Strategic Intent of AS9100

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Briefing Purpose

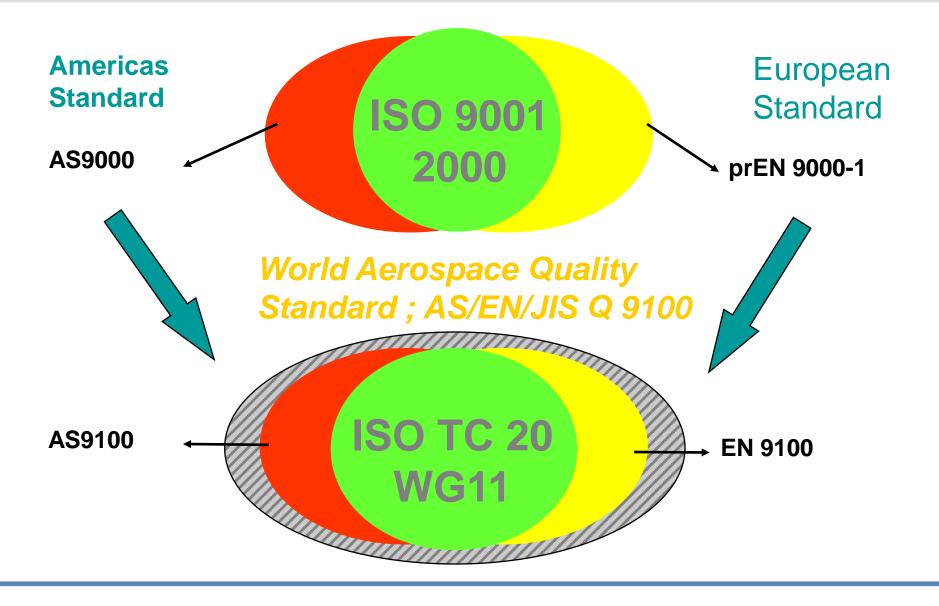- **To provide awareness of the Strategic Intent of the Industry Controlled Other Party (ICOP) Aviation, Space and Defense Quality Management System (QMS) certification program**

- **Communicate - International Aerospace Quality Group (IAQG) Vision**

    - *ICOP program shall be robust, recognized and valued*

Inputs ➡️

European Specific Stds

Company Specific Req'mts

D1-9000

ISO-9001

DoD

MIL-Q

NASA

MIL-I

FAA

AAQG Process

AAQG formed in 1995 to Standardize Quality Requirements for the Industry

Output ➡️ # AS9000

International Quality System Standard Creation 2001

Americas Standard

European Standard

AS9000

ISO 9001 2000

prEN 9000-1

World Aerospace Quality Standard ; AS/EN/JIS Q 9100

AS9100

ISO TC 20 WG11

EN 9100

IAQG Mission

- **Achieve significant performance improvements in Quality, Delivery, and consequently Cost, on all products and services throughout the value stream**

  - » **Through the establishment of effective prevention oriented practices and processes**

  - » **By standardizing Requirements, providing Process Guidelines and spreading Best Practices**

  - » **By introducing a Culture of Quality as early as possible in the value stream thus reducing the cost of poor quality**

  - » **Through establishing and maintaining dynamic cooperation between international Aviation, Space and Defense companies**

Proposed 2008

IAQG Five Year Vision

- **Product and Services Quality and Delivery will have improved 20% per year throughout the product lifecycle**

- **Robust processes achieved throughout the supply chain (Supply Chain Management Handbook Maturity Level 3 or better)**

- **IAQG Quality Management System certification program is robust, recognised and valued**

- **90% of the supply chain certified to IAQG Quality Management System Standards**

What is ICOP?

