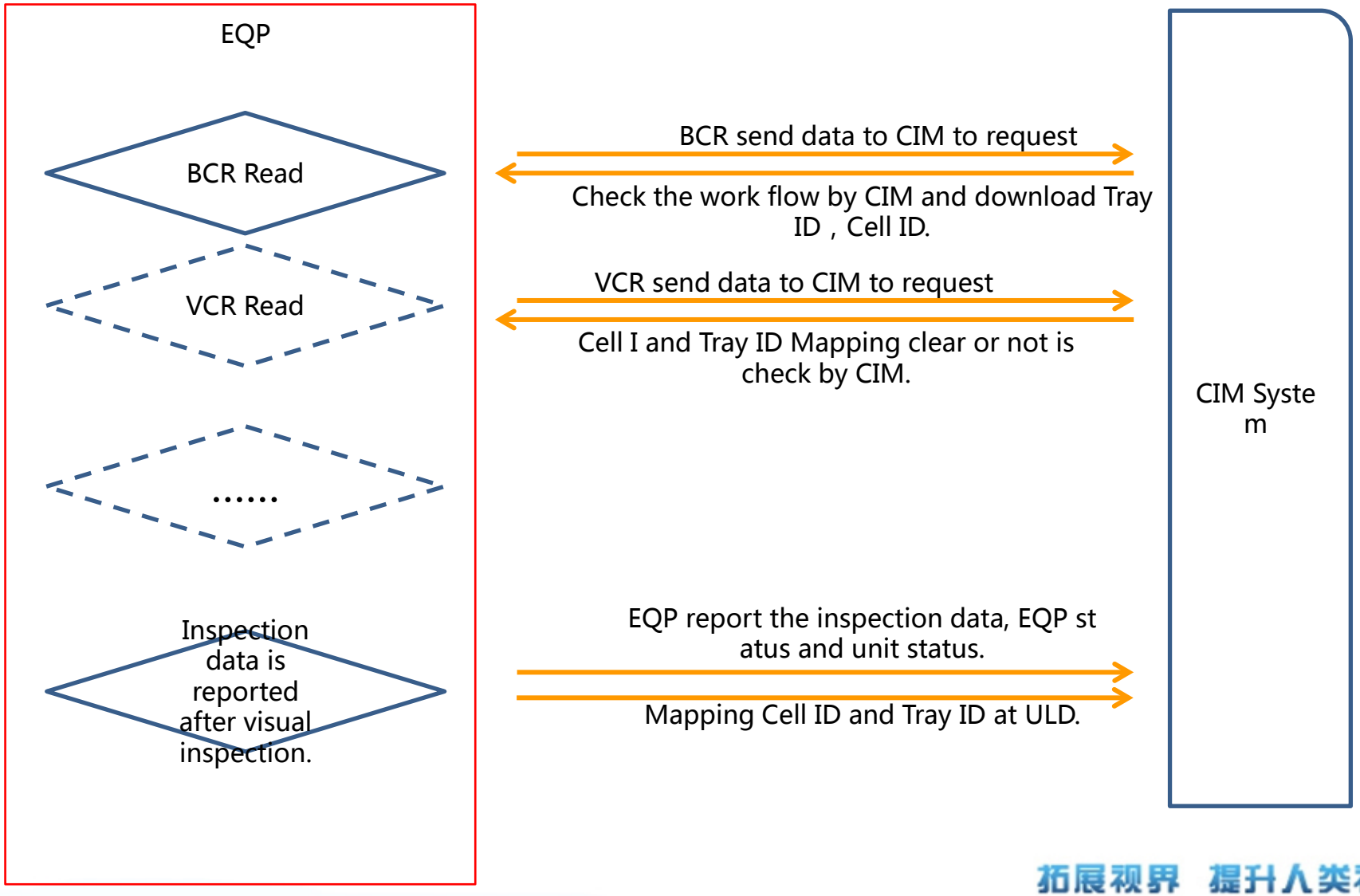
No	Pre Align	Contact	Gamma	AOI	Mura Inspection	TP & Manual	Surface Inspection	备注
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

8. Equipment Function – Special Item

Item		Group (Machine Name)	Sub Qty	Sub Component	Capacity	Remark
A		Automatic Visual Inspection Equipment				
	1	Load tray Port	1	1Ports	50 Tray * 12ea Panel	
	2	Pre-Align unit	1			
	3	Contact unit	1			
	4	Gamma unit	1			
	5	AOI unit	1			Each panel 29M Image * 2ea Panel
	6	Mura unit	1			Each panel 6M Image * 2ea Panel * 2ea Camera
	7	TP&manual unit	1			
	8	Surface inspection unit	1			Each Panel 47M Image * 2ea Panel
	9	Buffer tray Port	2	2Ports	50 Tray * 12ea Panel	
	10	Unload tray Port	8	8Ports	50 Tray * 12ea Panel	
	11					

