

***The CANSO Standard of
Excellence in SMS –
driving continuous
safety improvement***

**November 13, 2018
EASA, Cologne**

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Agenda

- Background to the CANSO SoE in SMS
- Assessment & Analysis
- Attaining “Level E”
- Lessons learnt
- Conclusions



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- 44 page document, outlining the details of the CANSO SoE in SMS
- Latest version, revised July 2018, can be found on the CANSO website [here](#).



How does the SMS Maturity Scheme work?

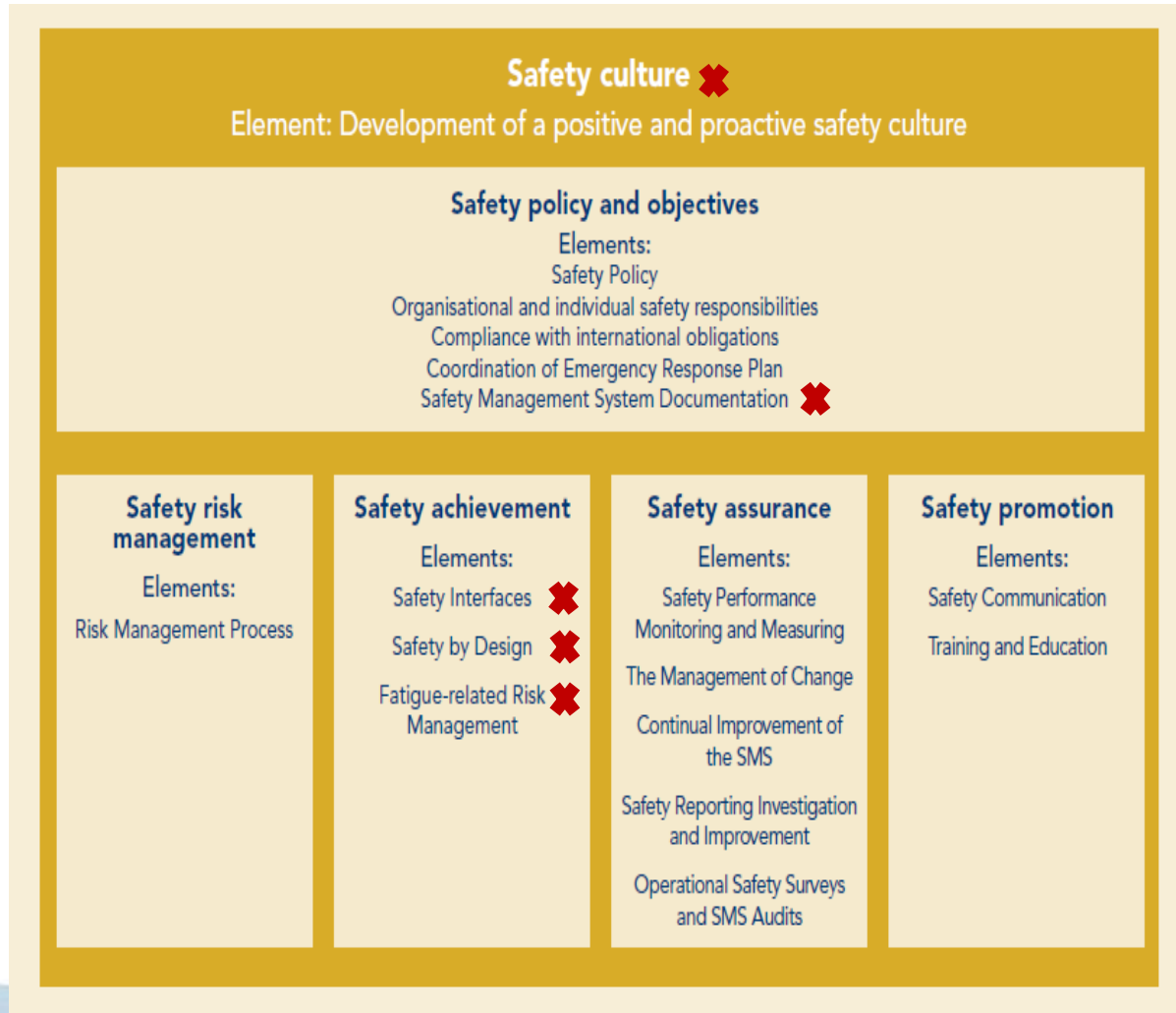


Relationship to ICAO Annex 19

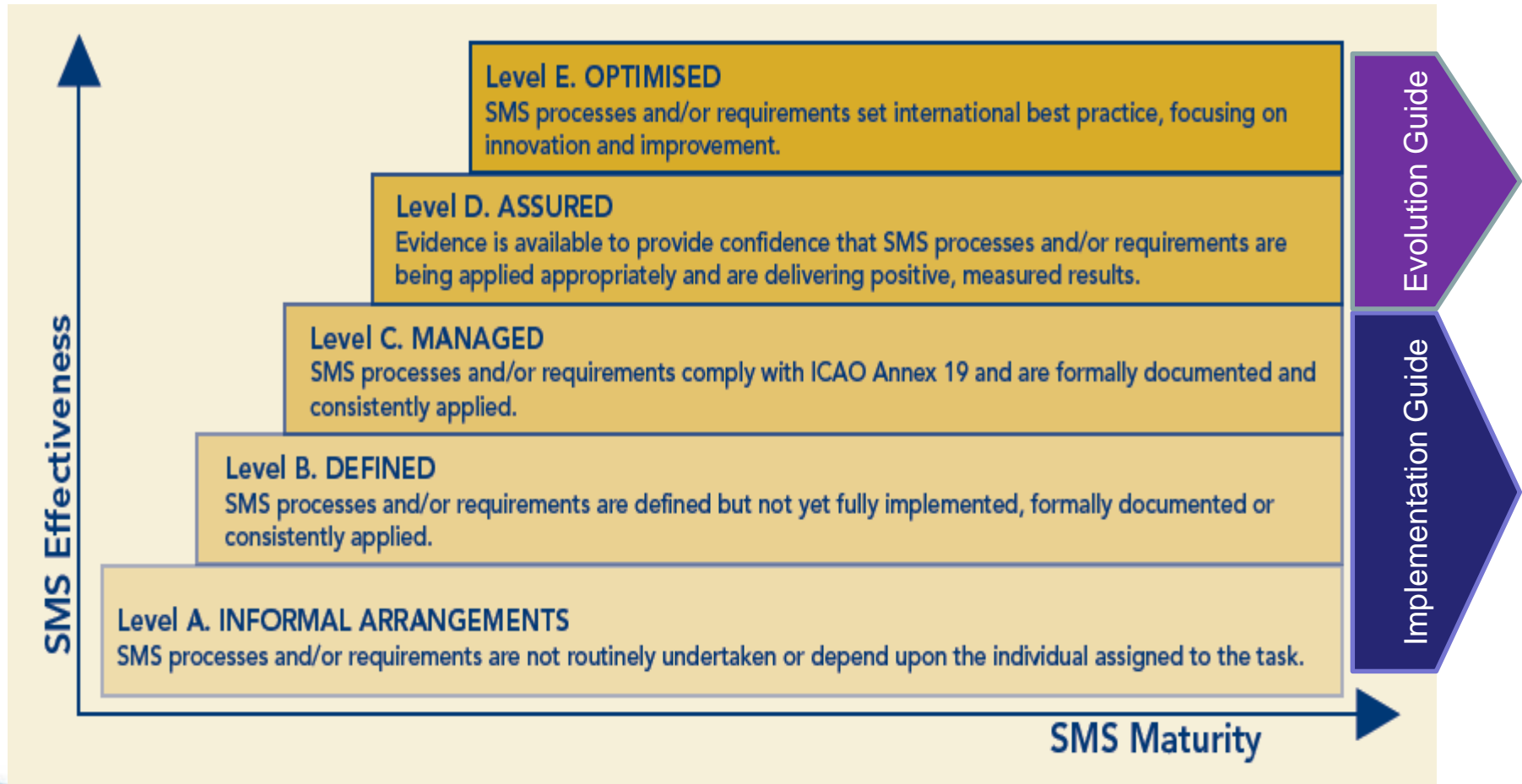
The SoE goes further than Annex 19 so these elements Do NOT relate to Annex 19

compliance:

- Safety Culture
- SMS Documentation
- Safety Interfaces
- Safety by Design
- Fatigue Related Risk Management



How does the SMS Maturity Scheme work – scoring by level



Questionnaire

- A comprehensive questionnaire, managed by Eurocontrol, is sent to each organisation
- Each of the 17 safety elements and sub-elements are addressed
- A series of questions for each of the levels A-E is posed – example below

1.3	Regular assessment of safety culture and an improvement programme.	Answer (Yes or No)	Justification (for each objective, please provide justification for each question where you are claiming YES)	Evidence (please provide evidence for each 'Yes' answer)
A	The organisation does not see the need to have a safety culture assessment mechanism in place.	No Answer Required		
B	Is your organisation aware of the need for an improvement plan and periodic assessments of safety culture?	<input type="text"/>		
C	Does your organisation assess its safety culture and disseminate the results throughout the organisation?			
	Does your organisation assess its safety culture at least once every five years?			
D	Has your organisation developed a plan to address gaps and deficiencies that were identified during the safety culture assessment?			
	Are there any indicators used to gauge whether the gaps and deficiencies are effectively addressed?			
E	Has management approved a continuous improvement plan for safety culture?			
	Has your organisation set any <u>best practices</u> for safety management for this objective? If so, are you willing to share best practices with other ANSPs/organisations?			



