Introduction to the IAQG SCMH "Supply Chain Management Handbook"

IAQG General Assembly
Orlando, USA
12 October 2007

Christian Buck
Safran

Larry Weng
Boeing

Susan Armtrong
UTC

Bernard Lauras
Airbus

Content

- General presentation of “Supply Chain Management Handbook” objectives and concept
- Presentation of SCMH projects
- SCMH deployment

IAQG Objectives have recently evolved

- Up to now, IAQG produced standards describing requirements
- We need now to help suppliers to develop:
  - By helping them understanding our requirements
  - By providing guidance and best practices on how to fulfil requirements and achieve objectives and expectations

Up to Now:
Focusing on the WHAT

And Now:
Focusing on the HOW

Focus on the How through the “SCMH”
Supply Chain Management Handbook

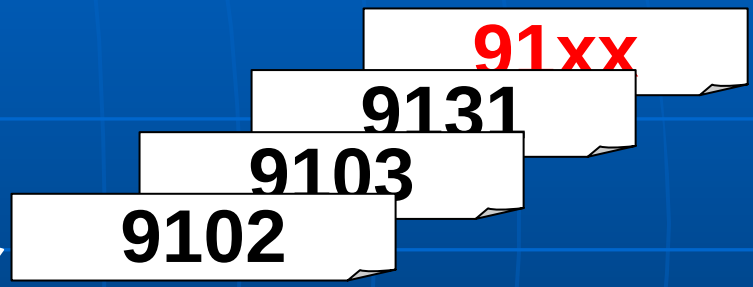
Focus on “How” through SCMH

9100

Requirements

Inputs for future revision of 9100

New or revised IAQG published documents (Standards, guideline)



Supply Chain Mgmnt Handbook

Links to

Includes

Preference is to develop guidance material

New focus on “How” in particular through “SCMH”

- The Supply Chain Management Handbook further explains the requirements in 9100:
  - Example
    - 9100 states *“The organization shall select suppliers which meet organization requirements*”, but does not say how to assure or demonstrate that they meet these requirements”

“Supplier Selection and Capability Assessment” is a guideline on how to assess supplier capability and select them

Structure of the SCMH:
11 Business Processes, several projects

I.A.Q.G. International Aerospace Quality Group

Supply Chain Management Handbook

1. Sales, Master Scheduling & Sequencing

2. Contract Requirements and Flow Down

Requirements and flow down templates

3. Design and development

New Product Introduction

4. Suppliers sourcing selection & approval

Supplier Selection and Capability Assessment model

5. Plant, material, skills, capacity planning & scheduling

6. Order Management and logistic (Internal & external)

7. Manufacturing and inspection (Production and service provision)

9103 education package (Key characteristics)

8. Supplier operational management and product validation

Performance Metrics

Supply Chain Assessment

9. Control of non conformities, corrective and preventive actions

Root Cause Analysis and Problem Solving

Control of non conformities

10. Customer Support (Control of service operations)

11. Business Management and Customer Satisfaction Monitoring

Exists

Proposed

Work transfer

“Supply Chain Management Handbook”

Supplier Selection and Capability Assessment Model

IAQG Leader: Christian Buck – Safran

Supplier Selection & Capability Assessment Model

Objective

- To build a common model to assess the Maturity of a Supply Chain to achieve sustainable On Time & On Quality delivery objectives

Supplier Maturity Assessment
For each Supply Chain Business Process

Concept

Four domains assessed:

- Processes
- People & Organisation
- Tools & Data
- Performances Metrics

Four levels of maturity

1. Undefined : No Process, Method, Tools/ No Process, Method, Tools/ and Appropriate Behaviours
2. Defined and applied
3. Applied and improving
4. Optimising: Implemented and optimised, continuous improvement

