JAGUAR LAND ROVER
-奇瑞·捷豹路虎-

APQP
先期产品质量策划

Oct. 2018
CJLR Site STA
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Content
主要内容

- **Background 背景**
  - ✓ Case for Change 为何改变
- **APQP Process Details APQP流程组成**
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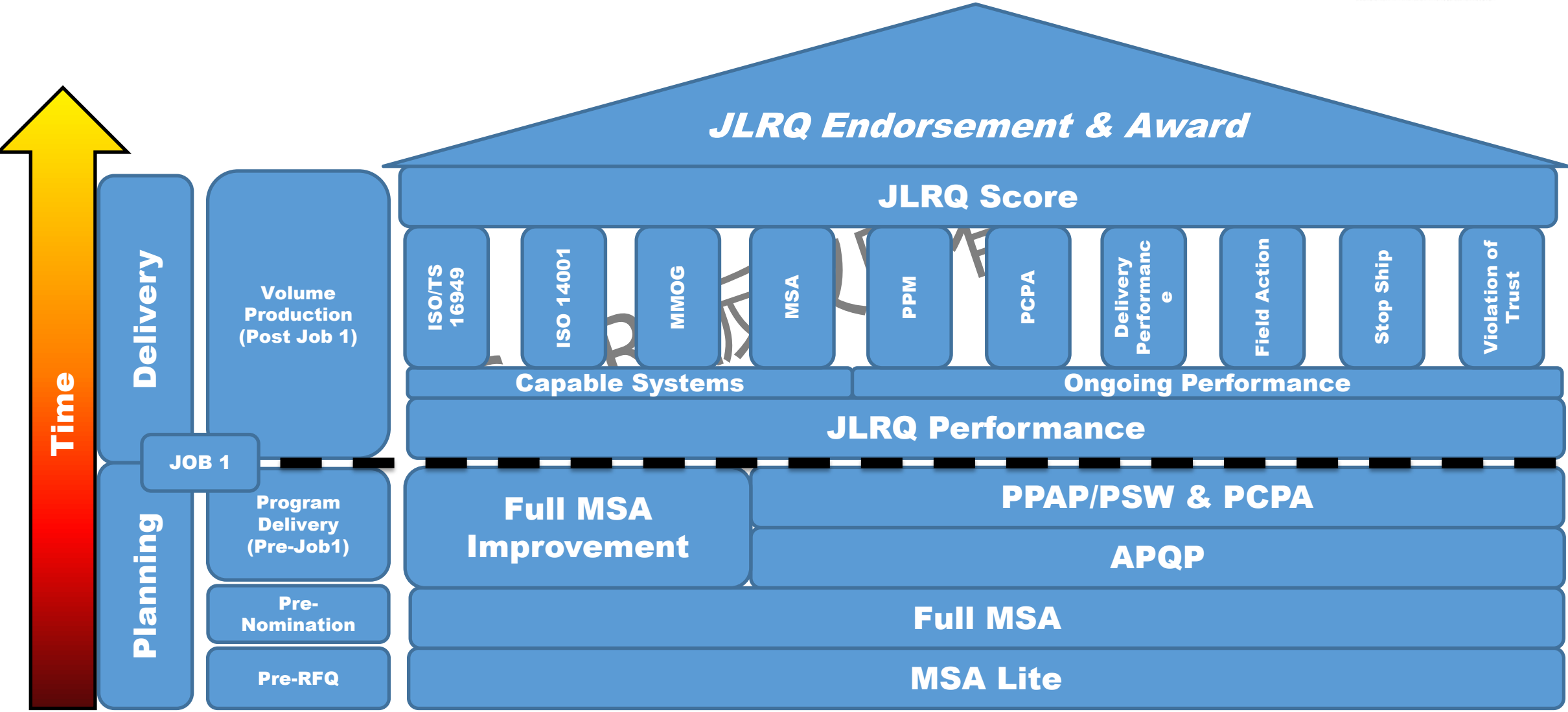
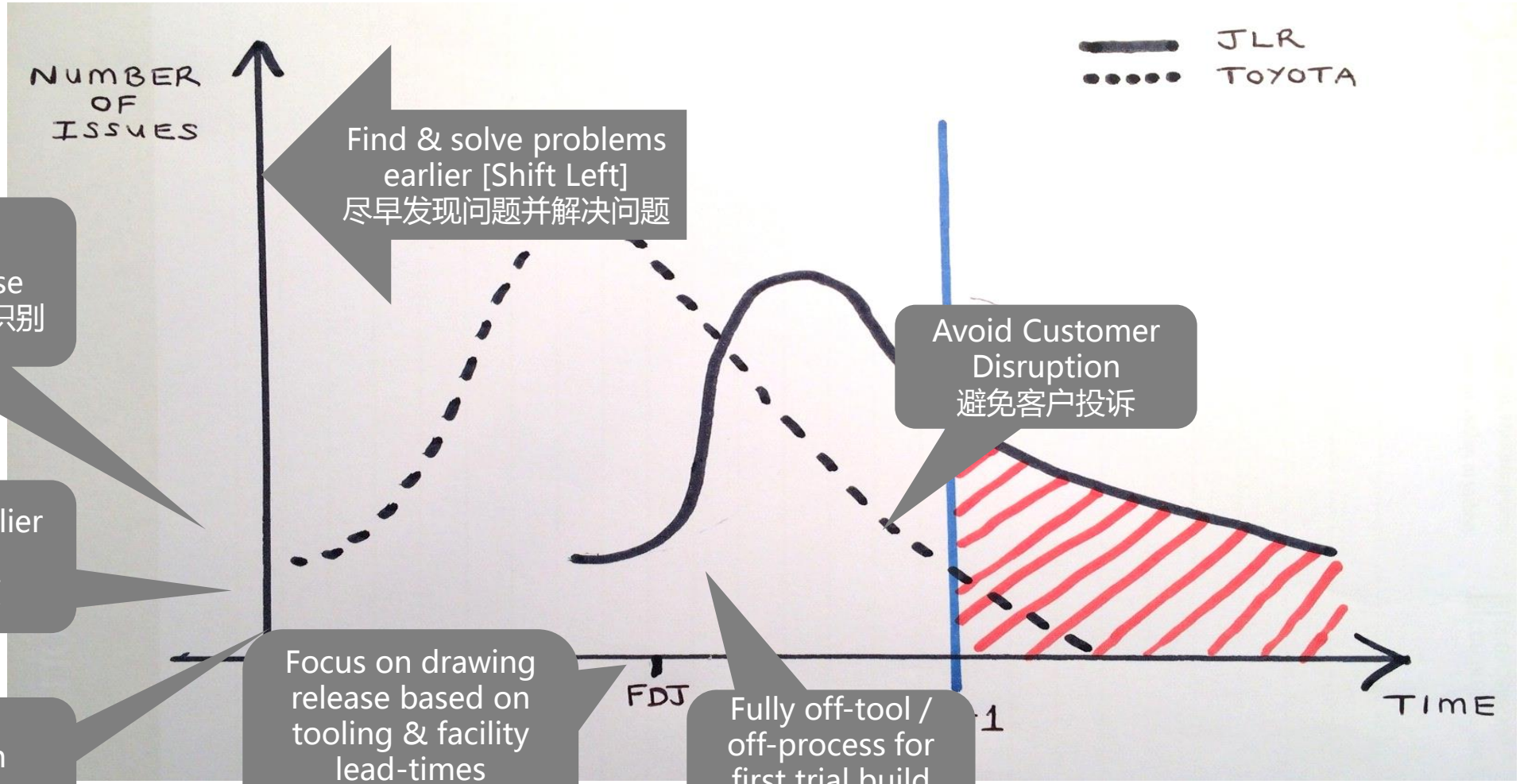
  - ✓ Priority Supplier Selection 关键供应商的选择
- **APQP Reporting Meeting Process 汇报会议流程**
  - ✓ APQP 4 Evaluation Meeting APQP 4次评审会议
  - ✓ APQP Readiness Assessment APQP状态评估表

CJLR STA Quality House
CJLR STA 质量屋



Case for Change
为何改变



Identify issues pre-sourcing & pre-drawing release
定点前、数据冻结前识别问题

Find & solve problems earlier [Shift Left]
尽早发现问题并解决问题

Avoid Customer Disruption
避免客户投诉

Focus resources earlier in programme
项目早期锁定资源

Start detailed engagement with suppliers sooner
尽早与供应商开展项目

Focus on drawing release based on tooling & facility lead-times
关注数据冻结节点基于模具设备开发周期

Fully off-tool / off-process for first trial build
全工装生产线的零件用于首次试生产

Case for Change
为何改变

CJLR and Supplier teamwork not robust enough

Lack of cross functional ownership

Escalation of APQP outputs is absent from LMMs

Suppliers not aware of APQP requirements early enough

New Product Introduction Processes not followed (training or discipline)

APQP not used robustly internally & externally

Not fully off tool at VP build

Part problems found too late

SEP Process not being followed or supported

PPAP L5 for all suppliers is too resource intense

APQP Priority supplier identification & management is diluted

Critical actions not progressed quickly enough

Too much un-coordinated interaction between C JLR & Supplier

FIX: - Re-Launch Cross Functional APQP Team Engagement

Opportunity
机会

Early Involvement 早期参与	***Work with suppliers more consistently, earlier in the product development process*** *在产品开发过程早期，与供应商更融洽地合作*
Teams 团队	***Utilize cross-functional teams to work together with suppliers at their facilities*** *利用跨功能团队与供应商一起在现场工作*
Standardization 标准化	***Adopt a single, global, disciplined process to minimize rework and redundancy*** *采用唯一的、全球通用的，有纪律的流程， 尽量减少返工和重复*
Governance/Reporting 管理/汇报	***Use common, clear deliverables and a structured management review cadence*** *使用共同的、明确的交付报告和结构化的管理评审模式*

Principles of APQP Supplier Engagement
供应商参与APQP的主要原则

1. **Supplier launch success is a cross-functional, shared responsibility PMST– PD, STA, Buyers & MP&L are core team members**

   供应商投产的成功是跨职能部门共同的责任。核心团队成员包括**PD, STA,** 采购及物流。

2. **PMST will work proactively with the highest leverage suppliers on a program**

   跨职能团队小组将在整个项目过程中与供应商一起工作

3. **Supplier engagement will begin early in a program – immediately after sourcing.** 供应商将在项目早期，即选点后立即参与项目开发。

4. **PMST will visit the key supplier manufacturing facility a minimum of four (4) times**

   跨职能团队将对关键供应商进行至少**4**次拜访。

Principles of APQP Supplier Engagement
供应商参与APQP的主要原则

5. **PMST will provide the supplier with a single voice on key launch matters**

   在关键投产问题上，该团队将给供应商一致的声音。

6. **Underlying APQP and PPAP processes and roles & responsibilities will remain the same**

   相关的**APQP**和**PPAP**流程及角色和职责将保持不变。

7. **Team engagement will continue until the supplier has successfully completed all PPAP requirements and fully met all program ramp-up volumes**

   团队参与一直继续到供应商成功达到所有**PPAP**的要求，并能充分满足项目爬坡的要求。

8. **CJLR will implement the supplier engagement process consistently on a global basis in alignment with the global makeup of the supply base**

   奇瑞捷豹路虎全球将实施一致的供应商参与流程。

APQP– Process Overview
APQP的主要过程

Supplier Sourcing Begins

Priority Suppliers Selected

Cross-Functional Teams Formed

Team Kick-Off Meetings Begin

On-Site Evaluation #1

Resolve Open Issues

On-Site Evaluation #2

Decision to Proceed to Run-At-Rate

On-Site Evaluation #3

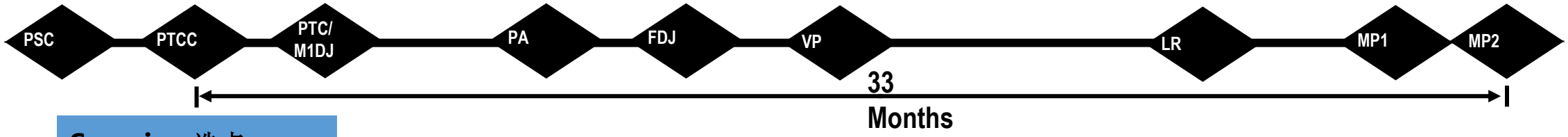
On-Site Evaluation #4

Update of Verification Matrix – Supplier APQP Readiness Assessment (APQP assessment report)

