Requirements Strategy Stream 9100 – ISO 9001 Revision Activity

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April 23, 2013

ISO9001 is changing

- A global review of ISO 9001 was completed in 2012; that resulted in a decision to revise the standard with completion in 2015
- Users of multiple management system standards wanted a common format
- Rapidly expanding use of ISO 9001 in the service sector has resulted in a re-evaluation of specific requirements

What is being considered?

- An international team of experts identified by member countries looked at a number of items to help guide revision activities:
  - a user survey
  - new quality concepts and ideas for inclusion in ISO 9001
  - revised quality management principles
  - formal interpretations
  - support and guidance notes

What is changing?

- New concepts are being considered
- The customer remains the primary focus
- More emphasis on non-manufacturing sectors
- A new common ISO format has been developed
- Increased clauses from 8 to 10

Additional information will be made available as this project progresses

ISO High Level Structure (HLS)

New Clause Structure

HLS & Sub-clauses

1.Scope
2.Normative references
3.Terms and definitions
4.Context of the organization
- Understanding the organization and its context
- Needs and requirements
- Scope
- Management System

5.Leadership
- General
- Management commitment
- Policy
- Roles, responsibility and authority

6. Planning
- Actions to address risks & opportunities
- Objectives and plans to achieve them

HLS & Sub-clauses

7. Support
- Resources
- Competence
- Awareness
- Communication
- Documented information

8. Operation
- Operational planning and control

9. Performance evaluation
- Monitoring, measurement, analysis & evaluation
- Internal audit
- Management review

10. Improvement
- Non conformity and corrective action
- Continual Improvement

ISO 9001 Revision Timeline

2013 2014 2015 2016

May 2013 CD
(Committee Draft)

February 2014 DIS
(Draft International Standard)

February 2015 FDIS
(Final Draft International Standard)

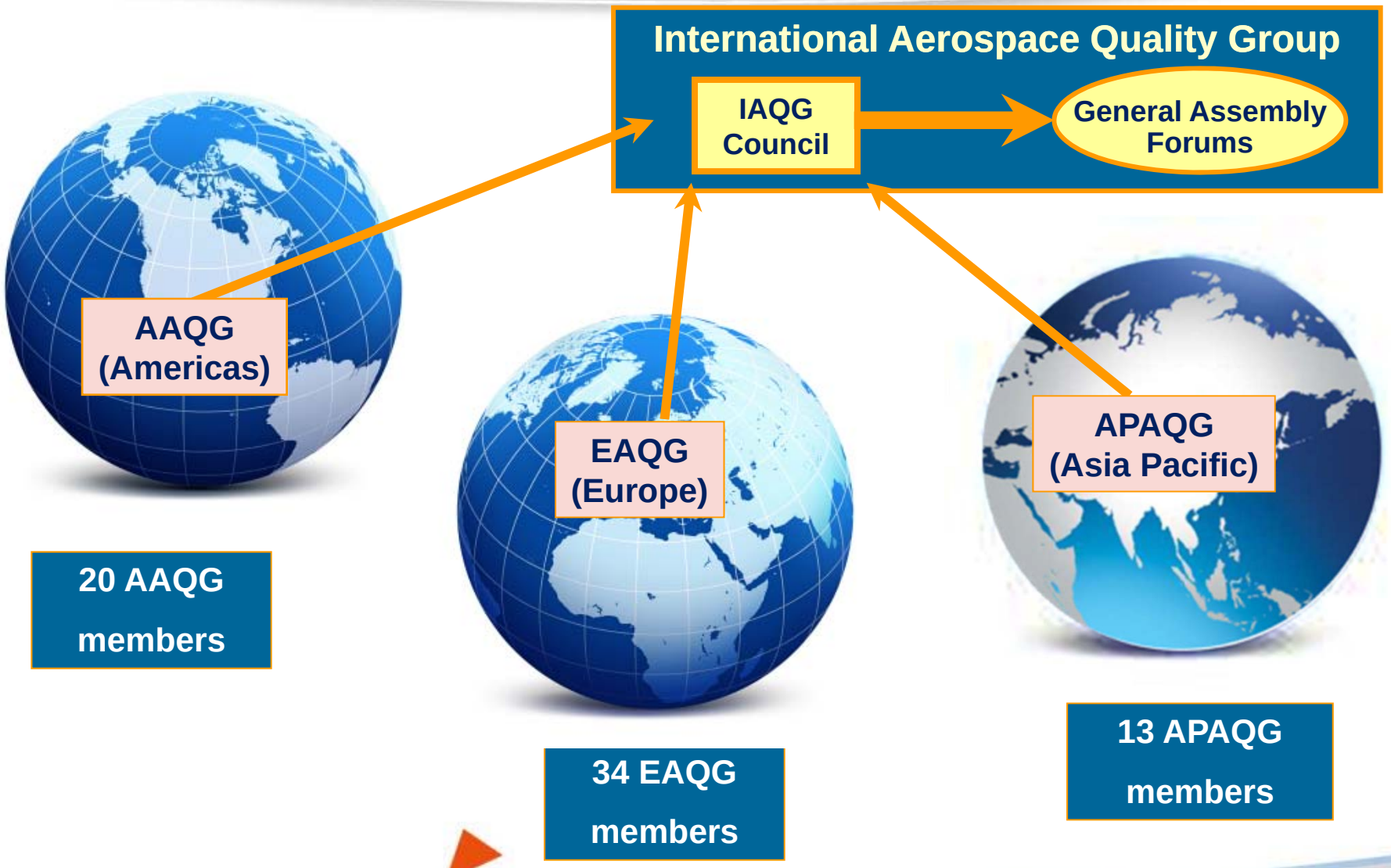
September 2015 Published IS
(International Standard)