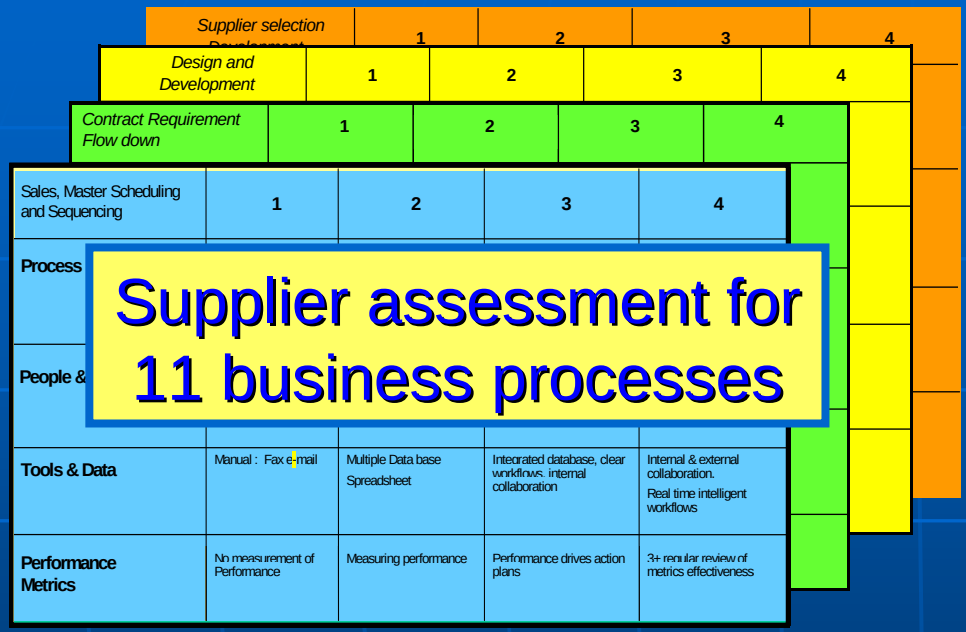
Non Conformity Management	1	2	3	4
Process	Reactive needs Customer Stimulus	Firefighting actions	Root cause process in place Limited preventive actions	Mature process for root cause & preventive actions
People & Organization	No clear Accountability No Problem solving skills	Expert firefighters		Multifunctional team Highly Skilled
Tools & Data	Manual : Fax e-mail	Multiple Data base Spreadsheet	Integrated database, clear workflows, internal	External & external collaboration.
Performance Metrics	No measurement of Performance	Measuring performance	Performance drives action plans	3+ regular review of metrics effectiveness