- ICOP is the globally harmonized Aviation Space & Defense Quality Management System (QMS) certification process defined by the IAQG

    - **<u>Industry Controlled</u>:**

        » The IAQG through each sector provides direct oversight of all QMS certification activities
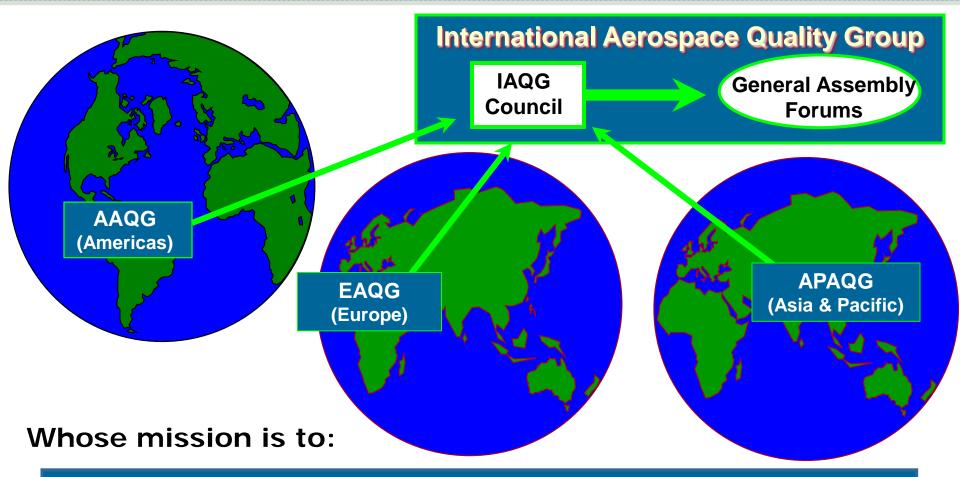
    - **<u>Other Party</u>:**

        » Certification activities are conducted by accredited Certification Bodies (CB) and authenticated Aerospace Auditors that are recognized through the ICOP process

- The ICOP process is managed by the IAQG Other Party Management Team (OPMT)

ICOP is Not

- The only method used in managing the supply base

- Prevention in buying from poor performing suppliers

- Certification of product and manufacturing processes

- A process that prevents human errors

- A traditional 3rd party certification scheme

A Global Team

International Aerospace Quality Group

IAQG Council → General Assembly Forums

AAQG (Americas)

EAQG (Europe)

APAQG (Asia & Pacific)

Whose mission is to:

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

Mission

- **Achieve significant performance improvements in Quality, Delivery, and consequently Cost, on all products and services throughout the value stream**

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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

Council

International Aerospace Quality Group

Americas (AAQG)

- Boeing
- Bombardier
- GE Aviation
- Goodrich Corp.
- Honeywell
- Lockheed Martin
- Northrop Grumman
- Raytheon
- Textron
- United Technologies

Asia Pacific (APAQG)

- AVIC
- Fuji Heavy Industries
- IHI
- Kawasaki Heavy Industries
- Korean Air Aerospace
- Mitsubishi Heavy Industries

Europe (EAQG)

- Airbus
- Airbus Military
- Alenia
- BAE Systems
- EADS Astrium
- EADS Defence and Security
- Rolls-Royce
- SAAB
- SAFRAN
- Zodiac Aerospace

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

Operating Management System
Other Party Management Team
Integration Team

"ISO as Supplemented by"

- The IAQG Quality Management System certification scheme utilizes ISO for basic requirements and supplements ISO with Aviation, Space and Defense (ASD) unique requirements.

  – ISO 9001 as supplemented by 9100

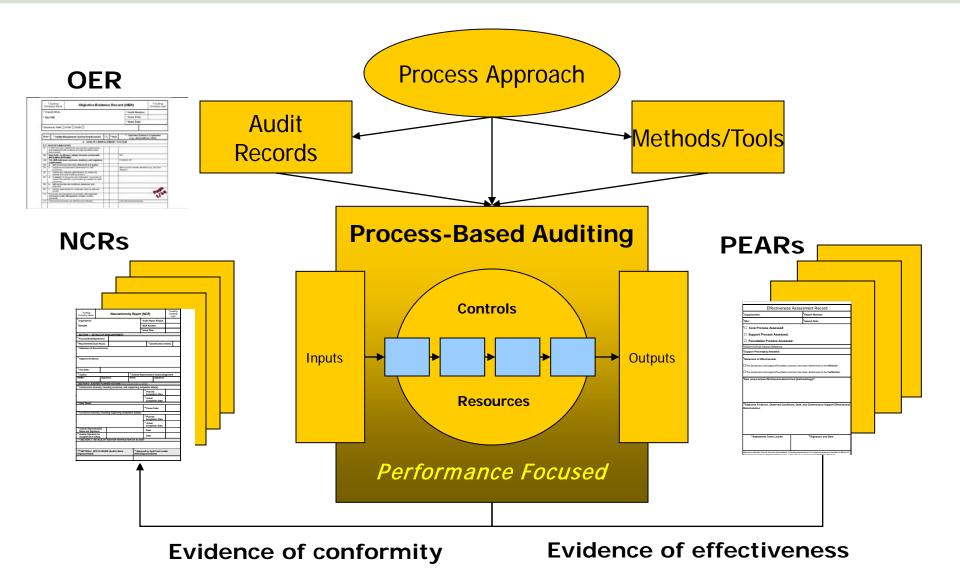   » ISO 17021 and IAF Mandatory Documents

