



Quantifying the Value of Certification

Sam O'Connor & Jim Lee



simple**QuE**

A photograph of four business professionals in an office setting. Two men are shaking hands in the center, while a woman with glasses and another man look on. A large red circle with a white border is overlaid on the image, containing the word 'Certified!' and a list of standards. A smaller grey circle with a white border is on the right, containing the text 'Next Step'.

Certified!

ISO 9001
ASA-100
AS9100
AS9110
AS9120

**Next
Step**

But we're certified...

What can we do?



What should we do to get value?

#1

Customer Requirement

Barrier

Able to
Bid

Just
Do It

Example: "ZZZ requires its direct supplier organizations to be AS9100. ZZZ considers subcontractors to be an extension of the organization's process/product and extends the requirement to them.

ZZZ satisfies the goal of organization conformity to AS9100 as follows:

a. The organization must be registered to AS9100 (preferred) or ISO 9001 (approved Request for Waiver is required). In addition, the organization must comply with this customer specific document.

Those organizations not currently registered to AS9100 shall submit a ZZZ AS9100 Request for Waiver form (available on the ZZZ Scorecard site) which will detail a credible work plan to attain registration in a timely manner or which will allow ongoing approval for the site to operate at the less desired 9001 quality system level.

NOTE: The registration type selected by the organization will influence their quality rating and potentially their sourcing opportunities."

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Barrier to Entry



Certification
=
Easier Entry

Right to Play

- **Some industries and customers mandate certification**
- **Earn the business**
- **Quality is expected**

Just Do It

- Hang the certificate on the wall and the website
- Quality Manager does it all
- Lack of management support
- Less likely to get value



#2 Increase Sales



**New
Customers**

**Brand
Image**

**OASIS
Visibility**

**Who saw certification
as a way to open more
sales opportunities?**





YouTube

Search



Shell Case Standard 300™

144 views

0 0 SHARE SAVE ...



Custom Case Group

Published on Jul 14, 2016

SUBSCRIBE 4

Shell-Case Standard 300™ line— the world's most advanced carrying products certified for ISO 9001 by TUV Germany. The most practical case solutions imaginable infused with unmatched style and luxury.

https://www.youtube.com/watch?v=96R9FnC_r2c

Brand Image

Website



[← Company Overview](#)

[← Sustainability](#)

[← Environment, Health
and Safety](#)

[← Quality](#)

ISO 9001 Certifications by Country

[View Certifications by Business](#)

North and South America

Argentina

Merchant and Industrial Gas & Equipment

Garin

[Download PDF](#) (English, 248 KB)

[Download PDF](#) (Spanish, 248 KB)

Rosario

[Download PDF](#) (English, 248 KB)

[Download PDF](#) (Spanish, 248 KB)

Brazil

Industrial Gases

[Download PDF](#) (551 KB)

Canada

Industrial Gases

[Download PDF](#) (551 KB)

OASIS database



The screenshot shows the OASIS database homepage. At the top, there is a navigation bar with links for MANAGE, DATA SEARCH, REPORTS, and MYOASIS. To the right of these links are icons for a menu, help, user profile, and a settings gear. Below the navigation bar, the text "Online Aerospace Supplier Information System" is displayed above the large "OASIS" logo. A personalized greeting "Hello James Lee" is shown on the left. On the right, the IAQG logo is displayed with the text "INTERNATIONAL AEROSPACE QUALITY GROUP" underneath. The main content area is divided into two sections: "Welcome to International Aerospace Quality Group" and "Important Modifications". The welcome section includes a brief description of the system, and the modifications section provides a summary of recent changes.