What kind of product support can I expect?

- Transition plan (timeframe for certification)
- Supporting guidance documents
- Correlation annex (before/after mapping)
- FAQs (Frequently asked Questions)
- ISO Quality Systems website updates
- Other ISO 9001 related products
- Summary of relationship changes between ISO 9000, ISO 9001 and ISO 9004

Requirements Strategy Stream
9100 Revision

A Global Team



IAQG Council Membership

Americas (AAQG)

- Boeing
- Bombardier
- GE Aviation
- Goodrich Corp.
- Lockheed Martin
- Northrop Grumman
- Parker
- 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
- Cassidian
- EADS Astrium
- Rolls-Royce
- SAAB
- SAFRAN
- Zodiac Aerospace

IAQG Document Relationships

IAQG OWNERS | DATA | Data Type

Oversight of Certification Scheme

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

Requirements Standards / Technical Reports

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

9101 Audit Process

9115 Software | **9137 AQAP align.** | **9162 Operator Self Verif**

9102 FAI | **9103 Key Char.** | **9107 DDA** | **9114 Direct ship** | **9131 N/C Doc** | **9132 Marking** | **9133 Sup.Qual.** | **9134 Sup risk**

REQUIREMENTS Strategy Stream

ICOP Certification Scheme

Maintenance of stds issued by IAQG (IAQG 103)

Supply Chain Management Handbook (SCMH)

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

PRODUCT & SUPPLY CHAIN Strategy Stream

Best practices

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

People Capability Strategy Stream

Quality Systems: TC176 SC2

- **Why have AS9100?**
  - High risk products
  - High cost products

- **Price estimates (millions)**

– F35	56-97
– 737	74-107
– 777	258-297
– A380	375
– Satellite	290-682
– Delta IV	254-300

Quality Systems: TC176 SC2

What else drives the need for AS9100?

- Tightly controlled industry requirements
  - Statutory
  - Regulatory
  - Customer

➢ Safety is a must!

➢ Quality is required!

➢ Failure is not an option!

Law of Gravity

ISO 9001 versus AS9100

- **AS9100 has ISO 9001:2008 embedded with added "requirements" that provide for:**
  - *Additional focus on customer and applicable statutory and regulatory QMS requirements*
  - *Special Requirements/Critical Items*
  - *Project Management*
  - *Risk Management*
  - *Configuration Management*
  - *Control of Work Transfers*
  - *Design and Development V&V Testing and Documentation*
  - *Increased Supplier Oversight and Monitoring*
  - *Production Process Verification*
  - *Production Process Change Control*
  - *Production Equip, Tools and Software Programs Control*
  - *Post-Delivery Support*