How does the SMS Maturity Scheme work – percentage score

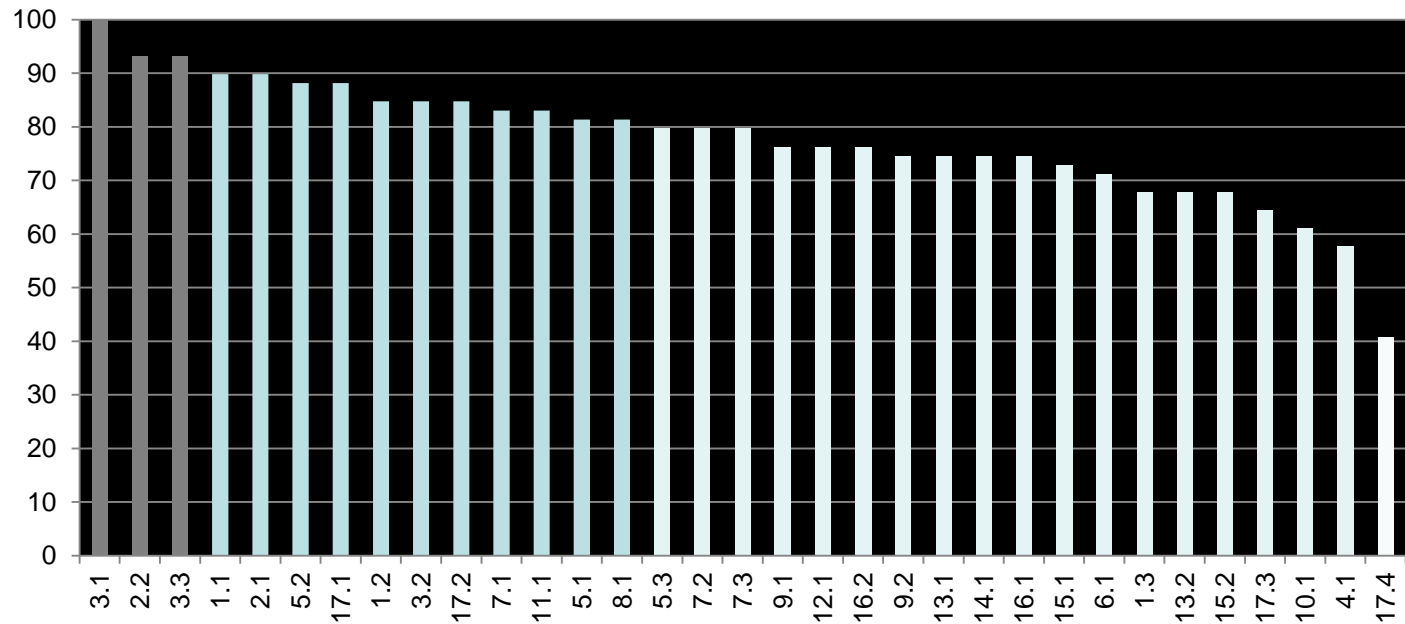
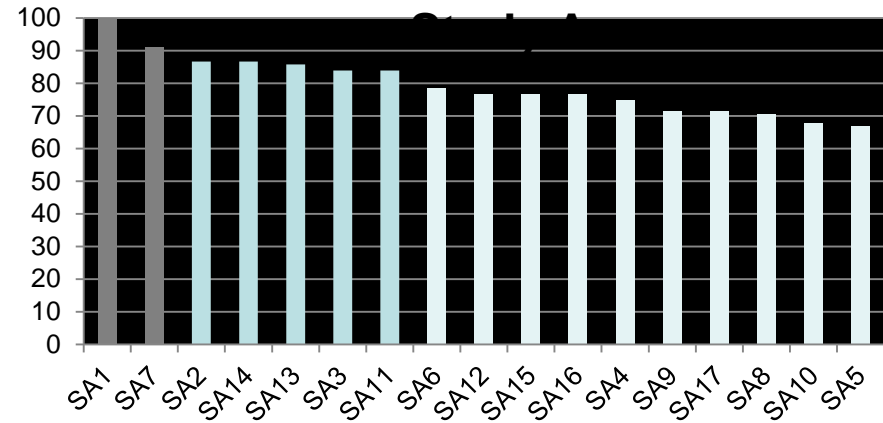
Using pairwise comparison, each question is weighted against each study area using a scoring between:
5 – high dependency
1 – low dependency

