QuEST Forum Academy

The Presentation will start soon! There may be silence before we start.
Webinar will be 1.5 hours

To make Full Screen

For Q & A or CHAT, expand here or may auto-expand

For Q & A or CHAT select “All Panelists”

Phone icon identifies speaker
Globe icon identifies presenter

What challenges do you face in managing/governing your sustainability efforts?
Who is QuEST Forum?

Global community of Service Providers, Suppliers & Liaisons

Jointly create, develop and share quality management standards, best practices offerings and industry-leading resources

Develops & maintains TL 9000, an information and communication technologies (ICT) industry quality management system standard
# QuEST Forum Members

<table>
<thead>
<tr>
<th>Service Providers</th>
<th>Suppliers</th>
<th>Liaisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>at&amp;t</td>
<td>3M</td>
<td>ANAB</td>
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<td>CenturyLink™</td>
<td>ADTRAN</td>
<td>BUREAU VERITAS</td>
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<td>China Mobile</td>
<td>Alcatel-Lucent</td>
<td>CEN</td>
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<td>China Telecom</td>
<td>Cisco</td>
<td>CEN</td>
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<td>Ciena</td>
<td>CEN</td>
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</table>

[Complete Member Directory](http://questforum.org/member/member_directory.html)
What Is TL9000?

Created by the QuEST Forum

Globally recognized quality standard, designed to improve communications products: hardware, software and services

Built on ISO 9001 and the eight quality principles

Includes requirements for continual improvement, customer satisfaction and reporting of industry standard measurements
• Offers value to members and prospective members by providing educational opportunities consistent with the intent of TL 9000 and the best practices introduced at QuEST Forum’s conferences.

• Provides a top-quality educational system that supports quality and process improvement focusing upon the needs of the ICT industry.
9100 Series
2016 Revision Overview

Alan Daniels
August 2015
A Global Team

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IAQG General Assembly

**Americas (AAQG)**
- Boeing
- GE Aviation
- Honeywell
- Lockheed Martin
- Northrop Grumman
- Parker
- Raytheon
- Rockwell Collins
- Triumph Group
- United Technologies

**Asia Pacific (APAQG)**
- AVIC
- Fuji Heavy Industries (FHI)
- IHI Corporation
- KAI (Korea Aerospace Industries)
- Kawasaki Heavy Industries (KHI)
- Mitsubishi Heavy Industries (MHI)

**Europe (EAQG)**
- AgustaWestland
- Airbus
- Airbus Defense and Space
- Airbus Defense and Space
- Airbus Helicopters
- Alenia Aermacchi
- Avio Areo
- BAE Systems
- Rolls-Royce
- SAAB
- SAFRAN
Objectives

- Establish **commonality** of aviation, space and defense quality systems, “as documented” and “as applied”

- Establish and implement a process of **continual improvement** to bring initiatives to life

- Establish methods to share **best practices** in the aviation, space and defense industry

- **Coordinate initiatives** and activities with regulatory/government agencies and other industry Stakeholders

*Only 1 management system throughout the whole Supply Chain*
Why does AS&D have their own standards?

- High **risk** products
- High **cost** products
- Tightly **controlled** industry requirements
  - Statutory
  - Regulatory
  - Customer

- **Safety** is a must
- **Quality** is required
- **Failure** is **not an option**
IAQG Strategic Focus

Relationship Growth Strategy
- Civil Authorities - Production
- Space
- Defense
- Maintenance, Repair & Overhaul
- Trade Associations

Improvement Strategy
- Requirements
- People Capability
- Product & Supply Chain Improvement
- Performance

IAQG Operating Management System
IAQG Other Party Management Team
Integration Team

3 Axes
Aligned to Address Challenges
IAQG Requirements Team

IAQG Leader: Alan DANIELS *(Boeing)*

<table>
<thead>
<tr>
<th>AAQG Leader</th>
<th>EAQG Leader</th>
<th>APAQG Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buddy CRESSIONNIE <em>(Lockheed Martin)</em></td>
<td>Judy LASLEY <em>(Rolls-Royce)</em></td>
<td>Tatsuya SHIRAI <em>(Kawasaki Heavy Industry)</em></td>
</tr>
</tbody>
</table>