Quality Management Systems

- **Organizations and their suppliers can obtain ICOP certification for the following standards:**

  - **9100 – Quality Management Systems - Requirements for Aviation, Space and Defense Organizations**

  - **9110 – Quality Management Systems - Requirements for Aviation Maintenance Organizations**

  - **9120 – Quality Management Systems - Requirements for Aviation, Space and Defense Distributors**

- **ICOP process utilizes experienced and authenticated lead "Process Approach"**

  - **9101 – Quality Management Systems Assessment**

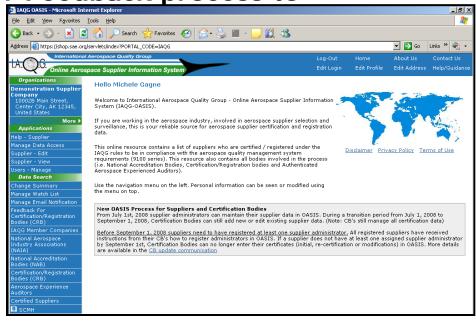# Model for Process Based Auditing – 9101

Online Aerospace Supplier Information System

- **Database where all information related to ICOP certifications, auditors 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 access by certified supplier (Tier II Data)**

- **Includes a robust Stakeholder Feedback process to Certification Bodies**

OASIS statistics

- **13,000 + supplier sites**
- **12,371 sites certified to 9100**
- **345 sites certified to 9110**
- **884 sites certified to 9120**
- **+20,000 registered users**
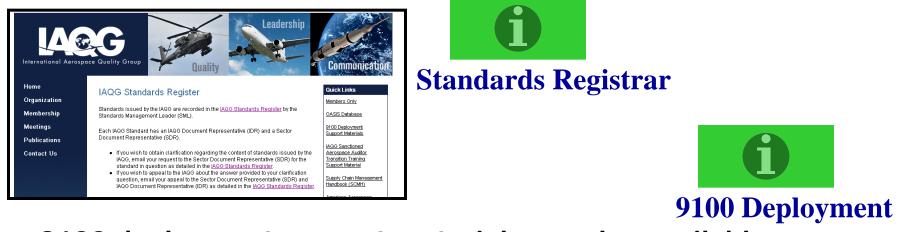- **registered Aerospace Auditors**
- **+90 listed Certification Bodies**

Standards Maintenance and Clarification Process

- The IAQG has established a network of International and Sector Document Representatives who have the responsibility to provide clarification on the intent of our published standards.

- Sector Document Representative:

