



# AS13100: Supplier Engagement Webinar

Wednesday 6th September 2023



**AESQ – Aerospace Engine Supplier Quality Strategy Group**

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# DESIGN WORK: RM13008 & RM13011

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# Webinar Overview

We are **recording** today's webinar and will distribute the video link following the close of the webinar. It will also be posted on the AESQ website for free viewing.

We will take **questions** during today's webinar using the **Chat** feature.

**Please remain on Mute** during the presentation to prevent background noise. We will also be muting all lines at the start of the session.







# AS13100 FOUNDATIONS & OEM DESIGN HIERARCHY

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# Aero Engine Industry- The world ten years ago

- Customers expect Zero Defects
- Airline passengers projected to double in size over the next 20 years
- Increasing level of supplier-made engine content
- Global Supplier Footprint
- Large number of common suppliers between engine manufacturers
- Wide range of Aerospace engine supplier businesses, from <\$1M to >\$2B
- Improving Safety, Quality, Delivery and Cost remained a key challenge

*Aero Engine Manufacturers created a Collaboration working group in 2013 to address the challenges with key Global Suppliers*

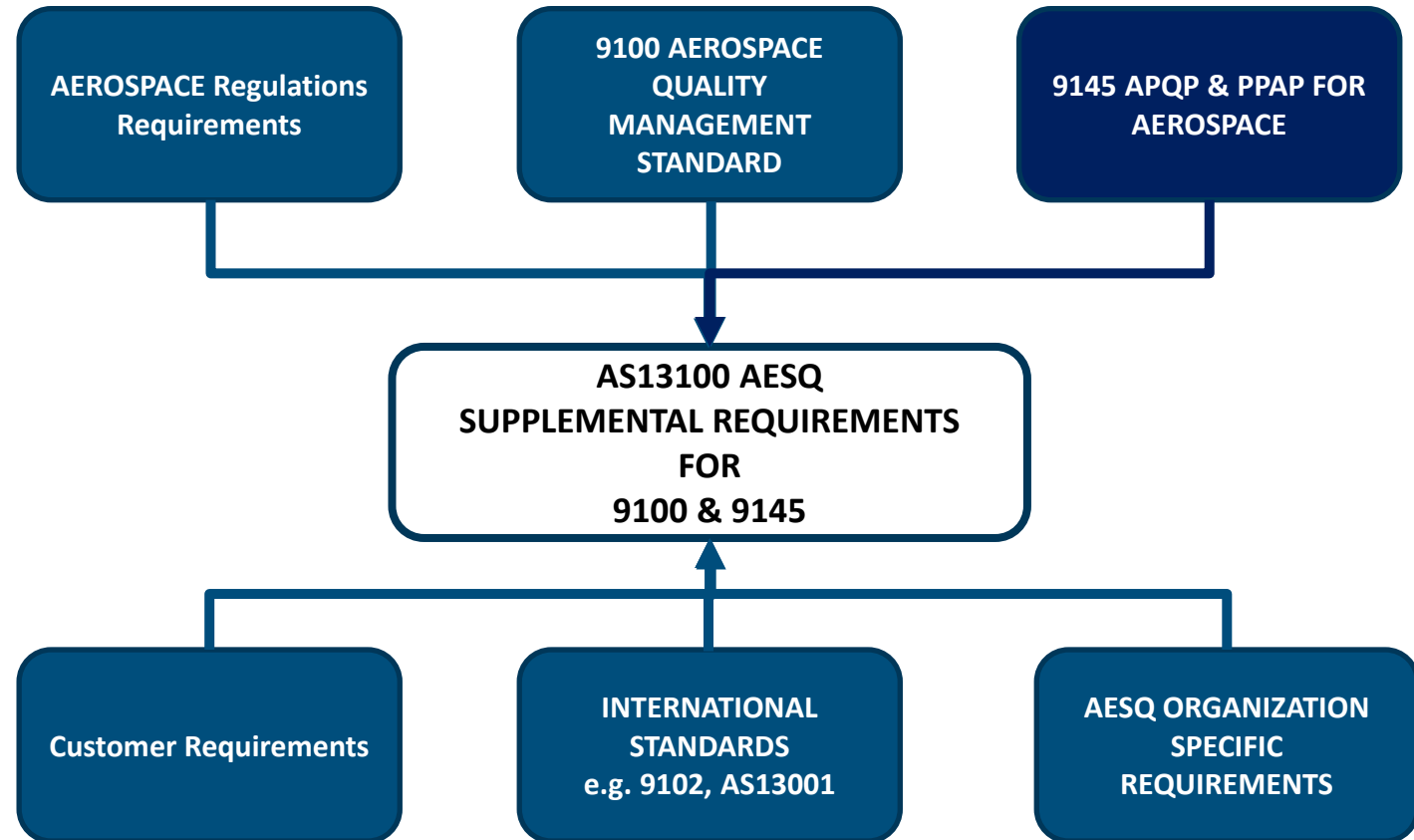
*Used the Automotive example of QS-9000 with Ford, GM and Chrysler as the model*



