International Aerospace Quality Group (IAQG) update

Ed Bayne
Industry & Enterprise Interface
Boeing Commercial Airplanes
November 15, 2013
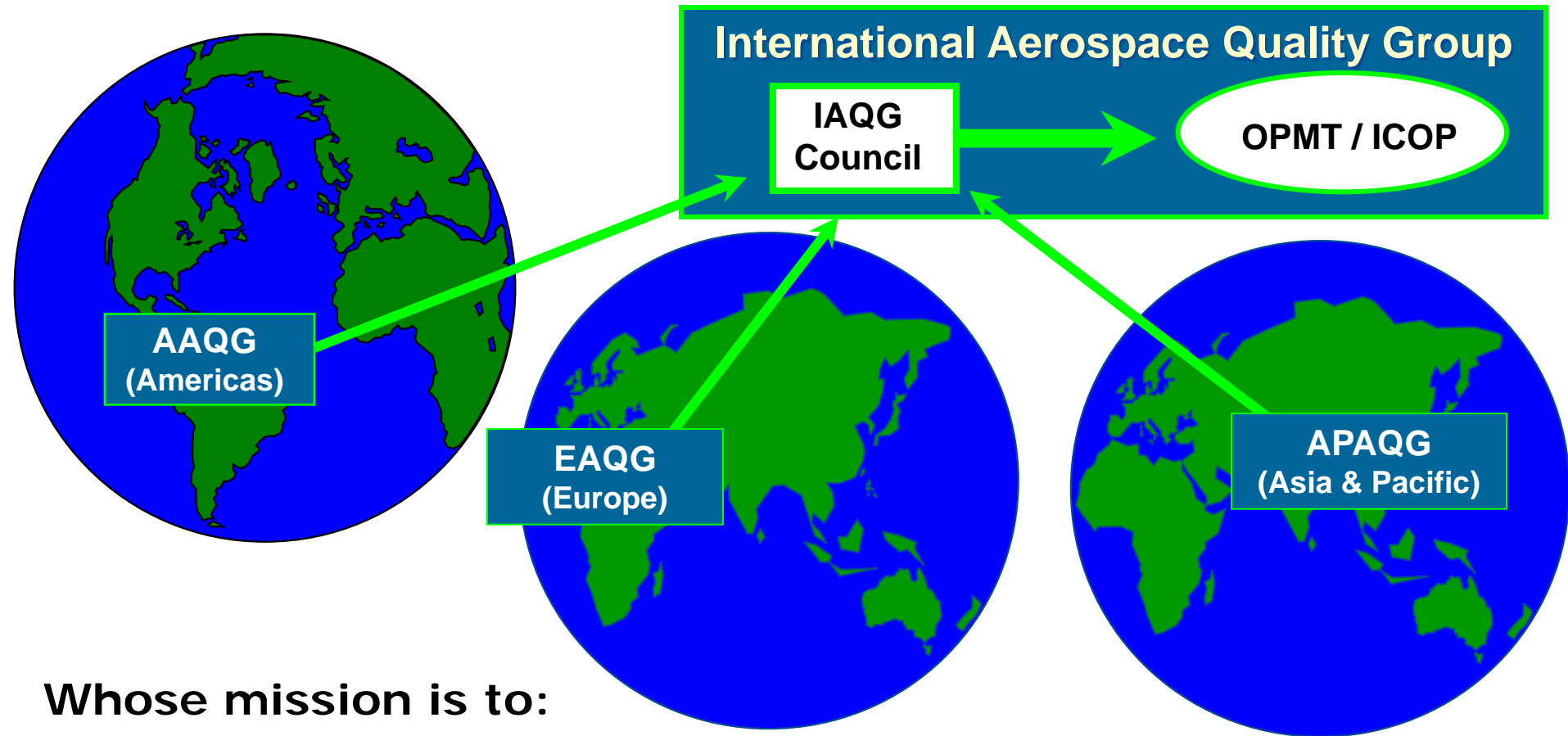
International Aerospace Quality Group (IAQG)
and the
Aviation Suppliers Association
(ASA)

~~Working Together~~

- International Aerospace Quality Group (IAQG) and the Aviation Suppliers Association (ASA) have agreed on a Memorandum of Understanding (MOU):

  – Recognize our mutual goal of improving top to bottom performance of the global supply chain within the aviation, space, and defense industry.

  – The IAQG and ASA will work together, wherever practicable, by combining forces, resources, and activities/initiatives to avoid duplication and to deliver faster and better results.

