九 鼎 认 证

九鼎 CASCCERT

2019 年第 4 期

总第 15 期

目录

股东动态

中国认证认可协会 2019 通讯员会议走进“一汽红旗”

2019 年 7 月 5 日，中汽中心检测认证事业部天津华诚认证有限公司（以下简称“华诚认证”）承办了中国认证认可协会（CCAA）2019 年度宣传工作座谈会暨通讯员会议，会议在长春举办。华诚认证与公司重要客户一汽红旗联合组织来自于认证认可行业 70 余家机构的 80 余名通讯员赴一汽红旗进行参观。

首先参观了一汽红旗的总装车间，整个生产线整洁、有序、高效，高端先进的机器人设备、全自动车体运输线、一流精密的检测系统，都让大家对当前以一汽红旗为代表的汽车企业有了新的认识，感受到一汽红旗能与世界一流汽车公司相媲美的实力。随后参观了一汽集团 NBD 总部，办公楼区域清洁明亮、气势恢弘，一楼大厅设有红旗发展历程及未来规划相关内容的展板及汽车零部件的实物展示，随行的一汽红旗工作人员也为大家做了详细的介绍。

据了解红旗品牌定位于高端汽车品牌，在行业内有着无以伦比的影响力。在国家大力倡导发展自主品牌、自主创新的大环境下，一汽集团将红旗品牌的发展和创新作为未来集团战略的重中之重；集团运用最强的整合资源、最先进的技术平台和最专业人员服务红旗品牌，并通过不断丰富产品系列打造国车第一品牌形象。其品牌目标是成为“中国第一、世界著名”的“新高尚品牌”。一汽红旗致力于满足消费者对新时代“美好生活、美妙出行”的追求，并肩负起历史赋予的强大中国汽车产业的重任。

（一汽总部合影留念）

中国认证认可协会到中国质量认证中心青岛分中心调研

2019年9月17日，中国认证认可协会副秘书长董德山到中国质量认证青岛分中心调研。

分中心负责人介绍了机构基本情况，汇报了分中心在认证质量和风险管控、人才队伍建设、专业能力提升等方面的工作开展情况。

在听取汇报后，董德山对分中心在落实国家认证制度、保证认证质量方面所做的工作表示了肯定。他表示，认证作为维护消费者权益和促进国家高质量发展的重要手段，面临着机遇和挑战，希望分中心不断提升专业技术能力，加强认证人员管理，有效防范风险，规范履行认证职责，在今后的工作中取得更好成绩。

认证服务指南

CASC 微信客户端改版上线

一、 游客访问

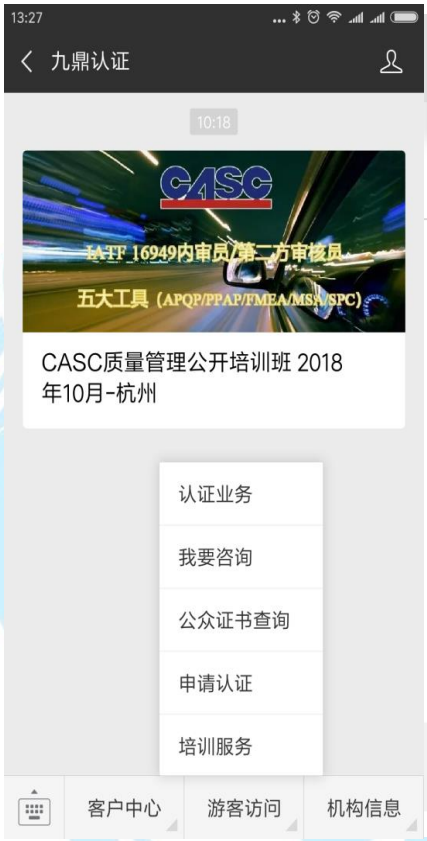


图 1

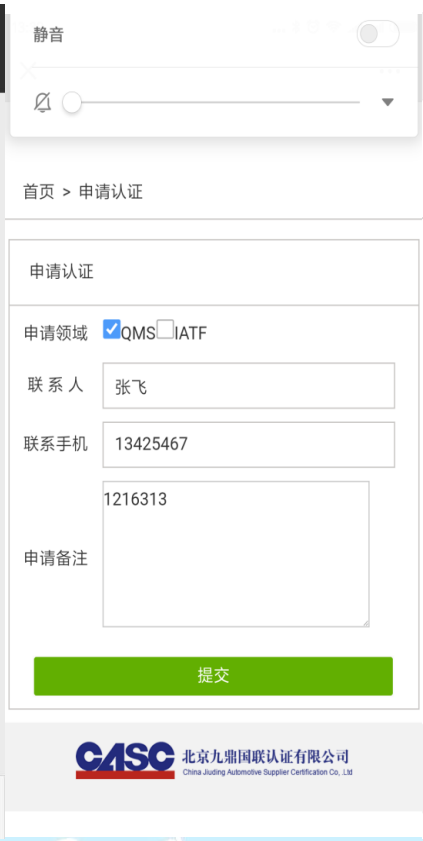


图 2

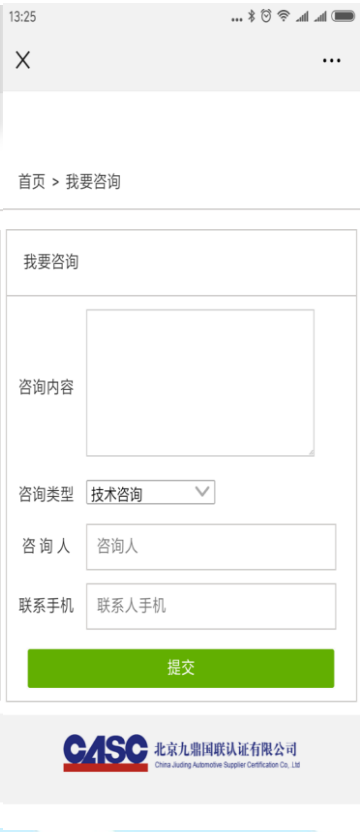


图 3

1、认证业务：链接到机构网站的认证服务页面；

2、我要咨询：填写咨询信息；（如图 3）

3、公共证书查询：链接到机构网站的证书查询页面；

4、申请认证：填写申请信息；（如图 2）

5、培训服务：链接到机构网站的培训服务页面。

二、 客户中心

1、关联企业：用户提交的信息（图 5）；

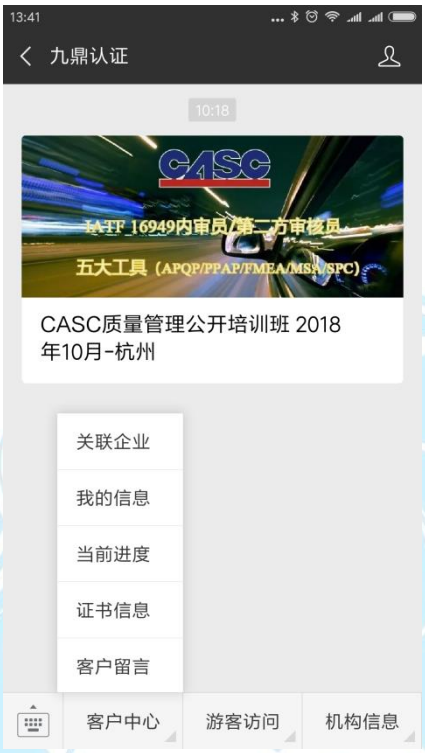


图 4

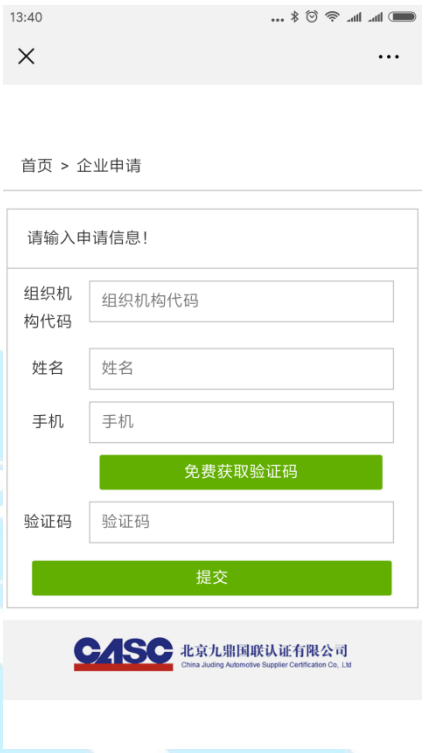
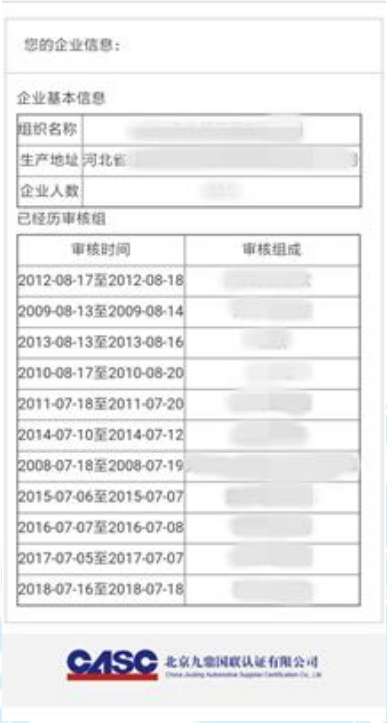


图 5

手机端操作：填写组织机构代码信息以及填写手机号等，点击免费获取验证码 ，会发送给填写的手机号一个验证码当用户输入正确的组织机构代码（ERP 系统里面已经存在）和手机验证码，则自动的进行企业绑定。

2、我的信息（图 6）　　当前进度（图 7）　　证书信息（图 8）


您的企业信息：

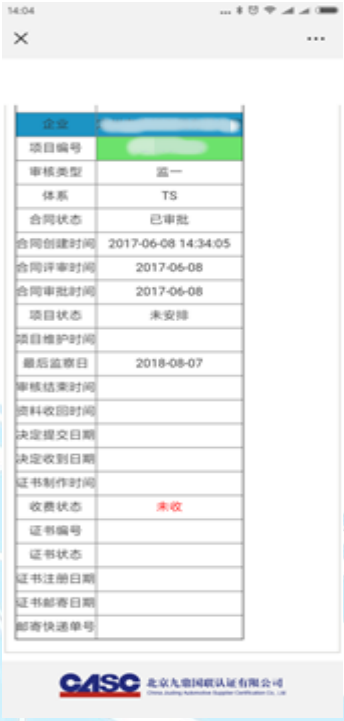
企业基本信息

组织名称	
生产地址	河北省
企业人数	

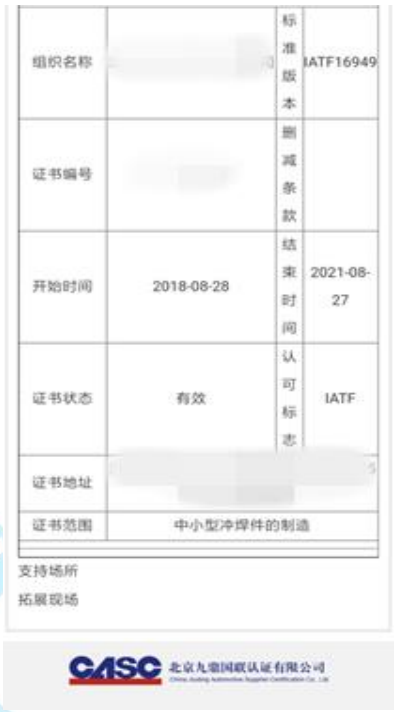
已经历审核组

审核时间	审核组成
2012-08-17至2012-08-18	
2009-08-13至2009-08-14	
2013-08-13至2013-08-16	
2010-08-17至2010-08-20	
2011-07-18至2011-07-20	
2014-07-10至2014-07-12	
2008-07-18至2008-07-19	
2015-07-06至2015-07-07	
2016-07-07至2016-07-08	
2017-07-05至2017-07-07	
2018-07-16至2018-07-18	

北京九鼎国联认证有限公司


企业	
项目编号	
审核类型	监一
体系	TS
合同状态	已审批
合同创建时间	2017-06-08 14:34:05
合同评审时间	2017-06-08
合同审批时间	2017-06-08
项目状态	未安排
项目维护时间	
最后监察日	2018-08-07
审核结束时间	
资料收回时间	
决定提交日期	
决定收到日期	
证书制作时间	
收费状态	未收
证书编号	
证书状态	
证书注册日期	
证书邮寄日期	
邮寄快递单号	

北京九鼎国联认证有限公司


组织名称		标准版本	IATF16949
证书编号		删减条款	
开始时间	2018-08-28	结束时间	2021-08-27
证书状态	有效	认可标志	IATF
证书地址			
证书范围	中小型冲焊件的制造		

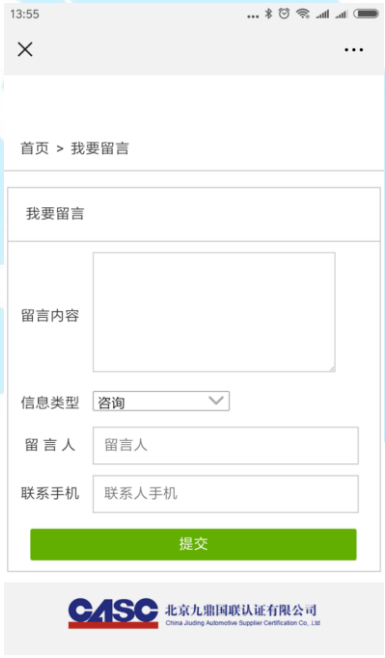
支持场所

拓展现场

北京九鼎国联认证有限公司

图 6　　图 7　　图 8

3、 客户留言


首页 > 我要留言

我要留言

留言内容

信息类型　咨询

留 言 人　留言人

联系手机　联系人手机

提交

北京九鼎国联认证有限公司

企业用户提交留言信息，可以咨询、建议、投诉，“请本机构客户先关联企业后再留言，如非本机构客户请访问游客访问中我要咨询!”