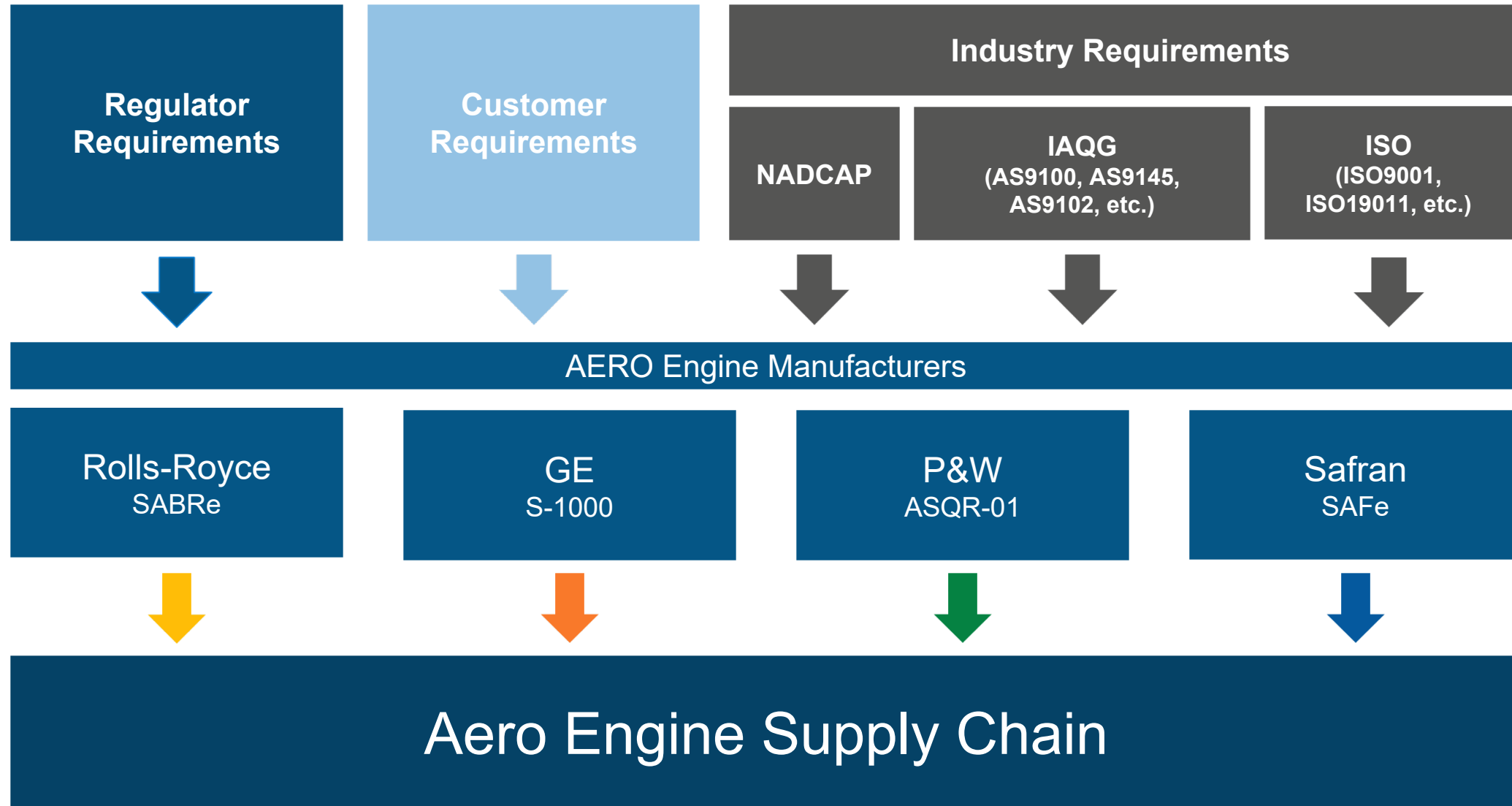
# AS13100 Foundation

Aerospace Engine Supplier Quality (AESQ) wanted to simplify the Quality Management System (QMS) requirements to the Aero Engine