8. Equipment Function – Special Item

Data Load and Unload part



9.Tray 、Cell loading

Tray上料

说明：

①：标记Tray进入设备方向，Tray短边倒角方向进入设备上料Port。同样在设备下料Port时，Tray方向不变，进行下料。

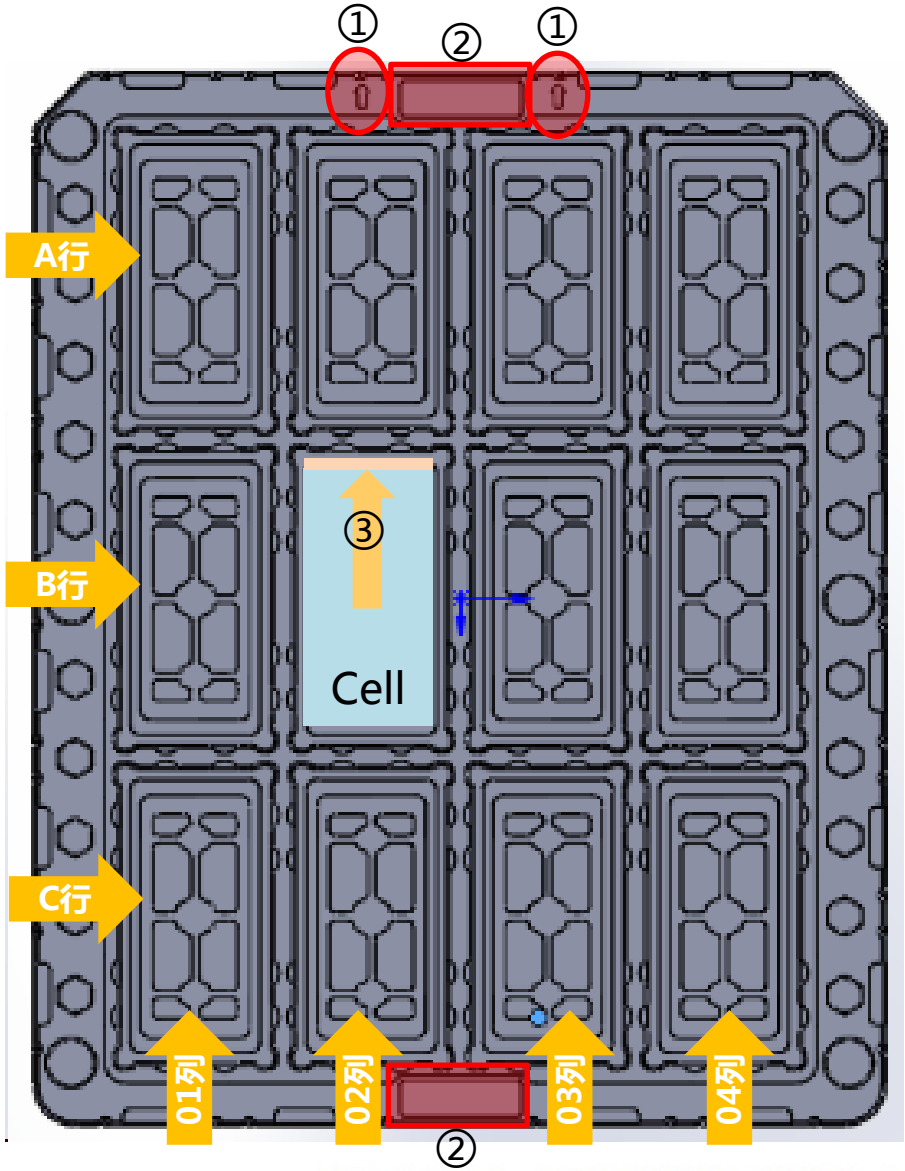
②：Tray ID读码区，Tray ID为条形码，设备可使用任意一读码区进行读码。