**IAQG Document Representatives**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Company</th>
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</thead>
<tbody>
<tr>
<td>9100</td>
<td>Alan DANIELS</td>
<td>Boeing</td>
</tr>
<tr>
<td>9101</td>
<td>Masahiro KAWAMOTO</td>
<td>MHI</td>
</tr>
<tr>
<td>9102</td>
<td>Carl ZIMMERMAN</td>
<td>Spirit AeroSystems</td>
</tr>
<tr>
<td>9103</td>
<td>Hervé BIGAND</td>
<td>Snecma</td>
</tr>
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<td>9104-1</td>
<td>Tim LEE</td>
<td>Boeing</td>
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<td>9104-2</td>
<td>Tim LEE</td>
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<td>9104-3</td>
<td>Will TATE</td>
<td>Triumph</td>
</tr>
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<td>9107</td>
<td>Ed BAYNE</td>
<td>Boeing</td>
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<tr>
<td>9110</td>
<td>Agathe MOLL</td>
<td>Airbus</td>
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<td>9114</td>
<td>Ed BAYNE</td>
<td>Boeing</td>
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<tr>
<td>9115</td>
<td>Raymond WRIGHT</td>
<td>Raytheon</td>
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<tr>
<td>9116</td>
<td>Mike QUINN</td>
<td>Boeing</td>
</tr>
<tr>
<td>9117</td>
<td>Jan SOMMARBERG</td>
<td>GKN</td>
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**IAQG Document Representatives**

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<th>Name</th>
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<tr>
<td>9120</td>
<td>Elizabeth WALTERS</td>
<td>Boeing</td>
</tr>
<tr>
<td>9131</td>
<td>Claus MAYR</td>
<td>MTU</td>
</tr>
<tr>
<td>9132</td>
<td>Craig MANERS</td>
<td>Rolls-Royce</td>
</tr>
<tr>
<td>9133</td>
<td>Phil EDWARDS</td>
<td>Rolls-Royce</td>
</tr>
<tr>
<td>9134</td>
<td>Albrecht FELDSMANN</td>
<td>Airbus</td>
</tr>
<tr>
<td>9136</td>
<td>Bernard LAURAS</td>
<td>Airbus</td>
</tr>
<tr>
<td>9137</td>
<td>Juan I. MARTIN</td>
<td>Airbus Military</td>
</tr>
<tr>
<td>9138</td>
<td>Dan FITZSIMMONS</td>
<td>Boeing</td>
</tr>
<tr>
<td>9139</td>
<td>Jesse MANGUAL</td>
<td>Moog</td>
</tr>
<tr>
<td>9145</td>
<td>Deborah OBERHAUSEN</td>
<td>PW/UTC</td>
</tr>
<tr>
<td>9162</td>
<td>Mark VOGEL</td>
<td>Triumph</td>
</tr>
<tr>
<td>9146</td>
<td>Matt BARRON</td>
<td>Boeing</td>
</tr>
<tr>
<td>9147</td>
<td>Jerome AUPHAND</td>
<td>Airbus</td>
</tr>
</tbody>
</table>
IAQG Document Publications

Requirements to harmonize the Quality Management System

- 9100  “QMS – Requirements for Aviation, Space & Defense Organizations”
- 9110  “QMS – Requirements for Aviation Maintenance Organizations”
- 9120  “QMS – Requirements for Aviation, Space & Defense Distributors”
- 9101  “QMS – Aviation, Space and Defense Audits”
- 9104/1 “Requirements for Aviation, Space, and Defense Quality Management System Certification Programs”
- 9104/2 “Requirements for Oversight of Aerospace Quality Management System Certification /Registration Programs”
- 9104/3 “Requirements for Aerospace Auditor Competency and Training Courses”
- 9115  “QMS - Deliverable Software”
- 9137  “Guidance for the Application of AQAP 2110 within a 9100 QMS”

Supports Certification Requirements
IAQG Document Publications

- **Requirements to Improve Product Integrity**
  - 9102 “Aerospace First Article Inspection Requirements”
  - 9103 “Variation Management of Key Characteristics”
  - 9107 “Direct Delivery Authorization – Guidance”
  - 9114 “Direct Shipment – Guidance for Aerospace Companies”
  - 9131 “Non-conformance Documentation”
  - 9132 “Data Matrix - Quality Requirements for Parts Marking”
  - 9133 “Qualification Procedure for Aerospace Standard Parts”
  - 9134 “Supply Chain Risk Management Guidelines”
  - 9162 “Aerospace Operator Self-Verification Programs”