Program Milestone Introduction
项目节点介绍

- PTCC-Program Target Compatibility Checkpoint
- PTC/M-1DJ- PTCC-Program Target Compatibility/M-1 Data Judgment
- PA-Program Approval
- FDJ-Final Data Judgment
- VP-1st Verification Prototype
- PEC-Preliminary Engineering Completion
- FEC-Final Engineering Completion
- LR-Launch Readiness
- TT-Tooling Trial-Build Start
- PP-Pilot Production-Build Start
- MP1-Mass Production 1-Build Start

Scope/Activity
范围/任务



Sourcing 选点

Failure Mode Avoidance 避免失效模式

Mfg./Capacity Planning 生产/产能计划

Testing/Validation 测试/验证

Prototype Builds 样车制造

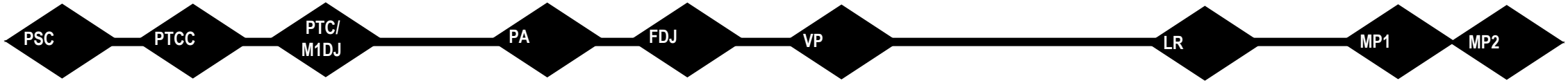
Tooling 工装

Manufacturing Launch 投产

Quality/Capacity Verification 质量/产能验证

Suppliers are integral to APQP with activity beginning at sourcing and continuing to MP2 -- all CJLR functional organizations are involved.
供应商是从开始选点到MP2等活动的重要环节---所有CJLR职能部门都参与其中

Process Flow
过程流程图



Sourcing选点

Team On-Site Evaluation #1
现场评估1

- **Failure Mode Avoidance**
  失效模式避免
- **Mfg./Capacity Planning**
  生产/产能计划
- **Testing & Validation Planning**
  测试与验证计划

Team On-Site Evaluation #2
现场评估2

- **Testing & Validation**
  测试与验证
- **Prototype Builds**
  样件制造
- **Tooling** 工装

Team On-Site Evaluation #3
现场评估3

- **Testing & Validation**
  测试与验证
- **Tooling Verification**
  工装验证
- **Manufacturing Launch**
  生产投产
- **Quality / Capacity Verification**
  质量/产能验证

Team On-Site Evaluation #4
现场评估4

- **Manufacturing Launch**
  制造投产
- **Quality / Capacity Verification**
  质量/产能验证

APQP/PPAP Roles and Responsibilities
APQP/PPAP的要素和职责

		Lead
1	Sourcing decision	Buyer
2	Customer input requirements	PD
3	Craftsmanship/appearance approval report	PD
4	DFMEA	PD
5	Design/manufacturing reviews	PD/STA
6	DVP&R material, performance test results	PD
7	Subcontractor APQP status	STA
8	Facilities, tools, & gauges	STA
9	Prototype build control plan	PD
10	Prototype builds	PD
11	Drawing & specification design records	PD
12	Engineering change document	PD
13	Team feasibility commitment/ customer engineering approval	PD/STA
14	Manufacturing process flowchart/ process flow diagram	STA

		主导
1	选点决定	采购
2	顾客要求输入	PD
3	精致工艺/外观批准报告	PD
4	设计失效模式及后果分析	PD
5	设计/制造评审	PD/STA
6	设计验证计划与汇报的材料和性能测试结果	PD
7	分供方APQP状态	STA
8	设备、工具和量具	STA
9	样件制造计划	PD
10	样件制造	PD
11	图纸和规范设计记录	PD
12	工程变更文件	PD
13	小组可行性承诺/ 顾客工程批准	PD/STA
14	制造过程流程图	STA
15	过程失效模式及后果分析	STA/PD

APQP/PPAP Roles and Responsibilities
APQP/PPAP的要素和职责

		Lead
16	Measurement systems evaluation/ Measurement System Analysis studies	STA
17	Qualified laboratory documentation	STA
18	Checking aids	STA
19	Pre-launch control plan	STA
20	Operator process instructions	STA
21	Packaging specifications	MP&L
22	Production trial run	STA
23	Production control plan	STA
24	Dimensional results	STA
25	Initial process capability study	STA
26	Production validation testing	PD
27	Part submission warrant	STA/PD
28	Bulk material requirements	STA
29	Sample product	STA

		主导
16	测量系统评价/ 测量系统分析研究	STA
17	有资质的实验室证明文件	STA
18	辅助检查工具	STA
19	试生产控制计划	STA
20	操作者作业指导书	STA
21	包装规范	MP&L
22	产品试生产	STA
23	产品控制计划	STA
24	尺寸结果	STA
25	初始过程能力分析	STA
26	生产确认试验	PD
27	产品提交保证书	STA/PD
28	辅料要求	STA
29	样件产品	STA

APQP Process Overview – 49 Key Deliverables
APQP的49个交付物内容

	APQP Element	Lead	Due*	Deliverables
1.	Sourcing decision	Buyer	<PTCC>	1. Required Sourcing Agreement Signed
			<PA>	2. Required Supplier Commercial & Program Agreements Signed
			<FDJ>	3. All Production Tool Orders Issued to Suppliers
			<PA>	4. Final Mix, Maximum Weekly Volume Communicated and Agreed
2.	Customer input requirements	PD	<PA>	5. Program Expectations Cascaded to Suppliers
3.	Craftsmanship/ appearance approval report	PD	<TT>	6. AAR Approved
			<PP>	7. Color Changes Completed Supporting Color Harmony
4.	DFMEA	PD	<PA>	8. DFMEA Completed
			<PA>	9. Special Characteristics Cascaded to Suppliers
5.	Design/manufacturing reviews	PD/STA	<PP>	10. Quality Issues Closed and Effective
6.	DVP&R material, performance test results	PD	<TT>	11. DV Testing Complete
7.	Subcontractor APQP status	STA	<FDJ>	12. Sub-supplier PPAP Timing Plan Completed
			<TT>	13. Sub-supplier PPAP Phase 1 (or equivalent) Completed
			<MP1>	14. Sub-supplier PPAP Phase 3 (or equivalent) Completed

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AAR

CCSC list

Sub-supplier APQP

Reporting will focus on measurable “Deliverables” that highlight APQP Element completion at a given program milestone

APQP Process Overview – 49 Key Deliverables
APQP的49个交付物内容

	APQP Element	Lead	Due*	Deliverables
8.	Facilities, Tools & Gauges	STA	<FDJ>	15. Facility and Tooling Timing Plan Completed
			<TT>	16. Facilities/Tools/Gauges are at the Final Production Location
			<PTC>	17. Supplier's OEE plan is Confirmed by Surrogate Data
			<PA>	18. Gauge Plan (Including Released Gauge Drawings) Completed
			<TT>	19. Supplier's Demonstrated OEE (Phase 0) supports capacity requirements
9.	Prototype Control Plan	PD	<FDJ>	20. Prototype Build Control Plan Completed
10.	Prototype Build	PD	<FDJ>	21. All Prototype Tool Orders Issued to Suppliers
			<FDJ>	22. Prototype Parts Ordered
			<FDJ>	23. Prototype Parts Achieve 100% of Required Print Specs.
11.	Drawings & Specifications	PD	<PSC>	24. Design Styling Confirmation
			<FDJ>	25. Design Release (WERS) Completed
12.	Engineering Change	PD	<TT>	26. All JLR Engineering Changes Approved & Recognized by the Supplier
13.	Team Feasibility	PD/STA	<FDJ>	27. Design, Process, & Timing Feasibility Confirmation
14.	Manufacturing Process Flow	STA	<PEC>	28. Final Process Flowchart Supports PPAP Phase 0 Event

timing plan

样件检验报告

tooling kick off letter

support plan

Flow Chart

APQP Process Overview – 49 Key Deliverables
APQP的49个交付物内容

	APQP Element	Lead	Due*	Deliverables
15.	PFMEA	STA/PD	<VP>	29. Final PFMEA Completed with Linkages
16.	Measurement System Analysis	STA	<TT>	30. Gauge R&R Results <= 10% per PPAP Customer Specifics
17.	Qualified Laboratory Documents	STA	<TT>	31. Supplier Internal & External Laboratory Compliance
18.	Checking Aids	STA	<TT>	32. Checking Aids Compliant With Part Specifications
19.	Pre-Launch Control Plan	STA	<PEC>	33. Pre-Launch Control Plan Completed with Linkages
20.	Operator Instructions	STA	<PEC>	34. Operator Process Instructions Completed
21.	Packaging Specifications	MP&L	<TT>	35. Packaging Approval Process Completed
22.	Production Trial Run	STA	<TT>	36. PPAP Phase 0 (Including Sub-suppliers) Completed
23.	Production Control Plan	STA	<TT>	37. Production Control Plan Complete with Linkages
24.	Initial Process Capability	STA	<TT>	38. Initial Process Capability Results (Ppk >= 1.67)

FMEA

EU1121

R@R checklist

R@R phase0

ppk

APQP Process Overview – 49 Key Deliverables
APQP的49个交付物内容

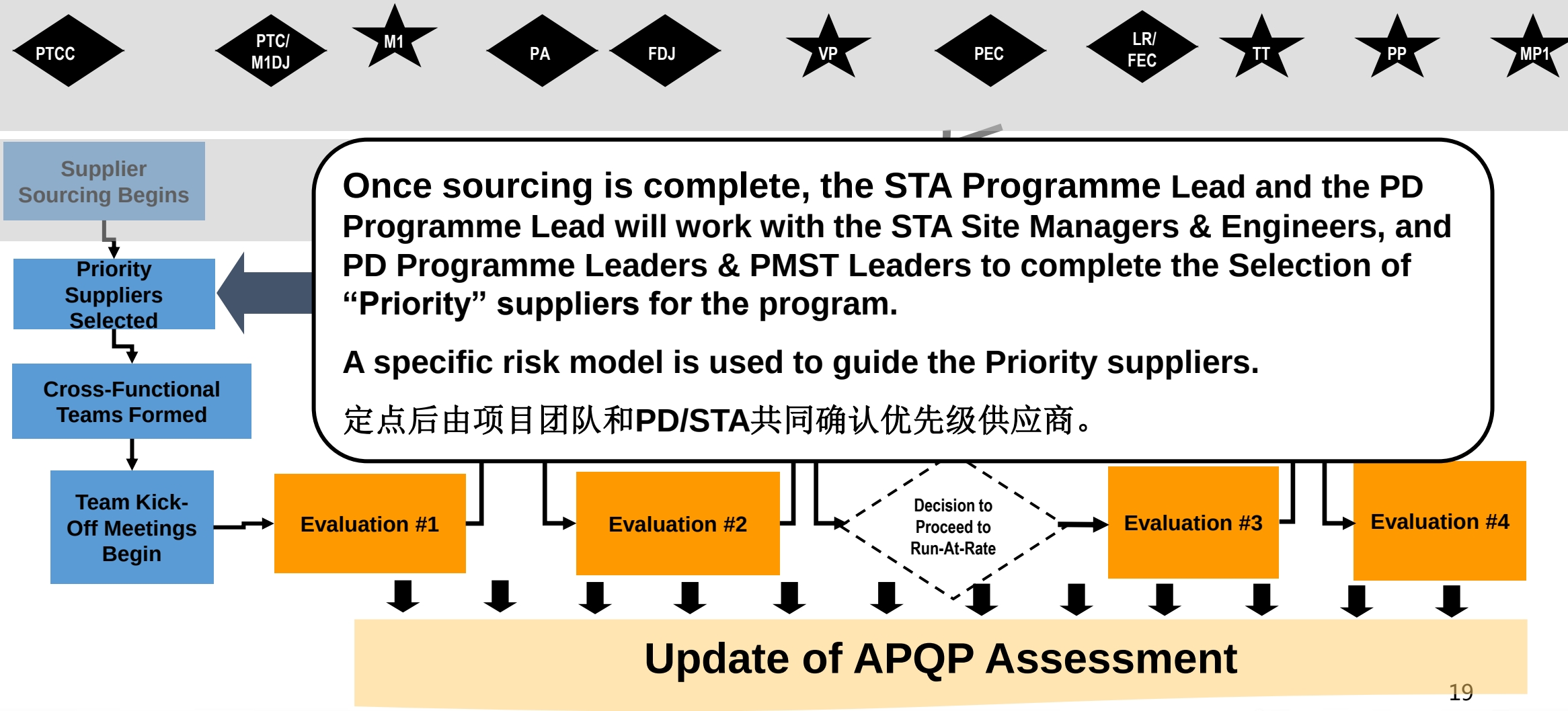
	APQP Element	Lead	Due*	Deliverables
25.	Dimensional Results	STA	<TT>	39. 100% of Required Measured Points within Tolerance
26.	PV Testing	PD	<TT>	40. PV Testing Complete
27.	PSW	STA/PD	<TT>	41. PPAP Phase 1 Completed
			<PEC>	42. Demonstrate Compliance with RSMS
			<PP>	43. PPAP Phase 2 Completed
			<MP1>	44. PPAP Phase 3 completed
			<MP1>	45. Suppliers Demonstrated OEE Support Capacity Req.
28.	Bulk Material Requirements	STA	<TT>	46. Bulk Materials Checklist Included in PPAP Submission
29.	Sample Product	STA	<TT>	47. Sample Product Produced with CJLR Identification
30.	Master Sample	STA	<TT>	48. Master Sample Approved
31.	Record of Compliance	STA	<TT>	49. CJLR Specific Requirements Documented