③：屏体方向，屏体Pin端方向与Tray进入上料Port方向一致。

④：Tray为存放12cell设计（3*4）。

Tray中位置命名，A、B、C分别为行，01、02、03、04分别为列。（如图所示定义位置命名）

屏体上料顺序：可由设备自定义。



10.Unloading type

下料情况

在ULD port是Tray逐层叠加，最多51层（包含1层Cover Tray）。
分三种情况：

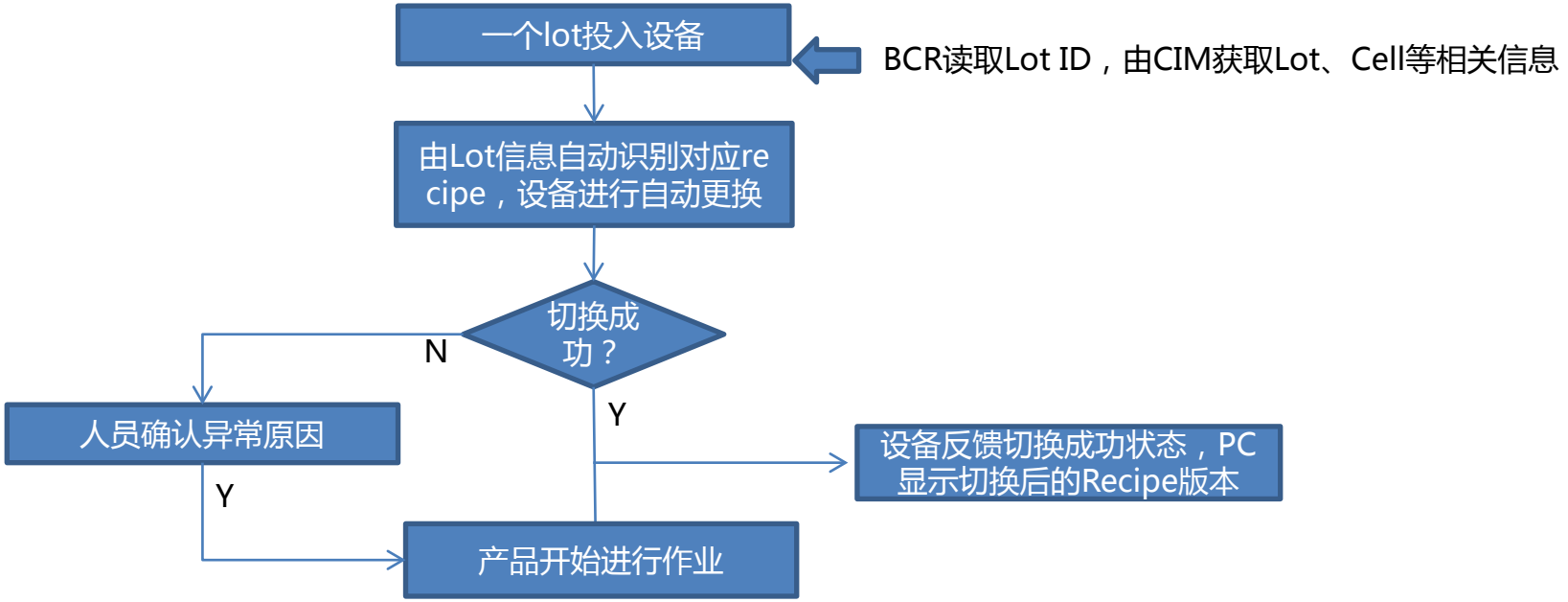
1. 同型号产品，满载51层后需从ULD port到对应的Transfer zone；
2. 不满51层情况下，同型号产品不同批次可选择该批次结束直接下料，或继续进行同型号下批次产品叠加至51层下料；
3. 切换至不同型号产品前，需将上一型号产品清空再进行其他；
4. 下料Port口进行Tray出料前，需将一层空的Cover tray进行覆盖，以记录为下料的Lot ID。

Tray Ports Instruction										
1	2	3	4	5	6	7	8	9	10	11
LD port	Buffer Ⅰ	ULD port				BufferⅡ (Only 1 layer)	ULD port			
		OK_A	OK_B	OK_C	OK_D		Rework	Repair	NG	TBD
Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone	Transfer zone

11.EQP auto change Recipe

Online：

时间：每开班第一个Lot和更换产品型号时；
流程：设备自动检查更换recipe状态，并在PC上显示更换后recipe版本。



Offline：

具有一键导入recipe功能：手动选择需导入的recipe，recipe导入异常（缺少参数、recipe数量不正确、超出参数spec）等需提示相应错误。

设备模式

设备运行模式：

1. Online remote：设备自动模式（设备与CIM自动询问，判断开始、暂停和结束等功能，设备所有安全防护和Interlock需正常工作）；
2. Online local：设备自动模式（设备自动判断开始、暂停和结束等功能，无CIM管控，设备所有安全防护和Interlock需正常工作）；
3. Offline ：Manual、PM、Design模式；
   ① Manual：可进行手动单步操作设备PLC人机界面，PLC程序需有interlock防护功能，防止误操作（无CIM管控）；
   ② PM：设备维护保养模式（无CIM管控）；
   ③ Design：设备超级用户模式，可更改设备参数上下限，设备动作流程等（无CIM管控）；

设备模式统计：

1. 以上所有模式中，设备按照对应模式分别保存log、每种模式时间，tack time，稼动率统计、操作人员登录信息和各类型产品等级信息（良率、不良率、rework占比）等；
2. 设备在各模式下需有上传DFS相关信息，并具有相应模式下权限设置，无权限禁止访问，修改；
   例如：设备宕机报警（开始计时宕机时间），相应权限人员到现场进行异常处理：刷卡->确认设备进入维护模式->维护完成->刷卡（结束计时宕机时间）；