**Supports Improving the Quality Management System**
New - Requirements to Improve Product Integrity

- 9116 “Aerospace Series – Notice of Change (NOC) Requirements”
- 9117 “Delegated Product Release Verification (DPRV)”
- 9136 “Root Cause Analysis and Problem Solving”
- 9138 “Statistical Product Acceptance”
- 9139 “Bodies of Knowledge”
- 9145 “Advance Product Quality Planning (APQP) / Production Parts Approval Process (PPAP)”
- 9146 “Foreign Object Debris (FOD)”
- 9147 “Management of Unsalvageable Items”

RATIONALE
This standard was created to define the process requirements and data expectations for the submittal of proposed changes in design information that requires concurrent approval of the design authority, when the design authority is different from the design activity. This standard provides for the organizational requirements, definitions, and data submission, including suggested data descriptions and format (paper or electronic submission).

This standard was created to provide the uniform submittal of change notifications and/or approval when contractually required at any level or as guidance within the aviation, space, and defense industries. This standard can be used as a standalone requirement or used in conjunction with 9100–series standards (i.e., 9100, 9110, 9130).

FOREWORD
To assure customer satisfaction, aviation, space, and defense industry organizations must produce and continually improve safe, reliable products that meet or exceed customer and regulatory authority requirements. The globalization of the industry and the resulting diversity of regional/national requirements and expectations have complicated this objective. End-product organizations face the challenge of assuring the quality and integration of product purchased from suppliers throughout the world and at all levels within the supply chain. Industry suppliers and processors face the challenge of delivering product to multiple customers having varying quality expectations and requirements.

The aviation, space, and defense industry established the International Aerospace Quality Group (IAQG) for the purpose of achieving significant improvements in quality and safety, and reductions in cost throughout the value stream. This international standard has been prepared by the IAQG. A change process consists of design change management and/or manufacturing process change to a previously approved design (baseline configuration) of the product.

The establishment of common requirements for use at all levels of the supply chain is intended to improve quality, safety, and decrease costs by the elimination or reduction of organization-unique requirements and the resultant variation inherent in these multiple expectations.
9100 Series Revision activity
IAQG 9100 Revision

9100 Series needs to change to:

• incorporate changes to the ISO 9001:2015

• consider Aviation, Space and Defense stakeholders’ needs (*web survey performed in 2013*)

• incorporate clarifications to 9100 series requested by IAQG users since the last revision (*requirements clarified or notes added*)
What is 9100?

9100 Series
International Aviation, Space and Defense Quality Model

APPROXIMATELY 105 ADDITIONAL REQUIREMENTS
- Configuration Management
- Risk Management
- Special Requirements
- Critical Items
- On Time Delivery
- Project Management
- Supplier Scope of Approval

ISO 9001
Quality Management System
9100 Series Revision High Level Plan

- The 9100 is based on ISO 9001 and is thus affected by the ISO TC176 revision activity

- Revision guidance published in 9100:2016 Design Specification

- Revision focus is to add clarity, enhance ease of use, while addressing industry and stakeholder needs

- The 3 IAQG standards that are based on the 9100 standard are being revised in parallel (9110, 9120, 9115 = 9100 Series)
The term “9100-series standards” includes the following IAQG standards, with 9100 being the IAQG Series Baseline Standard:

<table>
<thead>
<tr>
<th>IAQG 9100</th>
<th>Quality Management Systems - Requirements for Aviation, Space and Defense Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAQG 9110</td>
<td>Quality Management Systems - Requirements for Aviation Maintenance Organizations</td>
</tr>
<tr>
<td>IAQG 9115</td>
<td>Quality Management Systems - Requirements for Aviation, Space and Defense Organizations - Deliverable Software</td>
</tr>
<tr>
<td>IAQG 9120</td>
<td>Quality Management Systems - Requirements for Aviation, Space and Defense Distributors</td>
</tr>
</tbody>
</table>
IAQG 9100 Series Team