Blue Text Indicates new 9100:2009 Requirements

9100 Series Revision

9100 Series Revision High Level Plan

- The 9100 is based on ISO 9001 and is thus affected by the ISO TC176 revision activity
- Several other IAQG standards are based on the IAQG 9100 standard, and will require revision in parallel with the 9100 standard revision activity
- The IAQG 9100-series standards are planned for project completion in early 2016
- Revision focus is to fix what is broken and be very cautious in adding any new requirements
  - Sound reasoning and the benefits are clear

9100 Series Revision

- The term “9100 Series standards” includes the following IAQG standards:

– IAQG 9100 Quality Management Systems –Requirements for Aviation, Space and Defense Organizations
- IAQG Series Baseline Standard

– IAQG 9110 Quality Maintenance 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

Requirements Team Summary

- **2012 - 9100 Team Accomplishments**
  - 9100 Series Design Specification
  - Integrated schedule
  - Project schedule
  - Revision process flowchart
  - Stakeholder identification
  - IAQG team and sector teams formed
  - Survey developed and piloted in all sectors
  - Council approval of project
  - Survey pilot completed, comments collected
  - Contact of identified stakeholders, team liaisons, for 9100 comments initiated

IAQG 9100 Series Team

IAQG Leader: Alan DANIELS *(Boeing)*

Scribe: Wayne JOHNSON *(IAQG)*

AAQG

Leader: Buddy CRESSIONNIE *(Lockheed Martin)*

Members:
James CLIFFORD *(UTC)*
Mark Covert *(Honeywell)*

EAQG

Leader: Brigitte CLAMENS *(Zodiac Aerospace)*

Members:
Roberto CIASCHI *(ESA)*
Stuart ANTHONY *(RR)*

APAQG

Leader: Masahiro KAWAMOTO *(MHI)*

Members:
Chen ZHONGYUAN *(AVIC)*
Tatsuya SHIRAI *(KHI)*
TBD

IAQG Standards Representatives

9101 : Masahiro KAWAMOTO *(MHI)*

9110 : TBD

9120 : Dale GORDON *(Aerojet)*

9115 : Raymond WRIGHT *(Raytheon)*

9137 : Juan Ignacio MARTIN *(Airbus Military)*

9100 Americas Team

- **AAQG 9100 Team Membership**
  - **IAQG Leader** — **Alan Daniels** (Boeing) alan.w.daniels@boeing.com
  - **AAQG Leader** — **Buddy Cressionnie** (Lockheed Martin) buddy.cressionnie@lmco.com
  - **Team Members**
    - **Jim Clifford** (UTC) james.clifford@pw.utc.com
    - **Mark Covert** (Honeywell) mark.covert@honeywell.com
    - **Dale Gordon** (Aerojet) dale.gordon@aerojet.com
    - **Kevin Beard** (NQA) kbeard@nqa-usa.com
    - **Sydney Vianna** (DNV) sidney.vianna@dnv.com
    - **Anne Moore** (Boeing) anne.m.moore2@boeing.com
    - **Eric Jeffries** (Bell/Textron) EKJefferies@bh.com
    - **Gill Helsel** (Bell/Textron) ghelsel@bh.com
    - **Scott Monroe** (Alcoa) Scott.Monroe@alcoa.com
    - **Aaron Troschinetz** (SAI) aaron.troschinetz@saiglobal.com
    - **John Graham** (PNAA) jagraham@fulcrumassociates.com
    - **Brian Geer** (Lockheed Martin) brian.geer@lmco.com
    - **Robert Bodemuller** (Ball Aerospace) rbodemul@ball.com
    - **Dave Leeson** (GD) Dave.Leeson@gdc4s.com
    - **Helen Kiesel** (Goodrich) Helen.Kiesel@goodrich.com