  The identified focal in a Sector for each standard issued by the IAQG. When more than one language version is issued in a sector, there will be a corresponding SDR for each language version standard issued by the IAQG. Typically, the SDR is the leader of the Sector's Sub-Team or Writing Team for the specific standard.
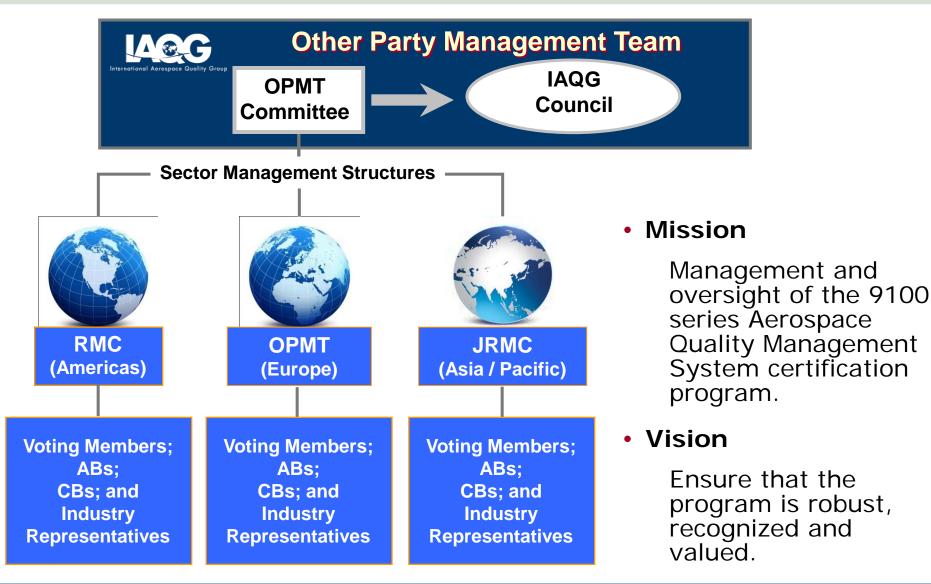

Standards Registrar

9100 Deployment

- 9100 deployment support materials are also available.

Other Party Management Team (OPMT)

- **The global, industry-controlled, oversight committee chartered to manage the Industry-Controlled Other Party (ICOP) process for certification of organizations to the 9100-series of AQMS standards**

- **The Other Party (OP) Scheme is based on:**

  - The use of identical or equivalent international, sector, and national standards based on 9104

  - An industry oversight system at international, sector, and national levels to ensure that OP Scheme's requirements are fulfilled based on 9104/2

  - Auditors authenticated against identical requirements based on 9104/3

  - All information related to the scheme is collected in the OASIS database

Other Party Management Team

Other Party Management Team

OPMT Committee → IAQG Council

Sector Management Structures

RMC (Americas)

OPMT (Europe)

JRMC (Asia / Pacific)

Voting Members; ABs; CBs; and Industry Representatives

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Voting Members; ABs; CBs; and Industry Representatives

• **Mission**

Management and oversight of the 9100 series Aerospace Quality Management System certification program.

• **Vision**

Ensure that the program is robust, recognized and valued.

ICOP Requirements

- **9104/1 – Accreditation/Certification Requirements**
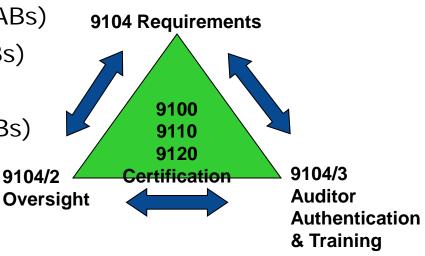 - Sector Management Structure (SMS)
  - Recognized Accreditation Bodies (ABs)
  - Accredited Certification Bodies (CBs)
  - Authenticated Aerospace Auditors
  - Auditor Authentication Bodies (AABs)
  - Industry Oversight
  - OASIS database management

- **9104/2- Oversight**
  - Oversight and surveillance process to ensure conformance to established aerospace industry 9100-series standard accreditation/certification requirements

- **AS9104/3 – Auditor Authentication & Training**
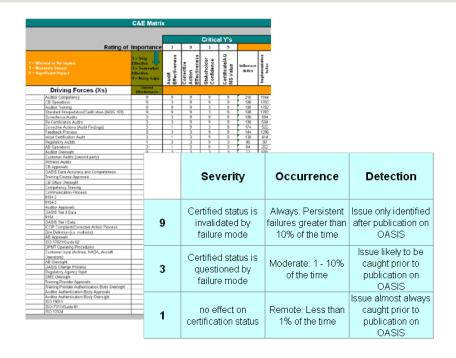 - A common process for aerospace auditor training and authentication to be utilized by all the IAQG sectors

9104 Requirements

**9100
9110
9120
Certification**

**9104/2
Oversight**

**9104/3
Auditor
Authentication
& Training**

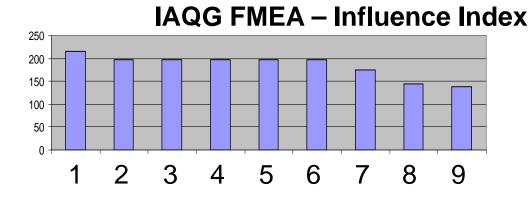# Failure Modes and Effects Analysis (FMEA)