**IAQG 9100 Series Team**

**Alan Daniels**
9100 IDR – Team Leader
Boeing

**Buddy Cressionnie**
9100 AAQG SDR
Lockheed Martin

**Brigitte Clamens**
9100 EAQG SDR
Zodiac Aerospace

**Masahiro Kawamoto**
9100 APAQG SDR
Mitsubishi Heavy Industries

**Jim Clifford**
9100 AAQG Representative
United Technologies Corporation

**Roberto Ciaschi**
9100 EAQG Representative
European Space Agency

**Chen Zhongyuan**
9100 APAQG Representative
Aviation Industry Corporation (AVIC)

**Kim Roy**
9100 AAQG Representative
Triumph

**Pete Cracknell**
9100 EAQG Representative
BAE Systems

**Tatsuya Shirai**
9100 APAQG Representative
Kawasaki Heavy Industries

**Dale Gordon / Liz Walters**
9120 IDR
Aerojet / Boeing

**Agathe Moll**
9110 IDR
Airbus

**Ray Wright**
9115 IDR
Raytheon

**Wayne Johnson**
9100 Scribe
IAQG

**Integration of Standards**

**Masahiro Kawamoto**
9101 IDR
Mitsubishi Heavy Industries
## 9100 Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Oct 2013</td>
<td>Stakeholder Feedback Resolution</td>
</tr>
<tr>
<td>Apr 2014</td>
<td>Concept Sub-team Proposals</td>
</tr>
<tr>
<td>Jun 2014</td>
<td>Integrate ISO 9001 Draft with 9100</td>
</tr>
<tr>
<td>Jul 2014</td>
<td>Structure Draft (team)</td>
</tr>
<tr>
<td>Oct 2014</td>
<td>Working Draft (team)</td>
</tr>
<tr>
<td>July 2015</td>
<td>Coordination Draft (IAQG)</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Ballot (IAQG)</td>
</tr>
<tr>
<td>Apr 2016</td>
<td>Support Material</td>
</tr>
<tr>
<td>Apr 2016</td>
<td>9100 Series Publication</td>
</tr>
</tbody>
</table>

- These dates are contingent on consensus on decisions / ballots to proceed at each stage.
- Actual standards publication depends on sector publication scheme & schedule.
9100 Series Revision - Integrated Schedule

2012
San Antonio 05/2012
Moscow 05/2013
Brussels 04/2014
Chengdu 04/2015
Singapore 04/2016
2013
Nagoya 10/2012
Montreal 10/2013
Long Beach 10/2014
Madrid 10/2015
TBD 10/2016
2014
San Antonio 05/2012
Montreal 10/2013
Brussels 04/2014
Chengdu 04/2015
TBD 04/2017
2015
Moscow 05/2013
Long Beach 10/2014
Madrid 10/2015
Singapore 10/2016
TBD 10/2017
2016
Montreal 10/2013
Long Beach 10/2014
Madrid 10/2015
Singapore 10/2016
2017
TBD 10/2016
TBD 10/2017
TBD 10/2017

Internal Dependencies
Standards & Training as needed for publication
- Required for 9100 publication
- 9100 Transition Plan
- 9101 Update (as required)
- 9100 Training (as required)

External Dependencies
ISO 9001 publications
- CD June 2013 – Begin struct. draft
- DIS : May 2014 – Begin writing 9100
- FDIS : Jul 2015 - Begin Coord. Draft
- Publish : Sept. 2015 – Prep. Ballot