CASC 质量管理培训课程及培训计划

课程 1：IATF 16949 内审员/二方审核员资格培训

课程宗旨：

本课程旨在满足客户以下需求：

1、用以证明组织内部审核员能力满足 IATF 标准的要求；

IATF 16949 标准中明确规定：组织内从事质量管理体系审核、制造过程审核、产品审核、第二方审核的人员应全部能够证实具备“了解汽车审核过程方法，包括基于风险的思维”、“了解 ISO9001 和 IATF16949 中使用的与审核范围有关的要求”、“了解如何计划审核、实施审核、报告审核以及关闭审核发现”的能力。

参加本课程的培训并通过最终的考试人员，可获得由 CASC 颁发的 IATF 内审员资格证书或培训合格证书。

2、用以提升组织内部各类审核的有效性，管控组织面临的内外部风险；

内部审核人员对标准理解的准确性、对审核方案策划及实施的充分性及有效性在很大程度上决定了组织所开展的各类内部审核活动的有效性。及时有效的内部审核，是组织有效识别自身体系运行中存在的问题、发现潜在的改进机会、管控内外部环境中存在的风险、把握现有及潜在的市场机遇的重要保证。

本培训课程可帮助企业培养满足自身体系运行及持续改进需求的内部审核人员，并最终为企业管理提升及可持续发展提供保证；

目标学员

质量管理经理/人员、拟从事汽车行业企业内部管理体系/制造过程/产品审核工作的人员、参与供应商二方审核的人员等；

培训内容

基于汽车行业的过程方法介绍

IATF 16949 标准（含 ISO9001 标准要求）解读

IATF 16949 认证规则的解释

随堂练习（小组讨论、案例分析、模拟审核等）

学员前提条件

具备一定的导入和维护质量管理体系方面的相关知识和实践经验；

具备必要的审核准备和实施方面的经验；

提前获取 IATF 16949:2016 标准及 ISO9001:2015 标准；

公开培训课程费用

2500 元/人，包含授课用新版教材、资料、练习题、试题、学习用品等，同时包含考试及证书费用。培训期间提供免费茶歇，每日午餐。参加培训学员交通费，住宿费及培训期间其他用餐费用自理；额外需要 IATF 16949 正版标准书籍的学员，费用 3200 元/人；

课程 2：核心工具（APQP/FMEA/MSA/PPAP/SPC）能力培训

课程宗旨：

本课程旨在满足客户以下需求：

1、用以证明组织内部审核员能力持续满足 IATF 标准的相关要求；

IATF 16949 标准中明确规定：组织内从事质量管理体系审核、制造过程审核、产品审核、第二方审核的人员应能够证实具备“了解与审核范围有关的适用的核心工具要求”的能力。

参加本课程的培训并通过最终的考试人员，可获得由 CASC 颁发的核心工具培训合格证书。

2、进一步提升对各类质量工具的认知及理解，确保对其规范、有效使用。

核心工具（APQP/FMEA/MSA/PPAP/SPC 等）是世界汽车核心制造企业长期经验的积累和总结，是已被证明有效的质量管理工具和方法。合理使用这些工具，有利于组织充分识别与顾客/法规等相关的关键产品及过程特性、明确后续的管控重点及目标、提高产品及过程开发的有效性及效率，同时降低产品/过程质量风险（无论是来自组织内部还是外部供方），避免或解决潜在或现有的质量浪费，

通过参加本课程的培训，企业可以相对快捷的培养并建立一批真正具备这些核心工具使用能力的团队（包含但不局限于：产品开发人员、工艺开发人员、质量管理人员、供应链管理人员、质量分析人员等），并为后续的产品开发、质量管理、供方管理等活动

提供管理技术及人员的储备；

目标学员

责任项目经理、项目团队的所有成员，SQE、供应商开发责任主管或经理、采购经理、质量工程师和经理、负责制造和“改善”的团队领导，所有期望获得相应资质的员工。

培训内容

APQP -产品质量先期策划和控制计划；

FMEA -潜在失效模式及后果分析；

MSA -测量系统分析；

PPAP -生产件批准程序；

SPC -统计过程控制；

五大核心工具与标准的联接、案例分析及实操演练；

公开培训课程费用

2500 元/人，包含授课用新版教材、资料、练习题、试题、学习用品等，同时包含考试及证书费用。培训期间提供免费茶歇，每日午餐。参加培训学员交通费，住宿费及培训期间其他用餐费用自理。

CASC 2019 年质量管理培训计划

月份	时间	课程	地点
12 月	9 日-11 日	IATF 16949 内审员/二方审核员资格培训	北京
	12 日-14 日	五大工具(APQP/FMEA/MSA/PPAP/SPC)能力培训	

如何获得培训信息/申请培训课程？

我们会通过邮件推送、微信公众号、官方网站发布信息等渠道向您推送最新的资讯动态，如果您准备参加一次 CASC 的培训班，请注意官方消息的发布，或及时与我们取得联系。

培训报名将统一进行网络报名的形式，网上报名端口将于上一期培训班结束后 1 个工作日后开放，在报名课程开始前 15 日停止报名，为保证培训效果，如当期培训班报名人数达到上限将自动停止报名。如遇不能报名情况，请与 CASC 工作人员联系。

报名地址：http://casc-cert.mikecrm.com/A07JxIU

或者您也可以使用微信扫描二维码以打开报名地址进行网上报名信息提交。

网上报名端口二维码

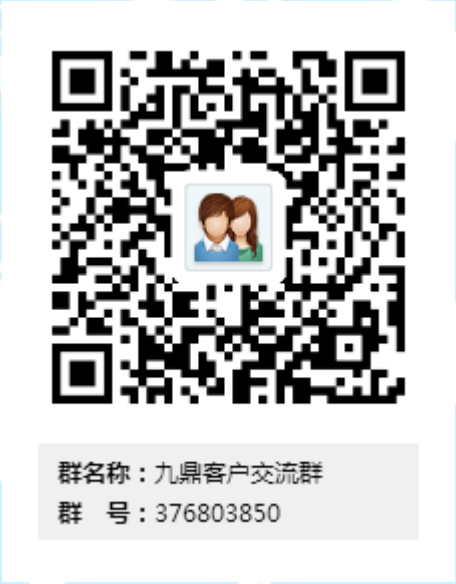
联系人	电话	E-mail
曹　宇	+86-10-65993961	caoyu@casc-cert.com
唐孝辉	+86-10-65993964	tangxh@casc-cert.com
传　真	+86-10-65993964	
E-mail	casc@casc-cert.com	

关注“九鼎认证”微信

客户交流群介绍

根据企业需要，CASC 建立了一个 QQ“九鼎客户交流群”，用于大家相互信息交流沟通，现诚邀各位的加入。九鼎客户交流群 376803850（仅限 CASC 认证客户加入）。您可扫描下方二维码加入该群，群验证信息为：企业简称+本人姓名。

期待您的加入！



学习园地

IATF 16949:2016 – 常见问题 (FAQ)

IATF -International Automotive Task Force

IATF 16949:2016 – Frequently AskedQuestion (FAQ)

IATF 16949:2016 - 常见问题（FAQ）

IATF 16949:2016 1st Edition was published in October 2016. In response to questionsfrom the IATF recognized certification bodies and stakeholders, the followingquestions and answers were reviewed by the IATF. Unless otherwise indicated,Frequently Asked Questions are applicable upon publication.

IATF 16949:2016 第一版于 2016 年 10 月出版。为了回答来自 IATF 认可的认证机构提出的问题，下面的问题和答案都经由 IATF 检验。除非另有说明，常见问题将在出版时生效。

An FAQ is an explanation of an existing requirement within IATF16949:2016.

FAQ 是对 IATF 16949:2016 内现有需求的解释。

FAQ 1 - 11 issued in monthof **October 2017**.

FAQ 1-11 于 2017 年 10 月生效。

FAQ 12-20 issued in month of April2018.

FAQ12-20 2018 年 4 月份发布

FAQ 21-22 issued in month of June2018.

FAQ21-22 2018 年 6 月发布

Revised FAQ 18 issued in month ofOctober 2018.

修订的 FAQ18 在 2018 年十月发布

Deleted FAQ 10 and FAQ 18 in monthof November 2018.

2018 年 11 月删除 FAQ10 和 FAQ18

FAQ 23-26 issued in month of March2019.

2019 年 3 月份发布 FAQ 23-26

FAQ 27-29 issued in month of October 2019.

2019 年 10 月份发布 FAQ 27-29

IATF - International Automotive Task Force

IATF 16949:2016 – Frequently Asked Question (FAQ)

IATF 16949:2016 - 常见问题（FAQ）

IATF 16949:2016 1st Edition was published in October 2016. In response to questions from the IATF recognized certification bodies and stakeholders, the following questions and answers were reviewed by the IATF. Unless otherwise indicated, Frequently Asked Questions are applicable upon publication.

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2019 年 10 月份发布 FAQ 27-29

NUMBER 序号	IATF16949 REFERENCE IATF 16949 参考	QUESTION AND ANSWER 问题及答案
1	Foreword – Automotive QMS Standard 前言 - 汽车质量管理体系标准	QUESTION:问题： Why are there two manuals (IATF 16949:2016 and ISO 9001:2015)? Two manuals instead of one manual makes it much more difficult to read and understand the requirements. 为什么有两本手册 (IATF 16949:2016 and ISO 9001:2015)？两个手册代替一个手册，使阅读和理解需求变得更加困难。 ANSWER:答案： The IATF and ISO were not able to reach a licensing agreement to publish IATF 16949 in an integrated document. In order to not further delay the launch of the new IATF 16949 standard, the IATF decided to publish in a two-manual format. IATF 与 ISO 未能达成许可协议，在一个集成的文档发布 IATF 16949。为了不进一步推迟新

		IATF 16949 标准的推出，IATF 决定以两本手册的形式发布。 Prior to release, the IATF did confirm with international accreditation organizations that other industry sectors use a two-manual format model to define their sector specific requirements, and auditing with the two-manual model, while not optimal, is effective. 在发布之前，IATF 与其他国际认证组织确认过，其他行业领域使用双手册模式来定义他们的领域特殊需求及在审核时也采用双手册模式的做法，虽然不是最优的，但却是有效的。 The IATF maintains strong cooperation with ISO by continuing the liaison committee status ensuring continued alignment with ISO 9001. IATF 继续保持与 ISO 的紧密合作，继续保持联络委员会的地位，确保与 ISO 9001 保持一致。
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2	Foreword – Automotive QMS Standard 前言 - 汽车质量管理体系标准	QUESTION:问题： Why are the two manuals (IATF 16949:2016 and ISO 9001:2015) so much more expensive than the ISO/TS 16949 version? 为什么这两种手册(IATF 16949:2016 和 ISO 9001:2015)比 ISO /TS 16949 版本贵得多? ANSWER:答案： Without the co-licensing agreement between ISO and the IATF for the integrated format of IATF 16949, the IATF was not able to negotiate a discount for the ISO 9001:2015 standard. 由于 ISO 与 IATF 没能在以集成格式发布 IATF16949 上达成协议，IATF 无法协商的 ISO

		9001:2015 的折扣标准。 The IATF kept the price of the automotive specific content consistent with prior pricing. IATF 保持汽车的具体内容与之前的价格一致。 Essentially, the difference is the full list price to ISO for their publication of ISO 9001. 实质上，价格差距主要是 ISO 发布 ISO 9001 的全部清单价格。
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3	Foreword – Automotive QMS Standard 前言 - 汽车质量管理体系标准	QUESTION:问题： What should be done if translation errors are discovered in the IATF 16949 standard? 如果在 IATF 16949 标准中发现翻译错误该如何处理？ ANSWER:答案： The IATF uses a defined process for managing translations of the standard, including “cross-checking” the translation to ensure accuracy. If an organization, or a certification body, identifies what is believed to be a translation error, they should contact either the IATF member industry association or the Oversight Office supporting their certification body. IATF 在标准翻译的过程中有明确的管理体系，包括“交叉检查”翻译，以确保准确性。如果一个组织，或一个认证机构，确定某处被认为是一个翻译错误，他们应该联系 IATF 成员行

		业协会或与他们的认证机构相对应的监管办公室。
NUMBER 序号	IATF16949 REFERENCE IATF 16949 参考	QUESTION AND ANSWER 问题及答案
4	4.4.1.2 Product safety 4.4.1.2 产品安全	QUESTION:问题： What is the scope of this clause? Many organizations focus on regulatory/statutory requirements of the product and do not believe they have product safety related manufacturing product or processes. 这一条款的范围是什么？许多组织关注产品的监管/法规要求，不相信他们有产品安全相关的制造产品或过程。 ANSWER:答案： This clause focuses on product and manufacturing process characteristics that affect the safety performance of the final assembly. These characteristics may not be directly addressed in regulatory/statutory requirements, but may be defined by the customer. 本条款侧重于影响最终装配安全性能的产品和制造过程特性。这些特性可能不能直接在法规/法定要求中得到体现，但可以由客户来定义。
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5	5.3.1 Organizational roles, responsibilities, and authorities — supplemental 5.3.1 组织角色、职责和权限 -补充	QUESTION:问题： Is the intent that responsibilities be assigned to the function (e.g. Quality), a specific title (e.g. Quality Director) or a named individual (e.g. Bob Smith)? 将职责分配给职能部门（例如质量部）、特定的职位（例如质量总监）或指定的个人（如 Bob Smith）的意图是什么？ ANSWER:答案： Responsibilities are assigned to the role/position (i.e. specific title, Quality Director) within the organization. Although individuals may have those responsibilities in their roles, the responsibilities remain with the role (e.g. Quality Director). Therefore, top management will assign the responsibility and authority to the role, not to the individuals by name. 职责被分配给组织内的角色/职位（具体职称，质量总监）。虽然个人在其角色中可能有这些责任，但责任仍然在角色中（例如质量总监）。因此，高层管理者会将职责和权力分配给角色，而不是按姓名分配给个人。
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6	7.1.5.1.1 Measurement system analysis 7.1.5.1.1 测量系统分析	QUESTION:问题： Are MSA studies required for each instrument or device? 是否需要对每个仪器或设备进行 MSA 研究？