~~Recognition and Working Together~~

A Global Team

International Aerospace Quality Group

IAQG Council → OPMT / ICOP

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

International Aerospace Quality Group (IAQG) update

9100 Series 2016 Revision Plan
Industry Controlled Other Party (ICOP) Scheme
Supply Chain Management Handbook (SCMH)

The term "9100-series standards" includes the following IAQG standards, with 9100 being the IAQG Series Baseline Standard:	
IAQG 9100	Quality Management Systems - Requirements for Aviation, Space and Defense Organizations
IAQG 9110	Quality Management Systems - Requirements for Aviation Maintenance Organizations
IAQG 9115	Quality Management Systems - Requirements for Aviation, Space and Defense Organizations - Deliverable Software
IAQG 9120	Quality Management Systems - Requirements for Aviation, Space and Defense Distributors
IAQG 9137	Guidance for the Application of AQAP 2110 within a 9100 Quality Management System

9100 Series Revision Plan

- IAQG 9100 is based on ISO 9001 and affected by the ISO revision activity

- The proposed standard ISO format has been released
  - 10 clauses, some standard text and definitions

- Decision has been made by ISO to revise ISO 9001
  - TC176 has begun ISO 9001 revision activities

- ISO plans on publishing 9001 in 2015

- IAQG 9100 - series standards are planned for publication in 2016

9100 Revision Scope

- Documented in the 9100:2016 Design Specification

- Incorporate ISO 9001:2015 Revision Text

- Integrate schedules and publication dates for 9100 - series standards

- Address Future Concepts from the IAQG Strategy Working Group (SWG)
    - Counterfeit parts
    - Safety Management System
    - IAQG Expanded Strategy

- Fix what is broken and only add new requirements when the benefits are clear to all stakeholders

Revision Guidelines

- The 9100 Series shall:
  - Be the foundation of the requirements applicable to the whole aviation, space and defense industry
  - Take into account the new and emergent requirements
  - Be recognized by the authorities
  - Be applicable for use by all stakeholder segments and by organizations of all types, sizes and locations
  - Support the IAQG 5 years vision, mission, strategy
  - Contribute to the improvement of the supply chain performances and customer satisfaction
  - Provide clear requirements that enable a common interpretation of the 9100 standard by auditors and audited companies

Key Considerations
Design Specification

- Changes/additions to be considered

  – Constitute quality management system requirements that are not contractual in nature or contain product specific requirements

  – Enhance clarity of requirements or address stakeholder needs

  – Are auditable and define "what" not "how"

  – The benefit of the proposed change/addition outweighs the impact of implementation

Revision Lessons Learned

- 9100 Revision Goal – Learn from the past

- Coordinate with the OPMT to determine the need for auditor transition training with the goal of having it ready at publication

- Review standard interdependencies and develop a schedule that achieves concurrent publication release

- Develop guidance material prior to publication

- Make necessary updates to IAQG internal Operating Procedures to document the process that ensures concurrent publication

IAQG Document Relationships

Oversight of Certification Scheme

9104-1 (organization)	9104-2 (surveillance/certs)	9104-3 (auditors)

REQUIREMENTS Strategy Stream

Certification Scheme QMS Standards

- **9100** (General) — **Quality Management System**
- **9110** (Maintenance)
- **9120** (Distributors)

9101 Audit Process

ICOP Certification Scheme

Maintenance of stds issued by IAQG (IAQG 103)

9115 Software	9137 AQAP align.		91XX APQP/PPAP

9102 FAI	9103 Key Char	9107 DDA	9114 Direct ship	9131 N/C Doc	9132 Marking	9133 Sup.Qual.	9138 Stat Prod Ac	9162 Self Ver

Product & Supply Chain Strategy Stream

Supply Chain Management Handbook (SCMH)

1 Sales & Scheduling	2 Requirement Flow down	3 Design & Developm't	4 Sourcing selection	5 Plant, skills & planning	6 Order Mgt & logistics	7 Manufact. & Inspection	8 Supplier Mgt.	9 Control of N/C mat'l C/A & P/A	10 Customer Support	11 Business Processes

Best practices

People Capability Strategy Stream

People Capability documents (PCAP001) & structure (skills matrix)

Auditing and Certification

- Auditing Standard 9101
  - Focuses on the evaluation of effectiveness of the QMS and its associated processes
  - Emphasis on effectively meeting customer expectations and delivering products that meet those expectations
  - Covers 9100, 9110, and 9120