For more information, see detailed schedule

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IAQG 9100 Revision SIPOC

Stakeholder Input & Survey

Integrated Schedule

Design Specification

Priority Focus Teams

Master Comments Review

Coordination Draft

Ballot

IAQG 9100 Series Standard

Deployment Support Material

Aviation, Space & Defense Industries

Publishing Sectors

SWG Enlarged Strategy

ISO 9001 Gap Analysis

Options Risk Assessment

IAQG 9100 Team Disposition

Team Proposal

Complete

Accept/
Reject

Noted

As of 2013-12-21

IAQG 9100  Series

IAQG 9100 Revision SIPOC

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## 9100 Areas of Focus

<table>
<thead>
<tr>
<th>Areas of focus</th>
<th>Team approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Safety</td>
<td>Added in carefully selected areas and consistent with 9110</td>
</tr>
<tr>
<td>Human Factors</td>
<td>Added as a consideration in Nonconformity / Corrective Action</td>
</tr>
<tr>
<td>Risk</td>
<td>Merged current 9100 requirements with the new ISO requirements</td>
</tr>
<tr>
<td>Preventive Action</td>
<td>Current clause requirements absorbed into Risk, Opportunities and Nonconformance</td>
</tr>
<tr>
<td>Counterfeit Parts</td>
<td>Enhanced in carefully select areas and limited new requirements</td>
</tr>
<tr>
<td>Configuration Management</td>
<td>Clause clarified and improved considerably to address stakeholder needs</td>
</tr>
<tr>
<td>Product Realization &amp; Planning</td>
<td>Clarified and enhanced planning throughout the standard</td>
</tr>
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</table>
## 9100 Areas of Focus

<table>
<thead>
<tr>
<th>Areas of focus</th>
<th>Team approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Delivery Support</td>
<td>Merged current 9100 requirements with the new ISO requirements</td>
</tr>
<tr>
<td>Project Management</td>
<td>Combined with Operation Planning clause to address user interpretation issues</td>
</tr>
<tr>
<td>Design Development and Supplier Management</td>
<td>Gap analysis - ISO text has been added back in a few places to meet the IAQG needs</td>
</tr>
<tr>
<td>Quality Manual</td>
<td>Note added pointing to the requirements that make up a Quality Manual or the equivalent</td>
</tr>
<tr>
<td>Management Representative</td>
<td>Requirement added back in for Management Representative QMS oversight</td>
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# 9100 Series Changes - High Level Summary

<table>
<thead>
<tr>
<th>Clause 1</th>
<th>Scope</th>
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<tbody>
<tr>
<td>▪ New process model</td>
<td></td>
</tr>
<tr>
<td>▪ Added a PDCA model</td>
<td></td>
</tr>
<tr>
<td>▪ Added “Risk-based thinking”</td>
<td></td>
</tr>
<tr>
<td>▪ Emphasis on defining the QMS and context of the organization</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Clause 2</th>
<th>Normative ref</th>
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<tbody>
<tr>
<td>▪ No normative references</td>
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<thead>
<tr>
<th>Clause 3</th>
<th>Terms and definitions</th>
</tr>
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<tr>
<td>▪ ISO 9001 terms and definitions moved to ISO 9000</td>
<td></td>
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<tr>
<td>▪ Added 9100 “product safety”, “counterfeit product”</td>
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</table>

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<thead>
<tr>
<th>Clause 4</th>
<th>Context of the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Quality manual not required, maintained documentation is required.</td>
<td></td>
</tr>
<tr>
<td>▪ Justified exclusions not limited to Realization/Operations processes</td>
<td></td>
</tr>
<tr>
<td>▪ QMS processes have performance indicators</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clause 5</th>
<th>Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ QMS compatible with strategic direction</td>
<td></td>
</tr>
<tr>
<td>▪ QMS requirements integrated into business processes</td>
<td></td>
</tr>
<tr>
<td>▪ Processes deliver their intended outputs</td>
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</table>

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<tr>
<th>Clause 6</th>
<th>Planning for the QMS</th>
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<tbody>
<tr>
<td>▪ When planning the QMS, determine the actions needed to address opportunities and risks (preventive)</td>
<td></td>
</tr>
<tr>
<td>▪ Increases requirements for planning of changes</td>
<td></td>
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<thead>
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<th>Clause 7</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Determine organizational knowledge requirements</td>
<td></td>
</tr>
<tr>
<td>▪ Awareness of contribution to compliance and product safety</td>
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<th>Clause 8</th>
<th>Operation</th>
</tr>
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<tbody>
<tr>
<td>▪ Planning for product obsolescence</td>
<td></td>
</tr>
<tr>
<td>▪ Plan activities needed to assure product safety</td>
<td></td>
</tr>
<tr>
<td>▪ Prevention of counterfeit products</td>
<td></td>
</tr>
<tr>
<td>▪ Process to validate test reports for raw material used in critical item</td>
<td></td>
</tr>
<tr>
<td>▪ Release of products and services</td>
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<tr>
<th>Clause 9</th>
<th>Performance evaluation</th>
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<tbody>
<tr>
<td>▪ Assess performance of QMS processes</td>
<td></td>
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<tr>
<td>▪ Added Note to evaluate performance indicators on internal audits</td>
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<tr>
<th>Clause 10</th>
<th>Improvement</th>
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</thead>
<tbody>
<tr>
<td>▪ Evaluation the need for action based on human factors</td>
<td></td>
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</table>