MANAGE DATA SEARCH REPORTS MYOASIS

IAQG Auditor

Online Aerospace Supplier Information System

OASIS

Hello James Lee

iaqg
INTERNATIONAL AEROSPACE
QUALITY GROUP

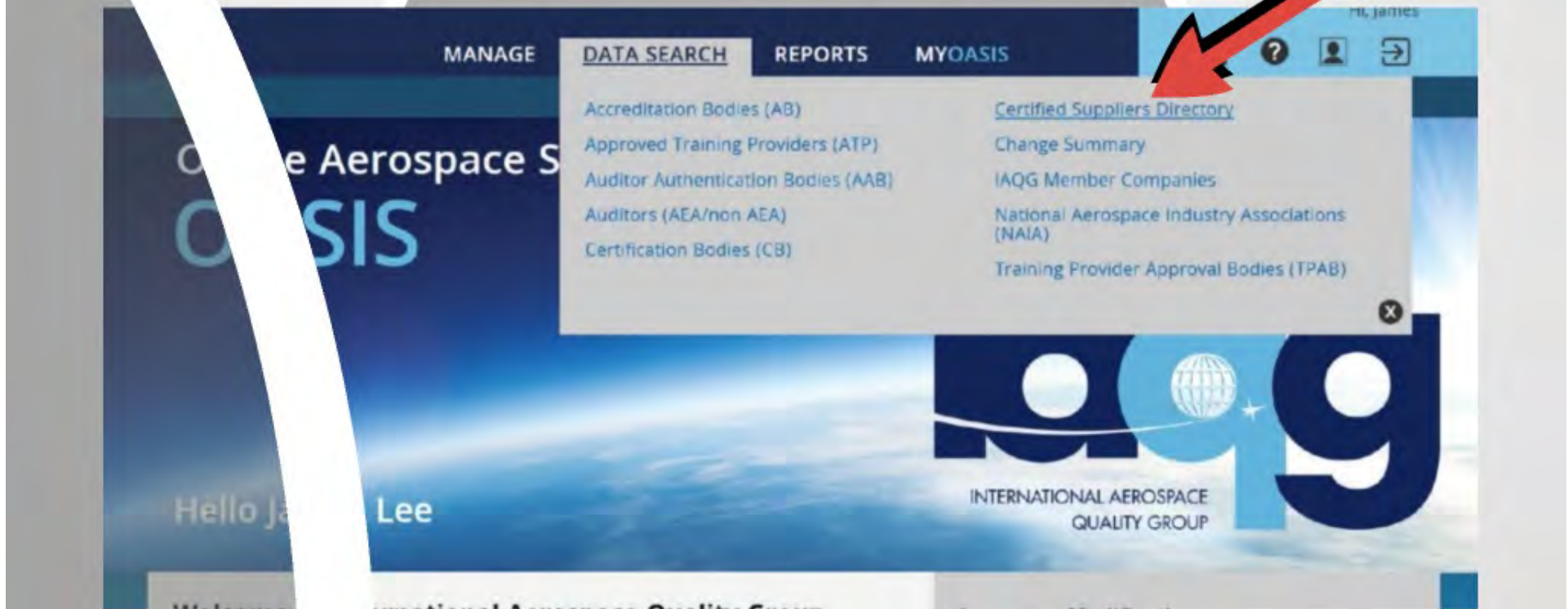
Welcome to International Aerospace Quality Group

Online Aerospace Supplier Information System (IAQG-OASIS). If you are working in the

Important Modifications

A summary of the past changes and update

Prime & Sub-Prime Customers Search For Suppliers in OASIS



Online Aerospace Supplier Information System
OASIS

Hi, James

MANAGE
DATA SEARCH
REPORTS
MYOASIS

IAQG Auditor

Supplier Search Results

Supplier

Location

Country

Status

Standard

Cert Num

CB

Structure

OIN: 611900118

A.J. Levin Co.

3108 West V

a, Burbank, CA 91505, United States

Certified

9100 Series

AJLC-004-08-17-02

Aviation Suppliers Association dba ASACB