Manufacturers and Supply Base

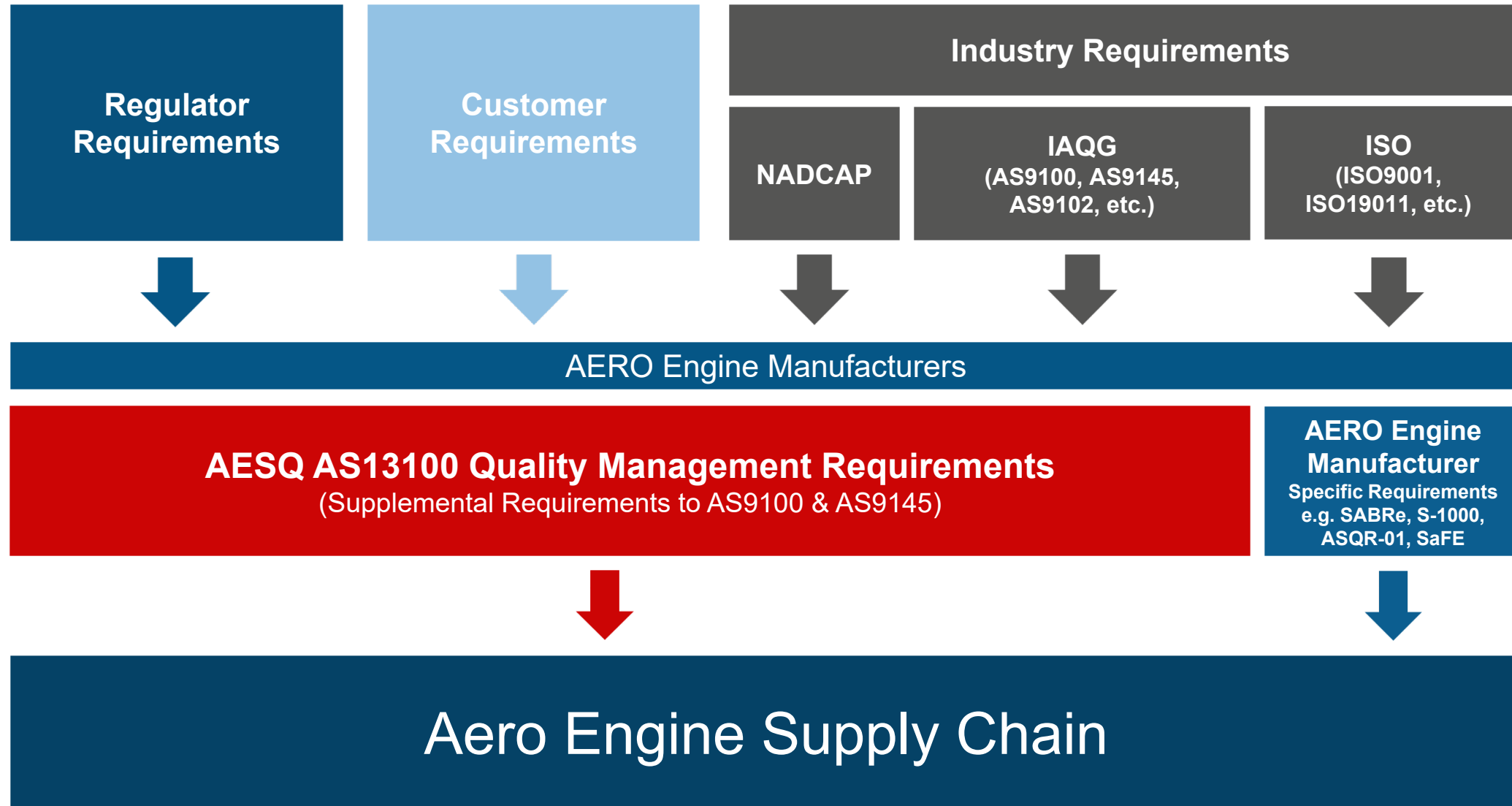
AS13100 was created harmonize ISO 9001, 9100, and 9145 and customer specific requirements for aero engine manufacturing