PPIR


PVR

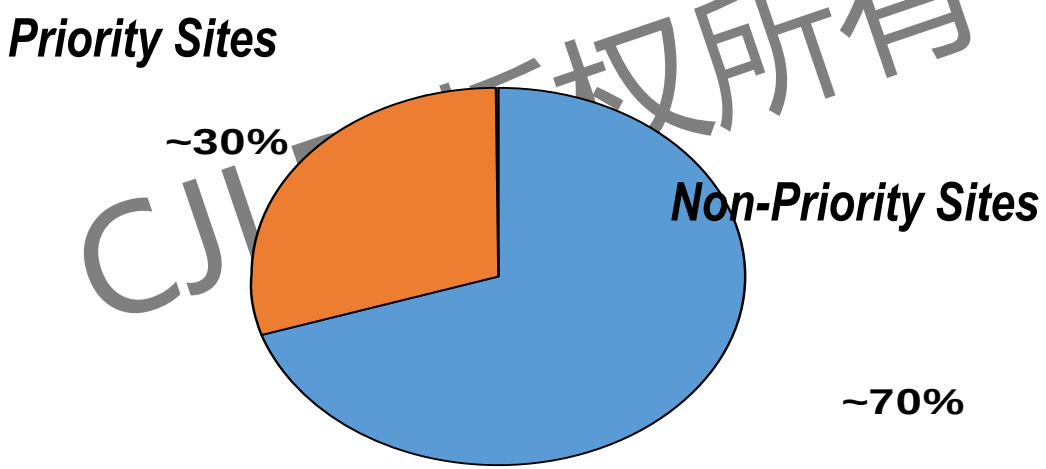

PSW1 cover sheet

Priority Supplier Selection
优先级供应商选择



Priority Sites
优先级供应商

A program’s suppliers are defined as “Priority” and “Non-priority.” Priority suppliers have new-tooled end items that present risks to the launch (site, part, or program risk).
项目的供应商分为“关键”和“非关键”供应商。“关键供应商有新开模具的零件且存在投产风险，如生产现场、零件和项目风险。



The APQP Supplier Engagement Process will focus cross-functional CJLR resources on the Priority suppliers.
APQP供应商参与流程将跨职能资源重点集中在关键供应商。

Priority Supplier Selection Process
优先级供应商选择流程

Priority Supplier Selection process is led by program STA and PD and reviewed by Site STA.

This process shall take place by the following:

Site Readiness OR **Part Criticality** OR **Programme Induced Risk** = **Programme Priority Suppliers**

Priority supplier notification letter

PPAP requirements for Priority suppliers
优先级供应商的PPAP要求

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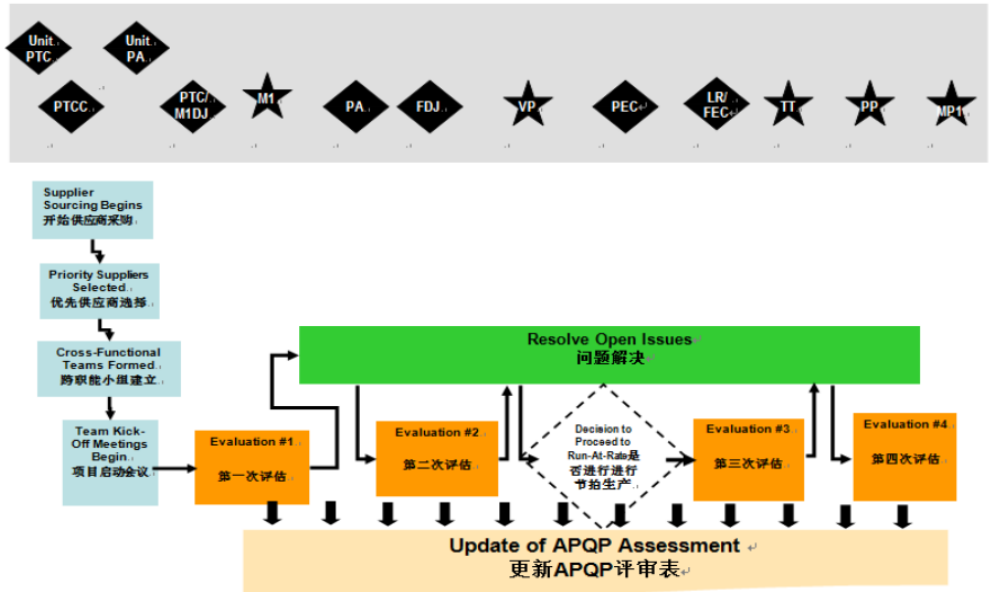
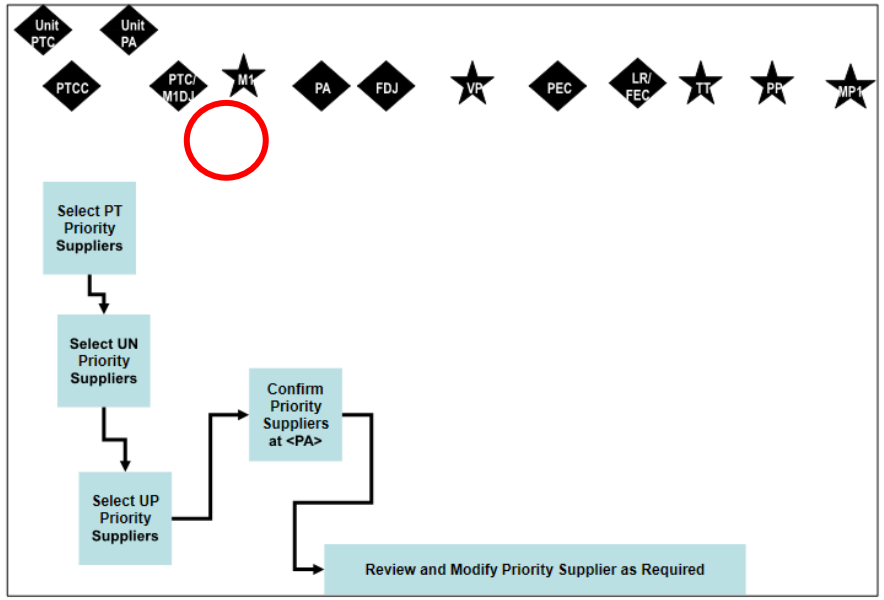
供应商 JLRQ 状态 Supplier Site JLRQ Status	新零件状态 New Part Status	PPAP 提交级别 PPAP Sub'n Level	阶段 0 节拍生产 Phase 0 Run-At-Rate	阶段 1 质量验证 Phase 1 Quality Verification	阶段 2 生产验证 Phase 2 Production Verification	阶段 3 产能验证 Phase 3 Capacity Verification
获得 JLRQ 认证 JLRQ	非优先级 Non-Priority	1	供应商工厂根据阶段性 PPAP 提交要求自行批准 Supplier site self-certifies to CJLR Phased PPAP requirements			
无论 JLRQ 认证状态 Regardless of JLRQ status	不适用于新车型 Not Applicable for New Models	2	供应商将保证书、产品样品和要求提交的有限的支持数据提交给 STA Warrant with product samples and limited supporting data submitted to STA			
未获得 JLRQ 认证 Non JLRQ	非优先级 Non-Priority	3	STA 审核供应商工厂提交电子档 PPAP 文件 STA desktop review of Supplier Site PPAP submission and accompanying documentation			
无论 JLRQ 认证状态 Regardless of JLRQ status	不适用于新车型 Not Applicable for New Models	4	供应商提交保证书和其它 STA 定义的提交要求 Warrant and other requirements as defined by STA			
无论 JLRQ 认证状态 Regardless of JLRQ status	优先级 Priority	5	STA 参加“节拍生产”活动 STA attend Run at Rate event	STA 审核 PPAP 提交件，包括支持数据和改进措施报告 STA review PPAP submission, including supporting data and CAR.	如适用，STA 参加生产运行，然后审核 PPAP 提交物和改进措施报告 If applicable, STA attend production run, then review PPAP submission and CAR.	STA 参加生产运行，并审核 PPAP 提交物和改进措施报告 STA attend production run, then review PPAP submission and CAR.
					如适用，PD	

APQP Priority Supplier – ‘The Critical Few Focus”
APQP中优先级供应商的主要几个关注点

The APQP Priority Supplier process is a cross-functional process The process is governed by the following principles:

- Programme team will target the most critical suppliers based on risk 基于风险重点关注
- Cross functional ownership; PD, PUR, STA, Supplier 团队合作
- Supplier engagement early programme, immediately after sourcing 早期参与
- Cross functional teams will evaluate Supplier manufacturing facility a minimum of 4 times. 4次现场评审
- Team engagement continues until PPAP is complete PPAP完成后结束APQP





Team Formation
成立项目团队

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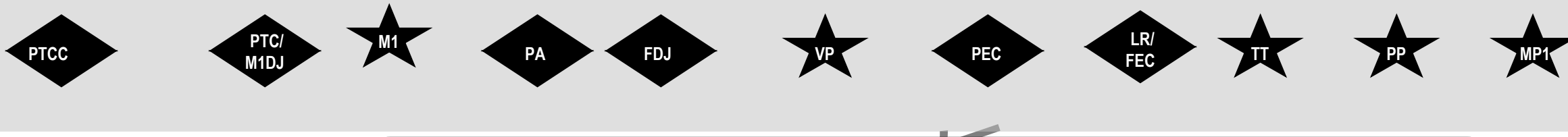


Supplier Sourcing Begins

Priority Suppliers Selected

Cross-Functional Teams Formed

The STA and PD Programme leads to notify the appropriate PD Engineers, Buyers, and STA Site Engineers, that their suppliers are designated as Priority for a given program.

This notification will include specific timing and reporting requirements for the program.

项目团队通知PMST对于优先级供应商的确认，并告知相关的进度要求

Team Kick-Off Meetings Begin

Champion supplier list

Evaluation #1

Evaluation #2

Decision to Proceed to Run-At-Rate

Evaluation #3

Evaluation #4

Update of APQP Assessment

Team Member Responsibilities
团队成员责任

While there is a team lead at all times, each team member still has the responsibility between meetings to:
虽然每项活动都有团队牵头人，但每个团队成员都有以下的共同责任：

- Resolve open concerns
  解决未关闭的问题
- Communicate with other team members as needed
  必要时与其他团队成员沟通
- Bring together other team members to close out concerns as necessary
  适时让其他团队成员参与问题解决

It is recognized that all team members will interface with the supplier regularly between On-Site Evaluations, and in many cases, this interaction will occur at the supplier site.
所有团队成员在几次供应商现场拜访期间有互动沟通，且大多情况下都在供应商现场。

Team Kick-Off Meetings
项目团队启动会

Supplier Sourcing Begins

Priority Suppliers Selected

Cross-Functional Teams Formed

Team Kick-Off Meetings Begin

Prior to the On-Site Evaluations, the cross-functional CJLR team members will meet with their supplier team to review program expectations and begin the preparations for site visits.