- **FMEA Data:**
  (Not in any order of significance)

  – Surveillance Audits

  – Corrective Actions
    (Audit Findings)

  – Initial Certification Audit

  – Re-certification Audits

  – AQMS Standard
    Interpretation/Clarification

  – CB Operations

  – Feedback Process

  – Auditor Competency

  – Auditor Training

	Severity	Occurrence	Detection
9	Certified status is invalidated by failure mode	Always: Persistent failures greater than 10% of the time	Issue only identified after publication on OASIS
3	Certified status is questioned by failure mode	Moderate: 1 - 10% of the time	Issue likely to be caught prior to publication on OASIS
1	no effect on certification status	Remote: Less than 1% of the time	Issue almost always caught prior to publication on OASIS

IAQG FMEA – Influence Index

Improvement Initiatives

Certification Body Operations

9104/1 Major Rewrite

- Min. Audit Days – no reductions
- Multiple site certification criteria
- Ramifications for Poor Performance
- OASIS Improvements and Feedback

Auditor Competency

9104/3 Revision

- Competency-based Auditor Authentication
- Global Harmonization
- Align with ISO 17024
- Sanctioned Aerospace Auditor Training LAUNCHED

Audit and C/A Effectiveness

9101 Major Rewrite

- Process Approach
- Updated Tools
- Audit Guidance
- Corrective Action Requirements

  PUBLISHED

SMS Oversight of Process

9104/2 Revision

- Additional Witness Audits
- Updated Oversight Tools
- Other Party (OP) Assessor responsibilities and qualification
- Sanctioned OP Assessor training
- Annual Review and Metrics

9100/9110/9120:2009 Transition

- In support of the IAQG Councils 30 month time line for transition to the 9100/9110/9120:2009 series of AQMS standards; the OPMT has documented rules for affected stakeholders which will ensure that time lines are met and successful transition occurs

- Supplemental Rule 001 Dated Dec 20 2010:

  - Withdrawal from OASIS on July 1 2012.

    » All organizations that have not upgraded to the 2009 AQMS standards

  - Additional audit days required for upgrade audits during surveillance or recertification

    » Surveillance = 50% of initial days

    » Recertification = 80% of initial days

  - Sanctioned training approval and auditor authentication requirements

    » Class size, number of instructors

    » Aerospace Auditors must be re-authenticated

DEC 20 2010

Sanctioned Aerospace Auditor Training

- All aerospace authenticated auditors will be required to take the IAQG-sanctioned training, prior to authentication to 9100/9110/9120:2009 standards

    – Process based auditing

    – 9100/9110/9120 requirements

    – 9101 Audit Process

- Training course includes competency-based examination and evaluation

- IAQG sanctioned training delivered by approved Training Providers (TPs) and trainers that have met qualification criteria

    – Successful completion of Training and Evaluator Courses

- Training began in June 2010

Next Steps

- Support the writings teams efforts to get the standards updated and successfully balloted/published

    - 9104/1

    - 9104/2

    - 9104/3

- Support IAQG Council's timeline and concepts for 9100-series standard (2009) transition

    - All certified organizations will be 9100/9110/9120:2009 certified by July 2012

- Support IAQG Vision

    - IAQG Aerospace Quality Management System (AQMS) certification program is robust, recognized, and valued

        » Update the 9104-series standards

        » Improve ICOP effectiveness metrics

        » Improve stakeholder communication

Summary – ICOP Benefits

- **Supports IAQG Mission and Vision**

- **Conformance assessment using Process Approach**
  - **Focused on Process Effectiveness**

- **Decreased costs of multi-customer audits**

- **Validation and promotion of best practices**

- **Reduction of duplicate auditing costs for organizations & for suppliers**

- **Reduced variance in interpretation of requirements**

- **ICOP Certification recognized by all primes / majors in the industry**

- **Availability of an On-line Supplier Information System (OASIS) database with publicly assessable supplier certification data**

- **Standards are based on ISO 9001, the recognized international quality standard**

Questions