Stakeholders and Liaisons

Stakeholder	IAQG Leader	9100 Team Liaison
Civil Aviation Authorities	Edward BAYNE	Alan DANIELS
Defense / NATO	Mike HAYWARD	Juan Ignacio MARTIN
Space	Roberto CIASCHI	Roberto CIASCHI
Certification Bodies /Aerospace Auditors	Tim LEE	Alan / Masa
9100 Certified Organizations	Brian BLOUNT	Brian GEER
Trade Associations	Alain BONNARD	Brigitte CLAMENS
IAQG & Sector member Companies	Buddy, Brigitte, Masa	9100 Team Sector Leaders
Airline and aviation operators	Alain BONNARD	Isabelle VOUGAZ
Maintenance, repair, and overhaul orgs	Alain GROS	Flavio IZZO
Distributors	Dale GORDON	Dale GORDON
Deliverable software organizations	Raymond WRIGHT	Raymond WRIGHT
IAQG Strategy Streams/Teams		
– People Capability	Geoffrey SHERLEY	Stuart ANTHONY
– Product & SC Improvement	Bernard LAURAS	Jim CLIFFORD
– Performance Improvement	Christian BUCK	Mark COVERT
– OPMT & Certification Bodies	Tim LEE	Alan/Masa
– Integration	Jim CLIFFORD	Jim CLIFFORD

Boeing Stakeholders

Stakeholder	Leader	Method	Timing
IAQG Integration Team	Kristy Heffernan	Presentation	Twice yearly
QPAT	Kristy, Kim	Presentation	Twice yearly