		ANSWER:答案： No. A complete statistical study on each single piece of equipment is not required. Instruments with the same characteristics (e.g. measurement range, resolution, repeatability, etc.) can be grouped and a sample instrument (representative of the gauge family) can be used for the statistical study. 不需要。不需要对每一件设备进行全面的统计研究。具有相同特征的仪器（例如测量范围、分辨率、重复性等）可以进行分组，并可使用样本仪器（测量仪器组的代表）进行统计研究。
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7	7.1.5.3.2 External laboratory 7.1.5.3.2 外部实验室	QUESTION 1:问题 1： When can the equipment manufacturer be used to calibrate inspection and test equipment? 设备制造商什么时候可以被用来校准检验和试验设备？ If an accredited laboratory exists but is very remote and/or expensive and the inspection or test equipment manufacturer is nearby and available can they be used (even if they are not accredited to ISO/IEC 17025)? 如果一个认可的实验室存在，但非常偏远和/或昂贵，但检查或测试设备制造商在附近并且可用，可以使用他们么（即使他们没有被认证到 ISO/IEC 17025）？ ANSWER 1:答案 1： The inspection or test equipment manufacturer developed the methodology to maintain and adjust the equipment to meet calibration requirements as part of the

		design and manufacture of the inspection or test equipment. Therefore, the original equipment manufacturer of the inspection and test equipment is qualified to calibrate the equipment they designed and manufactured. 检验或测试设备制造商开发方法以维持和调整设备以满足校准要求，作为设计和制造检验或测试设备的一部分。因此，检验和测试设备的原始设备制造商有资格校准他们设计和制造的设备。 The organization shall obtain customer approval before using any original equipment manufacturer for calibration services. 在使用任何原始设备制造商进行校准服务之前，组织应获得客户批准。 QUESTION 2:问题 2： If the organization has inspection, measuring and test equipment in the final assembly and test area, is it considered an internal laboratory? 如果组织在最后的装配和测试区域有检验、测量和测试设备，它是否被认为是一个内部实验室? ANSWER 2:答案 2： No. In-line measurement and test equipment used in any part of the manufacturing process or assembly process is not considered to be an internal laboratory. 不。用于生产过程或装配过程中任何部分的在线测量和测试设备不被认为是内部实验室。
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8	7.5.1.1 Quality management system documentation 7.5.1.1 质量管理体系文件	QUESTION:问题： Does the document (which could be a table, list or a matrix) have to include non-IATF OEMs and Tier 1s? Do all customer requirements beyond CSR's need to be included in the document? 该文件（可以是表、清单或矩阵）是否必须包括非 IATF OEM 和一级代理商？除了 CSR 的需求外，是否所有的客户需求都包含在文档中？ ANSWER:答案： The organization is responsible for evaluating customer requirements, including customer-specific requirements, and including them in the scope of the organization's quality management system, per IATF 16949, Section 4.3.2. 组织负责评估客户需求，包括客户特殊要求，也包括在组织质量管理体系的范围内的需求，参照 IATF 16949，章节 4.3.2。 A document (which could be a table, a list or a matrix) is required as part of the quality manual, per IATF 16949, Section 7.5.1.1 d). The document shall include all direct customers of the certified organization, which may include IATF OEMs, non-IATF OEMs, and other automotive customers (i.e. tier-1, tier-2, etc.). 作为质量手册的一部分，需要一份文件（可以是表、清单或矩阵），参照 IATF 16949，章节 7.5.1.1 d)条目。文件应包括对认证机构的所有直接客户，其中可能包括 IATF OEM 和非 IATF OEM，以及其他汽车客户（即 1 级、2 级等。） For example, a tier-2 organization must consider the customer requirements, including customer-specific requirements, of all its customers. The Tier-2 organization does not need to consider the customer requirements of the automotive OEM if the OEM is not its direct customer. 例如，一个二级组织必须考虑它的所有客户的顾客要求，包括顾客特殊要求。如果 OEM 不是其直接客户，二级组织不需要考虑汽车 OEM 客户的要求。 It is important to note that the non-IATF OEM customers and other automotive customers may have customer requirements in an internal document that is shared with their suppliers (e.g. such as a supplier quality manual) or in a specific document available to the public (e.g. internet). 需要注意的是，非 IATF OEM 客户和其他汽车的客户可能在某一份和他们的供应商共享的内部文件（例如供应商质量手册）或公开的特殊文件中提及顾客需求（如互联网）。 Identifying customer-specific requirements may be difficult if the non-IATF OEM or other automotive customers do not clearly link to IATF 16949 clauses in their customer requirement documents. A way to identify if any customer-specific requirements exist is to compare sections of the IATF 16949 standard where the term « if required by the customer » exists and verify if the existing customer requirement document lists any specific requirements that are related to a requirement in the IATF 16949 standard. If yes, that customer and their requirements should be added to the document (which could be a table, a list or a matrix) in the quality manual. 如果非 IATF OEM 或其他汽车客户不清楚将所引用的 IATF 16949 条款在客户需求文档中标出，那用的话识别客户的具体要求可能是很困难的。其中一种确定任何客户的特殊需求存在的方法是参照 IATF 16949 标准«如客户要求»是否存在该条目以及验证现有客户需求文档是否列出了与 IATF 16949 标准相关的任何特定需求。如果是的话，客户和他们的需求应添加

		到质量手册中的文档（可能是表、列表或矩阵）中。 Organizations are not expected to take the customer’s requirements, including customer-specific requirements, and convert them into a CSR format that aligns with the IATF 16949 clauses similar to what has been published by the IATF OEMs. 组织不会将顾客的需求，包括顾客的特殊需求转换成和 IATF OEM 已经发表的类似的符合 IATF16949 条款的 CSR 的格式。
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9	8.4.2.2 Statutory and regulatory requirements 8.4.2.2 法规和法规要求 and 以及 8.6.5 Statutory and regulatory conformity 8.6.5 法规与法规整合	QUESTION 1:问题 1： What is the perspective (on statutory and regulatory conformity)? What is considered sufficient evidence of conformity to applicable statutory and regulatory requirements (8.6.5)? 什么是视角（关于法规和法规的一致性）？什么是符合适用法律法规要求的充分证据（8.6.5）？ ANSWER 1:答案 1： As defined in 8.3.3.1 g) and 8.3.4.2, the organization is required to have an approach to research, identify, obtain copies of, review, understand, and assure compliance with the statutory and regulatory requirements for the product they are manufacturing in the country where they are manufacturing products and the destination country where they are shipping the products to.

		正如 8.3.3.1 G）和 8.3.4.2 中定义的，组织必须有研究、识别、获取、审查、理解的方法，确保他们制造的产品在制造产品的国家和目的地国家都符合法定和法规要求。 The intent of 8.4.2.2 is that the organization designs into their product development methodology/business process(es) and their supplier management methodologies/business process(es), one or more approaches for obtaining confirmation and evidence from their suppliers that the products and services being provided by the supplier comply with the statutory and regulatory requirements of the country where the supplier is manufacturing them, the country where the organization is using them, and the country where the organization ships their product to, if provided by the customer. 8.4.2.2 的意图是，组织需要设计到产品开发方法/流程和他们的供应商管理方法/流程，要有一个或多个从供应商处获得确认和证据的方法，来确保供应商提供的产品和服务符合供应商生产这些产品的国家、组织将要使用这些产品的国家以及组织将要把他们的产品运往的国家（如果客户提供信息）的法律和法规要求。 The intent of 8.6.5 is to require the organization to check the records of conformance/compliance received from the supplier to assure that the lot code, batch number, or comparable traceability information for the product are covered by the evidence provided by the supplier. This could be done upon receipt from the supplier, or while the product is in inventory, but must be done prior to release of the product into the organization’s production flow. 8.6.5 的意图是要求组织检查从供应商收到的一致性/遵从性记录以确保供应商提供的证据涵盖产品的批号、批号或可比性追溯信息。这可以在收到供应商或产品库存时完成，但必须在

		产品发布到组织生产流程之前完成。 **QUESTION 2:问题 2：** **Did the intent of clause 8.4.2.2 change from ISO/TS 16949 to IATF 16949?** **第 8.4.2.2 条款的意图是否从 ISO /TS 16949 更改为 IATF 16949 后发生改变?** **ANSWER 2:答案 2：** **The intent of the clause did not change. The ISO/TS 16949 requirement was "All purchased product shall conform to applicable statutory and regulatory requirements". In this "passive voice" wording, the IATF decided their expectations were not clear. The new requirement is more explicit about what is to be done, when it is to be done, and what evidence is required to support compliance.** 该条款的意图并未发生改变。ISO/TS 16949 的要求是"所有购买的产品应符合适用的法律法规要求"。用这种"被动语态"的措辞，IATF 决定他们的期望不明确。新的要求更明确地说明了什么是要做的，什么时候要做，以及需要什么证据来支持法规遵循。 **QUESTION 3:问题 3：** **How do you manage and maintain current knowledge of statutory and regulatory requirements for international suppliers?** 如何管理和维护国际供应商的法规和法规要求？ **ANSWER 3:答案 3：** **IATF 16949, section 8.6.5, does not require the organization to be aware of or keep a**

		list of all the international statutory and regulatory requirements for the externally provided processes, products or services they purchase. **IATF 16949，章节 8.6.5 不要求本组织了解或保留其购买的外部提供的工艺、产品或服务的所有国际法律和法规要求的清单。** **The organization is required to review the results of, audit, or otherwise periodically verify, that the supplier's process is robust and assures compliance with the latest applicable statutory, regulatory and other requirements in the countries where they are manufactured and in the customer-identified countries of designation.** 组织必须审查审核结果，或以其他方式定期核查供应商的过程是否可靠，并确保在其生产的国家和指定的客户指定国家遵守最新适用的法律、法规和其他要求。 **QUESTION 4:问题 4：** **How can our system comprehend the statutory and regulatory requirements if they are not communicated to the organization by the customer?** 如果客户不向组织通报，我们的系统如何理解法规和法规要求？ **ANSWER 4:答案 4：** **The clause as worded expects the customer to provide information to the organization of where the products are going to be shipped. Changes to the applicable statutory and regulatory requirements due to changes in these destinations are only a requirement to the organization "if provided" by the customer.** 该条款的措辞要求客户向组织提供产品发运的信息。由于这些目的地的变化，对适用的法律

		和法规要求的改变只是对“客户提供”的组织的要求。
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10 删除	8.4.2.3.1 Automotive product-related software or automotive products with embedded software 8.4.2.3.1 汽车产品相关的软件或汽车产品与嵌入式软件	See SI 15, issued November 2018, effective January 2019. 见 SI15,2018 年 11 月发布，2019 年 1 月生效
NUMBER 序号	IATF16949 REFERENCE IATF 16949 参考	QUESTION AND ANSWER 问题及答案
11	8.7.1.7 Nonconforming product disposition 8.7.1.7 不合格品处置	QUESTION 1:问题 1： What is the intent and requirements for “rendering unusable” prior to disposal? 在处置前“无用化处理”的意图和要求是什么？

		When and where does the “rendering unusable“ of product need to occur? 何时和何处需要生成产品的“无用化处理”？ ANSWER 1:答案 1： The intent is to ensure that the product cannot find its way into the unofficial aftermarket, onto a road vehicle, or accidentally shipped to the customer. 其目的是确保产品不能进入非官方的售后市场，进入公路车辆，或意外地运送到客户。 The process of rendering nonconforming product unusable, does not have to occur in the manufacturing area as long as the product is rendered unusable prior to final disposal. 将不合格品无用化的过程不需要在制造区域发生，只要产品在最终处置前无法使用即可。 QUESTION 2:问题 2： How does the organization control this? 组织如何控制这些? ANSWER 2:答案 2： The organization is responsible to develop and implement a nonconforming product disposition process and verify its effectiveness. 本组织负责开发和实施产品的无用化处理过程，并验证其有效性。 QUESTION 3:问题 3： Can the organization use a service provider to render the product unusable?