	Development of a positive and proactive safety culture																																			
	Safety Policy				Operational and individual safety responsibilities Compliance with international obligations (ANRO/ICAO/ICAO/ICAO)				Coordination of emergency response plan				Safety Management System documentation		Risk Management Process		Safety Interfaces		Safety by Design		Fatigue related Risk Management		Safety Performance Monitoring and Measurement		The Management of Change		Continual Improvement of the SMS		Safety Reporting Investigation and Improvement		Operational Safety Surveys and SMS Audits		Safety Communication		Training and Education	
	S41	S42	S43	S44	S45	S46	S47	S48	S49	S410	S411	S412	S413	S414	S415	S416	S417																			
1.1 A positive and proactive, flexible, and informed safety culture (the shared beliefs, assumptions, and values regarding safety) that supports reporting and learning led by management.	5	3	3	2	2	2	3	3	3	3	3	3	3	4	4	3	4	3																		
1.1.2 A just and open climate for reporting and investigation of occurrences	5	3	3	2	2	2	3	2	2	2	3	4	2	3	5	3	3	3																		
1.1.3 Regular measurement of safety culture and an improvement programme	4	2	3	2	1	2	2	2	2	2	3	2	3	3	3	2	2	2																		
2.1 The safety policy of the organisation presents the organisation's commitment to both safety and its resourcing. 4. The priority of safety within the organisation is also articulated.	4	5	3	3	2	4	3	2	3	3	3	3	3	3	3	3	3	3																		
2.2 The safety policy addresses key attributes of the organisations approach to safety. These attributes will most likely include culture, visible endorsement, communication and safety reporting.	4	5	3	3	2	4	3	2	3	3	3	3	3	3	4	3	4	3																		
3.1 An approved, clearly documented, and recognised system for the management of safety. Management structure, responsibilities, accountabilities and authorities are clearly defined and documented	4	4	5	4	3	5	4	3	3	3	3	3	3	3	3	3	3	3																		
7.2.1 A clearly defined safety management function/safety manager that is independent of line management. 8.3 Clear understanding and acceptance of safety management accountabilities and responsibilities by all relevant staff and contractors.	4	4	4	3	2	4	3	2	2	2	3	3	3	3	3	3	3	2																		
4.1 Emergency response procedures and an emergency response plan that documents the orderly and efficient transition from normal to emergency operations and return to normal operations.	2	2	2	2	3	3	2	2	1	1	2	2	2	2	1	1	2	2																		
10.5.1 A formal SMS that meets all applicable safety and regulatory requirements.	3	3	3	4	3	4	3	3	2	2	3	2	3	3	3	2	2	2																		
11.5.2 Clearly defined and documented safety standards and procedures.	3	3	3	4	3	5	4	3	3	2	3	3	3	3	3	2	2	2																		
12.3.3 Safety management documents are regularly reviewed, assessed, and maintained.	3	3	3	4	3	5	3	2	2	1	2	3	4	2	3	2	2	2																		
6.1 An organisation that takes into account the need to ensure, in a timely manner, that there are no inconsistencies with regional/international safety standards.	3	3	2	5	2	3	2	2	2	2	2	3	2	3	2	3	2	2																		
14.7.1 Hazards to operations are reported and assessed.	4	3	3	2	2	2	5	2	3	3	3	3	3	4	3	2	2	2																		
15.7.2 Assessed risks are mitigated or controlled.	4	3	3	2	2	2	5	2	3	3	3	3	3	3	3	2	2	2																		
16.7.3 Risk controls are monitored for effectiveness, and remedial action taken if controls are not working effectively.	3	3	3	2	2	2	5	2	3	3	3	3	3	3	3	3	2	2																		
8.1 Design addresses the whole system, people, procedures, airspace and equipment. Systems contain features to ensure they operate safely and support the operator's decision making process. Equal weight is given to the success and failure case approaches.	3	3	3	2	3	2	4	3	5	3	2	4	3	2	2	2	2	2																		
9.1 Effectively managed safety-related internal interfaces (e.g. quality management system, security, and environment).	3	3	3	3	2	3	3	5	3	1	2	3	3	2	2	2	2	2																		
9.2 The effective management of external interfaces with a safety impact (e.g., MIL, airspace users, airports). Formalised processes and procedures dealing with external agreements, services, and supplies (e.g., cross-border Letters of Agreement).	3	2	3	3	3	3	3	5	2	1	2	3	3	2	2	2	2	2																		
10.1 A data-driven means by continuously monitoring and managing fatigue-related safety risk that aims to ensure relevant personnel are performing at adequate levels of alertness.	3	2	2	2	1	1	3	2	2	4	2	2	2	2	2	2	2	2																		
21.11.1 A continuing organisation-wide process to report and investigate safety occurrences and risks.	4	3	3	2	2	2	4	2	3	3	4	2	3	5	2	3	2	2																		
21.11.2 Internal and independent (external) operational safety surveys and SMS audits.	3	3	2	3	2	2	3	3	2	2	3	2	3	3	5	2	2	2																		
13.1 An established and active monitoring system that uses and tracks suitable safety indicators and associated targets (e.g., lagging and leading indicators).	3	3	2	2	2	2	3	2	3	2	5	2	3	3	3	2	2	2																		
24.12.2 Methods to measure safety performance, which is compared within and between ANSPs.	3	2	2	2	1	2	2	2	2	2	5	2	3	3	3	2	2	2																		
14.1 Documentation and reporting mechanisms are in place to ensure that internal and external stakeholders are provided with assurance about the means by which safety risks which may be introduced during and/or following implementation of change are managed and mitigated.	3	2	2	2	2	4	3	3	2	3	2	3	4	2	2	2	3	2																		
25.1.1 An integrated planning process drives the continual improvement of the SMS.	3	3	2	2	2	3	3	2	2	2	2	3	4	3	3	2	2	2																		
13.2 A structured approach to gather and share information on operational safety and SMS best practices from the industry.	3	2	2	2	2	2	3	2	2	2	3	2	4	2	2	3	2	2																		
16.1 Staff, and contractors where appropriate, that are educated and trained, in safety and safety management, and where required, licensed.	3	3	3	2	3	2	3	2	2	2	3	2	3	2	3	2	2	5																		
29.16.2 Staff are competent to conduct their obligations under the SMS.	3	3	4	2	3	2	3	2	2	2	2	3	3	3	2	2	2	4																		
30.17.1 Staff are informed about safety and safety management standards which are relevant to their position.	4	3	4	3	3	2	3	2	2	3	3	3	3	3	3	3	4	4																		
31.17.2 An organisation-wide means to record and disseminate lessons learned and safety critical information.	4	3	3	2	2	2	3	2	2	3	2	3	2	3	4	3	5	4																		
32.17.3 Appropriate safety information and knowledge is shared with industry stakeholders.	3	2	2	2	1	2	2	2	2	2	3	2	2	3	2	4	2	2																		
17.1 A general public knowledgeable of the ANSP's performance through routine publication of solved safety issues and trends.	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	4	1																		



How does the SMS Maturity Scheme work – percentage score

The pairwise comparison enables us to identify the highest ranked Study Area Elements and individual questions within a study area. A high score in some questions has a limited impact in the overall score