**All ISO MS standards will now have this common 10 clause structure**
Support Material

Tools for review and implementation

9100 Series Key Changes

Frequently Asked Questions (FAQs)

May, 2015

1. Questions about the change
1. Why has it been decided to issue a new version of 9100?

Business needs and the needs and expectation of other interested parties have changed significantly since the last major revision of ISO 9001 in the year 2000. Examples of these changes are ever more demanding customers, the emergence of new technologies, increasingly more complex supply chains and a much greater awareness of the need for sustainable development initiatives.

2. Does 9100 still apply to all organizations - big, small, different sectors and different items – products, services?

The concept of the standard has not changed; it’s applicable to any type of organization, regardless of the size, type or core business.

3. Has the structure of the standard been substantially changed?

Yes, the structure has been changed to align with the common 10 clause high level structure developed by ISO to ensure greater harmonisation among its many different management system standards. The new revision to ISO 9001 will also adopt this same structure, which is built around the PDCA (Plan-Do-Check-Act) sequence. This will make it easier for organizations to address the requirements of more than one ISO Management System Standard within a single, integrated system.

4. What are the structural differences between the old and new version?

- A new additional clause 4 now addresses the “Context of the Organization”
- The old clause 5 of 9100:2009 is now separated into clause 5 Leadership and clause 6 Planning and has more content in each clause
- The Measurement, Analysis and Improvement clause 8 of 9100:2009 is now separated into clause 9 Performance Evaluation and clause 10 Improvement
- These changes are addressed in detail in the 9100:2009 to 9100:2016 Correlation Matrix.

5. What are the main differences in content between the old and new version?

There is more focus on understanding principles, but with a greater emphasis on the organization being able to manage its processes in order to provide consistently conforming products and services. The application of the standard to service organizations is emphasized, as well as those making tangible product; there are more stringent requirements for leadership by top management; the term preventive action is replaced by the concept of risk based thinking that permeates.

And more…
Industry Application

- **9100 “Quality Management Systems – Requirements for Aviation, Space and Defense Organizations”**
  
  - All IAQG aviation, space and defense companies are certified to a version of 9100, 9110 or 9120
  
  - All IAQG and Sector member companies flow down 9100, 9110 or 9120 to their supply chain

  • Note: Supply chain flow down of 9100 is based on eligibility criteria and the organization may allow deviations as applicable
Aviation, Space & Defense Industry Controlled Other Party (ICOP) Quality Management System Certification Scheme

Webinar

Tim Lee
Chair, IAQG OPMT
July 28, 2015
WHAT IS ICOP?

- **ICOP** is a globally harmonized 9100/9110/9120 Aerospace Quality Management System (AQMS) Certification process defined by the IAQG
  - **Industry Controlled:**
    - The IAQG through each Sector provides direct oversight of all AQMS certification activities
  - **Other Party:**
    - Certifications activities are conducted by accredited Certification Bodies (CB) and Authenticated Aerospace Experienced Auditors (AEA) that are recognized through the ICOP process
- **ICOP process is managed by the IAQG Other Party Management Team (OPMT)**
WHAT IS ICOP?

• **Benefits**
  - Globally harmonized certification scheme that is recognized by major Aviation, Space and Defense companies
  - Supports supplier approval activities with a recognized quality management system certification
  - Process approach to conformance assessment
  - Focus on exceeding customer expectations

• **Risk**
  - Does not prevent procurement from poor performing suppliers
  - It is not certification of product
Our Aviation, Space & Defense sector certification scheme utilizes ISO for basic requirements and supplements ISO with Aviation, Space and Defense (AS&D) unique requirements.