		组织能使用服务供应商来进行无用化处理吗？ **ANSWER 3:答案 3：** **Yes, it is acceptable to contract the process of rendering the product unusable to a service provider. If a service provider is used, the organization needs to approve, and periodically verify, how the supplier is rendering the product unusable.** 可以。将无用化处理的过程交付给服务供应商是可以接受的。如果使用服务供应商，组织需要批准并定期验证供应商如何使产品不可用。 **QUESTION 4:问题 4：** **Does nonconforming product disposition apply only to final product or does it also apply to component/interim sub-assembly?** 不合格产品配置仅适用于最终产品，还是同样适用于组件/临时子装配？ **ANSWER 4:答案 4：** **This requirement applies to the product that has gone through the part approval process and that the organization is shipping to the customer.** 这一要求适用于经过部分审批流程并且该组织正在向客户发货的产品。 **QUESTION 5:问题 5：** **For rendering unusable, how much damage needs to be done to the nonconforming product?** 对于无用化处理，对不合格产品需要进行什么程度的损坏？ **ANSWER 5:答案 5：**

		The nonconforming product needs to be rendered unusable and unrepairable. There is no requirement for crushing or pulverizing the product into many pieces. 不合格产品需要被处理为无法使用和修复。没有要求将产品粉碎或粉碎成多块。
12	**Throughout the IATF 16949 Standard** **IATF 16949 标准**	**QUESTION: 问题：** **Is it acceptable to document multiple processes in one "documented process"? Or do they each have to be individual documented processes?** 可以接受文件的多个过程在一个“文件过程”吗？或者他们必须是独立的文件过程吗？ **ANSWER: 答案：** **Yes, it is acceptable for an organization to group multiple documented processes into one (or more) processes. Each documented process does not have to be a standalone process. Organizations should document their processes as it makes sense to their individual business and organizational needs.** 是的，组织将多个文件的过程分组为一个（或多个）过程是可以接受的。每个文件的过程不一定是一个独立的过程。组织应该文件化他们的过程，因为这对他们个人的业务和组织需求是有意义的。
13	**4.4.1.2 Product safety** 产品安全	**QUESTION: 问题：** **What are the requirements regarding the levels of training and the particular criteria required to be identified in relation to product safety (4.4.1.2)?** 在产品安全方面需要确定的培训水平和具体标准是什么**(4.4.1.2)**？ **ANSWER: 答案：** **As with all personnel competency requirements, the people assigned to specific**

		tasks need to be competent for that task. That competence needs to include the rules and regulations associated with the task. 与所有人员的能力要求一样，被分配到特定任务的人员需要胜任这项任务。这种能力需要包括与任务有关的规则和条例。 The safety requirements in 4.4.1.2 are very specific as to what is required. The sections include, referring to IATF 16949 section 4.4.1.2: a) suppliers are expected to be aware of all statutory and regulatory requirements associated with the markets for use of the parts, as identified by the customer. The supplier needs to know where to research the regulations for all affected countries or regions. 4.4.1.2中的安全要求对于所要求的内容是非常具体的。这些章节包括，参照机构间工作队16949节4.4.1.2：a)供应商应了解与市场有关的所有与客户确定的零部件使用市场有关的法律和规章要求。供应商需要知道研究所有受影响国家或地区的条例。 b) Customer specifics will identify any customer notification requirements; therefore, knowledge in customer specifics (which may be taught by an internal designated subject matter expert). 顾客将识别任何客户通知要求；因此，客户特定方面的知识(可以由内部指定的专家教授)。 c) The special approvals for design FMEAs would be identified in customer specifics, see item b) above. 设计FMEA的特殊批准将在客户细节中确定，见上文的项目B）。 d) and e) The identification of product safety related characteristics and their

		controls would be defined by the customer in its definition of special characteristics and required controls. The personnel developing PFMEAs and Control Plans would need to be knowledgeable in those areas of their customer(s) documents. Each line item f) through m) can also be similarly analyzed to determine the level of training and source of that training for each requirement within the safety requirements. (d)和(e)确定与产品安全有关的特性及其控制将由客户在其对特殊特性和所需控制的定义中加以界定。制定PFMEA和控制计划的人员需要了解其客户文件的这些领域。每一行(f)到m)也可以类似地进行分析，以确定安全要求内每项要求的培训水平和培训来源。 Since many of the requirements depend upon customer specific requirements, there is no single complete industry training on this topic. The organization needs to review the customer and regulatory requirements associated with each of its parts appropriate for the intended country of use and safety-related part characteristics. Some customers may have specific requirements regarding product safety, training, knowledge, and personnel. It is the organization's responsibility to understand their customer's specific requirements related to product safety. 由于许多需求依赖于特定客户的需求，因此没有关于此主题的单一完整的行业培训。组织需要审查与其每个部件相关联的客户和法规要求，以适合预期的使用国和与安全相关的部件特性。一些客户可能对产品安全、培训、知识和人员有特定的要求。组织有责任了解客户与产品安全有关的具体要求。
14	7.1.5.3.2 External laboratory	QUESTION: 问题

	外部实验室	**Is it required that the calibration certificate or (test) report of an external laboratory bears the mark (or logo or symbol) of the relevant national accreditation body that accredited the laboratory to ISO/IEC 17025?** 是否要求外部实验室的校准证书或(测试)报告带有相关国家认证机构的标记(或标志或符号)，将该实验室认证为ISO/IEC 17025？ **ANSWER: 答案** **Yes, only certificates of calibration or test reports including the mark of a national accreditation body are acceptable.** 是的，只有校准证书或测试报告，包括国家认证机构的标记是可以接受的。 **The accreditation mark (often also called "accreditation logo" or "accreditation symbol") of a national accreditation body provides documented evidence that the provided inspection, test, or calibration services were performed according to the accreditation scope and that they comply with the requirements of ISO/IEC 17025, and are subject to supervision of a national accreditation body.** 国家认证机构的认证标志(通常也称为"认证标志"或"认证符号")提供了书面证据，证明所提供的检查、测试或校准服务是根据认证范围进行的，并且符合ISO/IEC 17025的要求，并受到国家认证机构的监督。
15	8.3.2.3 Development of products with embedded software	**QUESTION: 问题** **What is the acceptable method to assess a supplier's software development capability?**

	带有嵌入式软件的产品的开发	评估供应商软件开发能力的可接受方法是什么？ **ANSWER: 答案** **The intent of IATF 16949, Section 8.3.2.3 is to apply the same level of rigor to the development of software as is expected in the development of hardware parts. Just like parts, software has defined performance, operating conditions, known inputs, specified outputs, parameters of environment (e.g. size of the file), regulatory requirements (if any), known failure modes, usage profiles, variability of conditions of operation, etc.** IATF 16949第8.3.2.3节的目的是在软件开发上应用与硬件部件开发预期相同的严格程度。与部件一样，软件定义了性能、操作条件、已知输入、指定输出、环境参数(如文件大小)、法规要求(如果有的话)、已知的故障模式、使用情况、操作条件的可变性等。 **The planning, designing, writing, testing, confirming and production validation phases in the development of software are not very different in concept from the development of hardware parts IATF16949 provides a robust framework to validate that all necessary steps have been taken to design, verify, and produce hardware parts that continue to meet specification in mass production, While similar in concept, those steps are not the same for the development of software. Therefore, a different set of criteria are used to evaluate the methods used to develop software.** 软件发展中策划,设计，书写，测试，确定和验证产品阶段不同于硬件部分的发展概念。IATF16949提供了一个健壮的框架，以验证已经采取了所有必要步骤来设计，验证和生产硬件部件来继续满足大量生产的规格，然而相似的概念是，那些步骤不同于软件的发展。因此，

		使用一组不同的标准来评估用于开发软件的方法。 **Those criteria are not included in IATF16949; therefore, other method are referred to ,such as Automotive SPICE and CMMI. There may be other acceptable methods available identified by some customers. Each customer may have a preferred tool to assess supplier software development capability. The organization should ask their customers to confirm the acceptable assessment tool. Each customer may also specify a different approach used (e.g. customer on-site assessment, supplier self-assessment ,of a combination of both.)** 这些标准不包括在**IATF 16949**中；因此，还提到了其他方法，如汽车**SPICE**和**CMMI**。有些客户可能还可以使用其他可接受的方法。每个客户可能有一个首选的工具来评估供应商的软件开发能力。组织应要求客户确认可接受的评估工具。每个客户也可以指定一个不同的方法使用(例如，客户现场评估，供应商自我评估，两者的结合)。 **The role of the IATF16949 internal of external auditor is not to have the knowledge to conduct the Automotive SPICE of CMMI assessment. However, the internal of external auditor should be familiar enough with the assessment to be able to recognize when a software assessment requirement has not been met and that there are corrective action plans in place, with the appropriate resources assigned. The IATF16949 internal and external auditor should also know if the customer participates in that software development assessment and how that is documented.** **IATF 16949**外审员的内部作用是不具备进行**CMMI**评估的汽车**SPICE**的知识。然而，外审员的内部应该对评估足够熟悉，以便能够认识到软件评估要求何时没有得到满足，并且已经制定了纠正行动计划，并分配了适当的资源。**IATF 16949**内部和外部审核员还应该知道客户

		是否参与了该软件开发评估，以及如何记录该评估。
16	8.4.2.4.1 Second-party audits 第二方审核	**QUESTION:** 问题 **If there is low risk with an organization's supplier(s), are 2nd party audits required? What is the intent?** 如果组织供应商的风险较低，是否需要进行第二方审核？目的是什么？ **ANSWER:** 答案 **The risk-based thinking approach, driven by ISO 9001:2015, needs to be incorporated for supplier management. The risk analysis needs to be completed and depending on the results of the risk assessment (see below), then a 2nd party audit may not be required.** **ISO9001:2015** 驱动的基于风险的思维方法需要纳入供应商管理。 风险分析需要完成，并取决于风险评估的结果（见下文），则可能不需要进行第二次审核。 **To support the risk analysis, the organization needs to consider criteria such as: supplier certification status, commodity complexity, new product launch(es), significant employee turn-over, product quality issues, delivery issues, customer specific requirements, and other risks to the organization or to their customer(s).** 为了支持风险分析，组织需要考虑标准，例如：供应商认证状况、商品复杂性、新产品推出**(ES)**、重要的员工交接、产品质量问题、交付问题、特定客户要求，以及对组织或其客户的其他风险。
17	8.5.6.1.1 Temporary change of process	**QUESTION:** 问题

	controls 过程控制的临时改变	**Does there have to be an alternative process control for each primary control specified in the control plan?** 对于控制计划中指定的每个主控制，是否必须有一个可选的过程控制？ **ANSWER: 答案** **No, it is not a requirement to have an alternative process control for every primary control.** 不，这不是一个要求有一个可供选择的过程控制每一个初级控制。 **When introducing new products, an organization should consider the risk of the primary control potentially failing and, based on risk and severity of failure mode, decide where alternative process controls are needed. When back-up or alternate process controls are needed, then both the primary and alternative process controls should be defined in the process flow, PFMEA, control plan, and the standardized work available.** 在引入新产品时，组织应考虑主要控制可能失败的风险，并根据故障模式的风险和严重程度，决定需要替代过程控制的位置。当需要备份或备用过程控制时，应在流程、PFMEA、控制计划和可用的标准化工作中同时定义主过程控制和替代过程控制。 **For existing processes, where there is a failure in the primary process control, and no alternative process control is defined, the organization should consider risk, (e.g. FMEA) and if approved, develop standardized work for an alternative process control, implement the controls, verify effectiveness through daily management, and then revalidate when the primary control is restored.** 对于现有流程，如果主过程控制出现故障，而没有定义可供选择的过程控制，则组织应考虑风险(例如FMEA)，如果获得批准，应制定替代过程控制的标准化工作，实施控制，通过日常管理验证有效性，然后在恢复主要控制时重新验证。 **Periodically, the organization shall review instances of where alternative process controls have been used and consider this as an input to update the process flow, FMEA, and control plan.** **(See SI 11)** 组织应定期审查使用替代过程控制的实例，并将其作为更新流程、FMEA和控制计划的输入。 **(见SI 11)**
18 *deleted* 删除	Quality management system audit **9.2.2.2** 质量管理体系审核 **9.2.2.2**	See SI 14, issued November 2018, effective January 2019. 见SI14，2018年11月发布，2019年1月生效。
19	**9.2.2.3** Manufacturing process audit 制造过程审核	**QUESTION: 问题** **For each manufacturing process audit do all shifts have to be covered?** 对于每一次生产过程审核，是否必须涵盖所有的轮班？ **ANSWER: 答案** **Each audit does not have to cover all shifts in one audit (for example an audit of the pressing process could be done on shift 1 and 2, sampling shift changeover in year 1, and then in year 2 or 3 an audit undertaken on the third shift for pressing). However, all manufacturing processes must be audited on all shifts over a three-year cycle, the frequency depending on risk, performance, changes etc.** 每一次审核不必涵盖一次审核中的所有转移(例如，对压榨过程的审核可以在第 **1** 和第 **2** 次轮

		班进行，抽样换班在第 1 年进行，然后在第 2 或第 3 年对第三次轮班进行审核，以便按要求进行)。然而，所有的制造过程都必须对三年周期内的所有轮班进行审核，频率取决于风险、性能、变化等。
20	9.2.2.4 Product audit 产品审核	QUESTION: 问题 **Why is there no defined audit frequency for Product audit?** 为什么产品审核没有明确的审核频率？ ANSWER: 答案 **The audit frequency must be determined based on the risk and product complexity (See ISO 9001, Section 9.2.2). If an organization has high risk and high product complexity, it is recommended that product audit frequency be increased.** 审核频率必须根据风险和产品复杂性来确定(见 ISO 9001，9.2.2 节)。如果组织具有高风险和高产品复杂性，则建议增加产品审核频率。
21	8.6.2 Layout inspection and functional testing 全尺寸检验和功能测试	QUESTION: 问题 **Is a layout inspection different from a product requalification or functional testing?** 布局检查与产品再认证或功能测试不同吗？ ANSWER: 答案 **Yes, as stated in Note 1 of 8.6.2 of IATF16949,[layout inspection is the complete measurement of all product dimensions shown on the design record(s);layout inspection is limited to dimensional measurement and requirements. Performance or materials measurements are not included in a layout inspection.**