This is called the "Kick-Off" meeting.

在现场评估之前，跨职能团队成员将与供应商开“启动会议”，讨论项目期望及现场评审所需准备工作。

Update of Verification Matrix – Supplier APQP/PPAP Readiness Assessment (Schedule A)

Team Kick-Off Meeting – Key Points
启动会议关键点

Purpose 目的:

Introduce CJLR and supplier team members

介绍奇瑞捷豹路虎及供应商的团队成员

- Provide them with an overview of the APQP Supplier Engagement Process
- APQP供应商参与流程概述
- Communicate team expectations prior to On-Site Evaluation #1. A key deliverable will be CJLR and supplier team agreement on the required program and process timing.
- 沟通第1次现场评审的期望。主要输出为奇瑞捷豹路虎及供应商就必要的项目和过程时间上达成一致。

Timing: PT: Unit <PTC> -- <PTCC>

UN: <PSC> - <PTCC>+90 Days

UP: <PTCC> – <PTC/M1DJ>

Note: Actual review timing will depend upon the specific needs of the component and program.

Team Kick-Off Meeting – Key Points
启动会议关键点

Participants:

Lead: PD Engineer

Support: STA Site Engineer, MP&L Representative (as required), Buyer

参加者：

牵头人：PD工程师

支持者：STA现场工程师、物流代表（若需要）、采购

Location:

CJLR facility, supplier facility, or teleconference (according to team preference). Meetings will typically last 2 – 3 hours.

地点：奇瑞捷豹路虎工厂、供应商制造现场或电话会议（根据团队的愿望）。会议通常将持续2-3小时。

On-Site Evaluation #1
第一次现场评审会议

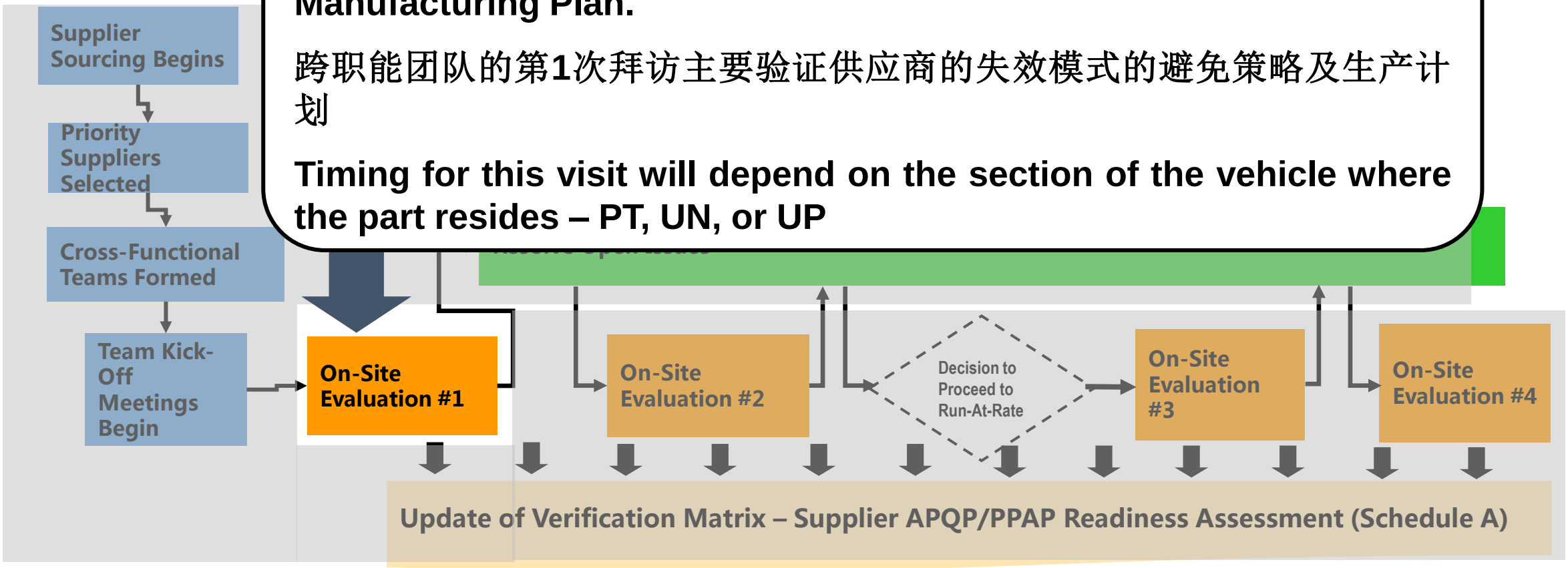
PTCC
33.5MBJ1

MP1
0MBJ1

The cross-functional team's first visit is called "On-Site Evaluation #1 – Verification of Supplier Failure Mode Avoidance Strategy & Manufacturing Plan.

跨职能团队的第1次拜访主要验证供应商的失效模式的避免策略及生产计划

Timing for this visit will depend on the section of the vehicle where the part resides – PT, UN, or UP



On-Site Evaluation #1 – Key Points
第一次现场评审会议关键点

Purpose目的:

- Failure mode avoidance through detailed FMEA and Control Plan reviews

  通过对FMEA及控制计划的评审确定失效模式并制定预防措施
- Manufacturing Planning 生产规划
- Capacity Planning 产能规划

Timing: PT: <PTCC> - <PTC/M1DJ>

UN : <PTCC> - <PTC/M1DJ>

UP : <PTC/M1DJ> - <PA>

Note: Actual review timing will be dependant upon the specific needs of the component and the program.

Participants:

- **Lead:** PD Engineer
- **Support:** STA Site Engineer, MP&L Representative, Buyer

On-Site Evaluation #1– APQP/PPAP Focus
第一次现场评审会议的APQP/PPAP关注点

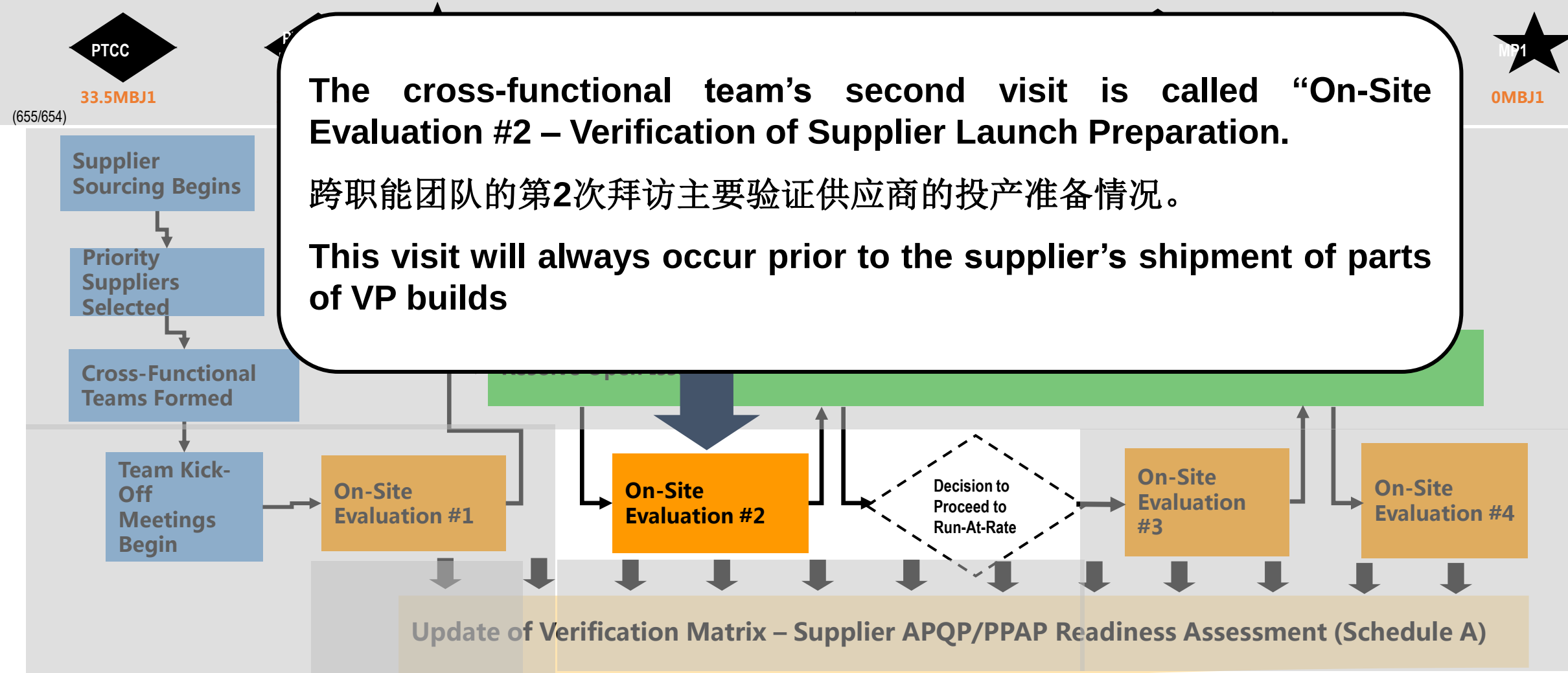
APQP/PPAP Element Focus → **5 of 31 Elements / 8 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
1	Sourcing decision *1. Required Sourcing Agreement Signed* *2. Required Supplier Commercial & Program Agreements Signed* *4. Final Mix, Maximum Weekly Volume Communicated and Agreed*	Buyer
2	Customer input requirements 5. *Program Expectations Cascaded to Suppliers*	PD
4	DFMEA *8. DFMEA Completed* *9. Special Characteristics Cascaded to Supplier*	PD
8	Facilities, tools, & gauges *17. Supplier's OEE Plan is Confirmed by Surrogate Data*	STA
11	Drawing & specification/design records *24. Design Styling Confirmation*	PD

On-Site Evaluation #1– Expected Outputs
第一次现场评审会议的输出

	Output	Responsibility
1	Updated Supplier APQP/PPAP Readiness Assessment – Schedule A – Confirmation of 8 Required Deliverable Status更新的A表-确认11个要求的交付完成状态。	Supplier (with Cross Functional Team Consensus)
2	Agreement on Failure Mode Avoidance Strategy (Completion of DFMEA & Agreement on Special Characteristics) 完成DFMEA及特殊特性清单。	All
3	Agreement that Capacity Plan is Achievable and Consistent with CJLR Requirements 确定产能计划可行并满足CJLR要求。	STA
4	Plan developed to support prototype builds (prototype control plan & build plan) 完成样件控制计划及制造计划。	PD
5	Updated Manufacturing Site Assessment (MSA) – As required更新的MSA报告，若需要。	STA
6	Agreement of timing for next on-site evaluations 确定下次现场评审的时间。	All

On-Site Evaluation #2
第二次现场评审会议



On-Site Evaluation #2 – Key Points
第二次现场评审会议关键点

Purpose目的:

- Facilities & Tooling Planning/Installation 设备&工装规划及安装
- PFMEA & Control Plans PFEMA&控制计划
- Gauging 检具
- Staffing & Training Planning 人员准备&培训计划
- VP Prototype Build Readiness VP样件制造准备状态
- Run-at-Rate Preparation 试生产准备

Timing: PT/UN/UP: Between <FDJ> and Prior to <VP> In Plant Date (IPD)

Participants:

- **Lead:** PD Engineer , STA Site Engineer
- **Support:** MP&L Representative, Buyer