- **ISO 9001 as supplemented by 9100**
- Certification Criteria is Linked to ISO 17021 and IAF Documents
IAQG: A Global Team

Whose mission is to:

Achieve significant performance improvements in Quality, Delivery, and consequently Cost, on all products and services throughout the value stream
Other Party Management Team

**Acronyms**

- **RMC** - Registration Management Committee
- **OPMT** - Other Party Management Team
- **JRMC** - Japan Registration Management Committee
- **AB** - Accreditation Bodies
- **CB** - Certification Bodies
- **CBMC** – Certification Body Management Committee
IAQG OPMT

• Mission:
  • Management and oversight of the 9100 series Aviation, Space and Defence Quality Management System certification program.

• Vision:
  • A measurable IAQG quality management system certification program that is efficient, recognized and brings measurable benefit to all stakeholders.
ICOP Criteria

• 9104-001 – Accreditation/Certification
  • Certification Structures
  • Sector Requirements
  • Recognized Accreditation Bodies (ABs)
  • Accredited Certification Bodies (CBs)
  • Authenticated Aerospace Auditors
  • Auditor Authentication Bodies (AABs)
  • OASIS database management

• 9104-002 - Oversight
  • Oversight and surveillance process to ensure conformance to established aerospace industry 9100-series standard accreditation/certification requirements

• 9104-003 – Auditor Authentication & Training
  • A common process for aerospace auditor training and authentication to be utilized by all the IAQG sectors
# Model for Process Based Auditing

## Standard Audit Criteria AS9101

**AEROSPACE STANDARD**

<table>
<thead>
<tr>
<th>AS9101</th>
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<tr>
<td>Technically equivalent writings published in all IAQG sectors</td>
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**Rationale**

This standard has been revised to incorporate the requirements for accredited Certification Bodies (CBs) introduced by International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17021-2011, 9104/1:2012, and inputs received from industry stakeholders associated to process-based auditing methods and the evaluation of process effectiveness.

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**Foreword**

To assure customer satisfaction, aviation, space, and defense organizations must produce and continually improve safe reliable products that meet or exceed customer and applicable statutory/regulatory requirements. The globalization of the industry and the resulting diversity of regional and national requirements and expectations have complicated this objective. Organizations have the challenge of purchasing products from suppliers, at all levels of the supply chain, throughout the world. Suppliers have the challenge of delivering products to multiple customers having varying quality requirements and expectations.

Industry established the International Aerospace Quality Group (IAQG), with representatives from companies in the Americas, Asia-Pacific, and Europe, to implement initiatives that make significant improvements in quality and reductions in cost throughout the value stream.

This document has been prepared by the IAQG and standardizes the requirements for conducting and reporting of Quality Management System (QMS) audits. It can be used by aviation, space, and defense organizations at all levels throughout the global supply chain.
On-Line Aerospace Supplier Information System (OASIS)

- **OASIS Database – 19,000 Sites**
  - Database where all information related to ICOP certifications, auditors, guidance and audit results is stored
  - Only general information such as Accreditation Bodies, Certification Bodies, Certified Supplier sites, Approved Auditors is publicly accessible.
  - Audit results data available when authorized by Organization.
  - Includes a robust Stakeholder Feedback process to Industry Leaders, Certification Bodies and Document Reps

![OASIS Database Screenshot]
On-Line Aerospace Supplier Information System (OASIS)

- OASIS is a web-hosted database that supports the IAQG Industry Controlled Other Party (ICOP) process
  - OASIS was originally released in July, 2003

- OASIS contains two primary sections
  - Data Search (Public) Section
  - Applications (User group-specific) Section

- OASIS uses English as its main language.
New Application Highlights
Feedback Process Upgrade

Upgraded “My Feedback” functionality for all registered OASIS users

Hello Average User
Welcome to International Aerospace Quality Group - Online Aerospace Supplier Information System (IAQG-OASIS).
If you are a registered and active user, this is your reliable source for aerospace supplier certification and regulatory compliance.

This online resource contains a list of suppliers who are certified / registered under the IAQG rules to be in compliance with the aerospace quality management system requirements (9100 series). This resource also contains all bodies involved in the process (i.e. National Accreditation Bodies, Certification Bodies and ISO/AS9100 Certified Auditors).