		是的，如IATF16949 8.6.2注1中，[布局检查是对设计记录上显示的所有产品尺寸的完整测量；布局检查仅限于尺寸测量和要求。性能或材料测量不包括在布局检查中] **Product requalification would normally imply full validation to all product approval requirements (e.g.PPAP or PPA) and therefore exceeds the scope of a layout inspection.** 产品再认证通常意味着对所有产品审批要求(如PPAP或PPA)进行全面验证，因此超出了布局检查的范围 **Functional testing/verification would normally be limited to performance and material measurements such as durability or tensile strength and would not include dimensional measurements.** 功能测试/验证通常仅限于性能和材料测量，如耐久性或抗拉强度，而不包括尺寸测量。 **Where frequency is not defined by the customer, the organization is responsible to define the frequency of layout inspection.** 如果客户没有定义频率，组织负责确定布局检查的频率。 **Layout inspection is a part of product requalification, if product requalification is required by the customer.** 如果客户要求进行产品再认证，则布局检查是产品再认证的一部分。 **On-going layout inspection and functional testing requirements are defined in the control plan. If customer-specific requirements exist, then those requirements (including layout inspection and functional testing requirements) are also included in the control plan.** 在控制计划中定义了正在进行的布局、检查和功能测试要求.如果存在特定于客户的需求，那

		么这些需求(包括布局检查和功能测试需求)也包括在控制计划中。
22	9.2.2.4 Product audit 产品审核	QUESTION: 问题 **How does a product audit differ from a layout inspection?** ANSWER: 答案 **As defined in section 3of IATF16949, the term product is used to represent"...any intended output..." of the manufacturing process.** 如**IATF16949** 第三节定义，术语产品用来代表 制造过程的任何输出。 **Products typically have dimensional, performance (functional) and material requirements, therefore, product audits may contain verification of dimensional, performance (functional), or material requirements. As stated in the FAQ 21 above, a layout inspection is limited to dimensional requirements.** 产品通常具有维度、性能(功能)和材料需求，因此，产品审核可能包含维度、性能(功能)或材料需求的验证。如上文**FAQ 21**所述，布局检查仅限于尺寸要求。 **Product audits can be carried out on finished or partially finished product, following customer specified approaches (e.g. VDA 6.5 product audit), if applicable.** 如果适用，可以按照客户指定的方法(如**VDA 6.5**产品审核)对成品或部分成品进行产品审核。 **A product audit, like other audit types, is an independent verification of compliance to requirements. As such, the product audit has a defined frequency and scope specified within the audit programme and is based on risk.** 与其他审核类型一样，产品审核是对需求遵从性的独立验证。因此，产品审核在审核方案中

		规定了明确的频率和范围，并以风险为基础。
23.	8.5.1.3 Verification of job set-ups 作业准备验证	QUESTION: 问题 **If first-off/last-off part validation is not performed or appropriate for a specific type of manufacturing process, are such records to be maintained per 8.5.1.3 e)?** 如果首末件验证没有实施或者适合特定类型的制造过程，要依据**8.5.1.3 e**）保持相应记录吗？ ANSWER: 答案 **As stated in 8.5.1.3 d), first-off/last-off part validation is performed only when it is applicable and appropriate. Where the validation is not performed because it is not applicable or appropriate, there is no requirement to maintain records.** 如上所述**8.5.1.3 d),**只有适用和适当时才实施首末件验证。由于不适用或不适当而未实施首末件验证，不要求保持记录。
24	8.4.2.2 Statutory and regulatory requirements 法律法规要求	QUESTION 1: 问题 **If the organization is not responsible for product design and is therefore only manufacturing products as per the customer's design, is the organization then exempt from the requirements in 8.4.2.2?** 如果组织不负责产品设计，因此只是依据顾客设计制造产品，组织可以免除**8.4.2.2**要求吗？ ANSWER: 答案 **No, all organizations regardless of their responsibility for product design must satisfy the applicable requirements of 8.4.2.2. The applicable requirements address purchased products, processes, and services for which the organization is responsible.**

		不可以,所有组织不管他们是否有产品设计职责，必须满足**8.4.2.2**的适用要求。适用要求涉及组织负责的采购的产品、过程和服务。 QUESTION 2: 问题 **Is the organization required to request a complete list of countries of destination from the customer if the list was not provided by the customer?** 如果顾客不能提供，组织被要求索取一份完整的顾客目的地国法律法规清单吗？ ANSWER: 答案 **Yes, the organization is required to request a complete list of the countries of destination from the customer if the list was not provided by the customer.** 是的，如果顾客不能提供该清单，组织被要求索取一份完整的顾客目的地国法律法规清单 NOTE: 注 ● **The "country of receipt" is where the organization is located. (Country of the manufacturing site)** "收货国"是指组织所在地。(制造现场所在的国家) ●**The "country of shipment" is the customer's receiving location. (Country where the manufacturing site ships to)** "发运国"是指客户的收货位置。**(**从制造现场发运到的国家**)** ● **The "country of destination" is the country where the vehicle is sold. (Country where the final product is initially sold)**

		"目的国"是指汽车所销售的国家。(最终产品首先销售的国家) QUESTION 3: 问题 **What is the consequence if the customer does not provide the information on the countries of destination to the organization? What is the organization required to document in this situation?** 如果顾客没有向组织提供目的地国信息有什么后果？这种情况下组织被要求形成什么样的文件？ ANSWER: 答案 **If the organization claims that the customer did not provide the necessary information on the countries of destination, the organization should be able to produce written evidence (e.g. letters, emails, meeting minutes, etc.) of their efforts to obtain it.** 如果组织声称顾客没有提供目的国的必要信息，组织应能提供尽他们所能获取的书面证据(例如信件、电子邮件、会议纪要等) QUESTION 4: 问题 **What level of detail should be provided by the customer regarding the countries of destination? Would a generic statement like "every country globally" be an appropriate response?** 顾客应该提供有关目的国什么程度的细节信息？泛泛地声明如"全球每个国家"是一个合适的答复吗？

		ANSWER: 答案 No, a generic statement such as “every country globally” is not acceptable. The customer is expected to provide to the organization a specific list of countries where the vehicle(s) are initially sold. 不是，泛泛地声明如“全球每个国家”是不可接受的。顾客被期望向组织提供一份详细的汽车最初出售国清单。 QUESTION 5: 问题 Applicable statutory and regulatory requirements are often linked to the relevant use of a product. Some parts might become a safety-related product, depending on its use. Based on the before mentioned statement, is the customer required to provide the organization with detailed information about the intended use? 适用的法律法规要求往往与相关产品的使用关联。一些零件可能会变成安全相关产品,这取决于它使用情况。基于之前提到的声明，顾客要向组织提供有关预期用途的详细信息吗? ANSWER: 答案 It is expected that the customer will provide to the organization information of the characteristics that are relevant for the identification of required controls to meet applicable statutory and regulatory requirements (e.g. special characteristics). 预期是，顾客会提供给组织特性信息，这些与所要求控制的识别来满足适用的法律和监管要求(如特殊特性)
25	8.3 Design and Development of products and services 产品和服务的设计和开发	QUESTION 问题 What constitutes product design responsibility for an organization? 对于一个组织，什么构成了产品设计责任? ANSWER 答案 If an organization receives from its customer a fully defined engineering specification for the parts it is making (make to print), the organization would not be product design responsible. 如果一个组织从顾客处收到了一个完整规定的零件工程规范 (保证供应商按图制造)，组织没有产品设计责任。 Where the organization does not receive a fully defined engineering specification for the parts it is making, the organization is product design responsible. 如组织没有收到一个完整规定的零件工程规范，那么组织有产生设计责任 In all cases, the organization is responsible for manufacturing process design. 在所有情况下，组织有制造过程设计职责。
26	8.5.1.5 Total Productive Maintenance 全面生产维护	QUESTION问题 What is the intent of including the term “periodic overhaul” in the requirements for Total Productive Maintenance? 全面生产维护的要求中“定期检修”的意图是什么? ANSWER答案 The intent of all the line items in section 8.5.1.5 is to include the minimum steps to maintain manufacturing equipment over a long period of usage so it can consistently produce product to specification. 8.5.1.5部分的所有项目意图时包含维护生产设备长期使用的最少步骤，以便持续按照规范生

		产产品。 **“Periodic overhaul” is rework of manufacturing tooling and equipment needed when regular maintenance steps are no longer enough to keep the tooling and equipment in a condition where it can continue to make product to specification, as detected using Mean Time Between Repairs or other similar metrics.** 当常规维护步骤不足以保证工具和设备处于持续按照规范生产产品的状态时，“定期检修”是生产工具和设备的返工所需的，如探测到的使用平均维修间隔时间或其他类似的指标。 **Periodic overhaul is already defined in section 3 of the standard: “maintenance methodology to prevent a major unplanned breakdown where, based on fault or interruption history, a piece of equipment, or subsystem of the equipment, is proactively taken out of service and disassembled, repaired, parts replaced, reassembled, and then returned to service.”** 定期检修已经在标准第三节中定义：“用于防止发生重大意外故障的维护方法，此方法根据故障或中断历史，主动停止使用某一设备或设备的子系统，然后对其进行拆卸,修理,更换零件,重新装配并恢复使用。 **Perhaps periodic overhaul is not applicable to some types of tooling and equipment. Perhaps some tooling is simply replaced with a new tool at the end of its useful life. However, all tooling and equipment does have a limited life based on usage, time or other known factors. The tooling and equipment manufacturer would be a good source to determine which factors and to estimate when such major work needs to be completed. Periodic overhaul or its appropriate equivalent (e.g. replacement) would need to be accounted for in the steps of the organization’s maintenance plan.** 或许定期检修并不适用于某些类型的工具和设备。也许一些工具只在使用寿命到期时用一个新工具简单的更换掉。 然而,所有工具和设备基于使用情况、时间或其他已知因素确实有一个寿命周期。工具和设备制造商会是一个很好的资源来决定哪些因素，并预估这项主要工作需要在什么时间完成。定期检修或其适当的等效方法(如更换)需要记录到组织的的维护计划步骤中。
27	**8.5.1.5** **Total Productive Maintenance** **全面生产维护**	**QUESTION问题** **What is the intent of using the term “Total Productive Maintenance” for this clause, is there a connection to the industry term “Total Productive Maintenance”?** **全面生产维护术语的使用目的是什么？与工业术语“全面生产维护”有什么关系？** **ANSWER回答** **The term “Total Productive Maintenance” (TPM) used in the IATF 16949 standard refers to various similar approaches that focus on proactive and preventive techniques for improving tooling and equipment reliability through the machines, equipment, processes and employees that add manufacturing value to an organization. For example, the industry approach for TPM places the responsibility for routine maintenance, such as cleaning, lubricating and inspection in the hands of the operators.** **IATF16949标准中“生产全面维护”指的是多样类似的方法，注重前瞻和预防技术提高工具和设备可靠性，通过机器、设备、流程和员工增加制造价值。举个例子，TPM的工业方法负责日常维护，例如清洁、润滑和运营商的操作检查** **Clause 8.5.1.5 of IATF 16949 has some requirements which align with some of the pillars of industry TPM. However, the individual requirements of 8.5.1.5 [a) through j)] are as stated in IATF 16949.** **The use of the term “Total Productive Maintenance” in IATF 16949 gives organizations an opportunity to adopt the underlying principles of industry Total Productive Maintenance while meeting the listed requirements of 8.5.1.5 in IATF 16949.** **IATF16949 8.5.1.5条款有些要求，结合TPM的支柱产业。然而，8.5.1.5[a-j]的个人需求在IATF16949中所述。IATF16949全面生产维护给组织一个机会采用行业全面生产维护的基本原则，满足IATF16949 8.5.1.5列出的要求。**
28	**9.2.2.3** **Manufacturing process audit**	**QUESTION问题** **What is intended frequency and coverage of Manufacturing Process Audits?** **制造过程审核的频率和范围是什么？**

	制造过程审核	**ANSWER**回答 Effective assessment of each manufacturing process is vital to ensure continued manufacturing of product meeting customer, statutory and regulatory requirements. However, aligned with the risk approach of ISO 9001 and IATF 16949, some manufacturing processes or aspects of manufacturing processes may need higher frequency of assessment than others. 有效评审每个制造过程是很重要的，确保持续产品制造满足顾客，法定和监管要求。然而，要结合**ISO9001**和**IATF16949**风险方法，一些制造过程或制造过程方面也需要更高的评审频率。 The organization determines the audit frequency, if not defined by the customer, by using the appropriate risk management approach, including consideration of new technologies and customer measured performance. Manufacturing processes demonstrated to be low risk by the organization may be audited less frequently than high risk processes; however, all manufacturing processes are audited within the 3-year audit cycle. 组织决定了审核频率，如果客户不定义，通过使用适当风险管理方法，包括考虑新技术和客户测量绩效。制造过程证明组织低风险，可能审核频率要低于高风险过程；然而，所有制造过程都要在三年审核周期中审核。 Evidence for risk analysis includes continued compliance with all relevant requirements, (for example: statutory and regulatory, customer, process, and internal requirements). If any one of the relevant requirements is not met, the manufacturing processes is audited at a higher frequency than every 3 years. The 3-year frequency as per clause 9.2.2.3 is a minimum requirement intended for low risk and fully compliant manufacturing processes. 风险分析的证据包括持续符合所有相关要求，（例如，法律法规，顾客，过程和内部要求）。如果任何一个相关要求不满足，制造过程要比审核三年的频率更高。**9.2.2.3**条款中三年的审核频率是最低要求，目的在于低风险和制造过程的完全兼容。
29	**6.1.2.3** Contingency Plans 应急计划	**QUESTION**问题 What is meant by the use of the term “cyber-attack” for contingency plan testing? 应急计划测试中“网络攻击”是什么意思？ **ANSWER**回答 A Cyber-attack is an attempt to gain illegal access to a computer or computer system for the purpose of causing damage or harm. A cyberattack is often a deliberate exploitation of weaknesses in the security of computer systems or networks to gain access to data, alter computer code, logic or data. 网络攻击是为了获得非法访问计算机或计算机系统，造成损害或伤害的目的。网络攻击通常是计算机系统安全性的剥削弱点，或网络获取数据、改变计算机代码或数据逻辑。