On-Site Evaluation #2– APQP/PPAP Focus
第二次现场评审会议的APQP/PPAP关注点

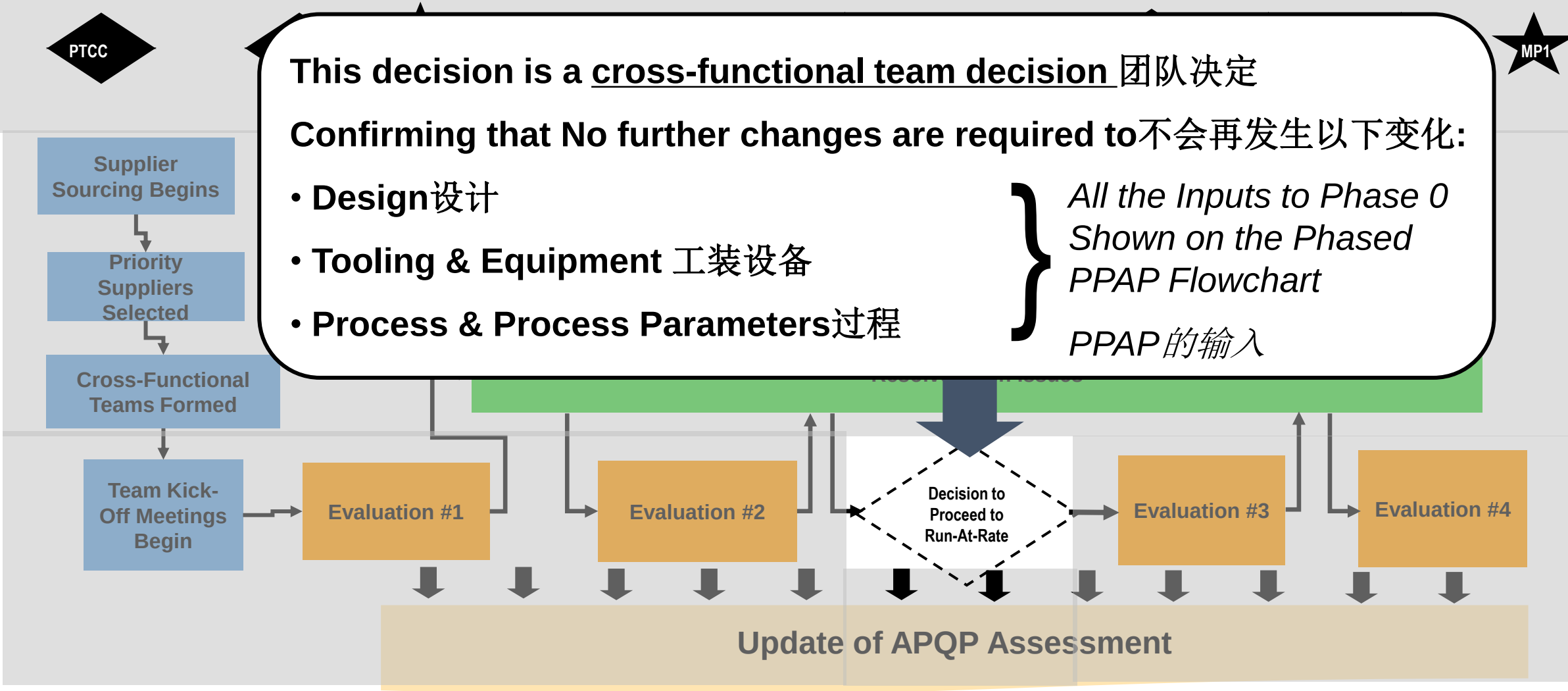
APQP/PPAP Element Focus → **8 of 31 Elements / 11 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
1	Sourcing Decision *3. All Production Tool Orders Issued to Suppliers*	Buyer
7	Subcontractor APQP Status *12. Sub-supplier PPAP Timing Plan Completed*	STA
8	Facilities Tools & Gauges *15. Facility and Tooling Timing Plan Completed* *18. Gauge Plan (including Released Gauge Drawings) Completed*	STA
9	Prototype Build Control Plan *20. Prototype Build Control Plan Completed*	PD
10	Prototype Builds *21. All Prototype Tool Orders Issued to Supplier* *22. Prototype Parts Ordered* *23. Prototype Parts Achieve 100% of Required Print Specifications*	PD
11	Drawing & Specification Design Records *25. Design Release (WERS) Completed*	PD
13	Team Feasibility Commitment/Customer Engineering Approval *27. Design, Process, & Timing Feasibility Confirmation*	PD/STA
15	PFMEA *29. Final PFMEA Completed with Linkages*	STA/PD

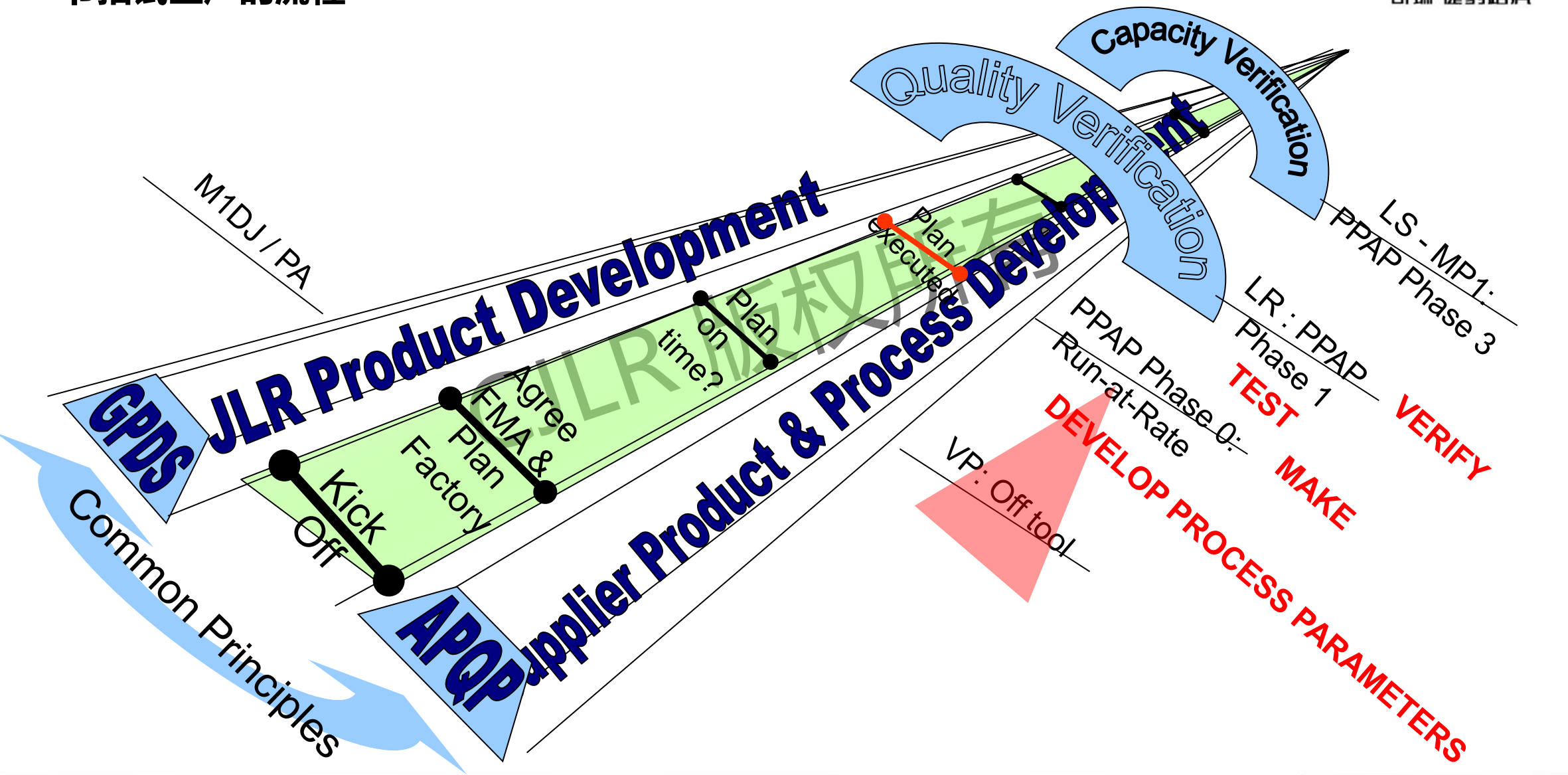
On-Site Evaluation #2– Expected Outputs
第二次现场评审会议的输出

	Output	Responsibility
1	Updated Supplier APQP/PPAP Readiness Assessment – Schedule A - Confirmation of 11 Required Deliverable Status更新的A表-确认11个要求的交付完成状态。	Supplier (with Cross Functional Team Consensus)
2	Acceptance of parts to support VP Prototype Build (prior to shipment)在零件发运前，确定VP装车零件的可接受性。	PD/STA
3	Concurrence on manufacturing plans in support of Run-at-Rate event 确定试生产制造计划。	STA
4	Agreement on PFMEA 确定PFMEA。	STA/PD
5	Updated Manufacturing Site Assessment (MSA) – As required更新的MSA报告，若需要。	STA
6	Agreement of timing for next on-site evaluations 确定下次现场评审的时间。	All

Decision to Proceed to Phase 0: Run-at-Rate
节拍试生产计划决定



The Path to Phase 0 : Run-at-Rate
节拍试生产的流程



The Path to Phase 0 : Run-at-Rate
节拍试生产的流程

- Phase 0: Run at Rate timing is established and committed/reported to **pre-FDJ**
- From Single Point of Release to achieving a successful Phase 0 the following must be achieved 节拍试生产必须要满足以下条件:
  - Off tool 模具件 → *Development*
  - Off-Tool in Home Line 模具件在生产场地 → *Development*
  - Off Tool & Off Process in Home Line – all tooling, equipment operating as a system 模具件在生产场地，工装设备正常系统性运行 → *Development*
  - Off Tool & Off Process in Home Line – all tooling, equipment operating as a system **AND all parameters fully developed** 模具件在生产场地，工装设备正常系统性运行，所有参数确认并稳定 → *Development*
  - **Only Ready for Phase 0 if there is agreement that no further development is necessary for Job#1** 节拍生产后直到量产不会再有新的开发
- ***PPAP simply measures how well this was done***

The Path to Phase 0 : Run-at-Rate
节拍试生产的流程

- The activities that precede & enable Phase 0: Run-at-Rate to take place are critical. 节拍试生产活动至关重要
- Phase 0: Run-at-Rate marks the end of planning & development 节拍试生产标志开发阶段的结束
- Phase 0: Run-at-Rate parts are used for confirming 节拍试生产的零件用于:
  - *Production Validation & Material Tests 产品性能PV试验*
  - *Dimensional Conformance (& Appearance) 尺寸与外观认可*
  - *Process Stability & Capability 过程能力研究*
- The information that PPAP yields confirms that the supplier is ready to supply parts to CJLR.
- PPAP status is therefore a key measure at Launch Readiness
  - At part level, at sub-assembly level, at option level.