# Aero Industry Requirements Flowdown (pre AS13100)

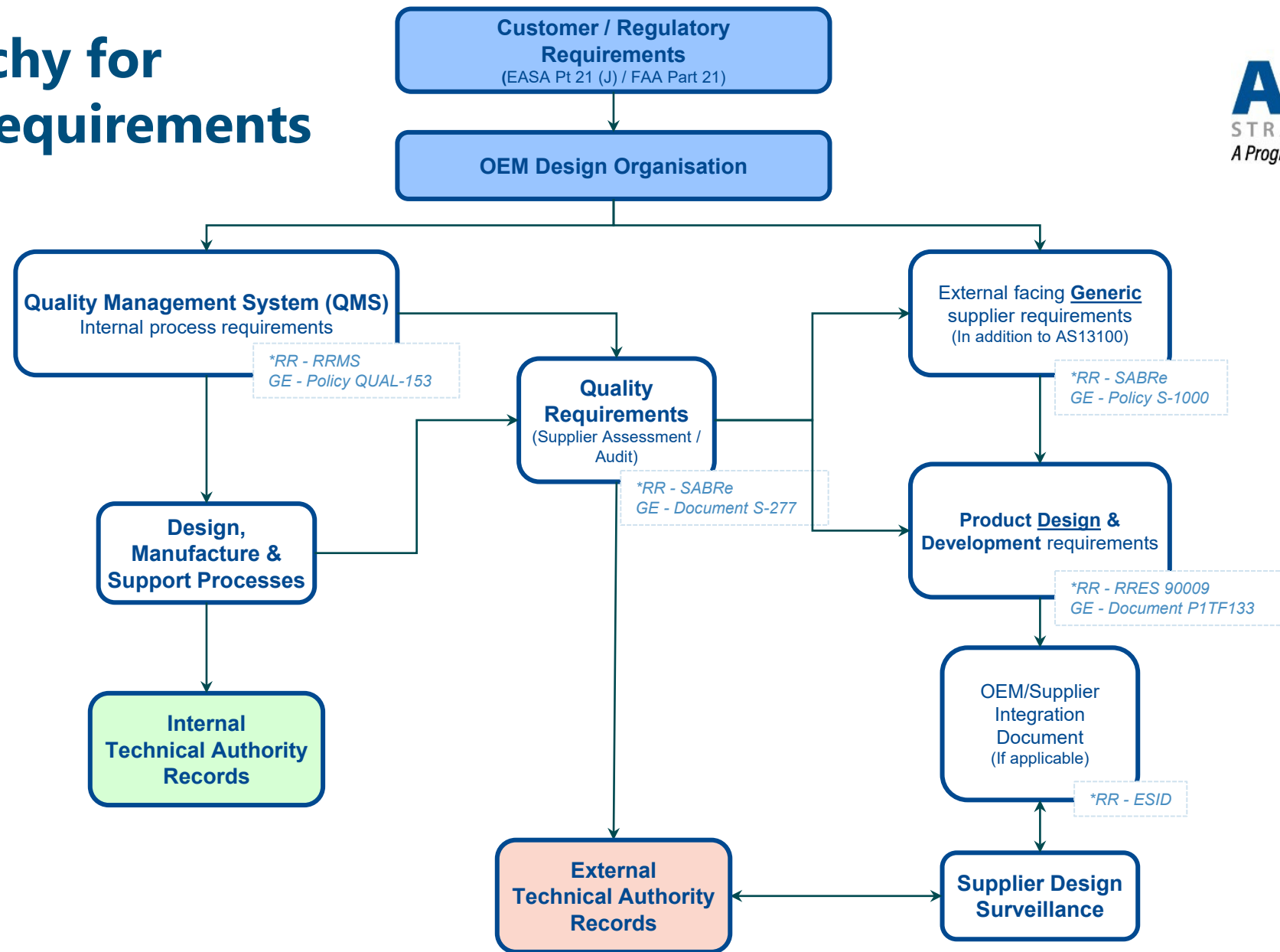


# Aero Industry Requirements Current State





# Typical Hierarchy for OEM Design Requirements



\* Typical OEM Document References for info

**Striving  
for Zero  
Defects**

## Vision

To establish and maintain a common set of Quality Requirements that enable the **Global Aero Engine Supply Chain** to be truly competitive through lean, capable processes and a culture of Continuous Improvement

# Guiding Principles



- Simplify and Standardize Aero Engine supplier requirements through the removal of duplication and waste
- Create a common language for Quality
