



New Developments in Aerospace Quality Management Systems

**NASA Supply Chain Conference
NASA Goddard Space Flight Center**

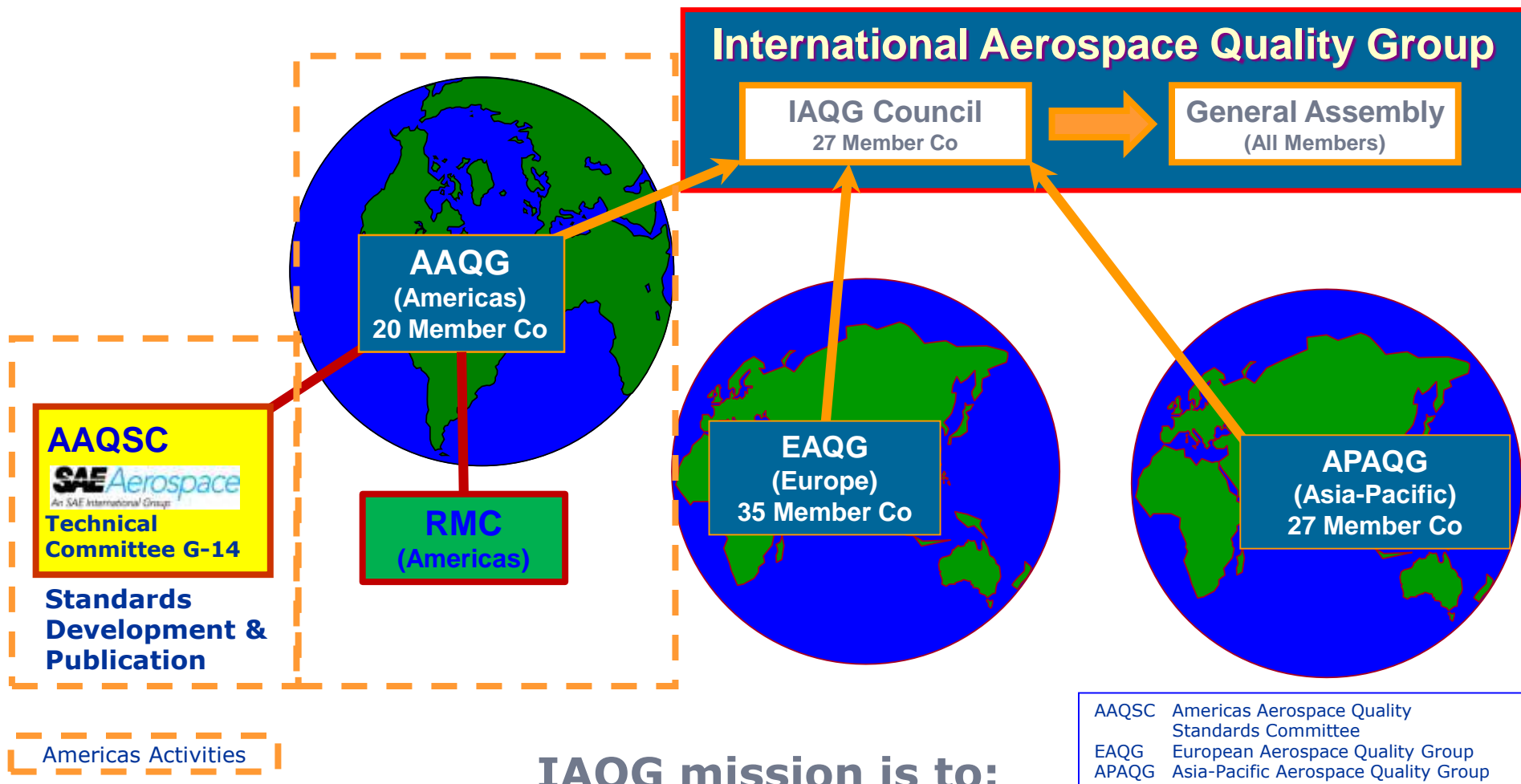
Milt Jacocks
Chair
Americas Aerospace
Quality Group (AAQG)
26 October 2016

- IAQG Structure & Mission
- AAQG Overview/Charter
- AAQG/IAQG Voting Membership
- AAQG Leadership Team
- Aerospace Standards and ICOP Scheme
- Benefits of Aerospace QMS Certification
- New Developments in Aerospace QMS
- Current/Future Initiatives
- 2017 IAQG/AAQG Meetings
- Summary

AAQG	Americas Aerospace Quality Group
AISBL	Association Internationale sans but Lucratif
IAQG	International Aerospace Quality Group (AISBL)
ICOP	Industry-Controlled Other Party

