



26th annual **INCOSE**
international symposium

Edinburgh, UK
July 18 - 21, 2016

Integration of Specialty Engineering Activities

INCOSE IS 2016, Edinburgh

Dr. David Endler



Introduction



- Systems Engineering Consultant – Freelancer
- Technical Director of GfSE (German Chapter of INCOSE)
- INCOSE CSEP and Certified Systems Engineer ® GfSE Level A
- Member of DIN NA 043-01-07 AA "Software und System-Engineering"

Challenge

Systems Engineering process descriptions emphasize the importance of specialty engineering activities

- ISO 15288:2015
- INCOSE Systems Engineering Handbook
- BKCASE Systems Engineering Body of Knowledge (SEBoK)

But do not describe how to integrate specialty engineering activities

Specialty Engineering Activities Impact



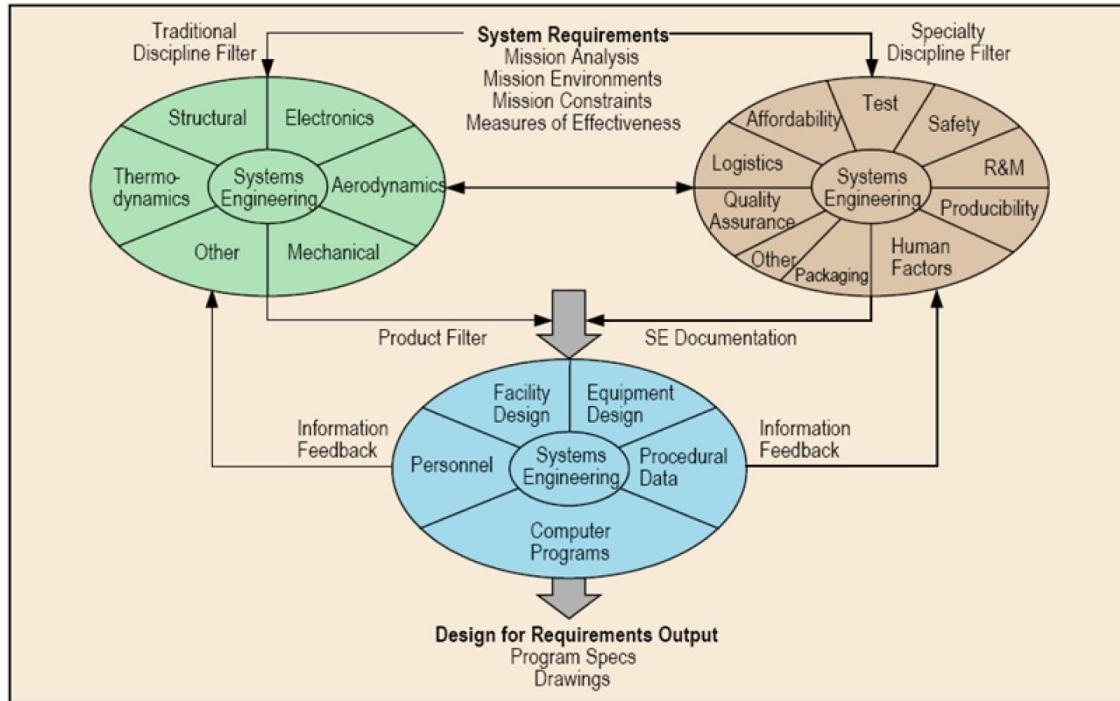
Change VW Golf 4 headlight
Australian Navy Collins Class Reliability