On-Site Evaluation #3
第三次现场评审会议

PTCC

33.5MBJ1

(655/654)

MP1

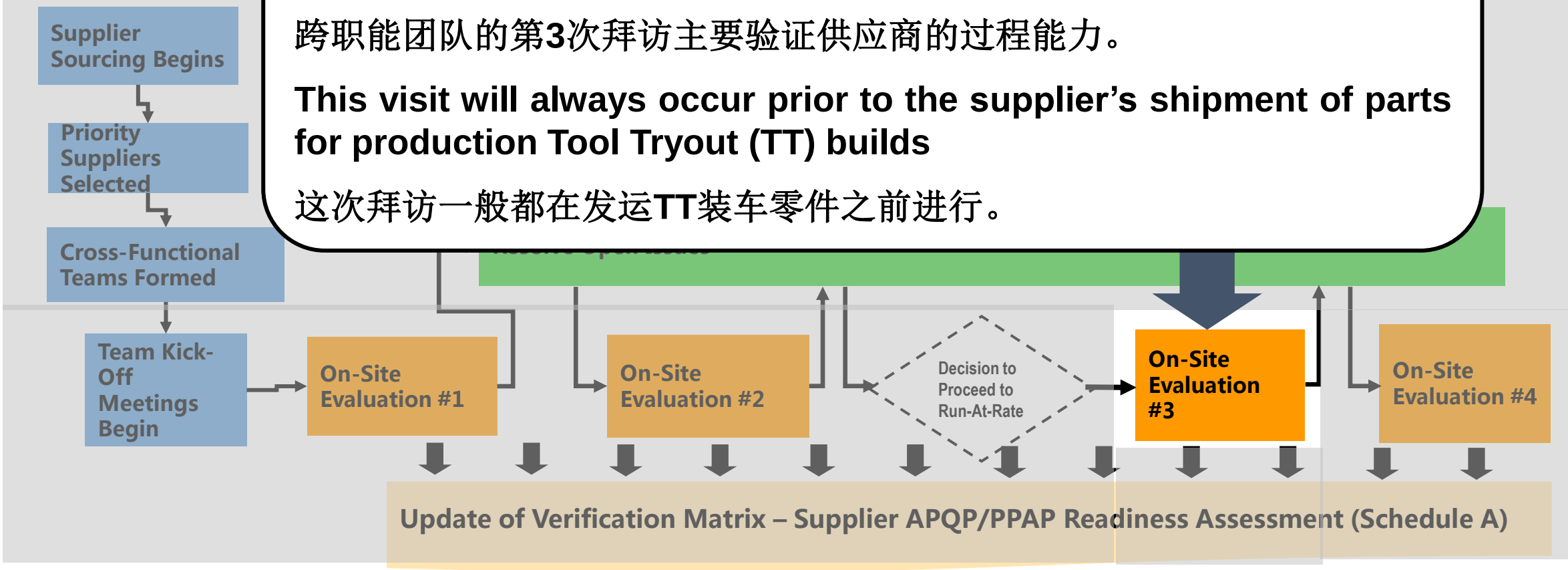
0MBJ1

The cross-functional team's third visit is called "On-Site Evaluation #3 – Verification of Supplier Capability.

跨职能团队的第3次拜访主要验证供应商的过程能力。

This visit will always occur prior to the supplier's shipment of parts for production Tool Tryout (TT) builds

这次拜访一般都在发运TT装车零件之前进行。



On-Site Evaluation #3 – Key Points
第三次现场评审会议关键点

Purpose目的:

- Completion of PPAP Phase 1完成阶段1PPAP
  - Dimensional Results 尺寸结果
  - Production Validation Testing 试验验证
  - Process Capability 过程能力
  - Appearance Approval 外观批准

Timing: PT: After VP build and Prior to Production Validation (PV) Build In Plant Date (IPD)

UN/UP: Between <PEC> and Prior to TT Build In Plant Date (IPD)

Participants:

- **Lead:** STA Site Engineer
- **Support:** PD Engineer , MP&L Representative, Buyer

On-Site Evaluation #3 – APQP/PPAP Focus
第三次现场评审会议的APQP/PPAP关注点

APQP/PPAP Element Focus → **22 of 31 Elements / 24 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
3	Craftsmanship/Appearance Approval Report *6. AAR Approved*	PD
6	DVP&R Material/Performance Test Results *11. DV Testing Complete*	PD
7	Subcontractor APQP Status *13. Sub-supplier PPAP Phase 1 (or equivalent) Completed*	STA
8	Facilities, Tools, and Gauges *16. Facilities/Tools/Gauges are at the Final Production Location* *19. Suppliers Demonstrated OEE (Phase 0) Supports Capacity Requirements*	STA
12	Engineering Change Documents *26. All CJLR Engineering Changes Approved & Recognized by the Supplier*	PD
14	Manufacturing Process Flowchart/Process Flow Diagram *28. Final Process Flowchart Supports PPAP Phase 0 Event*	STA
16	Measurement System Evaluation/Measurement Systems Analysis Studies *30. Gauge R&R Results <= 10% per PPAP CJLR Customer Specifics*	STA
17	Qualified Laboratory Documentation *31. Supplier Internal & External Laboratory Compliance*	STA
18	Checking Aids *32. Checking Aids Compliant with Part Specifications*	STA

On-Site Evaluation #3 – APQP/PPAP Focus
第三次现场评审会议的APQP/PPAP关注点

APQP/PPAP Element Focus → **22 of 31 Elements / 24 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
19	Pre-Launch Control Plan *33. Pre-Launch Control Plan Completed with Linkages*	STA
20	Operator Process Instructions *34. Operator Process Instructions Completed*	STA
21	Packaging Specifications *35. Packaging Approval Process Completed*	MP&L
22	Production Trial Run *36. PPAP Phase 0 (Including Sub-Suppliers) Completed*	STA
23	Production Control Plan *37. Production Control Plan Completed with Linkages*	STA
24	Initial Process Capability *38. Initial Process Capability Results (Ppk >= 1.67)*	STA
25	Dimensional Results *39. 100% of Required Measurement Points within Tolerance*	STA

On-Site Evaluation #3 – APQP/PPAP Focus
第三次现场评审会议的APQP/PPAP关注点

APQP/PPAP Element Focus → **22 of 31 Elements / 24 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
26	Production Validation Testing *40. PV Testing Complete*	PD
27	Part Submission Warrant *41. PPAP Phase 1 Complete* *42. PPAP Phase 2 Complete (if Single Workstream)*	STA/PD
28	Bulk Materials Requirement *45. Bulk Materials Checklist Included in PPAP Submission*	STA
29	Sample Product *46. Sample Product Produced with CJLR Identification*	STA
30	Master Sample *47. Master Sample Approved*	STA
31	Record of Compliance *48. CJLR-Specific Requirements Documented*	STA

On-Site Evaluation #3– Expected Outputs
第三次现场评审会议的输出

	Output	Responsibility
1	Updated Supplier APQP/PPAP Readiness Assessment – Schedule A – Confirmation of 24 Required Deliverable Status更新的A表-确认24个要求的交付完成状态。	Supplier (with Cross Functional Team Consensus)
2	Signed Phase 1 PPAP warrant (and Phase 2 PPAP if single production workstream) 签署阶段1PSW零件提交保证书（若仅有一条生产线，则同时签署阶段2PSW零件提交保证书）。	STA/PD
3	Updated Manufacturing Site Assessment (MSA) – As required更新的MSA报告，若需要。	STA
4	Agreement of timing for next on-site evaluations 确定下次现场评审的时间。	All

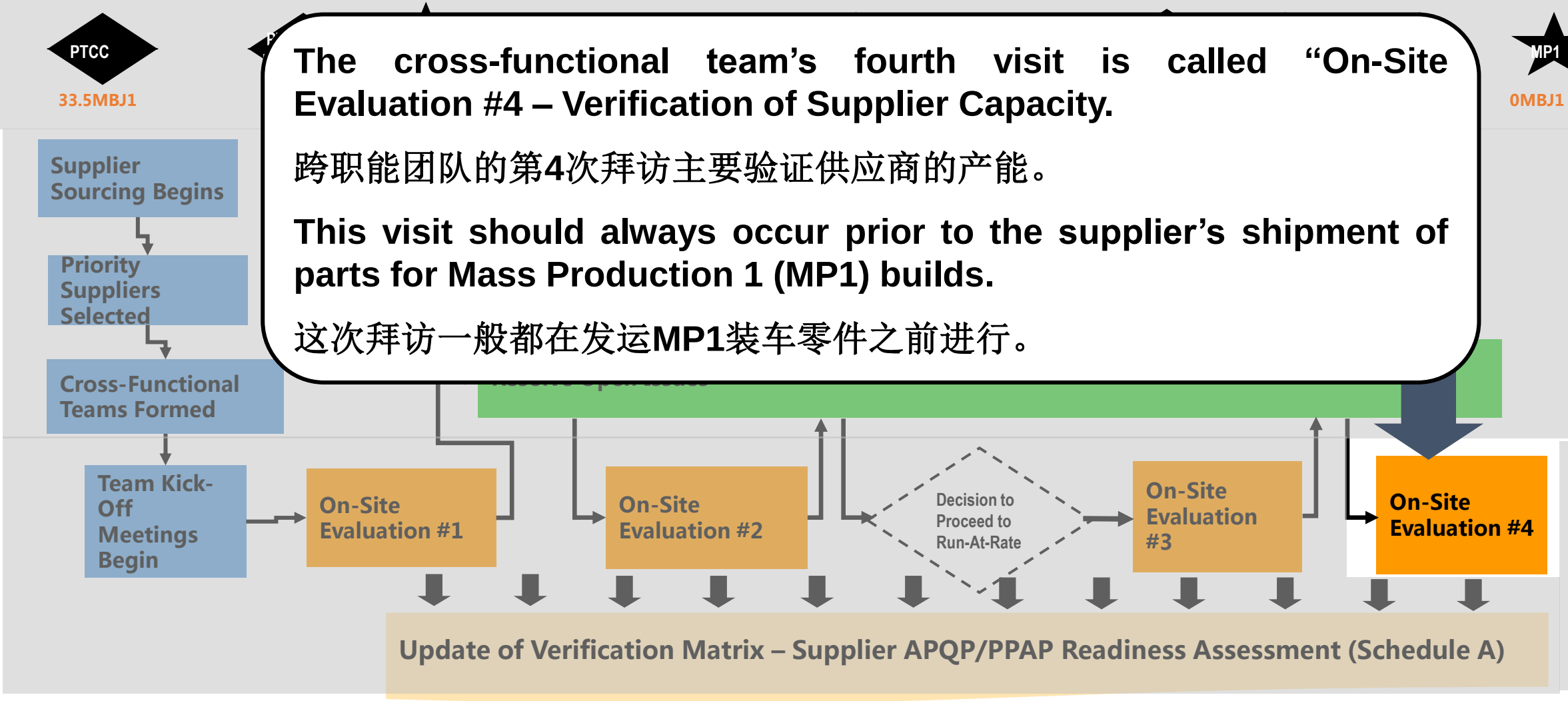
On-Site Evaluation #4
第四次现场评审会议

The cross-functional team's fourth visit is called "On-Site Evaluation #4 – Verification of Supplier Capacity.

跨职能团队的第4次拜访主要验证供应商的产能。

This visit should always occur prior to the supplier's shipment of parts for Mass Production 1 (MP1) builds.

这次拜访一般都在发运MP1装车零件之前进行。



On-Site Evaluation #4 – APQP/PPAP Focus
第四次现场评审会议的APQP/PPAP关注点

APQP/PPAP Element Focus → **4 of 31 Elements / 5 Deliverables**

	APQP/PPAP Element + Deliverables	Lead
3	Craftsmanship *7. Color Changes Completed Supporting Color Harmony*	PD
5	Design/Manufacturing Reviews *10. Quality Issues Closed and Effective*	STA/PD
7	Subcontractor APQP Status *14. Sub-Supplier PPAP Phase 3 (or equivalent) Completed*	STA
27	Part Submission Warrant *42. PPAP Phase 2 Completed (iif multiple workstreams)* *43. PPAP Phase 3 Completed* *44. Supplier's Demonstrated OEE (Phase 3) Supports Capacity Requirements*	STA/PD

On-Site Evaluation #4 – Expected Outputs
第四次现场评审会议的输出

	Output	Responsibility
1	Updated Supplier APQP/PPAP Readiness Assessment – Schedule – Confirm Required Deliverable Status (Final Status) 更新的A表-确认所有交付状态（最终完成状态）。	Supplier (with Cross Functional Team Consensus)
2	Signed Phase 3 PPAP warrant and Capacity Analysis Report 签署阶段3PSW零件提交保证书及产能报告。	STA
3	Updated Manufacturing Site Assessment (MSA) – As required更新的MSA报告，若需要。	STA

APQP Assessment
APQP评审表

Principles of Use 使用原则:

- **Completed by <u>all</u> Suppliers** 针对所有供应商
- **Submitted to CJLR <u>monthly</u> after <PTCC>** 每月提交
- **Consolidated <u>automatically</u> to produce all roll-up supplier deliverables & readiness reports** 生成供应商交付物状态报告

Summary View (OFF) | Click Here to Clear Entries | Formatted to Print A4 (EU) | Highlight Next Deliverable (ON) | Import Previous APQP