- Build on existing industry standards, where they exist
- Create Requirements that are simple, prescriptive, and auditable
- Deliver results quickly
- Promote the use of standardized 3rd party training
- Focus on effective & supportive deployment

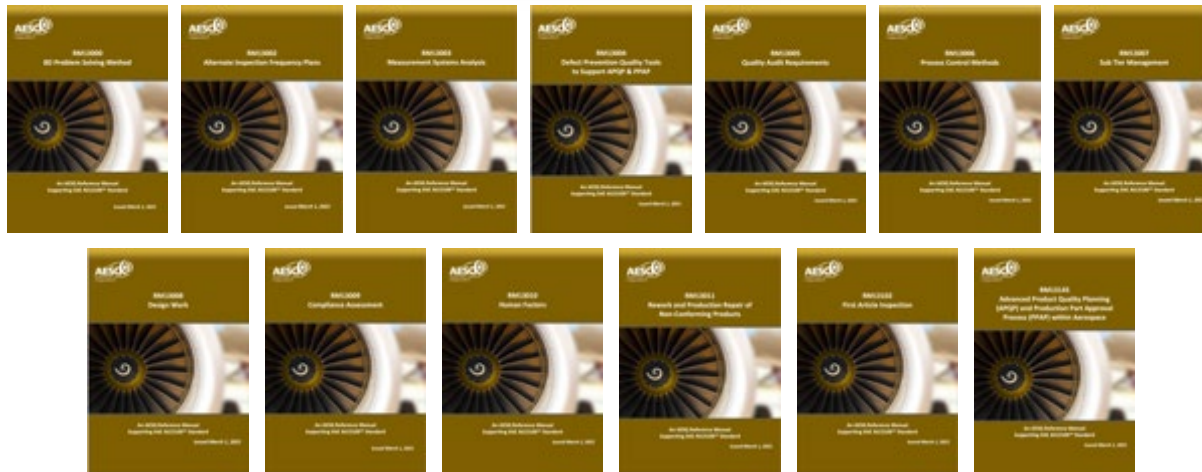
# AS13100 REFERENCE MANUALS - REMINDER

# AS13100 Supporting Reference Manuals



AS13100 Standard defines mandated requirements. The Standard is supported by free issue Reference Manuals from the AESQ Website:

<https://aesq.sae-itc.com/supplemental-material>

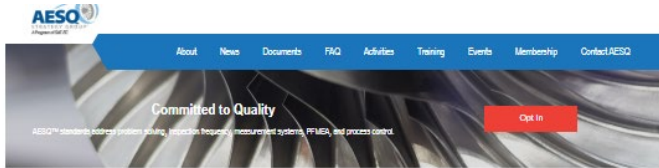


Reference Manuals provide industry best practice guidance and case study material on how to deploy quality tools effectively.