Assumption



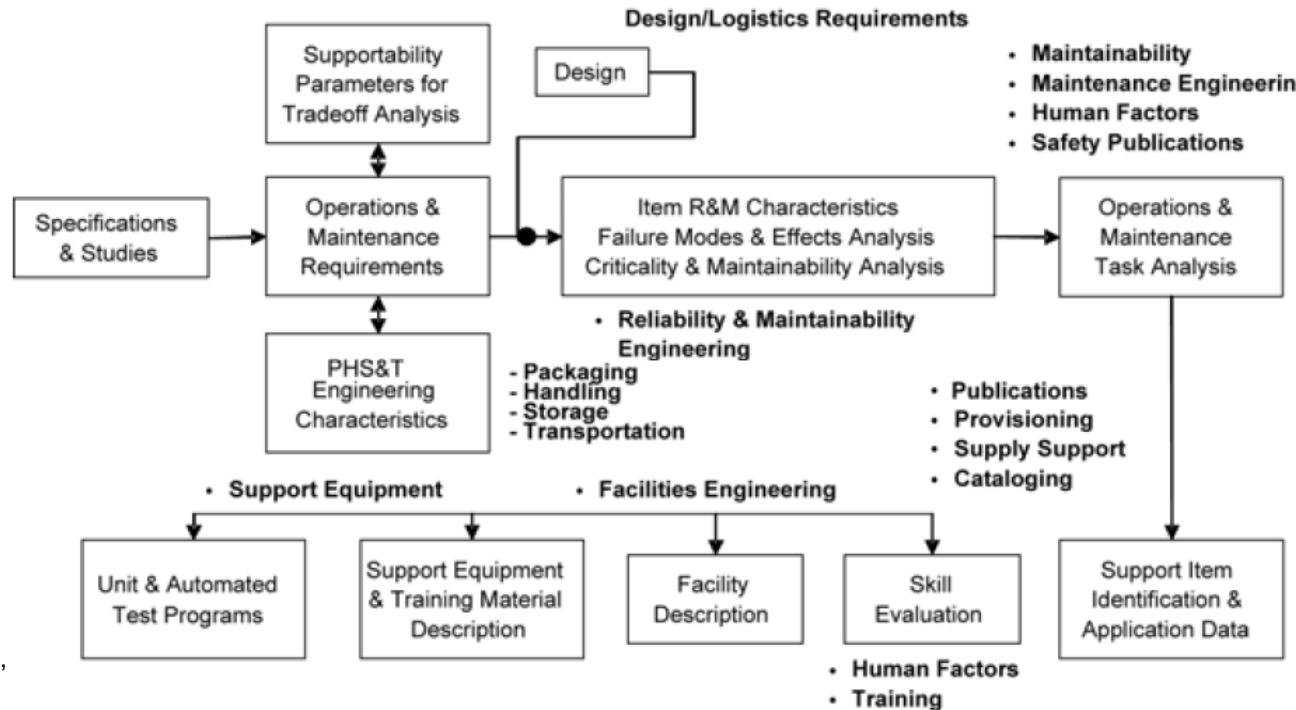
Systems Engineers
hate
Specialty Engineering Activities