Single S

OIN: 61485

AAR Land

9270 N

eeet, Miami, FL 33178, United States

Certified

9110 Series

AARL-001-06-18-1

Aviation Suppliers Association dba ASACB

Multiple

OIN:

, Gear Services

0 Street, Miami, FL 33178, United States

Certified

9110 Series

AARL-001-06-18-1

Aviation Suppliers Association dba ASACB

Multiple

666404

ech Machine Inc.

3 Gladiola St., Salt Lake City, UT 84104, United States

Certified

9100 Series

ACCU-004-12-18-1

Aviation Suppliers Association dba ASACB

Single S

OIN: 6124267244

Certified

ACCT-001-01-18-2

Single S

20.



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simple**QuE**



Use As A Tool To Improve



Value

Value

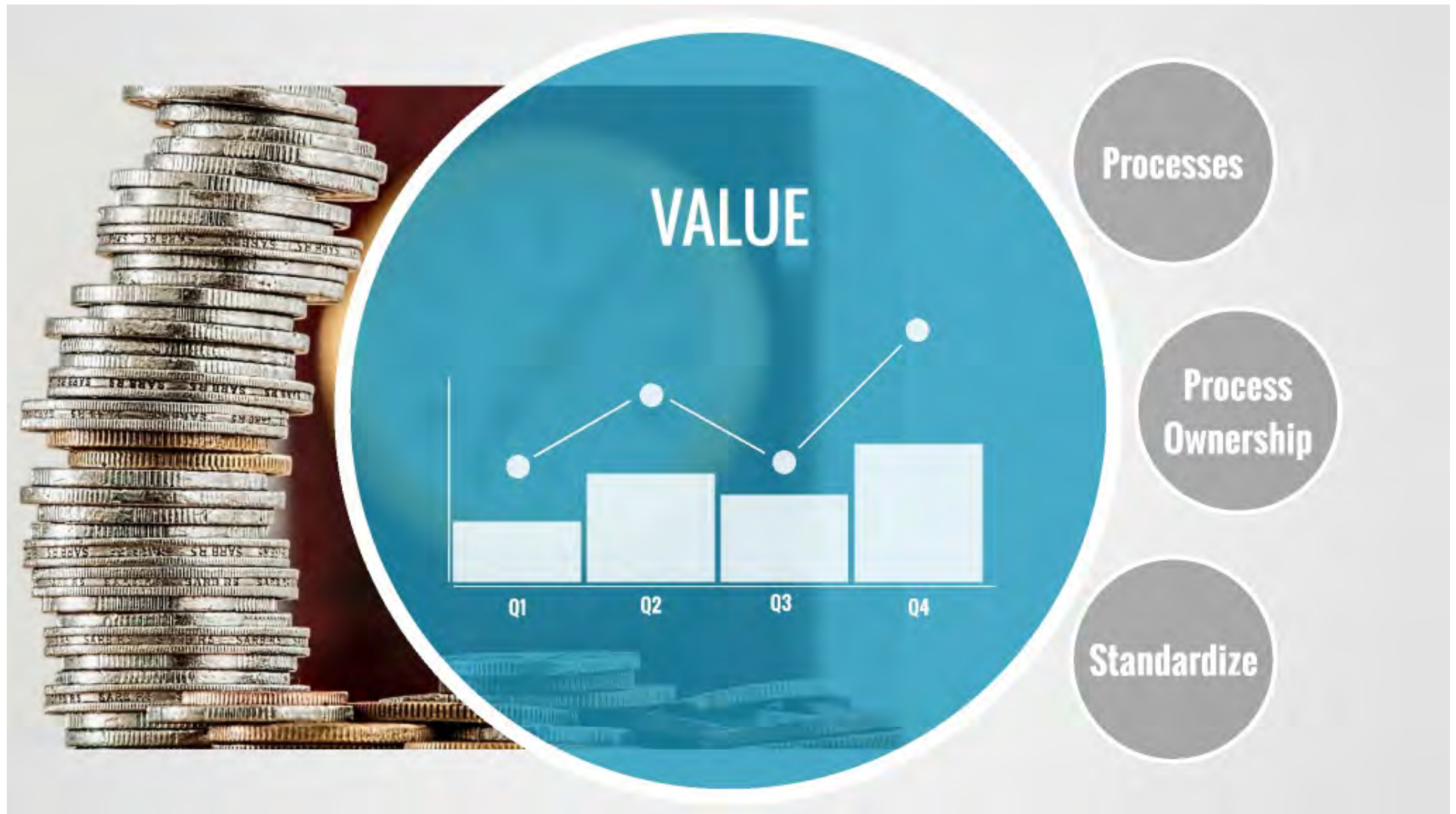
**Emphasis For This
Presentation is to Show
How to Get Value From
Certification**