Current Milestone: FDJ | Final Assessment | Priority Site | Select Vehicle Partition: Underbody | APQP JLR Version 1 | Select Vehicle PMT: Chassis

Program Information — Program Code: | Program Name: | Model Year: | Supplier Information — Manufacturing Supplier Site Code: | Supplier Name: | Location: | Q1 Status: Y | Q1 Score: | Base Part Number: | Base Part Name: | Total Number of Parts: | User Plant: | Supplier Contact Information — Program Contact Name: | Program Contact Phone: | e-mail Address: | Plant Contact Name: | Plant Contact Phone: | email Address: | JLR Contact Information (Corporate Directory System ID) — LEAD PD ENGINEER: | Lead STA Site Engineer: | Lead Buyer: | MP&L Analyst: | Program Mailbox:

Baseline Data — APQP Current Date: | Previous APQP Date:

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing	Program Milestones	PTCC				PTC		PA		VP		LR	LS	J1		Evidence (Metric)	Actual Completion Dates DD-MMM-YY	Action Plan/ Counter Measure Description	Action Plan/ Counter Measure Responsibility	Action Plan/ Counter Measure Date DD-MMM-YY
						Dates DD-MMM-YY																			
						Engineering Milestones					M-1DJ	AA1	AA2	FDJ		PEC	FEC								
						Dates DD-MMM-YY								05-Feb-10		05-Feb-11									
						Builds		UNV0	UNV1	UNV2	UPV0	UPV1	UPV2				TT MRD	PP MRD	MP1 MRD	MP2					
						Dates DD-MMM-YY																			
1. Sourcing Decision																									
a) Sourcing Agreement		1		All Quality, Cost, Weight, and Functional (QCWF) targets have been reviewed, documented and agreed as part of the Sourcing Agreement Process.																					
		2		The Preliminary Engineering, Development & Testing (ED&T) budget has been defined in the Sourcing Agreement.																					
	1			Supplier agreement letter has been issued and the supplier manufacturing site has been identified.										C										
b) Commercial and Program Agreement		3		Cost model has been developed and agreed, including process to manage change control.																					
		4		There are no outstanding issues on the Final ED&T budget and QCWF targets.																					
	2			All required Supplier Commercial and Program Agreements (CPA) have been signed. Note: UN and UP due 2 months before <PA>; PTO scale 1-4 due 1 month before <PTC>, PTO scale 5 and 6 due 2 months before <PA>.										C										
	3			All Production tooling orders have been issued to suppliers.										C										
c) Volume and Mix	4			Final Mix (estimated Take Rate), Average Production Weekly (APW) and Maximum Production Weekly (MPW) have been communicated and agreed by the supplier via the SA/CPA document.										C										
2. Customer Input Requirements																									
		5		Supplier has received a list of the key contact personnel within Jaguar Land Rover, including names, locations, and phone numbers of the Program Managers, Product Development Engineers, Buyer, Supplier Technical Assistance (STA) Engineer, Material Planning and Logistics (MP&L) and others as appropriate.																					
		6		Supplier has received specifications, as they become available, to understand Product Assumptions, Functional Performance, Dimensions, Weights, Materials, and Craftsmanship requirements. Requirements for service parts (if applicable) have also been cascaded.																					
		7		Supplier has received Reliability and Quality Goals including Functional Performance Specs, 10 yr/150 mileage Useful Life Reliability Initiative (ULRI) Targets, Warranty Targets, and Incoming Quality Targets (PPM, etc.).																					
		8		Supplier has received the Program Timing Dates for APQP requirements, Program Status Reviews, Design Freeze, Prototype Builds, Material Required/In Plant Dates, and Job#1. The Supplier has used this timing information to create a timing plan in support of the APQP elements noted in the PDP and in this APQP Assessment.																					
		9		Supplier has received applicable affordable cost targets, as they are defined for the Program, including capacity and peak volumes.																					
		10		Supplier has received and understood any related logistics and volume requirements (including packaging concerns, density of containers and frequency of shipment).																					
	5			Supplier has received all necessary information identified in the expectations of the Customer Input Requirements element, to plan, design, manufacture and ship the product.										C										

APQP Assessment: Meeting cadence
APQP评审表提交

Priority Suppliers 优先级供应商:

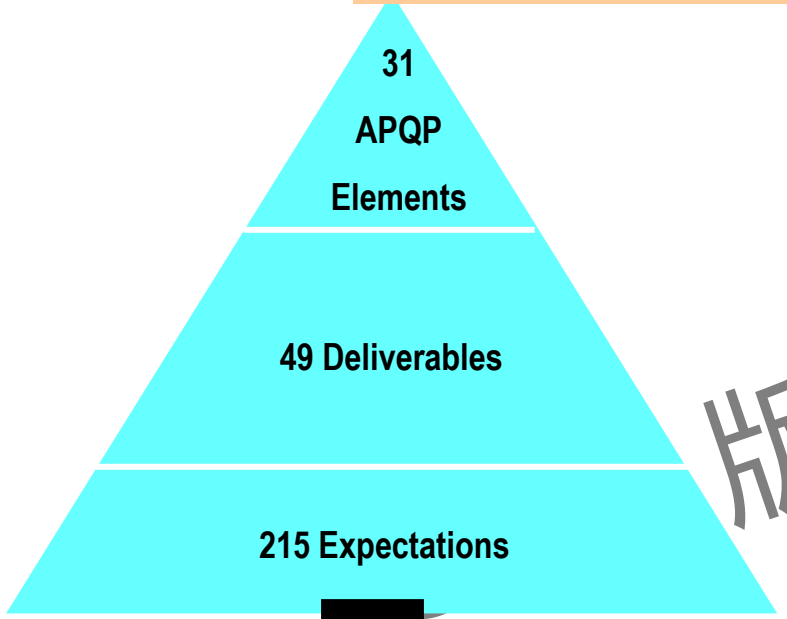
- Update the APQP Assessment monthly or before deadline of open points in SRM 每月更新系统并开口问题截至日期前更新.
- Site STA to review the APQP Assessment with the rest of the PMST prior to this monthly submission. 项目团队定期评审

Non Priority Suppliers 非优先级供应商:

- Update the APQP Assessment monthly or before deadline of open points in SRM 每月更新系统并开口问题截至日期前更新.
- Send copy of APQP Assessment to STA and PD engineers prior to submission to the CJLR program team 更新系统前将更新内容邮件发给PMST。

APQP Assessment – Detail
APQP评审表内容

Element Status Section Structure

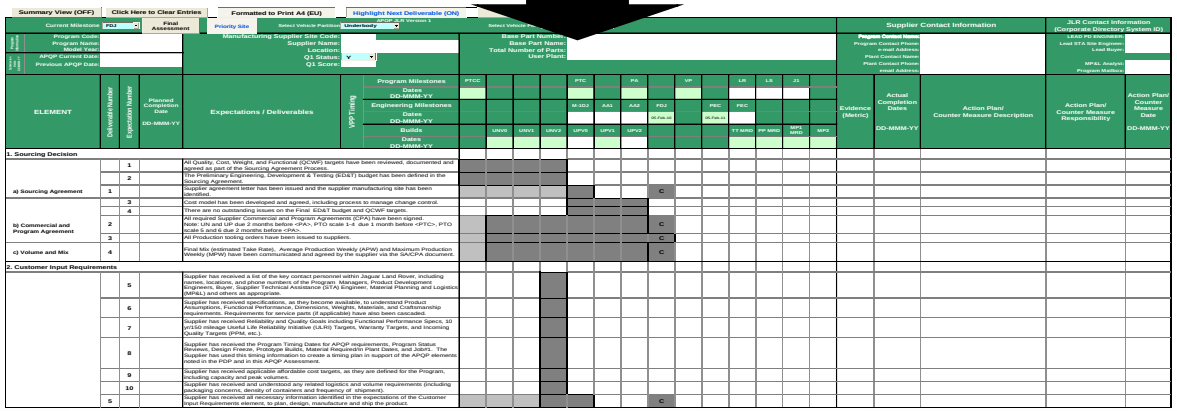


Team

Business

QoE

Criteria



Structure: 构成

The Element Status section of the Assessment is structured in a hierarchy that includes:
APQP的构成包含以下三个层级

-- APQP Elements 要素
-- Deliverables 交付物
-- Expectations 期望

The suppliers will enter their specific status ratings in this section of the document against each program milestone or build event.
对于项目节点或者造车节点的关注项需要供应商输入状态

APQP Assessment – Detail
APQP评审表内容

Element Status Section -- Definitions

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing	Program Milestones	PTCC				PTC
						Dates DD-MMM-YY					
						Engineering Milestones					M-1DJ
						Dates DD-MMM-YY					
						Builds		UNV0	UNV1	UNV2	UPV0
						Dates DD-MMM-YY					
11. Drawing & Specifications / Design Records											
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes; special material characteristics.							
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.							
	24			Design Styling is completed							
	25			Plan to complete P-Authority Release by FDJ + 4 weeks. NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTO). Confirm with the JLR PD Engineer that the release plan supports program requirements.							
12. Engineering Change Document											
		88		Develop and implement a process to manage change to ensure that any product (either revised or new) affected by revisions in design and process shall continue to meet all applicable specifications. Reference can be obtained in the "Change Implementation Plan" Checklist provided in the Supplier Request for Engineering Approval (SREA) form.							
	26			All Jaguar Land Rover engineering changes have been recorded, approved and recognised on an authorised engineering change document.							

Element:

One of the 31 unique requirements of the APQP and PPAP process

APQP Assessment – Detail
APQP评审表内容

Element Status Section – Deliverables

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing	Program Milestones	PTCC				PTC
						Dates DD-MMM-YY					
						Engineering Milestones					M-1DJ
						Dates DD-MMM-YY					
						Builds		UNV0	UNV1	UNV2	UPV0
						Dates DD-MMM-YY					
11. Drawing & Specifications / Design Records											
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes; special material characteristics.							
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.							
	24			Design Styling is completed							
	25			Plan to complete P-Authority Release by FDJ + 4 weeks. NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTO). Confirm with the JLR PD Engineer that the release plan supports program requirements.							
12. Engineering Change Document											
		88		Develop and implement a process to manage change to ensure that any product (either revised or new) affected by revisions in design and process shall continue to meet all applicable specifications. Reference can be obtained in the "Change Implementation Plan" Checklist provided in the Supplier Request for Engineering Approval (SREA) form.							
	26			All Jaguar Land Rover engineering changes have been recorded, approved and recognised on an authorised engineering change document.							

Deliverables are the metrics used to define the status (RED/YELLOW/GREEN/COMPLETE) of the individual 31 elements.

There is at least one Deliverable for each element, but there can be multiple deliverables for each element. As noted previously, there are a total of 49 Deliverables.

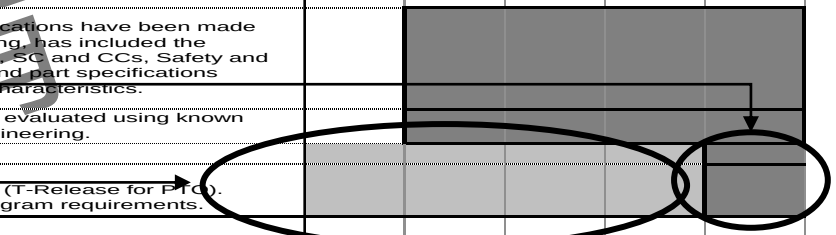
Deliverables are intended to reflect, where possible, quantifiable evidence of element success or completion. Deliverables can reflect key in-process metrics like Cpk or OEE, for example.

APQP Assessment – Detail
APQP评审表内容

Element Status Section -- Deliverables

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing
				Program Milestones	PTCC
				Dates DD-MMM-YY	
				Engineering Milestones	
				Dates DD-MMM-YY	
				Builds	
				Dates DD-MMM-YY	
11. Drawing & Specifications / Design Records					
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes, special material characteristics.	
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.	
	24			Design Styling is completed	
				Plan to complete P-Authority Release by FDS + 4 weeks.	
	25			NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTCC). Confirm with the JLR PD Engineer that the release plan supports program requirements.	
12. Engineering Change Document					
		88		Develop and implement a process to manage change to ensure that any product (either revised or new) affected by revisions in design and process shall continue to meet all applicable specifications. Reference can be obtained in the "Change Implementation Plan" Checklist provided in the Supplier Request for Engineering Approval (SREA) form.	
	26			All Jaguar Land Rover engineering changes have been recorded, approved and recognised on an authorised engineering change document.	