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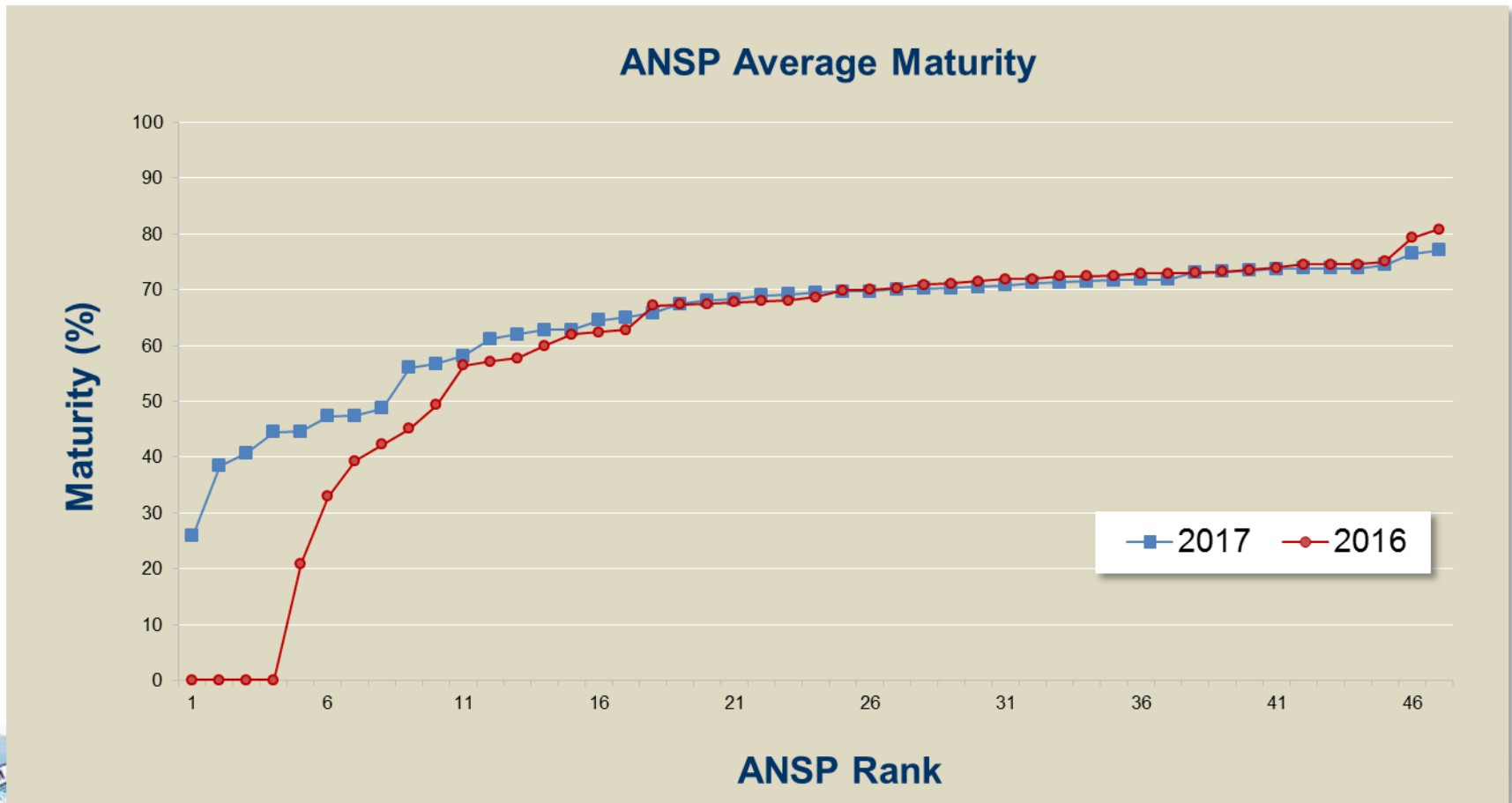


Overview of the 2017 Exercise

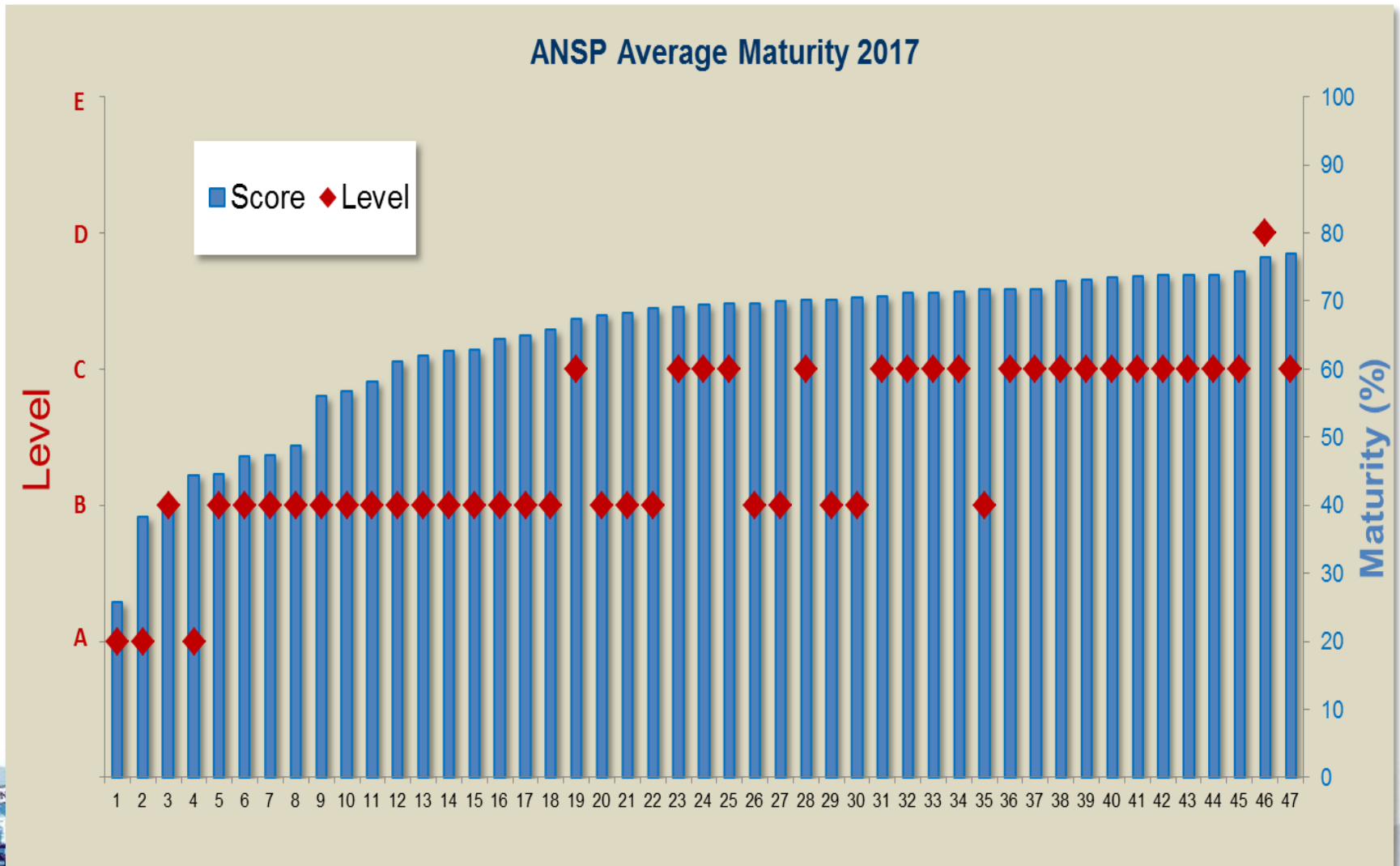
- ❑ A total of 48 ANSPs participated (one more than 2016):
 - ❑ 38 ECAC (one less than 2016);
 - ❑ 10 non-ECAC (two more than 2016).
 - ❑ 2 ANSPs not included (own request and rejected)
 - ❑ 22 Organisations agreed to share their SMS Maturity scores
- ❑ Interviews:
 - ❑ 6 face-to-face interviews (joint F2F / SEANS in EANS);