NOTE: IAQG (AISBL) is an international non-profit association, administered by the dispositions of title III of the Belgian Law of 27 June 1921 on non-profit associations, international non-profit associations and foundations

IAQG Structure & Mission



IAQG mission is to:

Implement quality initiatives that make improvements throughout the value stream of aerospace products & services

- The Americas Aerospace Quality Group (AAQG) is a cooperative organization within the Aviation, Space and Defense industries in the Americas
- AAQG is the Americas' sector of the International Aerospace Quality Group (IAQG)
- Currently 20 organizations with Voting Membership within the AAQG
 - Provision for 25 Voting Members
 - Per AAQG Procedure 102 AAQG Committee Membership
- 10 AAQG organizations with Voting Membership within the IAQG

Purpose:

- Establish and maintain a **dynamic cooperation** based on trust **between Americas aerospace companies** on initiatives **to make significant improvements in quality performance and reductions in cost** throughout the value stream.
- **Continuously improve the processes used by the supply chain** to deliver consistently high quality products, thereby reducing non - value added activities and costs.

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

AAQG/IAQG Voting Member Companies



AAQG Representative	Employer	IAQG Representative	AAQG Rep's Other Roles
Shelley Klopfenstein			
Duane Vonesh			
Douglas Robillard		Bill Valencia	Chair, AAQG Industry Relationships
Deneige Fitzpatrick			
Eduardo Lorenzo			
David Day		Jean Senecal	Chair, AAQG RMC Surveillance Sub-Team
Keith Nesheim			
John Horan			Chair, AAQG Comm; AAQG RMC Voting Member; 9100 Training Lead
Milt Jacocks, Chair		Jeanne Kerr	Chair, IAQG/AAQG Space Forum
Paul Hawthorne			Chair, AAQG Maintenance, Repair, and Overhaul (MRO)
Shaundra Pines		Michael Hayward, IAQG Finance Committee	Chair, AAQG Defense Forum
Jeff Ewing			Secretary, AAQG
Brian Spenrath		Bill Schmiede, IAQG President	
Harold Finch			
William Sibilia			
Elizabeth Ray		Paul Nye, IAQG SWG Vice Chair	Chair, AAQG Membership
Tina Leep		Tina Leep	
Allen Schrandt		Michael Shaw	
Susie Neal		Peter Luksas	Chair, IAQG OMPT Chair
Mark Vogel		Mark Vogel	<div> OPMT Other Party Management Team RMC Registration management Committee SWG Strategy Working Group </div>

Changes since March 2016 in "Blue"

AAQG Leadership Team



Milt Jacocks
Lockheed Martin
Chair

Buddy Cressionne
ASD Expertise
Projects Chair

Mark Vogel
Triumph
Vice-Chair

Elizabeth Ray
Rockwell Collins
Membership Chair

Jeff Ewing
ATK
Secretary

John Horan
Honeywell
Communications

R. Darrell Taylor
Raytheon
RMC Chair

Becky Degutis
SAE
SAE Representative

Ed Bayne
Boeing
Ops Management System

Bill Schmiede
Parker
Past-AAQG Chair

Doug Robillard
Boeing
Industry Relationships

Joe Caldwell
Honeywell
Civil Authorities

Paul Hawthorne
Moog
MRO

Milt Jacocks
Lockheed Martin
Space

Shaundra Pines
Northrop Grumman
Defense

BLUE – changes since March 2016

IAQG Document Relationships

IAQG Owners

Quality Standards and Best Practices

Data Type

Cert Scheme
New Standard
New Publish
Revision
Sustain

Oversight of Certification Scheme

9104 (Certification)

9104-2 (Oversight)

9104-3 (Auditors)

Certification
Scheme
QMS
Standards

9100 (General)
Quality Management System

9110 (Maintenance)

9120 (Distributors)

9101
Audit
Process

IAQG Development and
Maintenance of standards

9102 FAI	9103 Key Char	9107 DDA	9114 Direct ship	9115 Software	9116 NoC	9117 DPRV	9131 N/C Doc	9132 Marking
9133 Sup.Qual.	9136 RCA	9137 AQAP 2110	9138 Stat Prod Ac	9145 APQP/PPAP	9146 FOD	9147 Unsalvage	9162 Self Ver	

Supply Chain Management Handbook (SCMH)