Reference Manuals are maintained and updated by the **AESQ Subject Matter Interest Groups** and may be updated at any time when new or revised information becomes available



# Finding the AESQ Reference Manuals on the AESQ Website



## AESQ Supplementary Materials

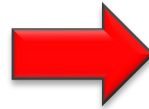
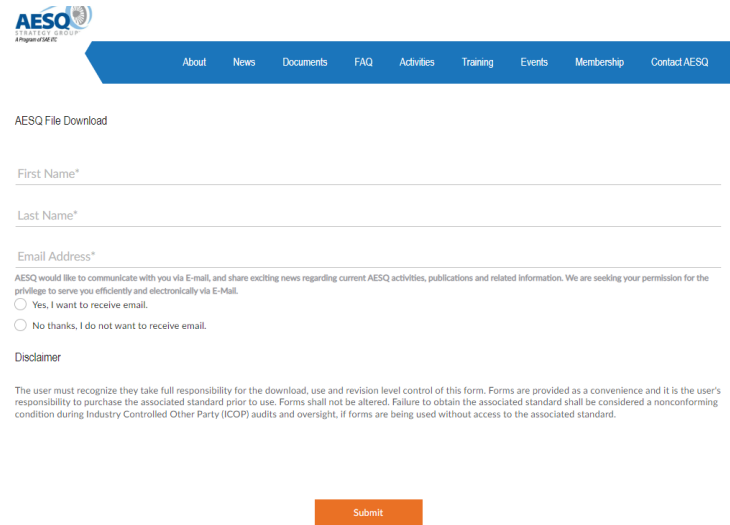
These supplementary guidance documents, forms and checklists are provided for users to download and utilize in conjunction with the standard specified. The associated standard can be obtained from the Standards web page of this website. This material is derived from the specified standards, which is copyrighted property of the AESQ Strategy Group™, a program of SAE Industry Technologies Consortium®.

## AESQ Reference Manuals (RM) Supporting SAE AS13100 Standard

This series of AESQ Reference Manuals (RM) supporting the SAE AS13100™ Standard was developed by a group of Senior Industry Specialists from leading Aerospace companies to aid in the deployment of AS13100. Each Reference Manual is available below for free download along with their respective Forms listed individually.



Reference Manual	Associated Forms	Issue Date
RM13000	<ul style="list-style-type: none"> <li>Problem Solving Methods, Including 8D</li> <li>8D Interactive Tool (PowerPoint)</li> <li>8D Reporting Template (Power Point)</li> <li>8D Word Form (Word)</li> <li>8D Template (Excel)</li> <li>8D Template (PowerPoint)</li> </ul>	March 8, 2021
RM13002	<ul style="list-style-type: none"> <li>Alternate Inspection Frequency Plans</li> <li>Alternate Inspection Frequency Plan Worksheet (Excel)</li> </ul>	March 8, 2021
RM13003	Measurement Systems Analysis	October 4, 2022
RM13004	<ul style="list-style-type: none"> <li>Defect Prevention Quality Tools</li> <li>RM13004 Template and Examples (Excel)</li> <li>CPK/MSA Template (Excel)</li> </ul>	Revised January 14, 2022
RM13005	<ul style="list-style-type: none"> <li>Quality Audit Methods</li> <li>Appendix B Risk Assessment (Excel)</li> <li>Appendix C Quality System Audit (Word)</li> <li>Appendix D Production Process Audit (Excel)</li> <li>Appendix E Management Review (PowerPoint)</li> <li>Appendix F Annual Audit Report (Excel)</li> </ul>	ISSUE January 30, 2023
	<ul style="list-style-type: none"> <li>Process Control Methods</li> <li>Appendix A Assessment Checklist (Excel)</li> <li>Appendix B Process Capability Plan (Excel)</li> <li>Appendix C Training Syllabus (Word)</li> <li>Process Capability Six-Pack Guidance Sheet</li> </ul>	Revised September 7, 2021
RM13007	Sub-Tier Management	March 8, 2021
RM13008	Design Work	March 8, 2021