**use ISO 9001, ASA-100,
AS9100, AS9110, or AS9120
as a roadmap to good practices.**

Using ISO or AS to Get Better

- Consistency - formalize processes
- Structure for growth
- Reduce waste
- Reduce errors & inefficiencies
- Reduce rework & scrap
- Improve quality, fewer escapes
- Reduce disruptions
- Warranty & returns down
- Less fire fighting, more proactive
- Improve customer satisfaction
- consistent, better real-time monitoring
- Provides reasons or justification for change







Process Approach

**Business
Processes**

=

**Quality
Processes**

Mfg

Service

Service

PDCA

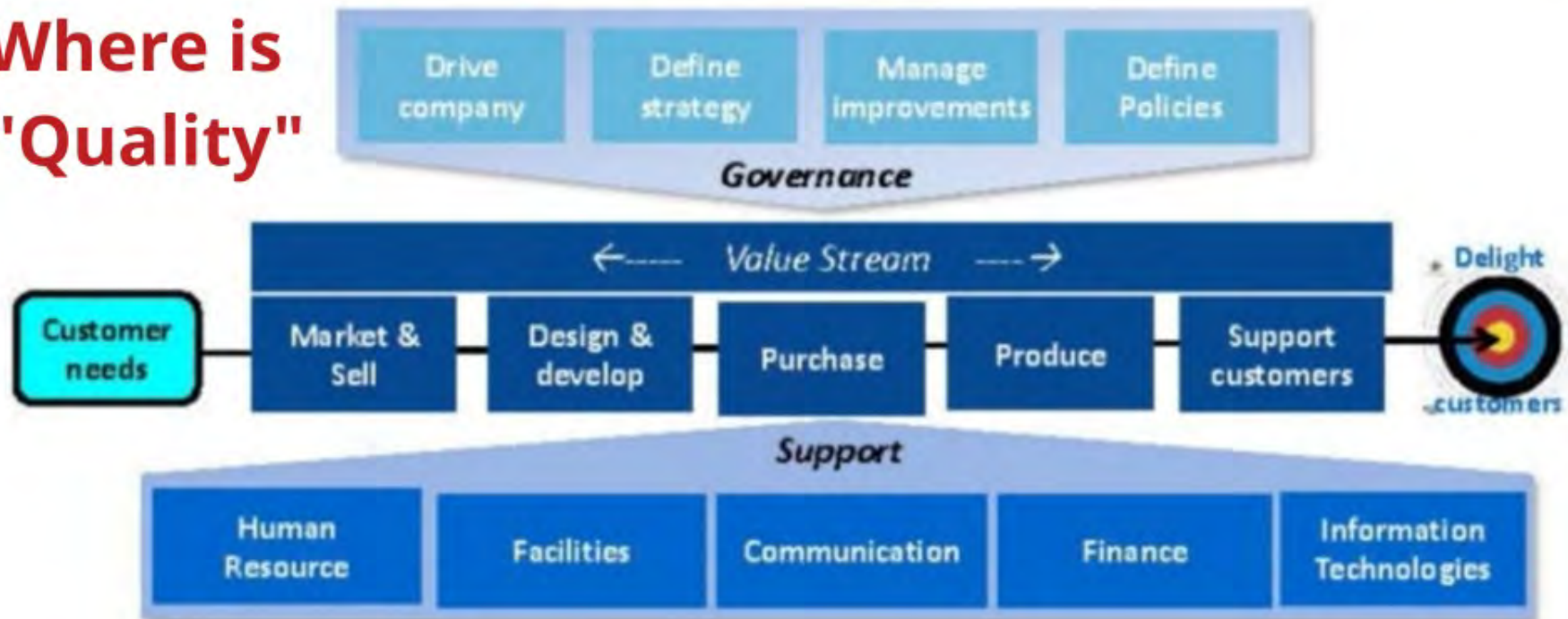
4.4 Quality management system and its processes

4.4.1 The organization shall establish, implement, maintain and continually improve a quality management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard. The organization shall determine the processes needed for the quality management system and their application throughout the organization.