PTC					
M-1DJ					
UPV0	UNV2	UNV1	UNV0		



All 49 Deliverables are required to be rated with every submission of the Assessment 每个交付物必须要提交评估状态

Against the program milestones, Deliverables will show two color schemes:不同项目节点交付物状态有两种不同颜色显示

- **Light Grey With No Box – Forecast Period (activity is not expected in this time period, but the supplier must enter a rating to show whether or not they forecast risk to the deliverable completion in the future.浅灰色代表该不需要在当前节点完成，但需要显示当前的潜在风险程度，预测期**
- **Dark Grey With Black Box – Deliverable Start & End Points (activity is expected to begin and end between these milestones) 深灰色代表该交付物在当前节点需要完成，完成期**

APQP Assessment – Detail
APQP评审表内容

Element Status Section -- Deliverables

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing	Program Milestones	PTCC				PTC		PA	
						Dates DD-MMM-YY	09-Sep-09				14-Sep-09		16-Nov-09	
						Engineering Milestones					M-1DJ	AA1	AA2	FDJ
						Dates DD-MMM-YY								05-Feb-10
						Builds		UNV0	UNV1	UNV2	UPV0	UPV1	UPV2	
						Dates DD-MMM-YY		10-Sep-09	11-Sep-09	12-Sep-09		15-Sep-09		
11. Drawing & Specifications / Design Records														
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes, special material characteristics.									
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.										
	24			Design Styling is completed										
	25			Plan to complete P-Authority Release by FDJ + 4 weeks. NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTO). Confirm with the JLR PD Engineer that the release plan supports program requirements.			G	G	G	G	G	G	G	C

Example:

This deliverable is rated GREEN in the Forecast period denoting there was no expected risk to completion by FDJ.
预测期用G代表该交付物在FDJ节点前完成没有风险

The Deliverable Start & End point spans <PA> to <FDJ>. The <PA> milestone is rated GREEN, and the <FDJ> milestone is rated COMPLETE. Per APQP convention, the Deliverable end point can only be rated RED (if not finished) or COMPLETE (if finished).
完成期用C代表该交付物在FDJ节点已经完成。 如果不能完成用R表示。

APQP Assessment – Detail
APQP评审表内容

Element Status Section -- Expectations

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing								
						Program Milestones	PTCC				PTC		PA	
						Dates DD-MMM-YY	09-Sep-09				14-Sep-09		16-Nov-09	
						Engineering Milestones					M-1DJ	AA1	AA2	FDJ
						Dates DD-MMM-YY								05-Feb-10
						Builds		UNV0	UNV1	UNV2	UPV0	UPV1	UPV2	
						Dates DD-MMM-YY		10-Sep-09	11-Sep-09	12-Sep-09		15-Sep-09		
11. Drawing & Specifications / Design Records														
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes; special material characteristics.									
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.									
	24			Design Styling is completed									
	25			Plan to complete P-Authority Release by FDJ + 4 weeks. NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTO). Confirm with the JLR PD Engineer that the release plan supports program requirements.			G	G	G	G	G	G	G	C

Expectations are guidelines used to assist team members in the successful completion of the elements, and where applicable, help rate completion of the related deliverables. 期望用于帮助团队评估相关的交付物完成情况

While expectations can be rated RED/YELLOW/GREEN/COMPLETE, they will not drive the element rating – only deliverables are rolled-up to drive element ratings. 期望可以用 R/Y/G/C表示，它不能影响31个要素的完成程度，仅交付物会影响。

The ratings for expectations are intended only for internal use and communication. 期望用于内部使用和交流。

Expectations should be thought of as Quality of Event criteria

APQP Assessment – Detail
APQP评审表内容

Element Status Section -- Expectations

ELEMENT	Deliverable Number	Expectation Number	Planned Completion Date DD-MMM-YY	Expectations / Deliverables	VPP Timing							
					Program Milestones	PTCC				PTC		PA	
					Dates DD-MMM-YY	09-Sep-09				14-Sep-09		16-Nov-09	
					Engineering Milestones					M-1DJ	AA1	AA2	FDJ
					Dates DD-MMM-YY								05-Feb-10
					Builds		UNV0	UNV1	UNV2	UPV0	UPV1	UPV2	
					Dates DD-MMM-YY		10-Sep-09	11-Sep-09	12-Sep-09		15-Sep-09		
11. Drawing & Specifications / Design Records													
		86		All Jaguar Land Rover engineering drawing requirements and specifications have been made available to the supplier. Supplier, working jointly with JLR Engineering, has included the following requirements on the applicable drawings: weld, dimensions, SC and CCs, Safety and regulatory, sufficient control points and datum surfaces, tolerances and part specifications compatible with existing manufacturing processes, special material characteristics.					Y	Y	G	C
		87		Identify any specified requirements and specifications that cannot be evaluated using known inspection techniques and request appropriate adjustments from engineering.					Y	Y	G	C
	24			Design Styling is completed					G	G	G	C
	25			Plan to complete P-Authority Release by FDJ - 4 weeks. NOTE: Some long-lead parts may be required to be released earlier (T-Release for PTO). Confirm with the JLR PD Engineer that the release plan supports program requirements.		G	G	G	G	G	G	C
12. Engineering Change Document													
		88		Develop and implement a process to manage change to ensure that any product (either revised or new) affected by revisions in design and process shall continue to meet all applicable specifications. Reference can be obtained in the "Change Implementation Plan" Checklist provided in the Supplier Request for Engineering Approval (SREA) form.								

Example:

These Expectations were rated YELLOW at <PTC> and AA1 showing a potential risk. 期望用Y表示在预测期PTC有潜在风险

By <FDJ>, the Expectation end points, they were rated COMPLETE. 在完成期用C表示该期望在FDJ已经完成，风险消除

Note: Expectations are not used to drive Element status. 期望不会影响要素的状态

There is no requirement to provide a Forecast rating for an Expectation. 对于期望没有要求一定要提供预测的状态

APQP: Summary of Deliverable Rating Criteria
APQP的交付物状态汇总

RATING CRITERIA AND ASSESSMENT DEFINITION

	Not due
N/A	Not Applicable
C	Complete = Deliverable has been met and verified
G	Green = Status/Progress are on track to meet deliverable
Y	Yellow = Deliverable is at risk, but a management approved recovery plan has been implemented
R	Red = Deliverable is at risk. A recovery plan is not available and/or implemented
?	Not submitted
	Deliverable or expectation start and end points
	Deliverable forecast period

APQP: Summary of Deliverable Rating Criteria
APQP的交付物状态汇总

Prior to Required Deliverable Completion Timing 对于在预测期的交付物:

Deliverables can be rated RED, YELLOW, GREEN, or COMPLETE 状态可以用R/Y/G/C

At Required Deliverable Completion Timing 对于在完成期的交付物:

Deliverables must be rated either COMPLETE or RED. 状态可以用C/R

A deliverable must be tracked until it is complete 交付物需要一直跟踪直到完成

After Required Deliverable Timing Completion Timing (Red items only) 对于完成期未完成的交付物（红色项）:

A deliverable will continue to be rated RED until it is COMPLETE. It will no longer required to be rated at subsequent milestones after it is COMPLETE. 该交付物一直用R直到完成的节点改为C，之后的节点不需要再更新状态

Summary of Reporting Process
APQP评审表总结

- **APQP Assessments will be completed by every supplier and submitted to CJLR on a monthly basis from <PTCC> to PPAP Completion** 每家供应商都需要每月更新**APQP**直到完成**PPAP**阶段三。
- **For Priority suppliers, the cross-functional team shall achieve consensus on Deliverable ratings** 对于优先级供应商，**PMST**需要对交付物进行评审。
- **Programme Reports will be generated from the Assessments** 项目团队会生成**APQP**评估报告
- **Key Escalation Issues and Actions must be explained in the Action Plan Summary – the audience includes Board Members** 关键的升级问题和相应对策需要在**APQP**的行动计划栏里列出来，并通知**PMST**团队。

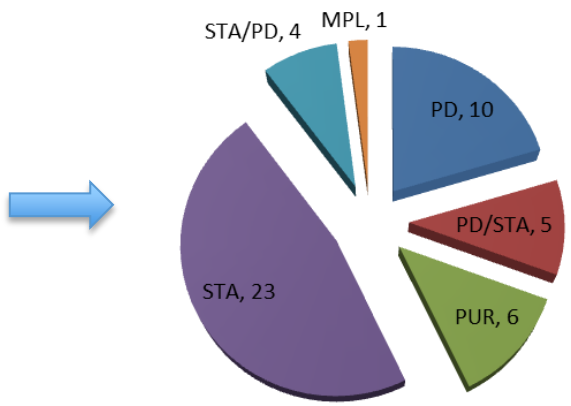
Summary
总结

1. **APQP – “Team Sport” APQP是团队活动**
2. **Throughout the programme development cycle, the APQP Assessment is a communication and reporting tool to provide an up-to-date status on Supplier/Part health. APQP是一个交流和汇报项目最新健康状态的工具。**
3. **A cross functional product development tool that requires equal ownership from all stakeholders. APQP是一个定义了各个部门职责的产品开发的工具**

31 APQP Elements

	APQP Element	Lead		APQP Element	Lead
1	Sourcing Decision	PUR	16	Measurement System Evaluation / Measurement System Analysis (MSA) Plan	STA
2	Customer Input Requirements	PD	17	Qualified Laboratory Documentation	STA
3	Craftsmanship / AAR	PD	18	Checking Aids	STA
4	DFMEA	PD	19	Pre-Launch Control Plan	STA
5	Design / Manufacturing Reviews	PD / STA	20	Operator Process Instructions	STA
6	DVP&R / Material, Performance Test Results	PD	21	Packaging Specifications	MPL
7	Sub-supplier PPAP/APQP Status	STA	22	Phase 0 Run-at-Rate	STA
8	Facilities, Tools & Gauges	STA	23	Production Control Plan / Control Plan	STA
9	Prototype Build Control Plan	PD / STA	24	Initial Process Capability Study	STA
10	Prototype & VP Build(s)	PUR / PD	25	Dimensional Results	STA
11	Drawing & Specifications / Design Records	PD	26	Product Validation (PV) Testing	PD
12	Engineering Change Document	PD	27	PSW / PPAP	STA / PD
13	Team Feasibility Commitment / Customer Engineering Approval	PD / STA	28	Bulk Materials Requirements	STA
14	Manufacturing Process Flowchart / Process Flow Diagram	STA	29	Sample Product	STA
			30	Master Sample	STA
15	PFMEA	STA / PD	31	Record of Compliance	STA

49 Deliverables



If APQP is strictly followed PSW comes for free! 如果APQP严格执行PSW顺理成章

Summary
总结

A Case for Change of APQP management 未来将会加强对APQP的管理

1. There is a need to drive key deliverable owners of the APQP 强化跟踪APQP中关键的交付物
2. We need “input” measures through the launch process- not just the “output” PSW metric – TKO/ off tool/ PACN/ etc. 将会注重投产的过程，如数据冻结、模具件生产、工程变更，不仅仅是PSW状态
3. We need to encourage “teamwork” and not be afraid to raise “Red” concerns – (If fact this is a positive if flagged early in the Programme) 不要担心提出红色项，鼓励团队尽早识别反馈风险
4. We need to avoid “late surprises” 避免突发状况
5. We need the develop “Priority Suppliers” based upon a risk analysis 重点关注优先级供应商
6. Re-establish SEP process. Ensure visits 1-4 are executed and supported fully. Cross functional engagement. 建立供应商现场评审机制，确保PMST团队支持和执行4次拜访过程
7. We need to adopt PSW levels, dependent on level of risk to Programme (Use resource more efficiently).为了高效利用资源，基于风险不同，将PSW分为不同等级

Q&A

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THANKS