Use the navigation menu on the left. Personal information can be seen or modified using the menu on top.

Important Modifications:
A summary of the past changes and update communications to affected users are available.

- Once a user is logged into OASIS they can utilize the “My Feedback” function to:
  - Request clarification on an Industry standard (e.g. AS9104/1 or AS9100)
  - Communicate directly with an IAQG Strategy Stream Leader
    - Constructive feedback, Opportunities for Improvement
  - Communicate with CB’s or AB’s
    - Client or CB Performance
  - CB must update audit plan to address feedback
9104-001 Audit Calc Tool

Deployed in April 2013
Report must be uploaded to OASIS
Provides a CB record of certification structure decisions and audit duration calculation
  Can be used by all stakeholders
  Record of Conformance
  Audit duration

Welcome to OASIS, the IAQG Online Aerospace Supplier Information System

The International Aerospace Quality Group (IAQG) mission is to implement initiatives that make significant improvements in quality and reliability and maintaining dynamic cooperation, based on trust, between international aerospace companies.

Useful Links:
- IAQG Homepage
- IAQG Requirements
- 9104-001 Transition (SR002)
- 9104-001 Audit Calc Tool
- Certification Structure Oversight Committee (CSOC) Guidance
- OASIS Feedback Guidance
- IAQG OASIS Regulations Log
Certification Structure Oversight Committee (CSOC)

- The CSOC has been established to support the review of complex certification structures and review certification structure complaints as outlined in 9104-001.
- Operating rules for the CSOC are outlined in OPMT procedure 204.
- CB requests for review of complex certification structures by the CSOC shall be submitted to the CSOC through OASIS as outlined in OPMT procedure 204.

OPMT Procedure 204

Committee established to review “Complex” certification structure audit programs.

Process defined in OPMT Procedure 204
Aerospace Auditor Training

- OPMT manages sanctioned training program.
- Authenticated auditors must complete mandated training.
- Training available in all Sectors, in multiple languages.
- Ongoing meetings with Training Partner (Plexus International).
  - Stakeholder Feedback
  - Metrics
  - Website

**Improvement Initiatives**

- 9101E online training for authenticated auditors.
- Updated AATT.
  - Case studies
  - 9101E

**Includes feedback function**
Upcoming Events

- The IAQG and AAQG welcomes participation at all events. Events include closed and “open” session activities. Check agendas for open events.

[http://www.sae.org/aaqg/meetings/]
Provide Linkage to IAQG Requirements

- Frequently Asked Questions (FAQs) can be found on the IAQG Requirements Page Link is provided below:

IAQG REQUIREMENTS

Example:
Specific to the oversight process is the 9104-001 FAQ:

9104-001 FAQs
Resources

Excellent starting points for resources.

IAQG Website
AAQG Website

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Oversight – A Summary

IAQG OPMT
Oversight of SMS
Europe, Asia/Pacific, Americas

IAQG Member Company Representatives

SMS
AB, CB and Auditor Approval
Shared Oversight

ICOP Certification Body (CB)
(9100, 9110, 9120)

ICOP Accreditation Body (AB)
(9100, 9110, 9120)

International Accreditation Forum (IAF)
Peer Review

On-line Aerospace Supplier Information System (OASIS)

DATA

Conformance

Oversight

Oversight

Oversight

Oversight

Conformance

Oversight

Oversight

Oversight

IAQG (Supplier Surveillance, Product/Process Audit) Certification Recognition

Supplier (CB Client)
ICOP Certification

Product/Process
ICOP Certification Scheme: Efficient - Recognized - Beneficial
To suggest potential topics and presenters for QuEST Forum Academy, please visit [http://www.questforum.org/news-events/quest-forum-academy-webinars/](http://www.questforum.org/news-events/quest-forum-academy-webinars/) to download a Project Submittal Form. Email the completed form to QFAsubmittal@questforum.org.
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For additional information, please visit:

www.questforum.org
www.tl9000.org
Thank you for participating in the QuEST Forum Sustainability Panel

Next Webinars:

ISO 9001:2015 with Nigel Croft
Wednesday, August 26th @ 10:00 CST

Sustainability Series – Circular Economy
Thursday, August 27th @ 10 am CST

You will be directed to a survey and your feedback is appreciated.