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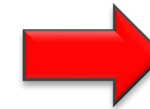
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# AS13100 Supporting Material

- DFMEA Template (Excel)

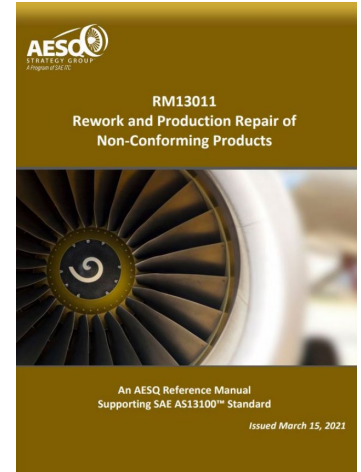
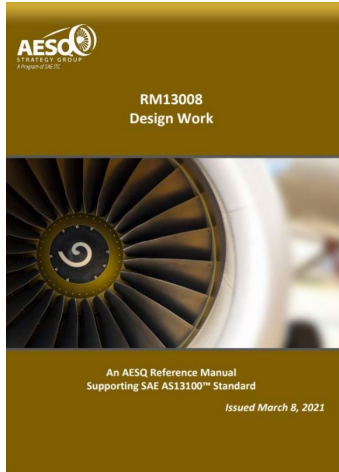
RM13005	Quality Audit Methods	<b>NEW</b> January 30, 2023
	<ul style="list-style-type: none"><li>• Appendix B Risk Assessment (Excel)</li><li>• Appendix C Quality System Audit (Word)</li><li>• Appendix D Production Process Audit (Excel)</li><li>• Appendix E Management Review (PowerPoint)</li><li>• Appendix F Annual Audit Report (Excel)</li></ul>	
RM13006	Process Control Methods	Revised September 7, 2021
	<ul style="list-style-type: none"><li>• Appendix A Assessment Checklist (Excel)</li><li>• Appendix B Process Capability Plan (Excel)</li><li>• Appendix C Training Syllabus (Word)</li><li>• Process Capability Six-Pack Guidance Sheet</li></ul>	
RM13007	Sub Tier Management	March 8, 2021
RM13008	Design Work	March 8, 2021

We not only provide industry best practice guidance through the Reference Manuals but also offer forms, templates etc. as working material to support your implementation.

More to come in the future!

# DESIGN SUBJECT MATTER INTEREST GROUP (SMIG) RM13008 / RM13011 ACTIVITIES

# AESQ Design SMIG Company Members



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# RM13008 Design Work - Content Overview

Design Definitions  
(2.1)

Technical Delegation  
(4.)

Design Reviews  
(5.)

Verification and Certification  
(7.)

Feature Unique Identification  
(8.)

Design Technical Data Package  
(9.)