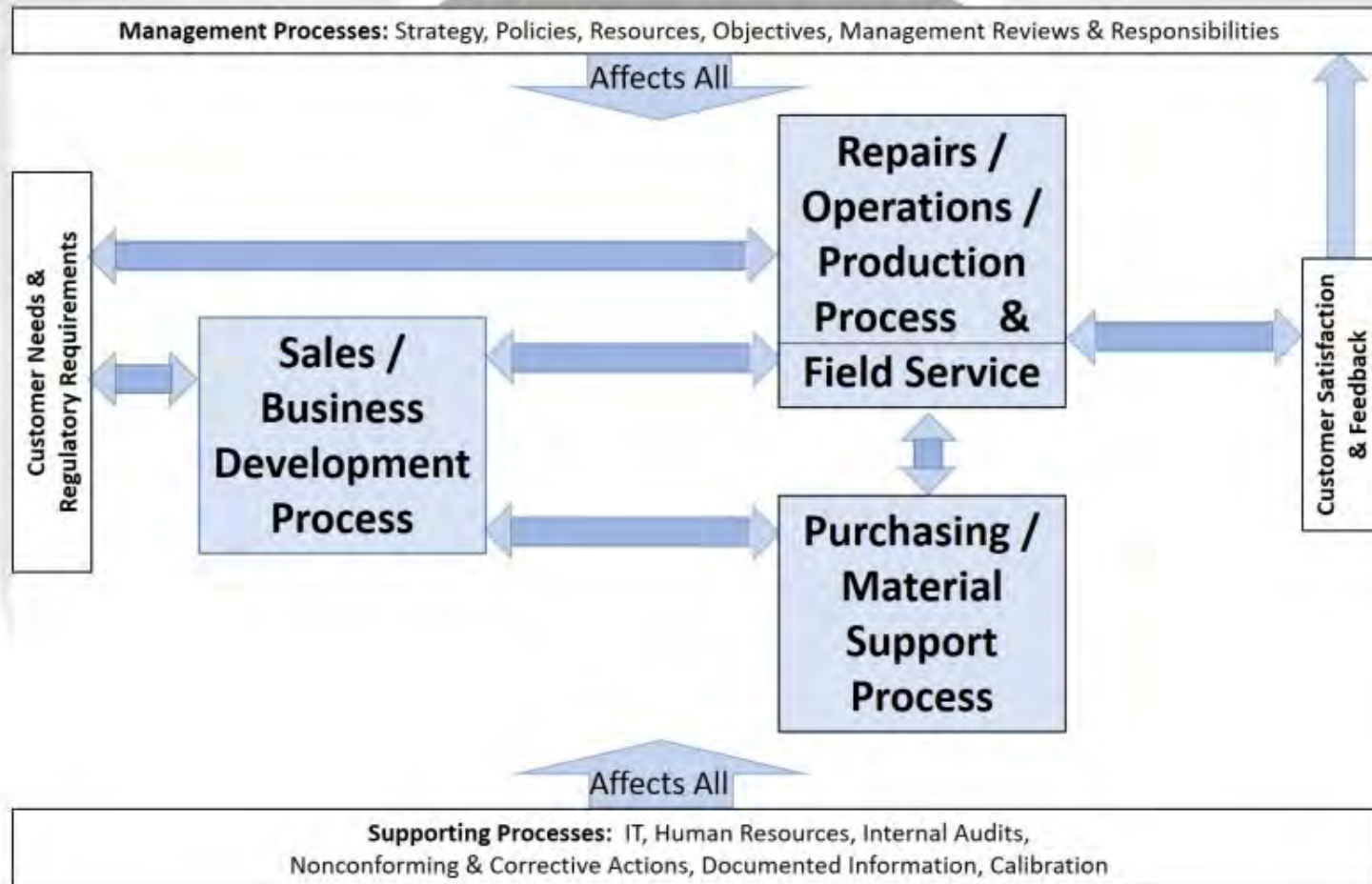
Example of Process Based QMS

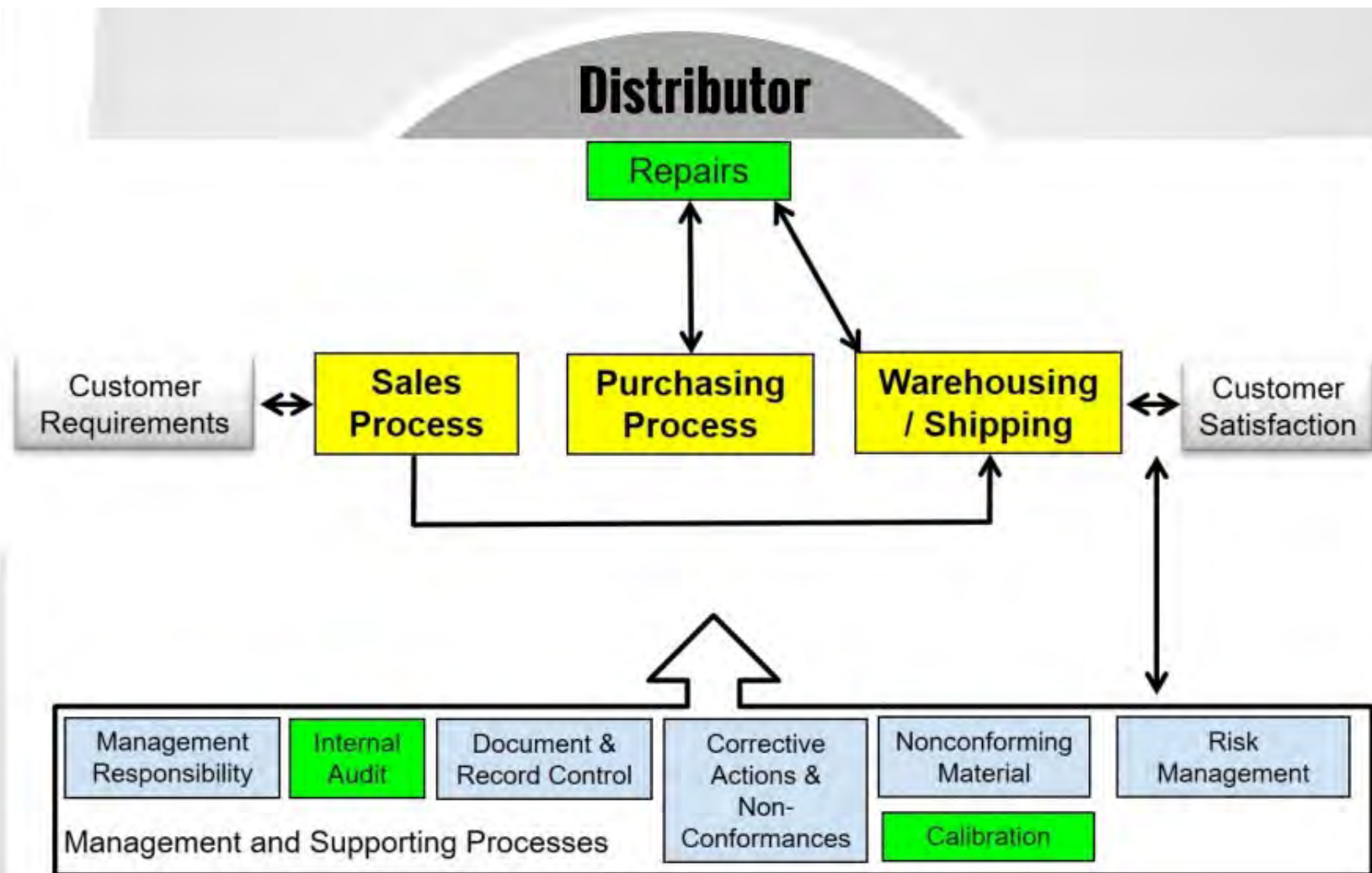
Business Management System around a Value Stream