		These actions may have disruptive consequences that can compromise confidential data and lead to cybercrimes, such as information and identity theft, automation-caused operational interruptions, encryption of company critical data or illegal remote controlling of systems or data. 这些措施可能产生破坏性后果，可以妥协机密数据引导犯罪，例如信息和身份盗窃，自动化操作中断，关键数据加密或非法远程控制系统或数据。 Cyber-attacks and cybercrimes are not always a result of a sophisticated series of actions to guess passwords using powerful computer programs run by teams of people from a remote location. They are often actions designed to convince individual persons to release sensitive or private information through email notes (typically phishing), pretexting (impersonating a trusted person or government official), phone calls announcing fake emergencies getting personal information, visual reading of typed passwords, infecting popular websites with malware, text messages with links to sites installing malware, USB drives left on desks, appearing to be legitimate, which are plugged into PCs, and theft of discarded materials containing confidential computer information, etc. Additionally, a cyber-criminal, after gaining access to a company's system, could encrypt company's critical data and demand a ransom to unencrypt the data. 网络攻击和网络犯罪不是导致一系列复杂的措施，猜密码用于强大的计算机程序由外部场所的团队运行。他们的措施用于说服个人发布敏感或私人信息，通过电子邮件（网络钓鱼），借口（冒充一个信任的人或政府官员），电话宣布假晋级情况获得个人信息，输入密码视觉阅读，用恶意软件感染流行网站，短信和有关安装恶意软件的链接，USB驱动器在桌面左侧，似乎合法的插入电脑，包含机密计算机信息和盗窃废弃材料。此外，网络犯罪，在获取计算机系统后，可以将电脑重要信息加密，要求释放关闭信息。 Also, GDPR (General Data Protection Regulation) in Europe or similar requirements in other regions specify that organizations are responsible to ensure that personal data retained by the organization is protected and kept secure at all times, reinforcing the importance of being prepared in the case of cyber-attacks. 通用数据保护规定在欧洲或其他区域类似要求，指定组织负责确保组织保护留存的个人资料，保持安全，加强网络攻击的准备 Additional details regarding information technology security techniques is available through ISO/IEC 27001. 关于信息技术安全技术的细节在**ISO/EC27001**中适用。

SI IATF - International Automotive Task Force

IATF 16949:2016 – Sanctioned Interpretations

IATF 16949 1st Edition was published in October 2016 and was effective 1 January 2017. The following Sanctioned Interpretations were determined and approved by the IATF. Unless otherwise indicated, Sanctioned Interpretations are applicable upon publication.

Revised text is shown in **blue**.

A Sanctioned Interpretation changes the interpretation of a rule or a requirement which itself then becomes the basis for a nonconformity.

SI 1-9 issued in October 2017, effective October 2017.
SI 10-11 issued in April 2018, effective June 2018.
SI 8 revised and reissued in June 2018, effective July 2018.
SI 10 revised and reissued in June 2018, effective July 2018.
SI 12-13 issued in June 2018, effective July 2018.
SI 14-15 issued in November 2018, effective January 2019.
SI 16 - 18 issued in October 2019, effective January 2020.

SI 16-18 2019年10月发布，2020年1月生效

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
1	3.1 Terms and definitions for the automotive industry	**customer requirements** all requirements specified by the customer (e.g., technical, commercial, product and manufacturing process-related requirements, general terms and conditions, customer-specific requirements, etc.) **Where the audited organization is a vehicle manufacturer, vehicle manufacturer subsidiary, or joint venture with a vehicle manufacturer, the relevant customer is specified by the vehicle manufacturer, their subsidiaries, or joint ventures.** ***Rationale for change:*** 受审核的组织是汽车制造商、汽车制造商子公司或与一个汽车制造商的合资公司，相关顾客由汽车制造商、其子公司或合资公司规定 *Customer requirements are developed by vehicle manufacturers for application in their supply chain by the nature of the product realization process. Therefore, where the vehicle manufacturers are being certified, the vehicle manufactures define how customer approvals and/or input are managed.*
2	4.4.1.2 Product safety	The organization shall have documented processes for the management of product-safety related products and manufacturing processes, which shall include but not be limited to the following, where applicable: a) – m) (…) NOTE: Special approval **of safety related requirements or documents may be required by the customer or the organization's internal processes.** ~~**is an additional approval by the function (typically the customer) that is responsible to approve such documents with safety-related content.**~~ ***Rationale for change:*** 注：产品安全相关要求或文件的特殊批准可以由顾客或组织的内部过程做出要求。 *Clarify any confusion related to special approval review for safety related requirements or documents.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
3	6.1.2.3 Contingency plans	The organization shall: a) – b) (…) c) prepare contingency plans for continuity of supply in the event of any of the following: key equipment failures (also see Section 8.5.6.1.1); interruption from externally provided products, processes, and services; recurring natural disasters; fire; utility interruptions; **cyber-attacks on information technology systems**; labour shortages; or infrastructure disruptions; 应急计划增加：对信息技术系统的网络攻击 ***Rationale for change:*** *Organizations need to address the possibility of a cyber-attack that could disable the organization's manufacturing and logistics operations, including ransom-ware. Organizations need to ensure they are prepared in case of a cyber-attack.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
4	7.2.3 Internal auditor competency 删除"在通过培训"，改为：如果组织的人员提供培训来取得人员能力，应保留形成文件的信息。	要考虑任何由组织定义的要求和/或顾客特定要求 The organization shall have a documented process(es) to verify that internal auditors are competent, taking into account any **requirements defined by the organization and/or** customer-specific requirements. For additional guidance on auditor competencies, refer to ISO 19011. The organization shall maintain a list of qualified internal auditors. Quality management system auditors, ~~**manufacturing process auditors, and product auditors**~~ shall ~~**all**~~ be able to demonstrate the following minimum competencies: a) understanding of the automotive process approach for auditing, including risk-based thinking; 删除制造过程审核员和产品审核员，保留质量管理体系审核员 b) understanding of applicable customer-specific requirements; c) understanding of applicable ISO 9001 and IATF 16949 requirements related to the scope of the audit; d) understanding of applicable core tool requirements related to the scope of the audit; e) understanding how to plan, conduct, report, and close out audit findings. 最低限度 ~~**Additionally,**~~ **At a minimum,** manufacturing process auditors shall demonstrate technical understanding of the relevant manufacturing process(es) to be audited, including process risk analysis (such as PFMEA) and control plan. **At a minimum,** product auditors shall demonstrate competence in understanding product requirements and use of relevant measuring and test equipment to verify product conformity. ~~**Where training is provided**~~ **If the organization's personnel provide the training** to achieve competency, documented information shall be retained to demonstrate the trainer's competency with the above requirements.

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
4 (cont.)	**7.2.3 Internal auditor competency**	***Rationale for change:*** *Distinguish competency requirements for quality management system auditors, manufacturing process auditors, and product auditors. Clarified the trainer competency expectations for internally provided training.*
5	**7.5.1.1 Quality management system documentation**	The quality manual shall include, at a minimum, the following: a) the scope of the quality management system, including details of and justification for any exclusions; b) documented processes established for the quality management system, or reference to them; c) the organization's processes and their sequence and interactions (inputs and outputs), including type and extent of control of any outsourced processes; d) a document (**~~i.e., matrix~~ for example, a table, a list, or a matrix**) indicating where within the organization's quality management system their customer-specific requirements are addressed. 例如：表格、清单或矩阵表 ***Rationale for change:*** *Some CBs and organizations wanted clarification that a matrix was not a mandatory document. A matrix is just one of multiple methods that are acceptable. The format used is up to the organization.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
6	**8.3.3.3 Special characteristics**	The organization shall use a multidisciplinary approach to establish, document, and implement its process(es) to identify special characteristics, including those determined by the customer and the risk analysis performed by the organization, and shall include the following: a) documentation of **~~all~~** special characteristics in the **product and/or manufacturing documents ~~drawings~~** (as required), **relevant** risk analysis (such as **Process** FMEA), control plans, and standard work/operator instructions; special characteristics are identified with specific markings and are **~~cascaded through each of these documents;~~ documented in the manufacturing documents which show the creation of, or the controls required, for these special characteristics;** 将特殊特性记录进产品和/或生产文件，相关风险分析（如过程FMEA） ***Rationale for change:*** 删除"并且贯穿这些文件中的每一个"，改为：并将这些特殊特性记录在显示创建或要求控制的生产文件中 *Clarifies the documentation of special characteristics in the product and/or manufacturing drawings.*
7	**8.4.2.1 Type and extent of control - supplemental**	The organization shall have a documented process to identify outsourced processes and to select the types and extent of controls used to verify conformity of externally provided products, processes, and services to internal (organizational) and external customer requirements. The process shall include the criteria and actions to escalate or reduce the types and extent of controls and development activities based on supplier performance and assessment of product, material, or service risks. **Where characteristics or components "pass through" the organization's quality management system without validation or controls, the organization shall ensure that the appropriate controls are in place at the point of manufacture.** ***Rationale for change:*** 未经验证或控制而通过组织质量管理体系的特性或不见，组织应确保在生产处有适当的控制。 *Clarify the organization's responsibilities for pass through characteristics.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
8 ***Revised***	**8.4.2.3 Supplier quality management system development**	The organization shall require their suppliers of automotive products and services to develop, implement, and improve a quality management system **(QMS) with the ultimate objective of eligible organizations becoming certified to this Automotive QMS Standard.** **Using a risk-based model, the organization shall define a minimum acceptable level of QMS development and a target QMS development level for each supplier.** ~~**certified to ISO 9001, unless otherwise**~~ **Unless otherwise** authorized by the customer ~~**[e.g., item a) below],**~~ **a QMS certified to ISO 9001 is the initial minimum acceptable level of development. Based on current performance and the potential risk to the customer, the objective is to move suppliers through the following QMS development progression:** ~~**with the ultimate objective of becoming certified to this Automotive QMS Standard. Unless otherwise specified by the customer, the following sequence should be applied to achieve this requirement:**~~ ~~**a) compliance to ISO 9001 through second-party audits;**~~ b) certification to ISO 9001 through third-party audits; unless otherwise specified by the customer, suppliers to the organization shall demonstrate conformity to ISO 9001 by maintaining a third-party certification issued by a certification body bearing the accreditation mark of a recognized IAF MLA (International Accreditation Forum Multilateral Recognition Arrangement) member and where the accreditation body's main scope includes management system certification to ISO/IEC 17021; c) certification to ISO 9001 with compliance to other customer-defined QMS requirements (such as Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers [MAQMSR] or equivalent) through second-party audits; d) certification to ISO 9001 with compliance to IATF 16949 through second-party audits;

最终目标是通过本汽车QMS标准认证，应用基于风险的模式，组织应为灭个供应商定义最低可接受的QMS开发水平及目标QMS开发水平，除非顾客授权，ISO9001的QMS认证是初始最低可接受的开发水平，基于当前绩效及潜在顾客风险，目标时推动供应商通过以下QMS开发进程，删除a)

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
8 (cont.) ***revised***	**8.4.2.3 Supplier quality management system development**	e) certification to IATF 16949 through third-party audits (valid third-party certification of the supplier to IATF 16949 by an IATF-recognized certification body). NOTE: The minimum acceptable level of QMS development may be compliance to ISO 9001 through second-party audits, if authorized by the customer. ***Rationale for change:*** 如客户批准，QMS开发的最低可接受水平可以通过二方审核来符合ISO9001 *Clarified the expected supplier quality management system development progression. This approach supports the "Risk Based Thinking" concept emphasized throughout Section 8.4 of the standard.* ***Additional clarification added with "as applicable" in the first paragraph to address those organizations that are not eligible for IATF 16949 certification (examples including but not limited to the following: scrap metal suppliers, trucking companies who provide transport and logistics support, etc.).***
9	**8.7.1.1 Customer authorization for concession**	The organization shall obtain a customer concession or deviation permit prior to further processing whenever the product or manufacturing process is different from that which is currently approved. The organization shall obtain customer authorization prior to further processing for "use as is" and ~~**rework**~~ **for repair (see 8.7.1.5)** ~~**dispositions**~~ of nonconforming product. If sub-components are reused in the manufacturing process, that sub-component reuse shall be clearly communicated to the customer in the concession or deviation permit. ***Rationale for change:*** 删除返工，改为：返修（见8.7.1.5） *Clarify requirements and eliminate contradiction in relation to customer approval associated with rework.*

在第一段中添加了"如适用"的补充说明，以处理那些没有资格获得IATF16949认证的组织（例子包括但不限于以下方面：报废金属供应商、提供运输和后勤支持的卡车运输公司等等）