Industry Controlled Other Party (ICOP)

- ICOP is the Industry Controlled Other Party (ICOP) Aviation, Space and Defense Quality Management System (QMS) globally harmonized certification program defined by the IAQG

  - Industry Controlled:
    - » The IAQG through each sector provides direct oversight of all QMS certification activities

  - Other Party:
    - » 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)

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 the use of identical or equivalent international, sector and national standards based on the 9104 trilogy
    - » 9104/1: Requirements for QMS certification
    - » 9104/2: Surveillance and oversight processes
      - An industry oversight system at international levels to ensure that scheme's requirements are fulfilled
    - » 9104/3: Auditor qualification and auditor training processes
      - Auditors authenticated against identical requirements
  - All information related to the scheme is collected in the OASIS (Online Aerospace Supplier Information System) database

ICOP Certification Structures

- An organization must work with their contracted CB to determine the appropriate structure that supports their organization.

- Certification Structure options include:
  - Single Site - Organization having one location
  - Multiple Site - QMS with multiple locations, similar processes
  - Several Site - Single QMS with several independent sites
  - Campus - Single QMS with sites that support same Value Stream
  - Complex - Single QMS with combination of the above structures

- The defined structure assists CBs with the development of a robust and conforming audit program, and provides industry with visibility of the structure within the OASIS database

OPMT Improvement Initiatives

Certification Body Operations

9104-001 Implementing

- Min. Audit Days – no reductions
- Certification structure criteria
- Ramifications for Poor performance
- OASIS Improvements and Feedback

Auditor Competency

9104-003 (Being Revised)

- Competency-based Auditor Authentication
- Global Harmonization
- Updated experience requirements
- Sanctioned Aerospace Auditor Training

Audit and C/A Effectiveness

9101E (In Ballot)

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

SMS Oversight of Process

9104-002 (In Ballot)

- Risk based oversight
- Updated Oversight Tools
- Other Party (OP) Assessor responsibilities and qualification
- Sanctioned OP Assessor training
- Annual Review and Metrics

Online Aerospace Supplier Information System

- Single Sole Source 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

- Detailed help and guidance section

https://www.sae.org/?PORTAL_CODE=IAQG

Focus on "How" through SCMH

91XX

Requirements

Inputs for new revision of 91XX

IAQG Supply Chain Management Handbook

Introduction

Links to

91xx
9131
9103
9102

Includes

SCMH Guidance material, tools, training

Providing guidance material and best practices on how to meet requirements and achieve objectives