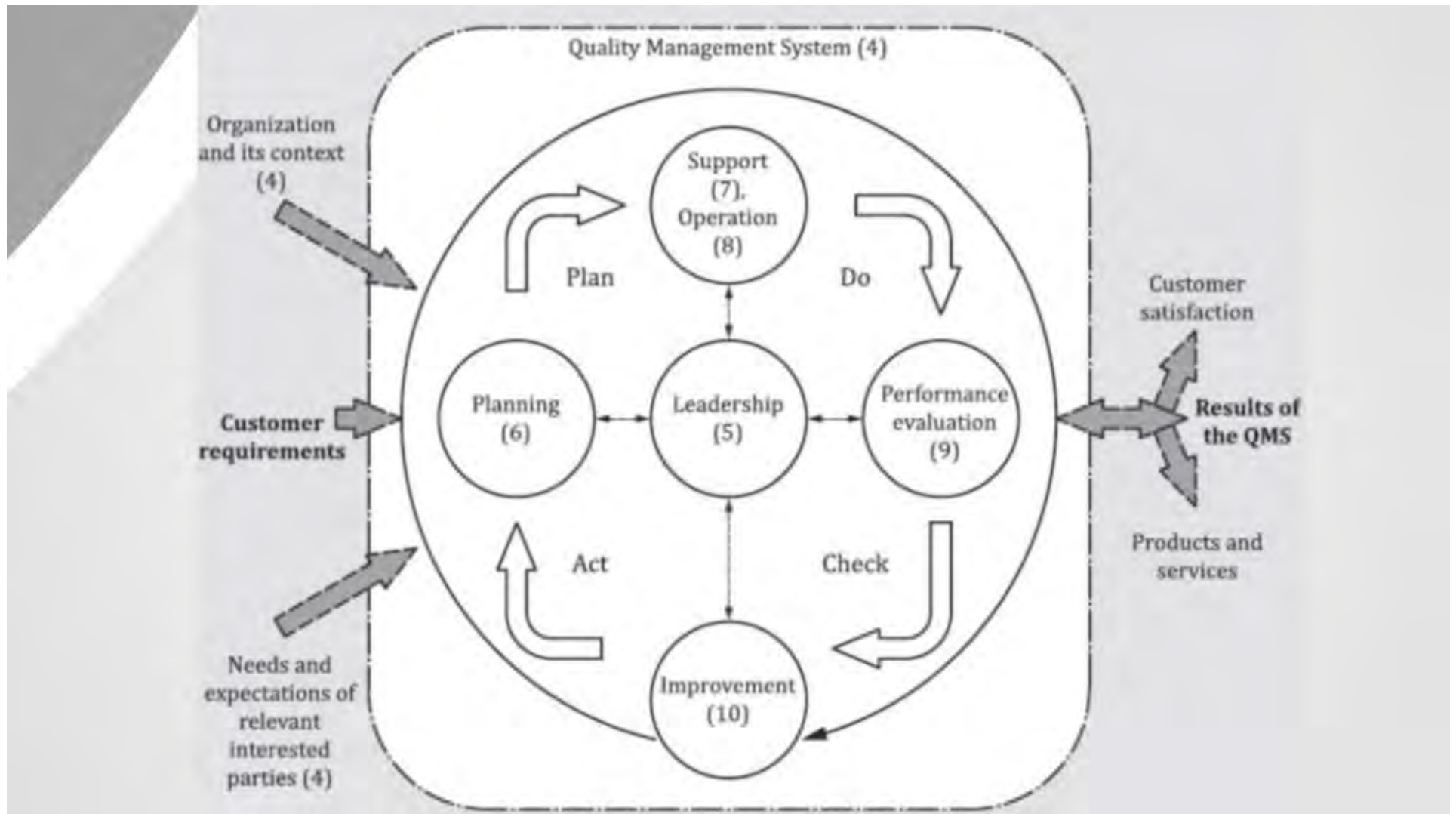
Where is
"Quality"