SEBoK



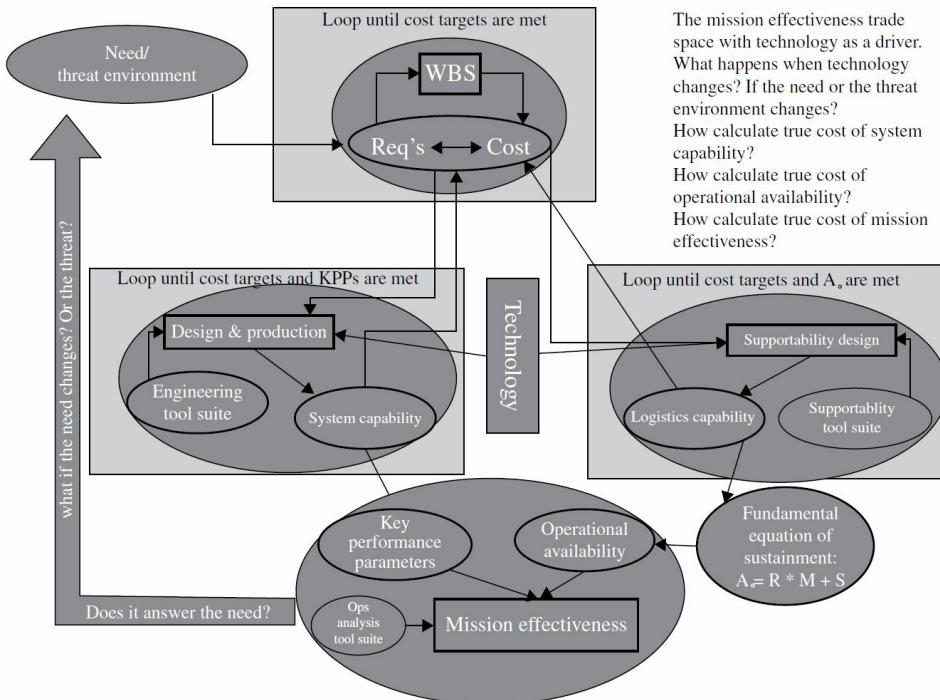
Systems Engineering
Body of Knowledge,
2015, Figure 1, page
822.

INCOSE SE Handbook v3.2.2



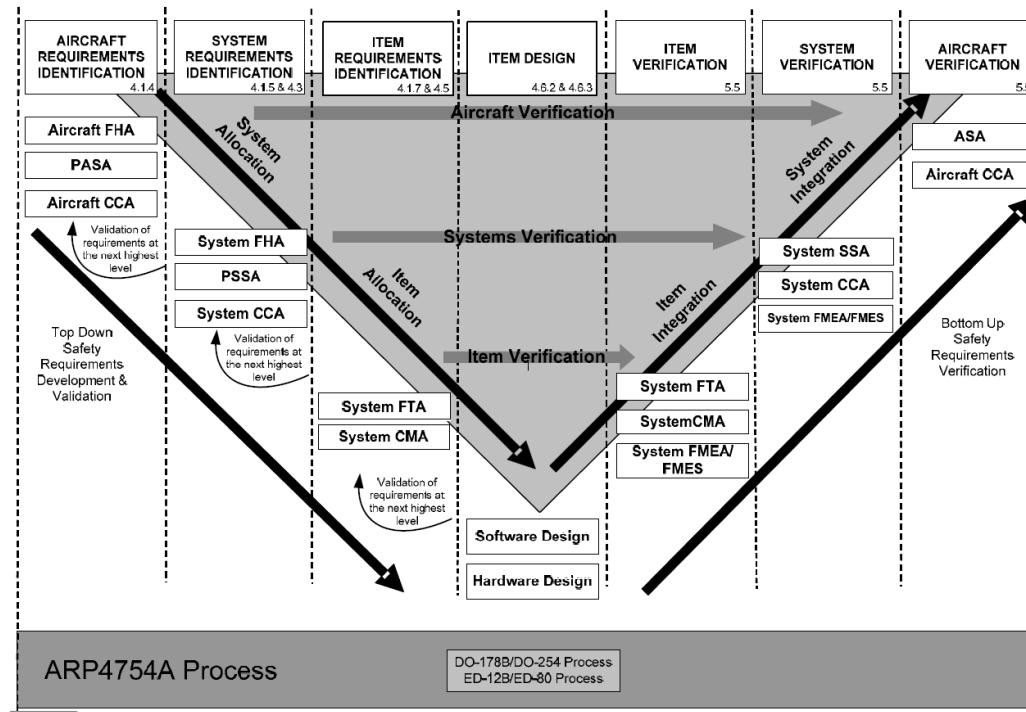
INCOSE SE Handbook,
INCOSE, v3.2.2, figure
9-1