SQIT	George Buswell	Presentation	Twice yearly
Enterprise Quality Leadership Team	Lindsay, Larry	Presentation	Once yearly
BCA Quality Leadership Team (QMRs)	Lindsay Anderson	Presentation	Twice yearly
BDS Quality Leadership Team (QMRs)	Larry Myers	Presentation	Twice yearly
QMS Teams (DQMRs)	Don, Ed	Presentation	Twice yearly
FAA	TJ Ginthner	Key messages	Provide to TJ
Internal Audit	Linda, Ed	Presentation	Twice yearly
PP&PM Team (Functions, Programs)	Mel, Kay	Presentation	Once yearly
BCA Quality Process Owners	Alan Daniels	Presentation	Twice yearly
QMS SME's (Functions)	Don, Ed	Email	Once yearly
SSPI & AIMIT SMEs (Functions)	Don, Barb?	Email	Once yearly
DQMR, Process Owners (Users/programs)	Various	TBD	TBD

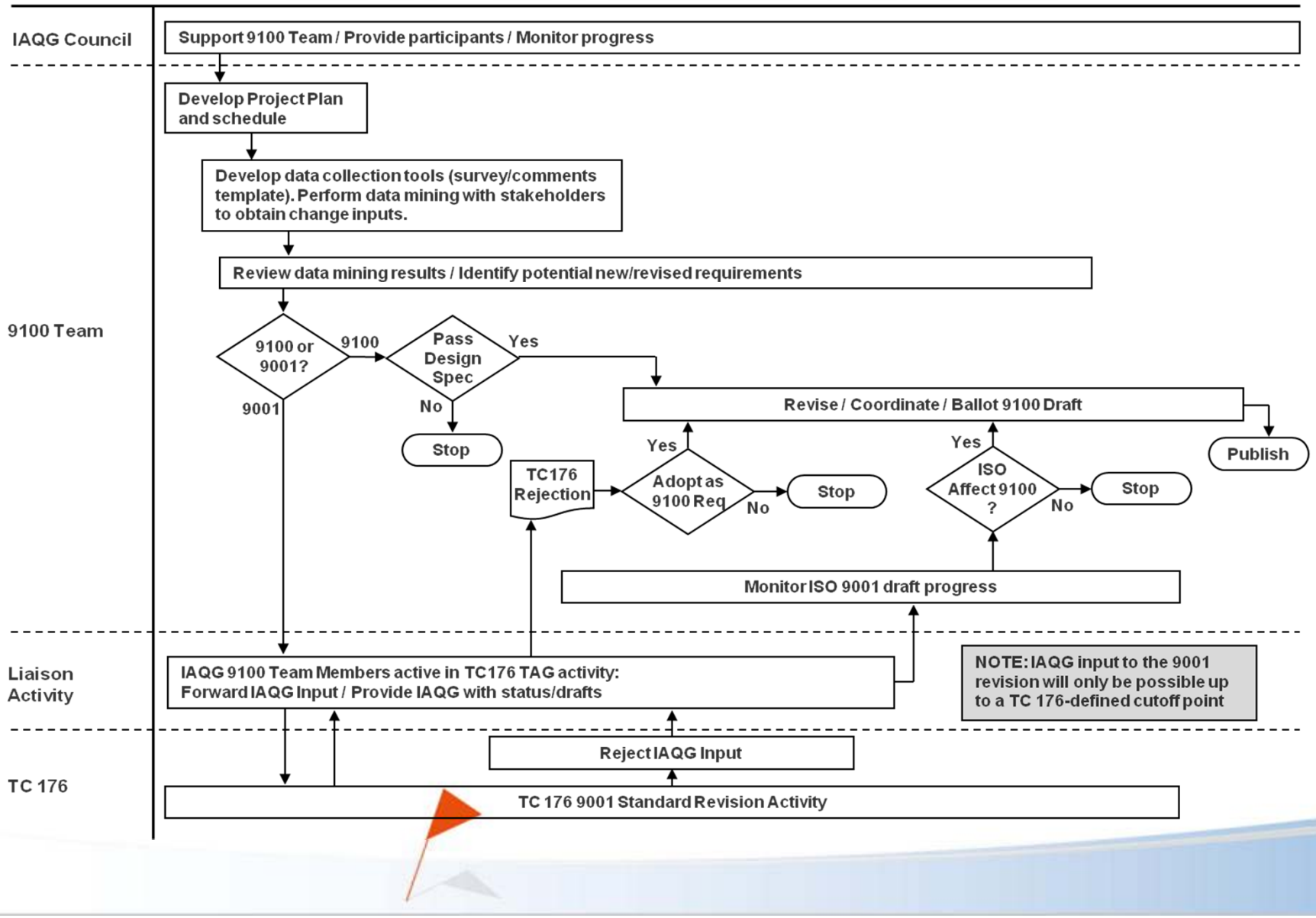
- Coordination Plan is in development
- Stakeholder list, communication method, timeline, etc. will be determined
- Communication methods - Information sharing, solicitation of feedback, draft and ballot review, deployment support material, impact assessment, implementation and registration plan , information and education materials – Determine who needs what, when, where and how