Areas of potential Supplier Development if deemed necessary

Expectation

Supplier performance

11 business processes identified in Supplier Selection and Capability Assessment

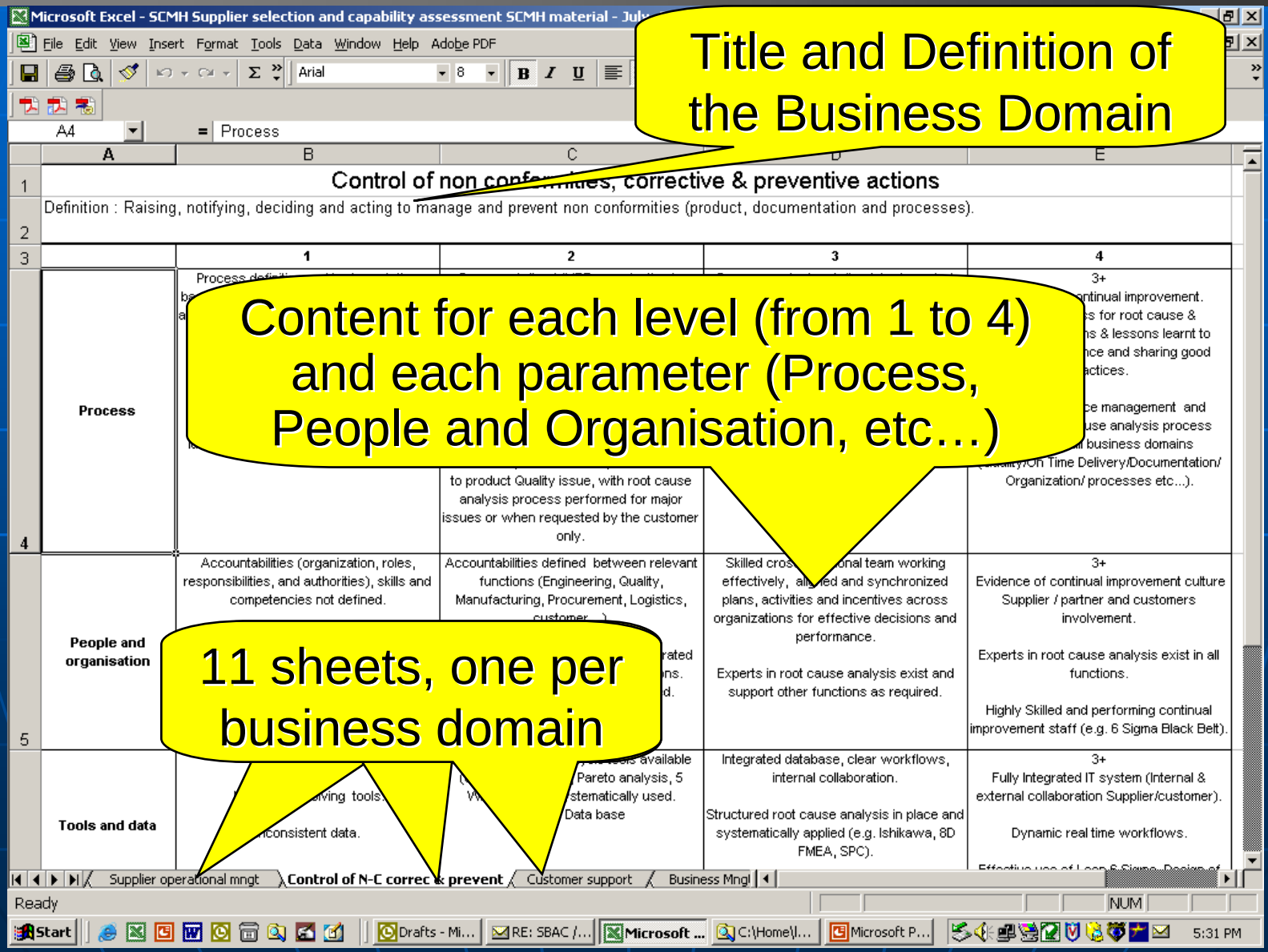


Apply weighting to each process as appropriate to Product, Customer, Risks, etc…

Action plan as required

Guidelines contained in Supply Chain Management Handbook may be used to support improvement plans

All assessment matrices completed and grouped in one Excel document



Title and Definition of the Business Domain

Content for each level (from 1 to 4) and each parameter (Process, People and Organisation, etc…)

11 sheets, one per business domain

“Supply Chain Management Handbook”

Requirements and Flowdown

IAQG Leader Larry Weng - Boeing

Requirements and Flowdown

Objective

To publish best practices and guidelines on how to ensure requirements are well identified, flowed down to suppliers and agreed upon between customer and suppliers.

Requirements and Flowdown Content Structure

Section:	2.2	**Section Title:** Requirements for Approval			
9100 Clause	7.4.2 Purchasing Information: Purchasing information shall describe the product to be purchased, including, where appropriate, a) requirements for approval of product, procedures, processes and equi				
Generic Expectation	We expect purchasing organizations to flow down [illegible] processes and equipment and the method to obtain the approvals usi[illegible] item listed below which are applicable to product being purchased.				ll the
Product Type			**Material**		**ign**
Specific Expectation	**Organizati[illegible] (Buyer)**		proved terial	a) Define which processes and processors need to be approved and by what method and by whom	a) Design capability assessment
		Build-to-Print commodities			hnical product ion (e.g. SCD,
			d) Certificati		ign process approval ements
			are Build to Prin		quirements for change ation and methods of eving approval.
				e) First article ins requirements	
				f) Defi approval	
				Process contr quirements inc riation manage	
				MRB approval p	
				Control and use of digital ata requirements	
	Supplier (Seller)	Not appli[illegible] See 7.2.2	Not applicable. See 7.2.2	Not applicable. See 7.2.2	Not applicable. See 7.2.2

9100 Requirement

Generic Expectation

Specific Expectations

How to demonstrate compliance

Best Practices

Requirements and Flowdown Content Structure

Section:	2.2	**Section Title:** Requirements for Approval			
9100 Clause	7.4.2 Purchasing Information: Purchasing information shall describe the produ… requirements for approval of product, procedures, processes and equi…				
Generic Expectation	We expect purchasing organizations to flow down any a… requirements for a… product, proc… processes and equipment and the method to ob… the approva… using purchasing proc… which takes into consider… all the item listed below which are applicable to product being purchased.				
Product Type		**COTS/Standards**	**Raw Material**	**Build-to-Print**	**Supplier Design**
Specific Expectation	**Organization (Buyer)**	a) COTS- no specific…	a) Identify Approved…	All Raw Material…	All Raw Material expectations and
					a) Design capability assessment
				…s	b) Technical product definition (e.g. SCD,
					c) Design process approval requirements
			Note: Does not include forgings or castings. They are Build to Print	d) Tooling accountability and inspection methods	d) Requirements for change notification and methods of achieving approval.
					…ification
					…control of digital …methods of use
					…d use of digital …ments
				i) Control and use of digital data requirements	
	Supplier (Seller)	Not applicable. See 7.2.2	Not applicable. See 7.2.2	Not applicable. See 7.2.2	Not applicable. See 7.2.2

Specific to the product type

29 Templates have been populated

Specific to the Buyer and Seller

“Supply Chain Management Handbook”

Education Package about 9103 (Variation Management of Key Characteristics)

IAQG Leader: Bernard Lauras - Airbus

9103 - Variation Management of Key Characteristics - Education package

Do you know what Key Characteristics are ?