INCOSE SE Handbook v4



INCOSE SE Handbook,
INCOSE, v4, figure 10.4

SAE ARP 4754A

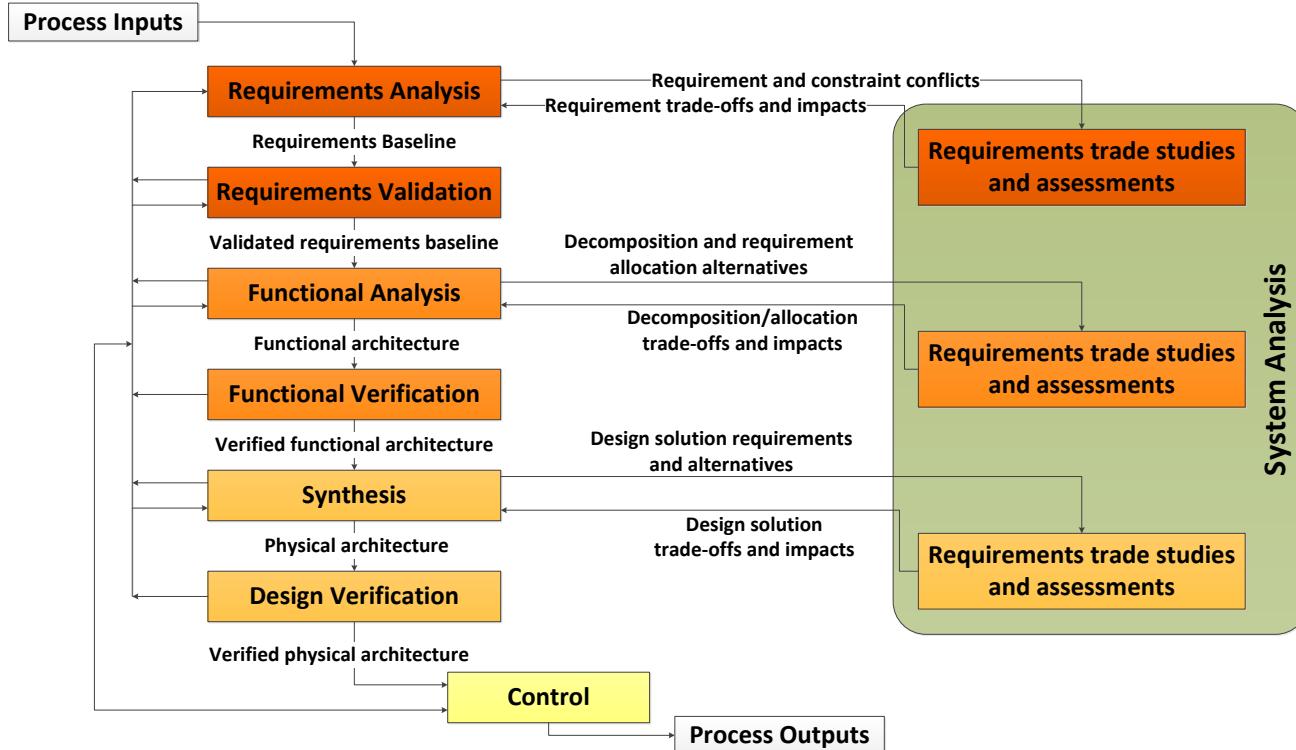


SAE ARP 4754A,
Guidelines for
Development of Civil
Aircraft and Systems,
SAE, rev. A, figure 5