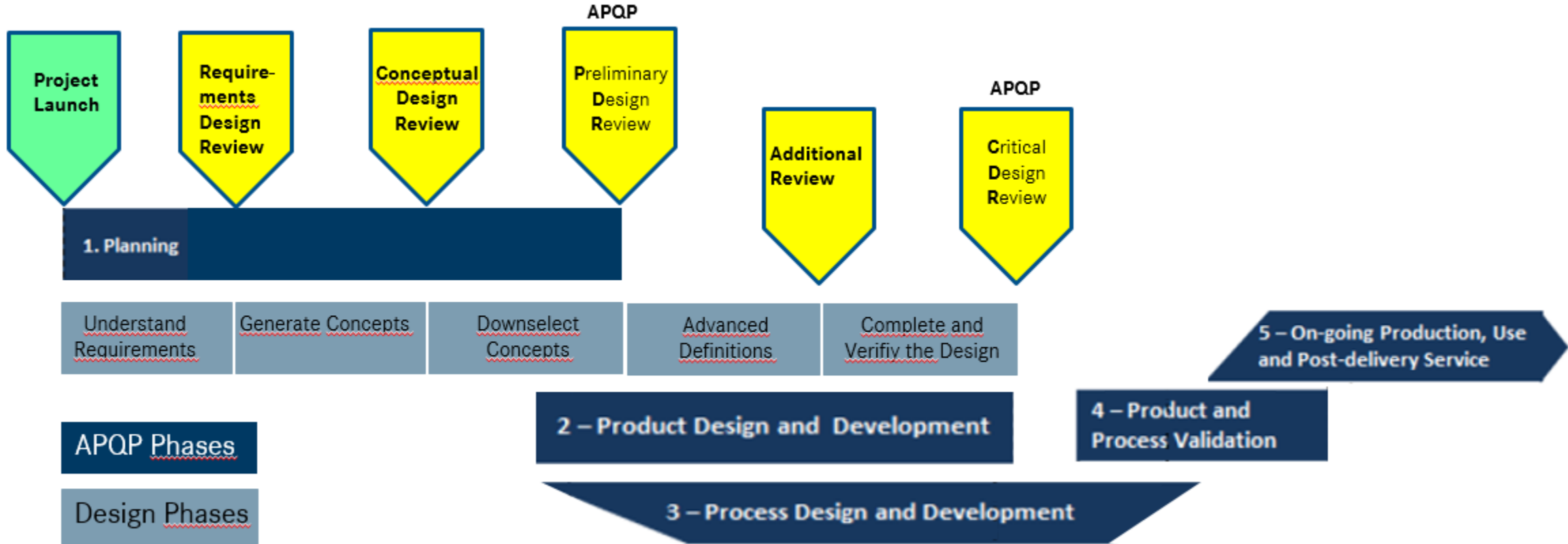
## Design SMIG Activities

Reference Manual content being reviewed to address feedback and focus on best practice and standardisation of the following subject areas:

- Design Reviews, Technical Delegations, Design Audit Requirements, Human Factors, Non-Conformance management



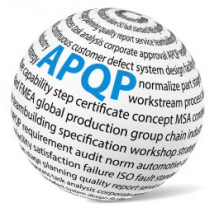
# RM13008 Design Reviews



## Design Reviews during APQP Development Phases

# AS13100 Requirement Highlights

AS13100 Section 8.3 includes common Requirements for **Design & Development**. Key Supplemental Requirements include;



Specifies  
AS9145 APQP &  
PPAP  
for Managing  
New / Changed  
Product Designs



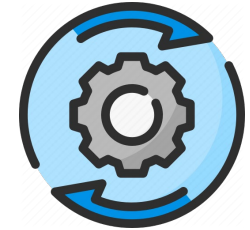
Defines  
Design FMEA  
approach to meet  
Design Risk Analysis  
requirement



Requires the use of  
Cross Functional  
Teams for Design &  
Development  
Activities



Defines requirements  
for Design for 'X'  
  
(Manufacture,  
Assembly, Servicing,  
Disposal)



Specifies the use  
of AS9116 to  
manage  
Design Changes

**Reference Manual RM13008 Provides Guidance for Design Work**

# Q & A SESSION

USE THE “CHAT” FUNCTION  
TO ASK A QUESTION...



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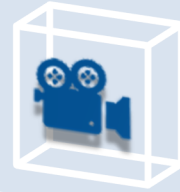
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# SUMMARY & CLOSE

# Summary

All resources will be available on the AESQ website within a few days.

An email will be sent to all registrants with a link.



**Video**



**Q&A**



**Presentation**





# THANK YOU FOR PARTICIPATING