Market & Sell	Design & Develop	Make (incl. Assemble & test)	Buy	Deliver	Customer Support	Plan & Manage	Stakeholders relationship and communication
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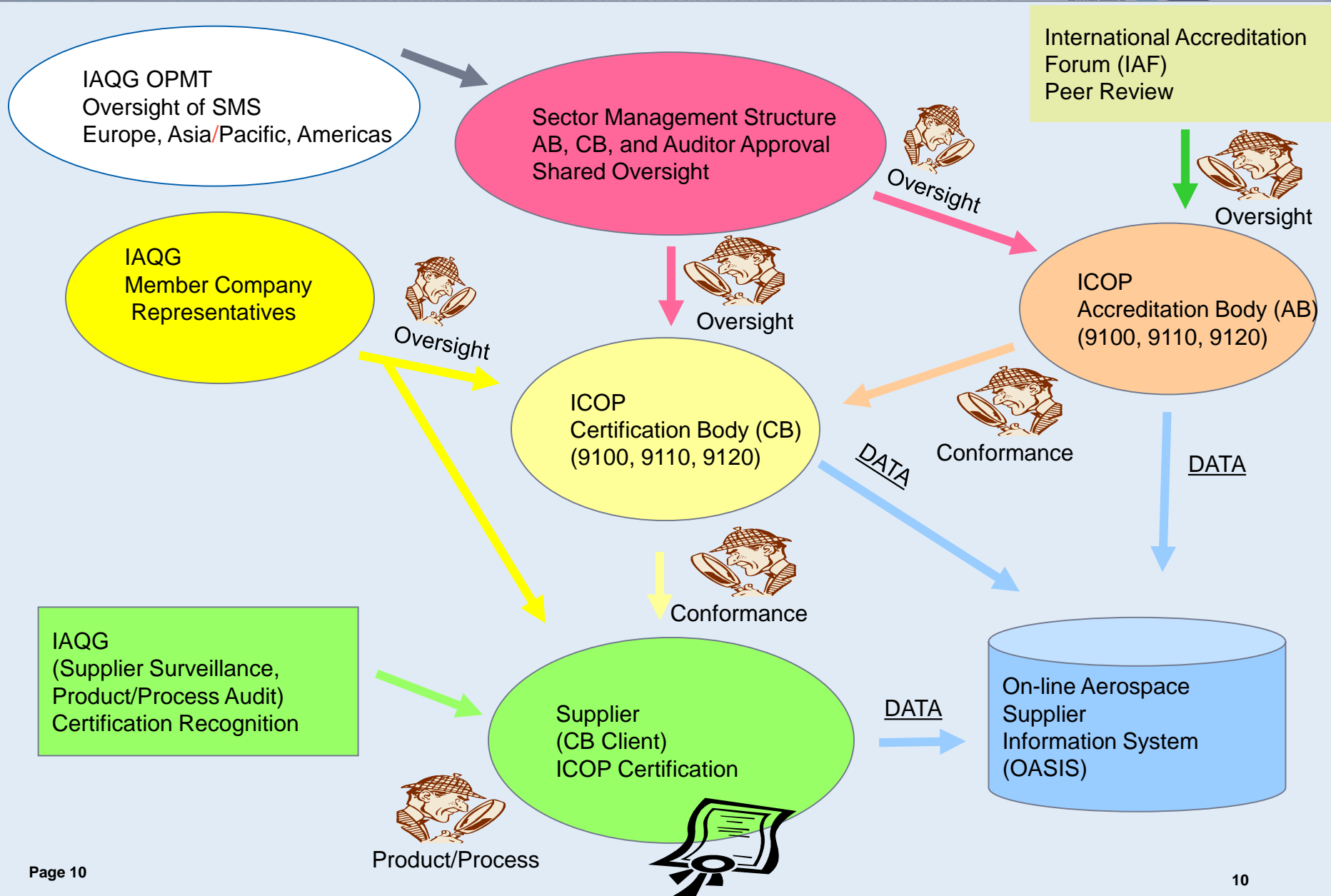
Best
Practices

AAQSC has developed 24 Internationally Harmonized Aerospace (ASxxxx) Standards

- Industry-Controlled Other Party (ICOP) Certification Standards:
 - AS9100 Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations
 - AS9110 Quality Management Systems - Requirements for Aviation Maintenance Organizations
 - AS9120 Quality Management Systems – Requirements for Aviation, Space and Defense Distributors

- Industry-Controlled Other Party (ICOP) Oversight Standards:
 - AS9101 Quality Management Systems Audit Requirements for Aviation, Space, and Defense Organizations
 - AS9104-1 Requirements for Aviation, Space, and Defense Quality Management System Certification Programs
 - AS9104-2 Requirements for Oversight of Aerospace Quality Management System Registration/Certification Programs
 - AS9104-3 Requirements for Aerospace Auditor Competency and Training Courses