ISO 26702:2007 / IEEE 1220

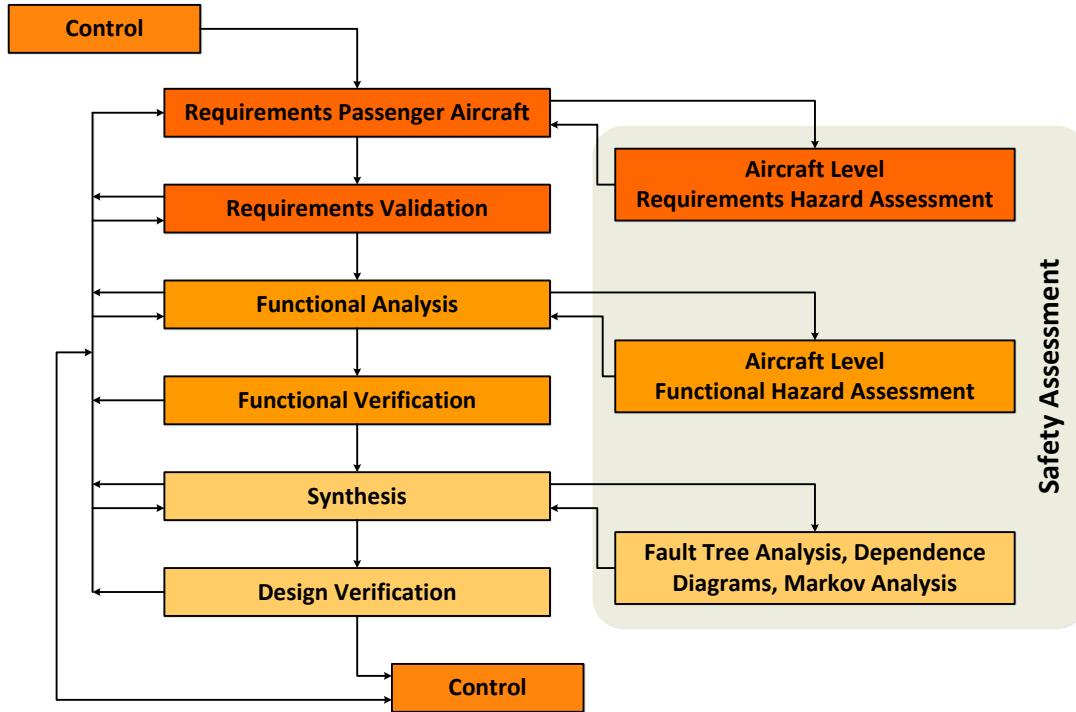


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ISO 26702:2007
Systems engineering –
Application and
management of the
systems engineering
Process, ISO, figure 4

Integration

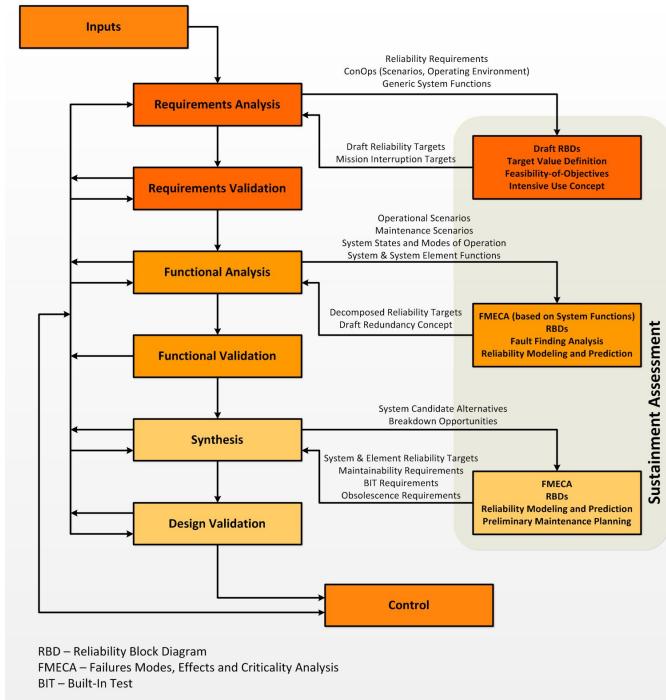


Buy-In



- Organize workshop
- Define interfaces between systems engineering and specialty engineering activities
- Freeze interface
- Publish good practice

Another Example



Conclusion



Systems Engineers
and
Specialty Engineering Activities Engineers
Can Be Friends!