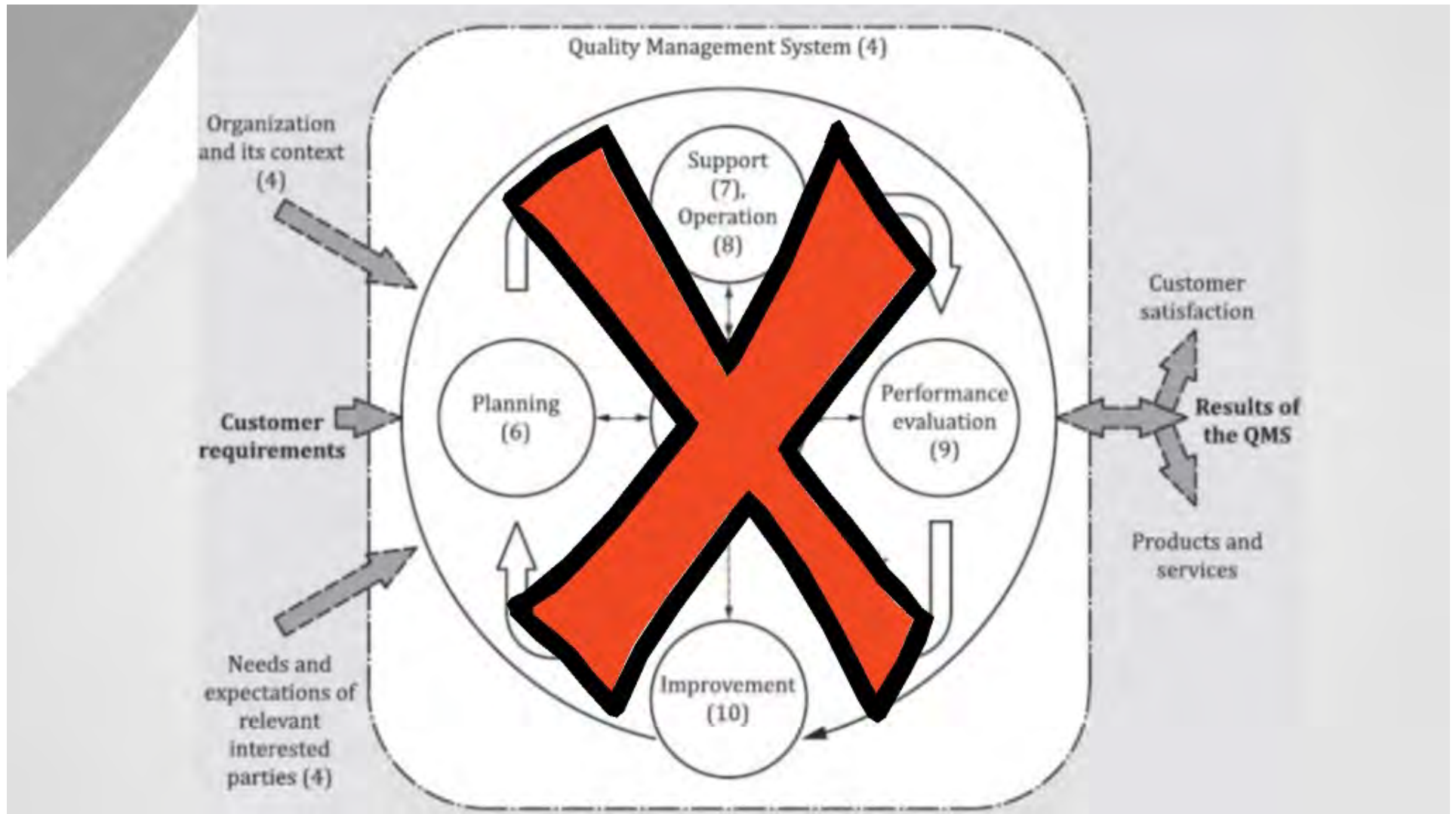


Repair Station Example

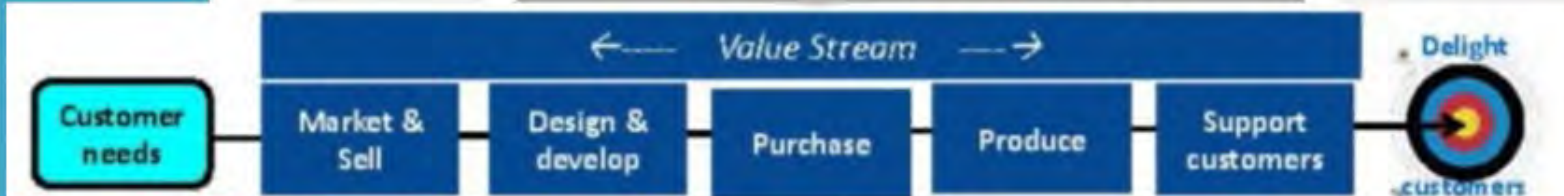








Process Ownership



- Not the quality manager
- Process owners engaged - take ownership
- Management bought in
- Better focus on improvement of these business processes = quality processes
- Congruent objectives to maintain certification



Standardize Processes

Discipline to follow formalized processes



4.4.1 Quality management system and its processes

The organization shall determine the processes needed for the quality management system and their application throughout the organization, and shall:

- a) determine the inputs required and the outputs expected from these processes;
- b) determine the sequence and interaction of these processes;
- c) determine and apply the criteria and methods (including monitoring, measurements and related performance indicators) needed to ensure the effective operation and control of these processes;
- d) determine the resources needed for these processes and ensure their availability;
- e) assign the responsibilities and authorities for these processes;
- f) address the risks and opportunities;
- g) evaluate these processes and implement any changes needed to ensure that these processes achieve their intended results;
- h) improve the processes and the quality management system.

9101 FORM 3: PROCESS EFFECTIVENESS ASSESSMENT REPORT

¹ CB Name:		PROCESS EFFECTIVENESS ASSESSMENT REPORT			
³ Organization:		⁴ Site(s):		⁵ OIN(s):	
⁶ PEAR Number:		⁷ Audit Report Number:		⁸ Issue Date:	
SECTION 1 – PROCESS DETAILS					
⁹ Process Name:			¹⁰ Responsibility/Authority:		
¹¹ AQMS Standard/Revision	9100 ☐ Rev:	9110 ☐ Rev:	9120 ☐ Rev:		
¹² Applicable 9100/9110/9120 clause(s):					
¹³ Inputs:					
¹⁴ Activities:					
¹⁵ Outputs:					
¹⁶ Interactions/Interfaces:					



SECTION 2 – PROCESS RESULTS

17 Organization's method for determining process results:

18 Performance Measures

KPI 1:

KPI 2:

KPI 3:

19 Auditor observations and comments supporting process result determination

Reference	Target for Audited Period	Value Measured for Audited Period	Comments
KPI 1:			
KPI 2:			
KPI 3:			

SECTION 4 – PROCESS EFFECTIVENESS

²¹ Process Effectiveness Level

Process Realization (a)	Planned activities fully realized	a) The process is determined, and planned activities fully realized; however, b) The process is not delivering the planned results and appropriate action is not being taken. 2 ☐	a) The process is determined, and planned activities fully realized; however, b) The process is not delivering the planned results, but appropriate action is being taken. 4 ☐	a) The process is determined, and planned activities fully realized; and b) The process is delivering the planned results. 5 ☐
	Planned activities not fully realized	a) The process is determined, but planned activities not fully realized; and b) The process is not delivering the planned results and appropriate action is not being taken. 2 ☐	a) The process is determined, but planned activities not fully realized; and b) The process is not delivering the planned results, but appropriate action is being taken. 3 ☐	a) The process is determined, but planned activities not fully realized; however, b) The process is delivering the planned results. 4 ☐
	Planned activities not realized	a) The process is not determined, and planned activities not realized; and b) The process is not delivering the planned results and appropriate action is not being taken. 1 ☐	a) The process is not determined, and planned activities not realized; and b) The process is not delivering the planned results, but appropriate action is being taken. 2 ☐	a) The process is not determined, and planned activities not realized; however, b) The process is delivering the planned results. 2 ☐
		Planned results not achieved and appropriate action is not taken	Planned results not achieved, but appropriate action is being taken	Planned results are achieved
		Process Results (b)		





Standard Quality Objectives



Quality Performance

**On-Time
Delivery**

Customer Satisfaction

Any examples of bad goals driving bad behavior?