Supply Chain Management Handbook (SCMH)
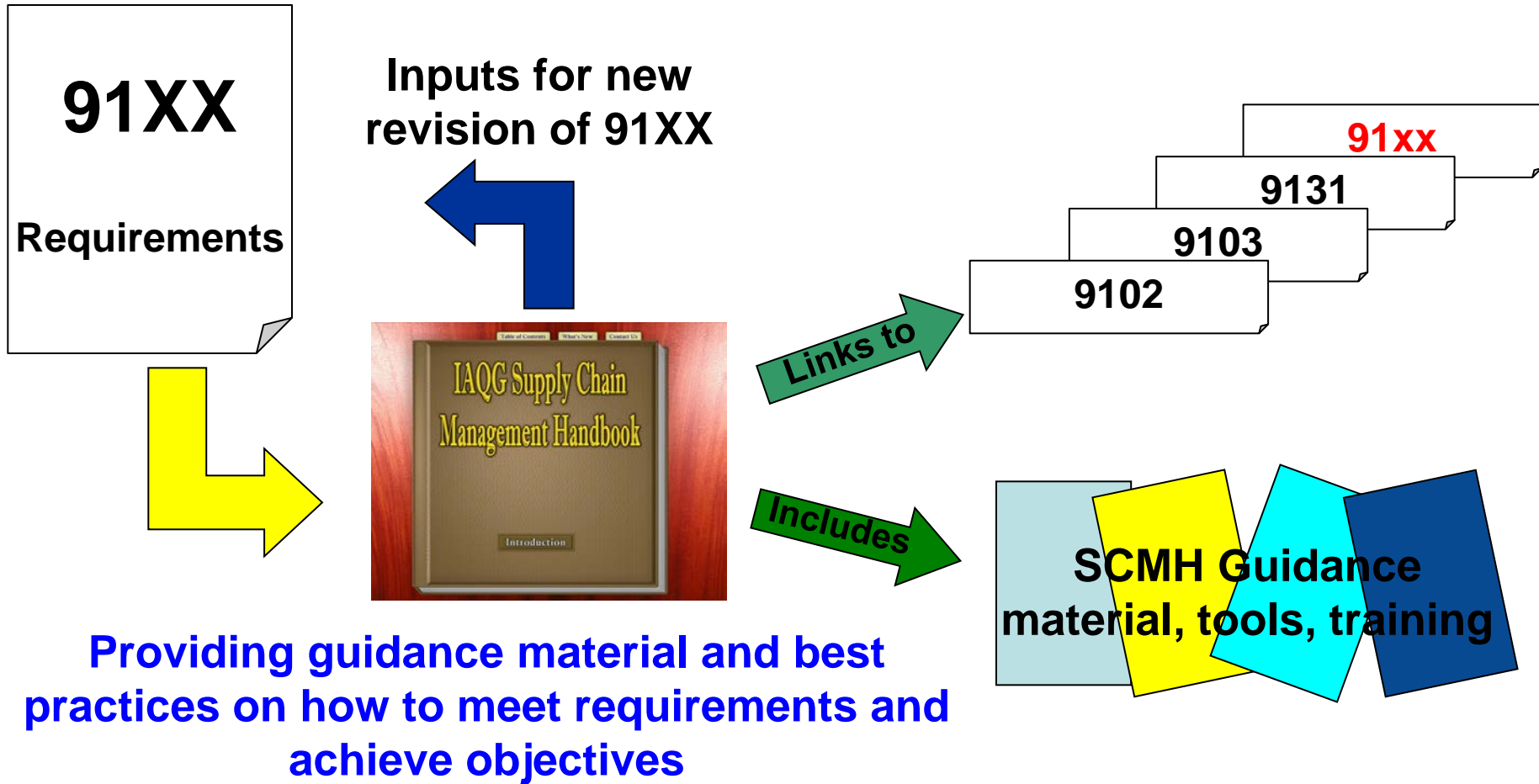
- **The SCMH provides guidance material to help continuously improve On Time, On Quality Delivery (OTOQD)**

- **It is provided at no cost and is available to all levels of the supply chain**

Supply Chain Management Handbook (SCMH)

- Helps the supply chain improve their quality performance

- Updated as changes and improvements are identified
  – New material is developed by IAQG subject matter experts

- Intended to assist organizations with understanding

- Is not intended to be requirements, nor auditable

- Use of the guidance material does not ensure compliance to any referenced QMS Standards…

- Chapters are structured around eleven elements of a supply chain business process model

Chapter 1: Sales & Scheduling	Chapter 2: Requirement Flowdown	Chapter 3: Design & Develop	Chapter 4: Sourcing Selection	Chapter 5: Plant, Skills, & Planning	Chapter 6: Order Mgmt & Logistics	Chapter 7: Mfg & Inspection	Chapter 8: Supplier Mgmt	Chapter 9: Control of NC, PA/CA	Chapter 10: Customer Support	Chapter 11: Business Processes	Appendices

SCMH Home

Content

What's New

FAQS

Contact Us

IAQG

Take Survey

SCMH Search

[   ] GO

Chapter 11 : Business Processes Performance Management and Customer Satisfaction Monitoring Contact Us

Survey, consolidation and continual improvement of Supply Chain performance (Internal/External), risk and change management, overall decision process to meet customer satisfaction and business objectives throughout Life cycle.

11.1 : Work Transfer Management *(13 Mar 2012)*

11.1.1 : Introduction -April 2010 *(pdf)*

11.1.2 : Work Transfer Management Procedure -February 2010 *(pdf)*

11.1.3 : Fillable Form -Gate Tracker -April 2010 *(xls)*

11.1.4 : Fillable Form -Gate Review 1 -April 2010 *(xls)*

11.1.5 : Fillable Form -Gate Review 2 -April 2010 *(xls)*

11.1.6 : Fillable Form -Gate Review 3 -April 2010 *(xls)*

11.1.7 : Fillable Form -Gate Review 4 -April 2010 *(xls)*

11.1.8 : Fillable Form -Project Proposal -April 2010 *(xls)*

11.1.9 : Fillable Form -Team Charter -April 2010 *(pdf)*

11.1.10 : Fillable Form -Risk Assessment & Business Case -April 2010 *(xls)*

11.1.11 : Fillable Form -Product Readiness Review -April 2010 *(xls)*

11.2 : Risk Management *(13 Mar 2012)*

11.2.1 : Introduction -September 2010 *(pdf)*

11.2.2 : Risk Management Storyboard Content -September 2010 *(pdf)*

11.2.3 : Risk Management Awareness -September 2010 *(pptx)*

11.3 : Configuration Management *(06 Jul 2012)*

11.3.1 : Introduction -October 2010 *(pdf)*

11.3.2 : Guidance Material -July 2012 *(pdf)*

11.3.3 : Configuration Management Introductory Material -October 2010 *(pdf)*

11.3.4 : CM Self Assessment Checklist -October 2010 *(pdf)*

Each chapter contains various types of guidance material for your use; procedures, training presentations, fillable forms, etc.