Which ones were missed ?

9103 - Variation Management of Key Characteristics - Education package

Objective

- Promote benefits of IAQG Standard 9103 (Variation Management of Key Characteristics) and gain broader acceptance
- Increase skills for all people involved in 9103 deployment

Reason

- The application of 9103 will help resolve the main contributors to quality non-conformance in aerospace, but is not sufficiently and adequately deployed (lack of buy in, lack of skills)

9103 Education package status

- 9103 education package technical content has been completed with contribution of Engineering people
- Existing PowerPoint document is being transformed into a e-learning tool
- Final version should be available around year 07 end

“Supply Chain Management Handbook”

Root Cause Analysis and Problem Solving

IAQG Leader: Bernard Lauras - Airbus

Root Cause Analysis and Problem Solving

Objective

- Propose methodology to improve the way escapes and problems are managed (including communication between all actors - engineering, MRB, supplier, customer, etc...) to reduce their impacts, contain them as far upstream as possible and prevent recurrence.

“9 Steps” harmonised Process

Communication is a key aspect

- **S0** Start Immediate containment actions
- **S1** Build the team
- **S2** Define problem
- **S3** Complete and optimise containment actions
- **S4** Identify Root Cause(s)
- **S5** Define and select root cause corrective actions
- **S6** Implement root cause corrective actions and check effectiveness
- Is the root cause corrective action effective ?
  - **no** → back to **S4**
  - **yes** → **S7**
- **S7** Standardise and transfer the knowledge across business
- **S8** Recognise and close the team

Optimised IAQG process was defined based on comparison between those used by main IAQG members

Root Cause Analysis and Problem Solving

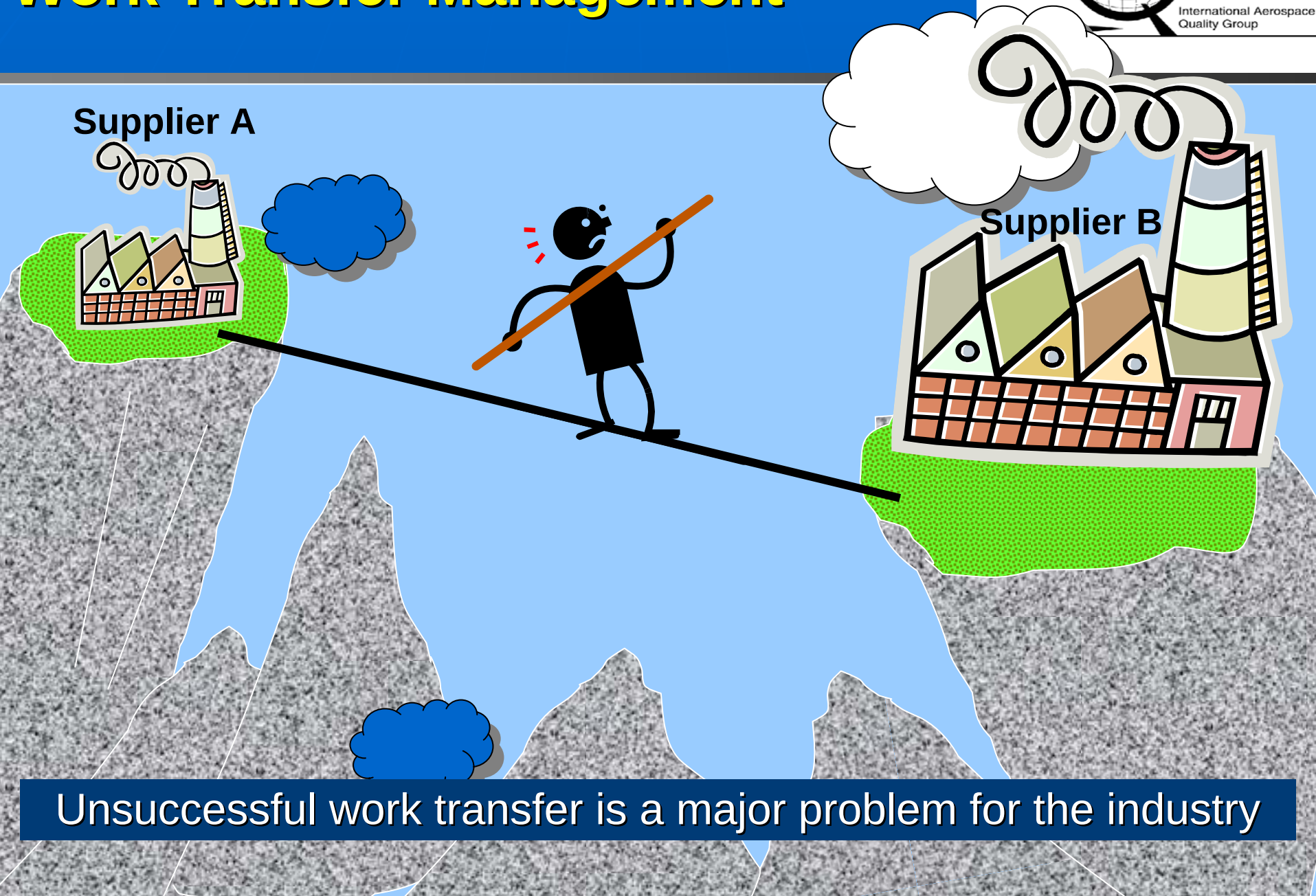
- Content of the guideline defined for each step:
  - What is the **Objective** of the step
  - **What** is the content of the step
  - **Why** this step it is necessary
  - **Who** are the actors
  - **When** does it take place
  - **How** to manage this step so that it is effective, including some **tools** to be used
  - Main **Communication** aspects to take into consideration
  - Some **Specificities to be considered**