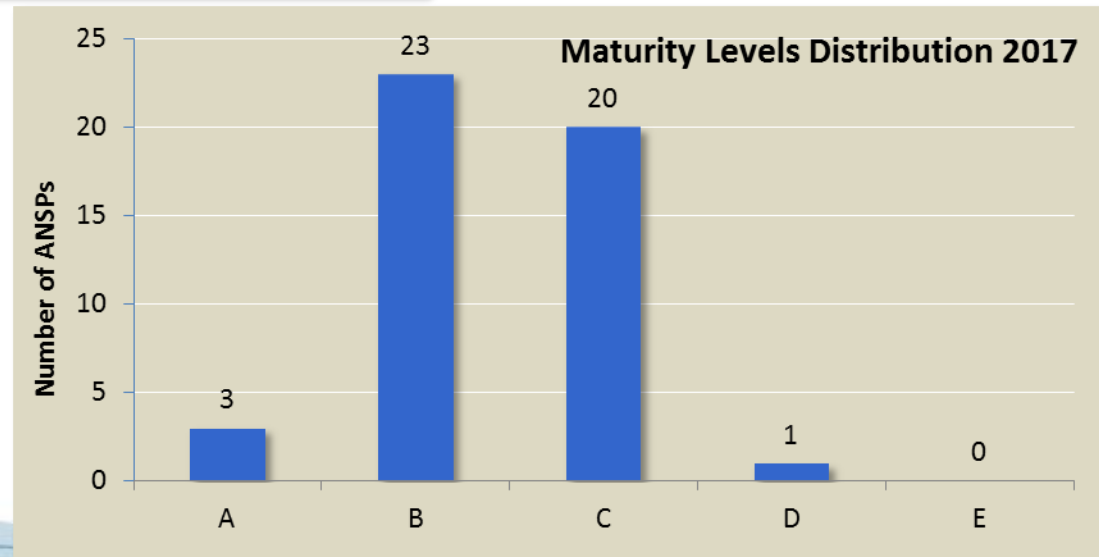
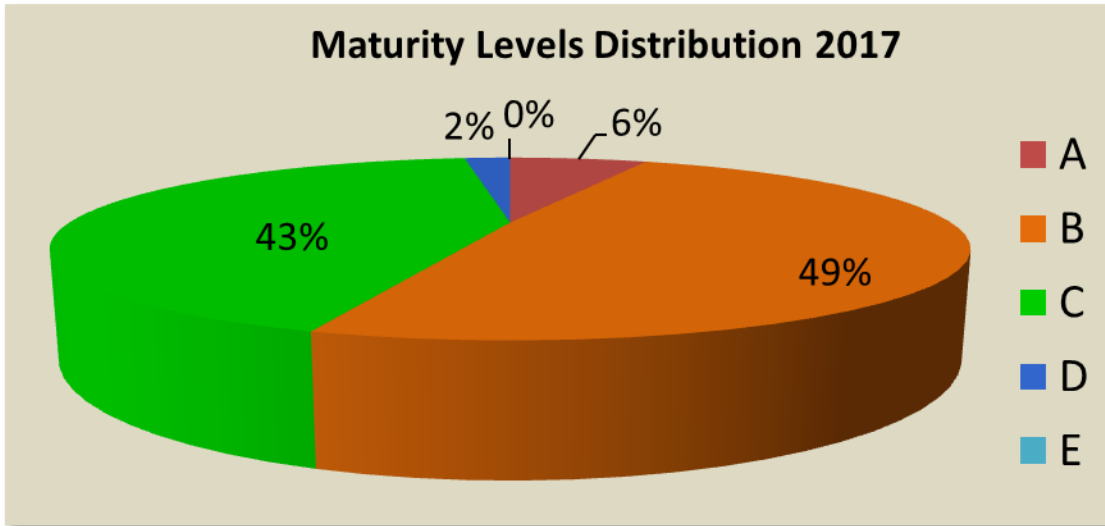
Overall Result