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
10 ***revised***	**7.1.5.3.2. External laboratory**	External/commercial/independent laboratory facilities used for inspection, test, or calibration services by the organization shall have a defined laboratory scope that includes the capability to perform the required inspection, test, or calibration, and either: — the laboratory shall be accredited to ISO/IEC 17025 **or its national equivalent (e.g., CNAS-CL01 in China) by an accreditation body (Signatory) of the ILAC MRA (International Laboratory Accreditation Forum Mutual Recognition Arrangement – www.ilac.org)** ~~or national equivalent~~ and include the relevant inspection, test, or calibration service in the scope of the accreditation (certificate); the certificate of calibration or test report shall include the mark of a national accreditation body; or — there shall be evidence that the external laboratory is acceptable to the customer. ***Rationale for change:*** 实验室应通过一个ILACMRA（国际实验室认证论坛互认协议）的认可机构实施的ISO/EC17025认可或等效的国家标准的认可 *Some organizations found the lab accreditation requirements for external/commercial/independent laboratory facilities used for inspection, test, or calibration services confusing and needed clarification. Clarified lab accreditation requirements and expectations.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
11	**8.5.6.1.1 Temporary change of process controls**	The organization shall identify, document, and maintain a list of the process controls, including inspection, measuring, test, and error-proofing devices. ~~, that includes the primary process control and the approved back-up or alternate methods.~~ **The list of process controls shall include the primary process controls and the approved back-up or alternate methods, if back-up or alternate methods exist.** ***Rationale for change:*** 删除：清单包含主要过程控制和经批准的备用或替代方法，替换为：过程控制清单应报告主要过程控制和经批准的备用或替代方法，如果存在备用或替代方法 *Clarified that not every primary process control has a back-up or alternate method. Clarified that if a back-up or alternate method exists, that those back-up or alternate methods are included on a list maintained by the organization. It is not a requirement to have an alternative process control for every primary control.*
12	**5.1.1.2 Process effectiveness and efficiency**	Top management shall review the ~~product realization processes~~ **effectiveness and efficiency of the quality management system** ~~and support processes~~ to evaluate and improve ~~their effectiveness and efficiency~~ **the organization's quality management system**. The results of the process review activities shall be included as input to the management review (see Section 9.3.2.1.). ***Rationale for change:*** 最高管理层应审查质量管理体系过程的有效性和效率，以评估和改进其质量管理体系，过程评审活动的结果应作为对管理评审的投入 *Clarified that not every process requires an efficiency measure. The organization needs to determine which processes require efficiency measures within their quality management system. Additionally, the organization's problem-solving processes need to have an effectiveness review conducted by the organization's management.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
13	9.3.2.1 Management review inputs – supplemental	Input to management review shall include: a) cost of poor quality (cost of internal and external nonconformance); b) measures of process effectiveness; c) measures of process efficiency **for product realization processes, as applicable**; d) product conformance; e) assessments of manufacturing feasibility made for changes to existing operations and for new facilities or new product (see Section 7.1.3.1); f) customer satisfaction (see ISO 9001, Section 9.1.2); g) review of performance against maintenance objectives; h) warranty performance (where applicable); i) review of customer scorecards (where applicable); j) identification of potential field failures identified through risk analysis (such as FMEA); k) actual field failures and their impact on safety or the environment. ***Rationale for change:*** *Clarified that not every process requires an efficiency measure. The organization needs to determine which processes require efficiency measures within their quality management system.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
14	9.2.2.2 Quality management system audit	The organization shall audit all quality management system processes over ~~each~~ **a** three-year **audit cycle** ~~**calendar period**~~, according to an annual programme, using the process approach to verify compliance with this Automotive QMS Standard. Integrated with these audits, the organization shall sample customer-specific quality management system requirements for effective implementation. **The complete audit cycle remains three years in length. The quality management system audit frequency for individual processes, audited within the three-year audit cycle, shall be based upon internal and external performance and risk. Organizations shall maintain justification for the assigned audit frequency of their processes. All processes are required to be sampled throughout the three-year audit cycle and audited to all applicable requirements in the IATF 16949 standard, including ISO 9001 base requirements, and any customer-specific requirements.** 整个审核周期任然长达3年，质量管理体系审核频率对于个人的流程，审核应在3年审核周期，应给予内外部绩效和风险。组织应保持分配审核频率过程。所有过程都需要在整个三年审核周期采样并审核所有适用IATF16949标准要求，包括ISO9001基础要求和任何顾客特殊要求。 ***Rationale for change:*** *Clarified that the audit cycle remains three years in length. Deleted IATF 16949 FAQ 18 and put former FAQ 18 2nd paragraph requirements into SI 14. Clarified that all processes are to be audited during the three-year audit cycle.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
15	3.1 Terms and definitions for the automotive industry	**embedded software** **Embedded software is a specialized programme stored in an automotive component (typically computer chip or other non-volatile memory storage) specified by the customer, or as part of the system design, to control its function(s). To be relevant in the scope of IATF 16949 certification, the part that is controlled by embedded software must be developed for an automotive application (i.e., passenger cars, light commercial vehicles, heavy trucks, buses, and motorcycles; see Rules for achieving and maintaining IATF Recognition, 5th Edition, Section 1.0 Eligibility for Certification to IATF 16949, for what is eligible for "Automotive").** **NOTE: Software to control any aspect of the manufacturing process (e.g., machine to manufacture a component or material) is not included in the definition of embedded software.** ***Rationale for change:*** *Minimize confusion regarding embedded software and what is applicable.* *Deleted IATF 16949 FAQ 10.* 嵌入式软件 嵌入式软件专门针对汽车部件存储程序（通常是计算机芯片或其他非易失性存储器）指定客户，或作为系统设计的一部分，控制其功能，有关ＩＡＴＦ１６９４９认证的范围，由嵌入式软件控制的部分必须开发的汽车应用程序（即乘用车、轻型商用车辆、重型卡车、公共汽车、摩托车；看大规则实现和维护IATF认可，第五版1.0节资格认证ＩＡＴＦ１６９４９，什么是符合"汽车"） 注：软件控制生产过程的任何方面（例如，及其制造组件或材料）不包括在嵌入式软件的定义

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
16	**9.3.2.1 Management review inputs – supplemental** 管理评审输入--补充	Input to management review shall include: a) cost of poor quality (cost of internal and external nonconformance); b) measures of process effectiveness; c) measures of process efficiency for product realization processes, as applicable; d) product conformance; e) assessments of manufacturing feasibility made for changes to existing operations and for new facilities or new product (see Section 7.1.3.1); f) customer satisfaction (see ISO 9001, Section 9.1.2); g) review of performance against maintenance objectives; h) warranty performance (where applicable); i) review of customer scorecards (where applicable); j) identification of potential field failures identified through risk analysis (such as FMEA); k) actual field failures and their impact on safety or the environment; **l) summary results of measurements at specified stages during the design and development of products and processes, as applicable.** ***Rationale for change:*** 在设计和产品开发过程特定阶段，测量结果汇总，如适用 *In the section "8.3.4.1 Monitoring" the summary results of measurements at specified stages during the design and development of products and processes was required as an input to management review; however, it was not displayed in the section 9.3.2.1. Measurements may consider, for example: timing, costs, or feasibility.*

NUMBER	IATF 16949 REFERENCE	SANCTIONED INTERPRETATION
17	6.1.2.3 Contingency plans 应急计划	a) – d) (...) e) periodically test the contingency plans for effectiveness (e.g. simulations, as appropriate); cybersecurity testing may include a simulation of a cyber-attack, regular monitoring for specific threats, identification of dependencies and prioritization of vulnerabilities. The testing is appropriate to the risk of associated customer disruption; Note: cybersecurity testing may be managed internally by the organization or subcontracted as appropriate ***Rationale for change:*** *Cybersecurity is a growing risk to manufacturing sustainability in all manufacturing facilities, including automotive. Contingency testing has also been identified by organizations and CBs as an area in need of clarification. This update provides details of what is to be tested as part of a cyber-attack contingency plan validation.*
18	7.1.3.1 Plant, facility, and equipment planning 厂区、设施和设备策划	The organization shall use a multidisciplinary approach including risk identification and risk mitigation methods for developing and improving plant, facility, and equipment plans. In designing plant layouts, the organization shall: a) optimize material flow, material handling, and value-added use of floor space including control of nonconforming product; ~~and~~ b) facilitate synchronous material flow, as applicable; and c) implement cyber protection of equipment and systems supporting manufacturing. ***Rationale for change:*** *Cybersecurity is not limited to the support functions and office areas using computers. Manufacturing also uses computerized controls and equipment which would be at risk to cyber-attack. This addition drives the implementation of necessary protections to ensure continued operation and production to meet customer requirements.*

网络安全测试可能包括网络攻击模拟，特定威胁的定期监控、依赖关系的识别和漏洞的优先级划分。测试适用于相关客户终端的风险，注：网络安全测试可由组织内部管理或酌情分包

对支持制造的设备和系统实施网络保护

这才是 ISO 9001 标准的智慧

ISO 9001 是使普通组织迅速提升为良好组织、良好组织迅速提升为卓越组织的渠道之一，但 ISO 9001 的作用不仅限于它是质量管理体系标准，我对此一直深信不疑。

如今，积极参与全球市场的组织已不再把 ISO9001 简单当作控制文件、记录、不合格产品、内审，以及采取预防和纠正措施的手段，而将之视为一个业务管理体系的标准。

修订后的新版标准将关注组织的领导、计划、支持、运行、绩效评估和提升。新版标准将强调组织的风险管理，风险管理在现行标准中是作为预防措施来对待的，在新版标准中成为了要求。现行标准几乎未提及“业务”一词，但新版标准将明确提出业务过程。我一直相信 ISO9001 的核心质量原则是有效、可靠、健全的业务实践，这一原则在全球运行良好的各个企业中都有体现。

采用 ISO 9001 标准的好处

在我 18 年的质量工作生涯中，我一直惊讶于那些致力于提高效率、客户满意度、盈利但又未挖掘出 ISO 9001 标准实际效能的执行官、企业家、经理和管理者们，他们仅把 ISO 9001 当成质量部门需关注的东西。对他们而言，ISO 9001 只是补救措施，而不是组织整体商业计划中处于战略层面且不可分割的一部分。一些组织的领导层只有在主要客户询问此组织是否通过 ISO 9001 认证或此问题出现在项目的投标问卷中时，才会想起 ISO 9001 标准。这并非实施 ISO 9001 标准的战略性理由。

在我记忆中，历史上人们曾对 ISO 9001 标准的价值进行过争论，有人肯定有人否定。那些继续争论而未采用此标准的组织无不陷入了业务流失、慢速增长的境地，最终被那些搁置争论、将标准运用于企业战略的组织所取代。哈佛大学商学院 2010 年发表的一篇论文公布了一份实证研究结果，对 916 家采用了 ISO 9001 标准的组织和 17849 家未采用此标准的组织进行了对比。通过对比发现，采用 ISO 9001 标准的组织存活率更高，更易于实现销售、就业、工资增长。这些组织同时降低了废品率，提高了生产率，员工更加注重细节，员工健康和安全绩效均有提高。

所有这些好处影响了一个组织赚取收入和利润的能力。这项研究证明，ISO 9001 标准带来的不仅仅是质量方面的好处，它应被视为组织用以提升价值、改善经营、降低风险的一项业务管理工具。

业务管理工具

业务模型显示的是组织如何为那些受组织影响的人/事创造、传递、捕获价值。股东、雇员、顾客、社区甚至国家整体经济等都是可能的相关方。业务模型需列出组织的使命、战略、基础设施、组织架构、操作流程和用以执行此业务模型的过程。

一个企业必须向其顾客传递价值并说服顾客为此价值埋单。顾客埋单后，企业必须继续以能够产生盈利的方式来运营。

业务模型应明确顾客的需求，解决组织如何满足顾客需求等问题。组织用以向其内外部客户创造、传递、捕获价值的工具之一即是 ISO 9001。ISO 9001 明确了组织业务模型定义的各个要素。然而很多情况下，组织并不把 ISO 9001 当作传递价值的工具，而是以自己的老套路去完成使命 ISO 9001 标准应被应用为组织的一项战略决策，组织战略计划的设计、实施应由所提供产品、所采用步骤的不同需求和不同目标决定。

如果组织在实施 ISO 9001 时，并未将它当作战略决策依据，那么短期内组织也许可以得到某些好处，但绝不能发掘出此标准能带来的全部商业价值。

过程方法

ISO 9001 标准最突出的一个好处在于使用了过程方法。当我问一个组织的雇员关于组织工作核心过程这一问题时，回答常常会令我吃惊。我会问，“你能介绍一下组织的基本工作流程吗？”得到的经常是一个茫然的眼神。

如果把 ISO 9001 作为组织的业务管理工具使用，组织内每一个雇员应对组织如何盈利、工作的流程和顺序、工作的每个过程，以及员工在组织成功中扮演的角色有一个基本了解。

过程方法可用于帮助理解组织的过程、过程输入和输出，以及过程之间的相互联系。没有对组织过程的理解，将难以诊断组织潜在的真正问题和引起问题的根源，也将难以实施适当的预防或纠正措施以降低问题发生、重现的几率。

理解和满足需求

基于我的经验，组织的大部分问题源自不理解或不满足要求。雇员常常由于不能清楚理解工作要求而导致表现低于预期，或者因为设施缺乏及能力不足而难以满足工作要求；相应地，顾客因其要求未得到理解或实现而无法得到满意。在所有这些场景中，满足要求与理解要求直接相关。

一旦要求事先得以理解，满足要求的几率就会大大增加。理解要求是组织内外部客户双

方共同的责任。当组织为顾客服务时，顾客也许明白自己的需求，但无法理解由此对组织的要求是什么。这就是组织教会顾客如何提出要求以使自己能满足顾客要求的重要所在。这一步骤能够提高顾客满意度。

“事先理解要求”这一原则在组织内部同样适用。雇员对工作要求缺乏初步认识将会直接导致各种错误、浪费和返工，因此对于组织而言，重要的是首先界定某个岗位的工作要求，再根据要求寻找能够胜任的雇员，并向其解释清楚此职位的要求，这样雇员才能获得成功。