“Supply Chain Management Handbook”

Work Transfer Management (AAQG)

IAQG Leader Susan Armstrong - UTC

Work Transfer Management



Unsuccessful work transfer is a major problem for the industry

Work Transfer Management

Objective

To provide guidelines for the exercising of effective risk and management control when changing the source of supply of a component, a component package or an assembly across a company or its external supply chain.

Work Transfer Management
Phases & Gates:

Gate 1	Gate 2	Gate 3	Gate 4
Phase 1 Proposal & Feasibility	**Phase 2 Develop Business Case**	**Phase 3 Detail Planning**	**Phase 4 Execution of Plan**	**Phase 5 Project Closure**
✓Proposal & Feasibility ✓Gate Review	✓Team Launch and develop charter ✓Source Selection ✓Risk Assessment ✓Business Case ✓Gate Review	✓Detail Planning ✓Knowledge Transfer pre-move ✓Gate Review	✓Project Management ✓Technical Review Requirements ✓Production Readiness Review ✓FAI / LAI ✓Knowledge transfer ✓Gate Review	✓Identify Continuous Improvement opportunity ✓Capture Lessons Learned ✓Recognize team performance ✓Post implementation review
Templates				
WT Project Proposal Form Gate Check List	Project Charter Risk Assessment Business Case Gate Check List	Project Plan Transfer checklist Gate Check List	Production Readiness Review Check List AS9102 FAI/LAI Gate Check List	Closure Form

“Supply Chain Management Handbook”

New Project just started

Control of Non Conforming Material

Control of Non Conforming Material

- Draft Problem statement
  - Control of nonconforming material in supply chain is viewed as a major potential source of risk
  - Management is critical in regard to controlling non-conforming material and the communication of escape data.
- Proposed solution
  - A chapter within the SCMH that clarifies the Supply Chain requirements for non-conforming materials as depicted in 9100

“Supply Chain Management Handbook”

Deployment

Today's SCMH status

- **All SCMH produced material is available to IAQG Members through IAQG website**

- **For other Non IAQG members suppliers**
  - **Current access through your IAQG member companies**
  - **Future access through IAQG website currently being worked**

For any question or comments

- Contact one of the “Product and Supply Chain Improvement” stream leaders depending on your sector:
  - AAQG:
    - Susan Armstrong - UTC
    - Larry Weng - Boeing
  - APAQG:
    - Shuji Komori - FHI
  - EAQG:
    - Bernard Lauras - Airbus
    - Christian Buck - Safran

Discussion topics:

- What subjects/issues should be addressed next ?
- How can we assist you in using the material to provide feedback ?
- … ?