Industry-Controlled Other Party (ICOP) Scheme



- ICOP: Globally harmonized Aviation, Space, & Defense (Aerospace) Quality Management System (AQMS) Certification process defined by IAQG
 - Industry Controlled:
 - IAQG, through each Sector, provides direct oversight of all AQMS certification activities
 - Other Party:
 - Certifications activities conducted by accredited Certification Bodies (CB) and Authenticated Aerospace Experienced Auditors (AEA) recognized through the ICOP process
- ICOP process managed by IAQG Other Party Management Team (OPMT)
- Provides AQMS certification for 9100, 9110 and 9120, utilizing:
 - ISO for basic requirements, and
 - Supplements ISO with Aviation, Space and Defense unique requirements
 - i.e., ISO 9001 as supplemented by 9100
- Certification Criteria linked to ISO/IEC 17021 and International Accreditation Forum (IAF) Documents
- Includes Joint Oversight Assessments with Accreditation Bodies for:
 - CB Office Assessments and CB Witness Assessments

Benefits of Certification



- Globally harmonized certification scheme recognized by major Aviation, Space and Defense (ASD) companies
- ICOP scheme ensures independent, impartial verification of QMS compliance
 - Employs a process approach to conformance assessment
- Provides objective evidence of compliance to most US Gov't ASD RFPs
- **Facilitates reduction of organization-unique requirements**
- **Significantly reduces QMS Audits by 2nd Parties (Customers)**
- Supports supplier approval activities via an internationally recognized quality management system certification
- Improves Customer confidence and satisfaction

Developments in Aerospace QMS



- ✓ Oct 2015: 9100/9110/9120 Transition Plan IAQG Approval
- ✓ Apr 2016: Ballot of 9100/9110/9120/9101
 - Fall 2016 Publication-house release (SAE (AAQG), ASD-Stan (EAQG), SJAC (APAQG))
- ✓ Sep 2016: AS9100 Revision D Published in Americas
- ❑ Oct 2016: AS9101, AS9110 & AS9120 Publication
- ❑ Nov 2016: Aerospace Auditor Transition Training Available (9100 & 9101)
 - Jan 2017 for 9110 & 9120
- ❑ Dec 2016: OASIS Next-Gen Phase 1 Release
- ❑ Mar 2017: Certified Organizations Transition Dates Due to CBs
- ❑ Apr 2017: OASIS Next-Gen Phase 2 Release
- ❑ Sep 2018: 9100/9110/9120 Transition Complete

NOTE:

- **Audits of AS9100C no longer allowed after 15 June 2017**
- **9100C Certificates no longer valid as of 15 September 2018**

CBs	Certification Bodies
OASIS	Online Aerospace Supplier Information System

- ❑ Increase AAQG Company Membership
- ❑ Increase collaboration with Gov Agencies and industry trade associations
 - NASA, FAA, MDA, NATO, DCMA, AIA, ASQ, etc.
 - DCMA use of OASIS database to focus audit activities
- ❑ Continuous improvement of auditors
 - Enhance criteria for assessing auditor competency (Revision to 9104-3)
- ❑ Streamline Standard balloting/publishing process
- ❑ Increase participation in AAQG activities
 - Government, Industry, Academia, Certification Bodies
- ❑ Enhance Stakeholder value

AIA	Aerospace Industries of Association
ASQ	American Society for Quality
DCMA	Defense Contract Management Agency
FAA	Federal Aviation Administration
MDA	Missile Defense Agency
NATO	North Atlantic Treaty Organization
OASIS	Online Aerospace Supplier Information System

2017 IAQG/AAQG Meetings



- | | |
|---|----------------------------------|
| <input type="checkbox"/> RMC Meeting & OP Assessor Training | 16-19 January
Orlando, FL |
| <input type="checkbox"/> AAQG / RMC / G-14 AAQSC | 6-9 March
San Diego, CA |
| <input type="checkbox"/> IAQG Meetings | 8-11 May
Stockholm, Sweden |
| <input type="checkbox"/> RMC Meeting & Auditor Workshop | 19-21 July
TBD |
| <input type="checkbox"/> AAQG / RMC / G-14 AAQSC | 12-14 September
Nashville, TN |
| <input type="checkbox"/> IAQG Meetings | 16-19 October
Cleveland, OH |

Your Participation is Encouraged !

THANK YOU

for your participation !!

If you have additional questions or comments, please feel free to contact Milt Jacocks or any member of the AAQG Leadership Team.

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