Key Performance Indicators



Effectiveness & Efficiency of a Process - Ideas:

- Costs of Poor Quality
non-recurring costs to fix internal or external escapes
- First Pass Yield on Production Operations
measures the ability of a process to produce first time right
- Productivity
scrap rate, first article success rate, mfg schedule adherence, rework rate
- Machine Utilization Rates

SCMH (www.iaqg.org/scmh) Section 7.11.2 Metrics and KPI Definitions

Return on Investment



ISO 9001 certified companies are paid 7% more on average, have better sales growth & an improved Return on Assets. source: iso.org

Cost of Poor Quality

BSI ROI Calculator

It's fast,
free and
easy to use



More Operational Value

Audits

Risk
Management

Systemic
Corrective
Actions

Mgmt
Review



Audits Drive Improvement

Internal Auditing is a catalyst for improving an organization's effectiveness and efficiency by providing insight and recommendations based on analysis and assessments of data and business processes

Repetition keeps focus and pressure to follow processes and procedures

Good audits find broken processes and systems

Audit Checklist

- ☐ Audit satisfactory
- ☒ Non-conformities found
- ☒ Observations made
- ☐ Quality systems
- ☐ Health and safety
- ☐ Business risks



Risk Management & Risked Based Thinking

Helps quantify
when risks are
okay or when
actions are
necessary

Helps management
prioritize in right
places based on risk
management
principles

Link to internal audits
to drive focus on
problem areas (p/n,
production line/cell,
business process,
department,
procedure)





Root Cause and Corrective Action

When done properly, allows companies to get out of the fire-fighting mode

Verification of effective corrective actions and closure

Considers root causes beyond human errors

An area where customers and certification bodies push back to drive good root cause analysis



OASIS Human Factors Table

Cause Codes

Resources		Management			Methods			Human Factors			
Code	Title	Definition	Code	Title	Definition	Code	Title	Definition	Code	Title	Definition
RE1	Inadequate personnel capabilities	Appropriate education, training or experience was not adequately determined, or competent people were not available.	MG1	Lack of training provision.	Identified training and competency requirements were not adequately deployed and/or sustained to meet the ongoing needs of the organization.	ME1	Lack of operational planning and control.	The organization did not adequately deploy planning and control activities to ensure that operational tasks were conducted in accordance with requirements.	HF1	Lack of attention or concentration.	A state of being unfocused or uninterested in the task.
RE2	Inadequate operational infrastructure	Operating infrastructure such as utilities, information technology, buildings, transportation was not adequate to support operational requirements.	MG2	Unclear roles and responsibilities.	Authorities, responsibilities or duties lacked clarity or were not fully understood. As a result operational tasks and related authorities/approvals were improperly assigned.	ME2	Inadequate documented information.	Documented information did not clearly describe the applicable requirements for the process, product or service.	HF2	Pressure and stress.	A state of being overloaded or pressurised by urgent and changing or conflicting demands. A lack of time or resource to perform the task.
RE3	Inadequate operating environment	Operating environment elements such as temperature, humidity, lighting, noise and cleanliness are not adequate to support operational requirements.	MG3	Inadequate organizational governance.	The organization did not determine or implement sufficient arrangements to ensure continued application and effectiveness of the QMS and its processes.	ME3	Inadequate control of documented information.	Documented information was not adequately maintained, retained or made available to demonstrate effective control.	HF3	Distraction.	A state caused by being disturbed or side-tracked by other people or by any other disruption in the workplace.
RE4	Inadequate equipment	Equipment was not capable of meeting and sustaining operational requirements, or was not adequately controlled or available.	MG4	Inadequate communication.	Key information was not adequately communicated within the organization within a timeframe that makes the information relevant and allows for feedback as required.	ME4	Inadequate verification or validation of process, product or service.	Verification / validation activities were not conducted in accordance with the stated requirements.	HF4	Fatigue.	A state caused by being physically and / or mentally tired as a result of workplace ergonomics, workload, working hours, personal situations etc.

Figure 1 Human Factors	Human Factors		
	Code	Title	Definition
	HF1	Lack of attention or concentration.	A state of being unfocused or uninterested in the task.

HF2	Pressure and stress.	A state of being overloaded or pressurised by urgent and changing or conflicting demands. A lack of time or resource to perform the task.

HF3	Distraction.	A state caused by being disturbed or side-tracked by other people or by any other disruption in the workplace.
		A state caused by being

HF4	Fatigue.	A state caused by being physically and / or mentally tired as a result of workplace ergonomics, workload, working hours, personal situations etc.

Management Review

Once a year is not creating value

**Use existing
management
meetings**

**More
relevant,
real-time
data**

**Records of
topics, action
items, follow
up**



Thank You

Sam O'Connor



sam@aviationsuppliers.org



jlee@simplequeue.com

(202) 347-6899



(866) 827-0402

aviationsuppliers.org



simplequeue.com

Jim Lee

simple**QuE**