Score by level and percentage

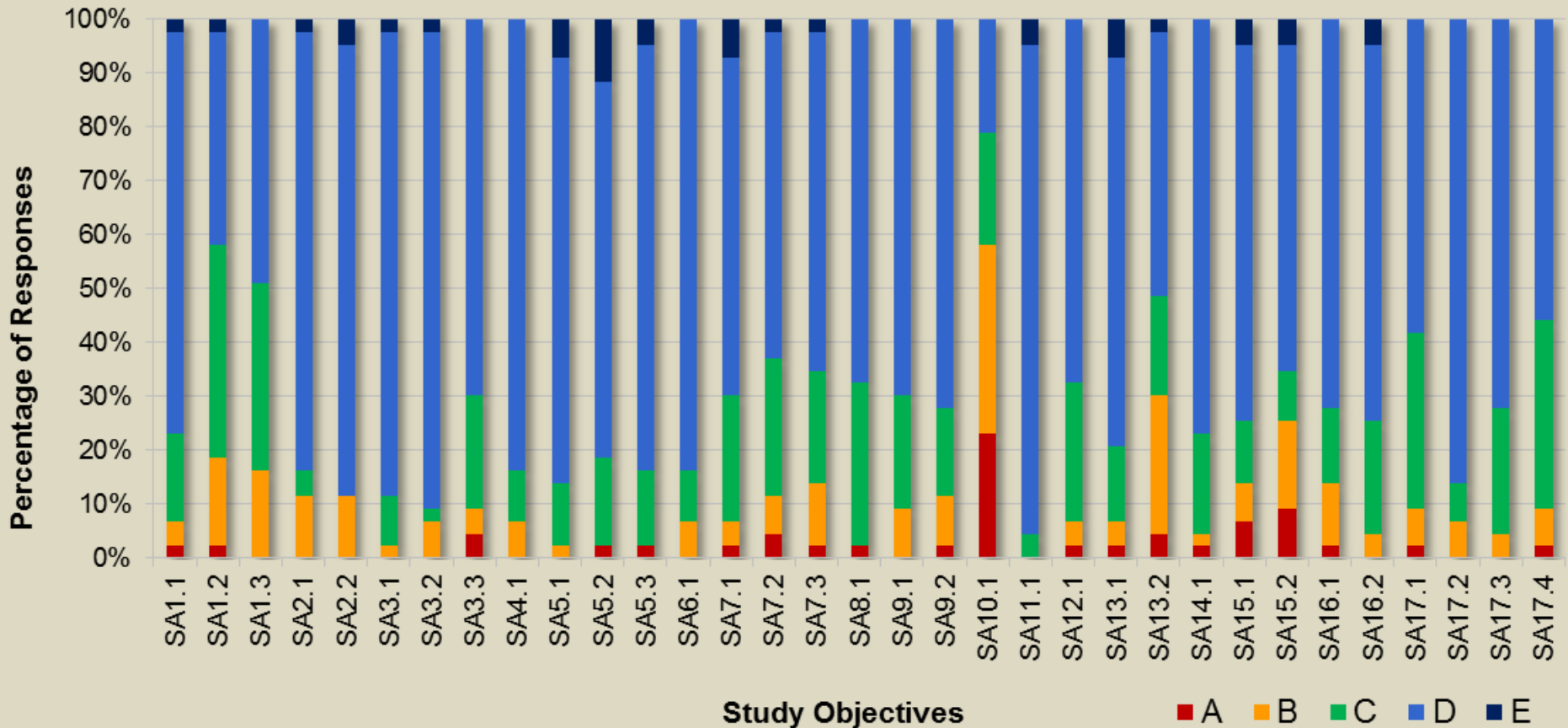


Distribution of Levels

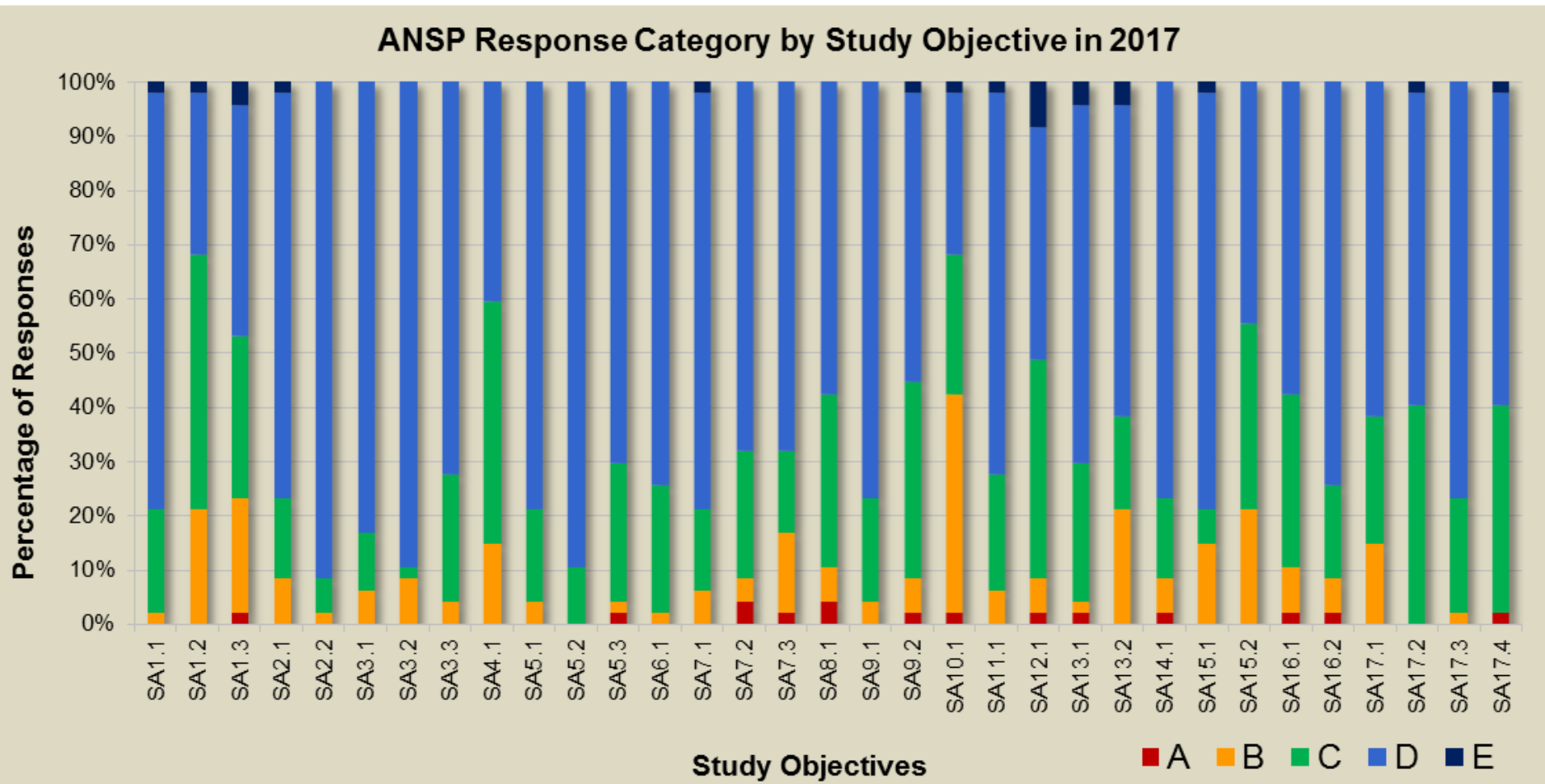