然而，新雇员刚被安排到一个岗位上就开始工作的情况屡见不鲜。雇员达不到工作预期时，组织只会责备雇员，而不会承认组织没有确保雇员理解工作要求的事实。在工作要求得到理解的情况下，满足工作要求的几率会大大增加，雇员由此可以胜任工作，过程由此可以为组织带来增值。

增值过程

从捕获顾客需求到产品最终交付，组织的过程都应在内部、外部实现增值。这就是 ISO 9001 之所以能成为一个真正的业务管理工具而不仅仅是一项质量标准的原因。过程将输入（理解要求）转化为所需的输出（满足这些要求）。如果没有对每一个过程输入的控制，在组织的内部或外部交付过程的输出时，可能无法实现增值。

何谓增值呢？我们在谈及价值时，是基于过程输出的接收方的视角。在组织内部，价值实现的例子有：雇员达到了工作要求或者工资支付过程实现了期望的结果，即按时并以一致的方式向雇员支付报酬。在组织外部，价值的实现意味着按照既定的时间和预算满足了顾客要求。

过程未实现增值或没有效果，无论对雇员还是顾客而言，无疑都是极其令人沮丧的。一个很典型的例子就是顾客在打客服电话时，被要求回答一箩筐问题以核实身份。当客服代表发现自己无法解决此问题时，他把顾客转移到另一名客服代表，顾客又得回答同样的一箩筐问题。这时，顾客已经花了 15 分钟用在核实身份上，而自己的问题丝毫未得到解决。

鉴于价值是在每个过程的输出点得到确定的，所以如果没有提前抓住或理解每个过程的输入，价值将难以实现。这就是“错进错出”的道理。

过程绩效结果

组织应对过程进行测量以确定绩效水平。在理解了过程之后，组织必须对过程绩效予以监测以评估有效性。通常的做法是，为业务流程建立关键绩效指标或指标体系。实施 ISO 9001 是整个业务计划战略的一部分，所以必须确定过程是否帮助组织实现其目的和目标——这是建立过程的初衷。

测量最好应设置在每个过程的输入、输出点。在输出点上，要求得到了实现，组织可以确定过程是否达到了预期效果。比如，最终检验的目的在于确保不合格品不会交付到顾客手中。为完成最终检验，组织应明确准则（输入），使检查员能够判断产品是否满足要求（输出）。

组织应认识到，每个过程都可能会有一些波动，所以不可能任何时候都 100%杜绝不合格品的发生。例如，组织为产品最终检验过程设立的目标是发运产品的不合格率不超过 2%。组织需要对最终检验过程的绩效和有效性进行持续测量，记录每次被退回的不合格产品。当不合格率达到 1%时，就应引起组织的警惕，分析根本原因并采取预防措施，以使不合格率低于可接受的 2%。如果过程未经监测致使产品不合格率高于 2%，组织必须对根本原因进行分析，并采取纠正措施，保证最终检验过程回到可接受的水平。但是这时组织所要解决的问题可能要比不合格品率是 1%时要严重得多，而且可能加重顾客的不满。

有关过程的概念不仅适用于制造型企业，同样也适用于服务型组织。

推动持续改进

为了维持在市场中的地位，求得生存，所有的组织都必须进行持续改进。ISO 9001 中有一些很好的工具，可以帮助你的组织提高运行效率、降低风险。为了实现提高，组织必

须理解和满足 ISO 9001 标准要求，从实现增值的角度考虑过程，对过程进行测量以确保过程运行有效。

很多组织没有充分发挥自身潜力或处于停滞状态的原因在于，他们没有建立持续改进的机制。他们每天东奔西走，四处救急，处理表面事务，应付每日问题，而不是基于客观的测量，系统地处理过程绩效方面的问题。

因此，一些组织无法充分发挥自身潜力，一些组织无法实现利润最大化。他们是“只见树木，不见森林”。使用客观的测量工具将使组织识别出森林中哪些树需要修剪，甚至需要砍掉哪些树，以便清理出一条通往持续改进的路。

ISO 9001 标准在若干领域提供了帮助组织实现持续改进的客观测量工具，包括客户满意测量、不符合控制、供应商绩效，以及纠正和预防措施等。

ISO 9001 是真正的业务管理工具，远远超过了质量管理体系标准的范畴。ISO 9001 围绕有效、可靠、健全的业务原则，帮助组织提高运行效率、降低风险。那些仅仅关注 ISO 9001 认证功能的组织注定无法发掘其真正的业务价值。

致力于推动过程方法可以使组织建立一套识别、控制过程的系统方法，从而确保要求得以理解和满足，组织和其他相关方得以实现价值的增加。通过客观测量实现对过程的监测之后，组织可以聚焦过程绩效中存在的现实问题和潜在问题的根源，从而系统地实现持续改进和持续增长。

通过以上措施，组织将会实现业务上的成功。ISO 9001：2015 的发布，将帮助组织从“ISO9001 仅是质量管理体系标准”的观念转向“ISO 9001 更是业务管理系统标准”的观念。

源自质量与认证

一个质量经理的自我修养：记住这 8 点很重要！

客户投诉，供应商来料不良，制程不稳定，项目前期质量策划不充分 ●●●●●●在企业中从事质量管理工作，每天都会遇到层出不穷的质量问题，犹如救火队员，东奔西跑，劳心劳力！运用 8 个质量管理维度来提升企业质量水平，工作高效更省心！自查一下，你都了解了吗？

1、质量是由客户决定的

产品到客户手中，如果并不是客户所需要的，那么它无论标榜的是多么豪华的配备、多么卓越的性能、多么精美的外观，都没有用，结果一定是淘汰。因此，制造商在观念上应该用“最适质量”取代“最佳质量”，其中“最适质量”是指让客户感到“最满意的质量”，它一般包含以下两方面：

满足客户现在的需求

符合特定的规格

功能好

使用方便

外观精美

保障客户未来的需求

经久耐用，不易发生故障

安全可靠

外在环境影响小

为客户设想周到

2、质量不是增加成本，而是可以降低成本

人们一提到质量，首先就想到意味着成本的增加。其实这是对质量的错误认识。**实际上，**

提高质量会令成本下降而不是上升，理由如下：

对于制造业而言，不良率下降，成本就会下降

不需要花费检验、修正不良品的成本

没有不良品，节省材料更换、机器调整的费用

因不良品的减少而有更多生产机会

在不良率减少的情形下，可以改善持续生产能力

3、品质管理

品质管理就是将产品质量的不稳定减到最低，甚至剔除。品质管理是管理者为了达到部门的目标，所进行的一切活动。

要从不稳定的产品质量抓起

不稳定的因素来源于：人员、设备、材料、方法、环境（即“5M”）等。

重视品质管理基础

标准化：标准化是管理不稳定质量出现不可或缺的准则，野蛮制造的“克星”。(统一化、通用化、系列化、简便化)

信息化：数据化可以说对偶发不稳定的管理最有效的办法。所谓数据化，就是尽量将事情用数值表示

质量教育：持续提高员工质量意识是企业永恒的主题，让员工第一次做对

设备管理：设备优化、设备保养

质量成本分析：预防成本、鉴定成本、故障成本。

质量缺陷分析：轻微缺陷、一般缺陷、严重缺陷、致命缺陷 、产品质量缺陷严重性分级

4、“三按”和“三检”

“三按”

要求员工按工艺、按图纸、按标准操作（上岗前培训及现场指导）

要求检验员按工艺、按图纸、按标准检验

要求技术部编制工艺、绘制图纸、制定标准

“三检”

员工自主检验

巡回检验

员工之间互检

5、品质三大控制

进料控制与库存品质管理

进料控制的 5R 原则：5R 原则是指适时、适质、适量、适价、适地的采购物料，实现了 5R，就可以确保需求、成本、品质等各方面对物料供应的要求

适时 Right Time：在需用的时候，及时地供应材料，不断料

适质 Right Quality：购进的材料和仓库发出的材料，质量符合标准

适量 Right Quantity：采购数量与存量控制适当，防止呆料和过多地占用资金用合理的成本取得所需材料

适价 Right Price：用合理的成本取得所需材料

适地 Right Place：从距离最近或供应最方便的供料商那里进货，确保随时可以进料

过程控制与 SPC（统计过程控制）

过程品质管理计划的拟定

设备点检与仪器校验

首件检查

操作人员自主检查

过程巡回检查

品质异常处理

检验记录

不良统计分析

不良品的区隔与标示

控制图的应用

限度样品的应用

看板管理的实施

终端控制与顾客满意

最高主管的决心和承诺

让客户永远“忠诚于我们”

争取品质要求严格的顾客

推行全员“一票否决制”的活动

建立员工满意的企业环境

重视教育训练

建立好的环境品质

永远培育供应商理念

6、6S 和 TPM

6S 管理与品质

整理（SEIRI）：区分要用与不用的物品，不用的坚决清离现场，只保留要用的

整顿（SEITON）：把要用的物品，按规定位置摆放整齐，并做好标识管理

清扫（SEISO）：扫除现场中设备、环境等生产要素的赃污部位，保持干净

清洁（SEIKETSU）：维持以上整理、整顿、清扫后的局面，所以也称为“3S”活动

素养（SHITSUKE）：每个人都要遵守公司的规章制度，养成良好的工作习惯

安全（SAFETY）：按操作规程进行工作，避免事故的发生

6S 口诀

只有整理没整顿，物品真难找得到

只有整顿没整理，无法取舍乱糟糟

整理整顿没清扫，物品使用不可靠

3S 之效果怎保证？清洁出来献一招

标准作业练素养，安全生产最重要

日积月累勤改善，公司管理水平高

TPM 与全员自主改善

T（Total）：全员参与

P（Productive）：生产性

M（Maintenance）：保全

TPM（Total Productive Maintenance）指公司在包括生产、开发、设计、销售及管理部门在内的所有部门，从最高管理层到一线员工全员参与和开展重复小团队活动，以追求生产极限为目标，构筑能预防所有浪费的体系，挑战故障为零、浪费为零、不良为零的高效率企业，以及部门、班组自主改善活动的活力型企业。期待效果：

有形效果：提高品质、降低成本、缩短生产与管理周期、库存量的减少、提高劳动生产率、设备效率；工作浪费的减少、减少市场投诉、减少各类损耗、杜绝安全隐患、改善提案件数的上升

无形效果：增强员工的改善意识；提高员工的技能水平；培养积极进取的企业文化

7、质量管理与 TQM

戴明的主要思想理念——管理的 14 个要点

提高产品与服务要有持续不变的目的

采取新观念

停止靠检验来提高质量

废除以最低价竞标的制度

不断地提高生产与服务系统，以提高质量与生产力

建立在职训练制度

建立领导体系

排除恐惧，使人人都能有效地为公司工作

消除那些要求员工做到零缺陷及高生产力水准的口号，训示及目标

破除部门与部门间的藩篱

废除工作现场的工作标准量，代之以领导

排除那些不能让工人以技术为荣的障碍

建立一个有活力的教育与自我提高机制

让公司每个人都致力于转型

8、质量管理与零缺陷管理

零缺陷管理是由美国质量管理大师克罗斯比首创的质量理念和管理方法。其前提是：针对工作现场存在的双重工作态度的业绩，即人们愿意在一些领域中接受不完美的状况，而在另一些领域人们又期望零缺陷。

这种双重态度得到发展的条件是因为人，而是人就要犯错误。

然而，零缺陷说明如果人们致力于细节和避免错误，就会不断接近零缺陷的目标。

零缺陷

第一次做对！在企业中要花一半的运行费用在做错事情的代价上，做错事情的代价大约是销售收入的 25%，而企业却认为是天经地义的。

第一次做对，就是可以避免这个代价，质量就是符合要求，质量就是利润。

建立预防系统

传统的观念把重点放在产品完工后的检验和售后补救。零缺陷管理思想是从人的价值层面、精神领域入手，通过改变人们的态度与习惯，改变人们做人做事的方式，从而提高产品质量。

零缺陷的基本原则

零缺陷管理的基本原则就是企业改进质量以达到产品缺陷为零的指导方针。质量管理的核心在于预防，所有的工作标准是零缺陷。零缺陷中的预防重点放在预防无意识的差错上来，有以下特点：

通常是作业不好造成的

一旦发生无意识差错，用日常经验来看，很难找到理由进行解释或辩解

新获证企业（2019.6.1-2019.9.30）

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Congratulations!

征稿启事

为活跃公司文化氛围，促进公司文化发展，加强公司与员工之间的沟通，同时也是给员工提供一个施展才华的平台，《九鼎》面向全体员工、客户及相关人员征稿，每个季度一期，具体要求如下：

征稿内容：

1、公司动态：公司近期重要活动、重要决定和重大事项的记录，可以采用简讯、纪事报道等多种形式，要求内容真实，语言准确；

2、工作心得：员工可以描述到公司后的个人成长历程及感悟，也可以是工作中成功或失败的经验教训、工作中的创新或富有建设性的创意构想或建议；

3、管理经验：分享在公司管理过程中的成功经验及思路；值得推广、总结的优秀管理方式方法；

4、学习园地：公司开设学习园地专版，各员工可以针对其岗位所涉及的专业知识进行分享，让更多的人认识、了解、理解你从事的岗位及专业；

5、个人分享：可以是工作中发生的小趣事，生活中的人生感悟，或是你喜欢的一篇文章、一篇心灵鸡汤，具有一定的可读性、哲理性。

交稿时间：每季度月末 15 日之前。

交稿方式：请将稿件以邮件形式发送至：caoyu@casc-cert.com 。

注意事项：所有稿件须自行整理成文，做到语句通顺、无错别字，内容积极向上，文体不限；稿件以电子文档 word 形式投递，可根据内容进行电子配图；稿件如非原创，请标明出处；所有稿件一经采纳，将根据内容、字数、配图、是否原创等因素予以奖励。

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