Supply Chain Management Handbook Content - Based on the Product Life Cycle

1. Sales, Master Scheduling & Sequencing
- Master Scheduling

2. Contract Requirements & Flow Down
- Requirements & Flow Down Templates
- Contractual Requirements Review & Management Guidance

3. Design & Development
- Special Requirements & Critical Items
- Software Guidance (9115)
- Quality Aspects of New Product Development

4. Suppliers sourcing selection & approval
- Supplier Selection and Capability Assessment
- Product Performance Detailed Assessment Checklists

5. Plant, material, skills, capacity planning & scheduling
- Planning of Product Realization *Soon*

6. Order Management and logistic (Internal & external)
- Order Management and logistic

7. Manufacturing and Inspection
- 9103 Material for Key Characteristics
- 9102 Material for First Article Inspection
- Foreign Object Debris (FOD)

8. Supplier operational management and product validation
- Notification of Change Tool
- Supplier Quality Mgt Basics
- Sub-tier Supplier Control Management
- Advanced Product Quality Planning / APQP *Active* *NEW!*

9. Control of non conformities, corrective and preventive actions
- Root Cause Analysis & Problem Solving
- Control of non conformities

10. Customer Support (Control of service operations)
- Counterfeit & Suspect Unapproved Parts *Active*

11. Business Management & Customer Sat. Monitoring
- Work Transfer
- Configuration Mgmt
- Risk Management
- Delivery Metrics Definition
- Process Mapping (VSM Based) *Soon*