Solicit Stakeholder Feedback

9100 Series Survey

- Receive stakeholder feedback on 9100 / 9110 / 9120 revision activity and auditing scheme
- Input source for clarifications and FAQs
- Recommendations for next standard revision
- Use Survey Monkey as the data collection tool
- Survey distributed in English (different languages determined by sector)
- Send out survey to stakeholders, 9100 Series certified organizations, certification bodies, and auditors

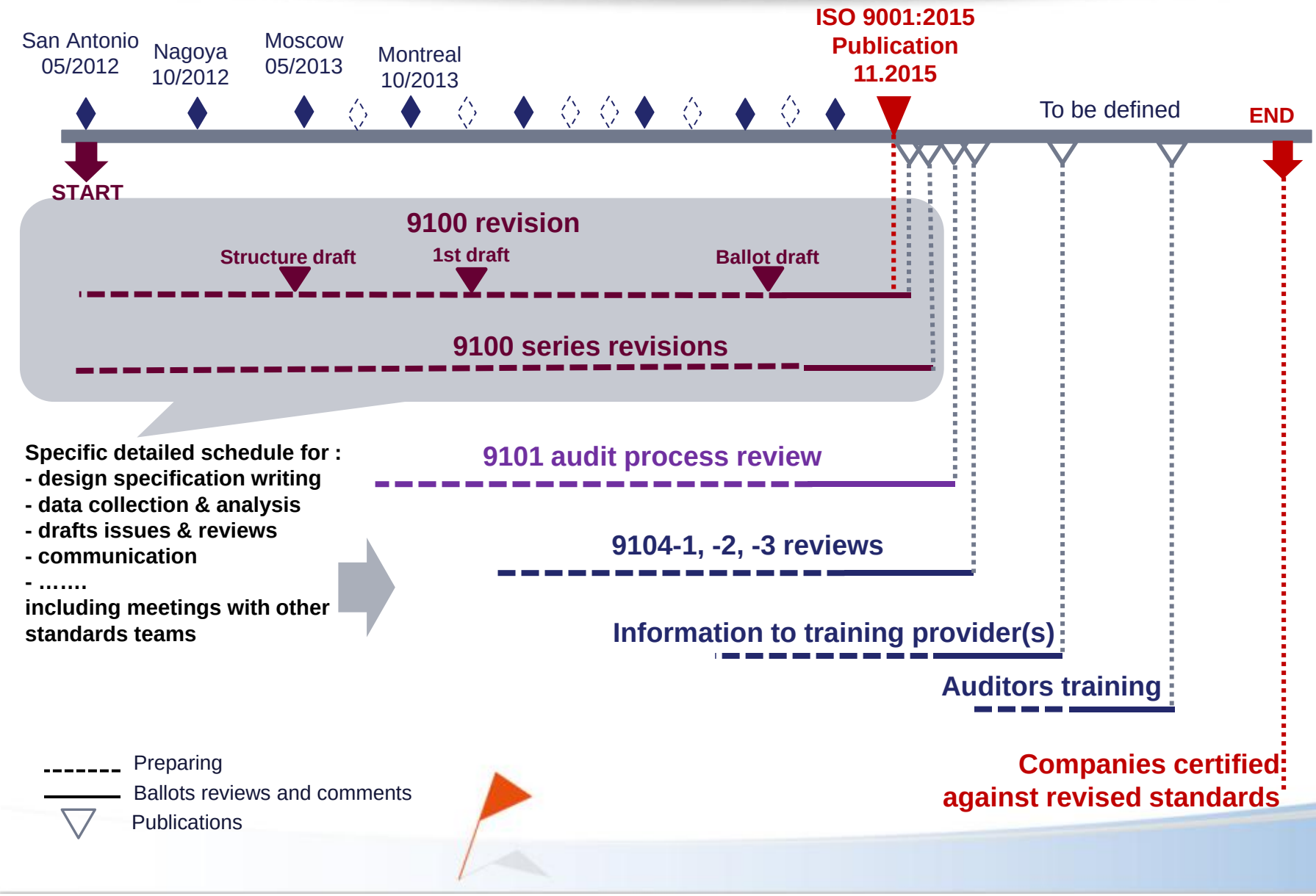
9100 Revision Process Flow



What kind of product support can I expect?

- Transition plan
- Supporting guidance documents
- Correlation annex
- FAQs
- IAQG Quality Systems website
- Other IAQG related products
- Relationship changes between IAQG standards

9100 Series Revision Master Schedule



9100 Revision Project Schedule

9100 Series Schedule		2012		2013				2014				2015				
Task	Who	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
IAQG Meetings			Nagoya, Japan		Moscow, Russia		Montreal, Canada		Europe		Seattle		XXXX		XXXX	
ISO TC176 SC2	ISO 9001		WD Nov		CD April			DIS Jan				FDIS Jan		Pub Sept		
9100 Series Schedule	9100 Team															
Phase 0: Study																
Project Approval (103 form)	Core Team															
Phase 1: Design & Develop																
Develop Team Selection Criteria	Core Team															
Establish IAQG Team	Core Team															
Develop Design Specification	Scribe															
Operating Procedure Updates	Core Team															
Sector Teams meet to review Design Specification	Sector Team Leader															
Stakeholder Identification	Writing Team															
Determine methods to request feedback	Writing Team															
Request stakeholder feedback	Team															
Review clarifications issued for 9100:2009	Team															
Review ISO 9001 CD	Team															
Collect Stakeholders Feedback	Team															
Review and Disposition Stakeholder Feedback	Team															
Prepare structure draft	Scribe															
Assess, change mapping, gap analysis and disposition	Team															
Focus group on accepted comments	Team															
Standard Incorporation - DIS (ISO9001, 9100, etc.)	Scribe															
Prepare First Draft	Scribe															
Determine change impacts to 9101, 9104, 9102, 9103	Integration Team															
Review Team Comments to First Draft	Team															
Incorporate ISO 9001 Changes - FDIS	Leader															
Incorporate Comments	Scribe															
Phase 2: Sector Review																
Sector Coordination Draft and Informal Review	Team															
Review and disposition sector company feedback to coord. draft	Team															
ISO Publication	Leader															
SML ballot	Team															
Review and disposition ballot comments	Team															
Affirmation Ballot	Team															
9100:2015 Publication	Team															
Phase 3: Publication																

Questions?