Appendices
- 9100 Rev C Deployment Support
- People Capability PCAP 001
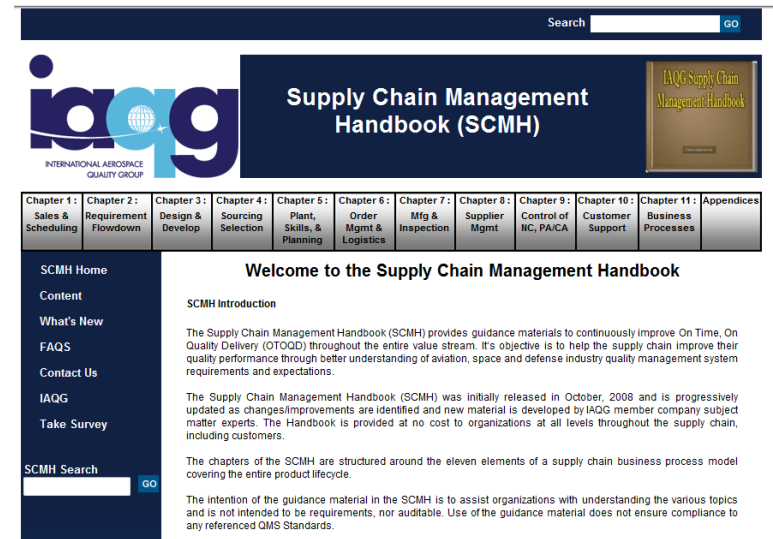- Link to ICOP Overview
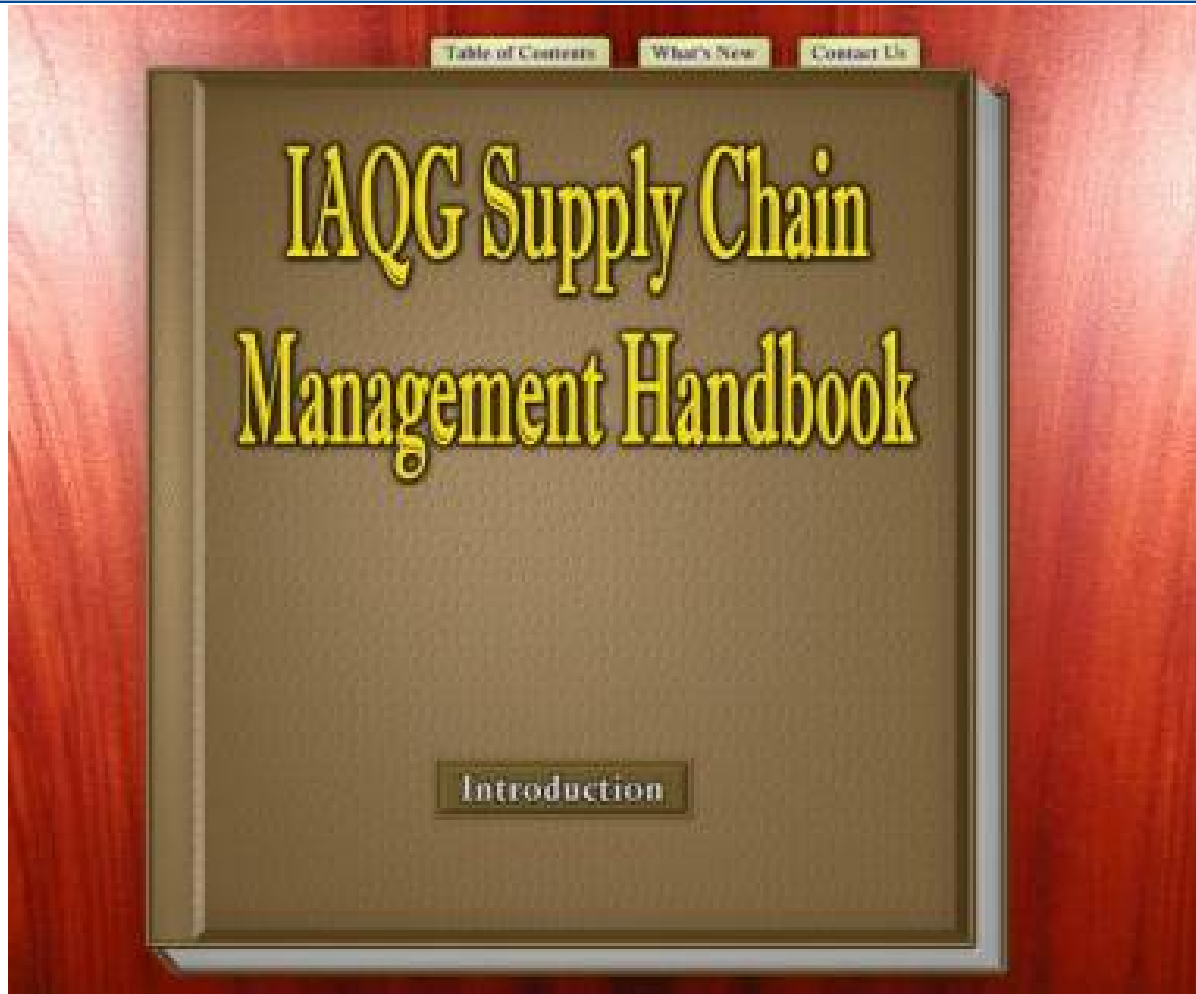- 9100/SSCA/PPDAC Comparison

Available	Work In Progress	Future

Appetite for the SCMH is real !!

- 92% (91%) Users found the SCMH "Very Useful"/"Useful"

- 81% (81%) are "likely"/"very likely" to use the information in company procedures

- 70% (70%) are "likely"/"very likely" to share or use the material with their suppliers

- 82% (81%) find the SCMH "Easy"/"Very Easy" to navigate

- 94% (93%) of users will recommend the SCMH to others

Direct access to SCMH page: www.iaqg.org/scmh

Contact Information

- **9100 Series 2016 Revision Plan**
  - Buddy Cressionnie   buddy.cressionnie@lmco.com   817-762-1640
  - Alan Daniels   alan.w.daniels@boeing.com   425-466-1342

- **Industry Controlled Other Party (ICOP) Scheme**
  - Tim Lee   timothy.w.lee@boeing.com   816-679-2529
  - Susie Neal   susie.neal@utas.utc.com   704-423-3461

- **Supply Chain Management Handbook (SCMH)**
  - Sue Parsons   sue11@woh.rr.com   937-524-9093
  - Dale Gordon   dale.gordon@rocket.com   916-355-2298
  - Deb Oberhausen   deborah.oberhausen@pw.utc.com   860-565-1983

Questions ??

Thank You For Your Attention!!

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

- 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, recognized and valued

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