Maturity Levels by SA in 2016

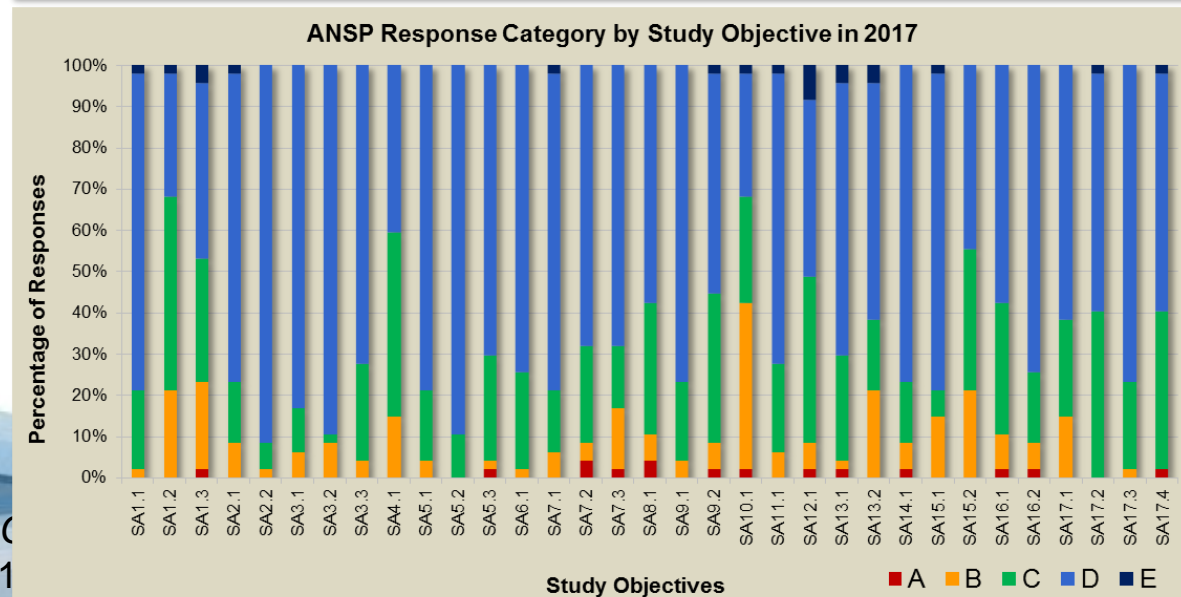
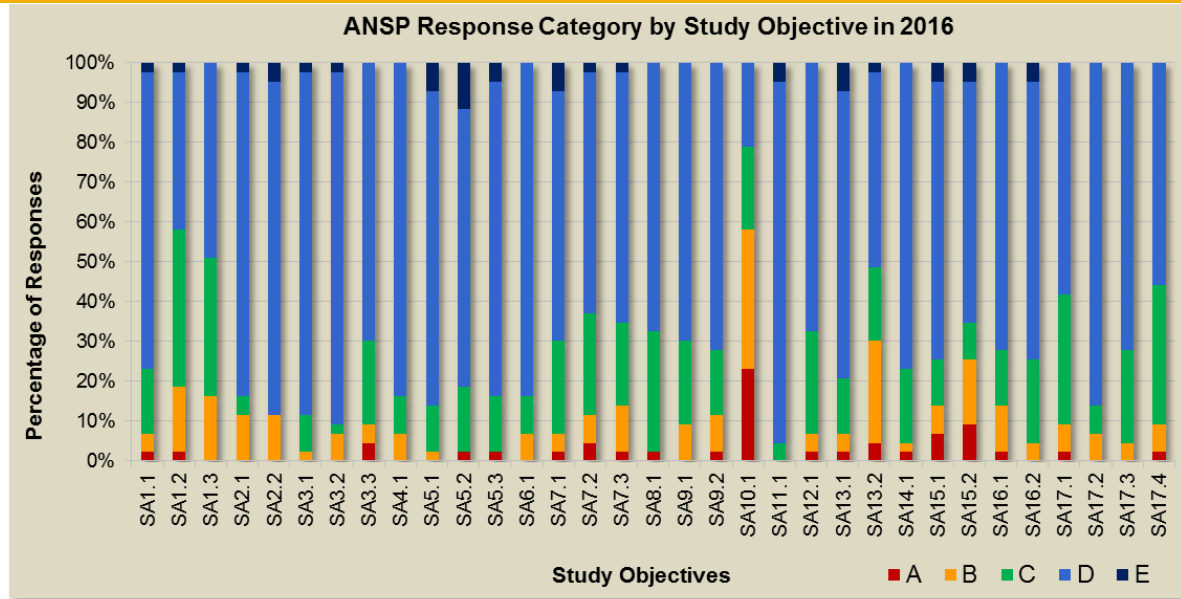
ANSP Response Category by Study Objective in 2016



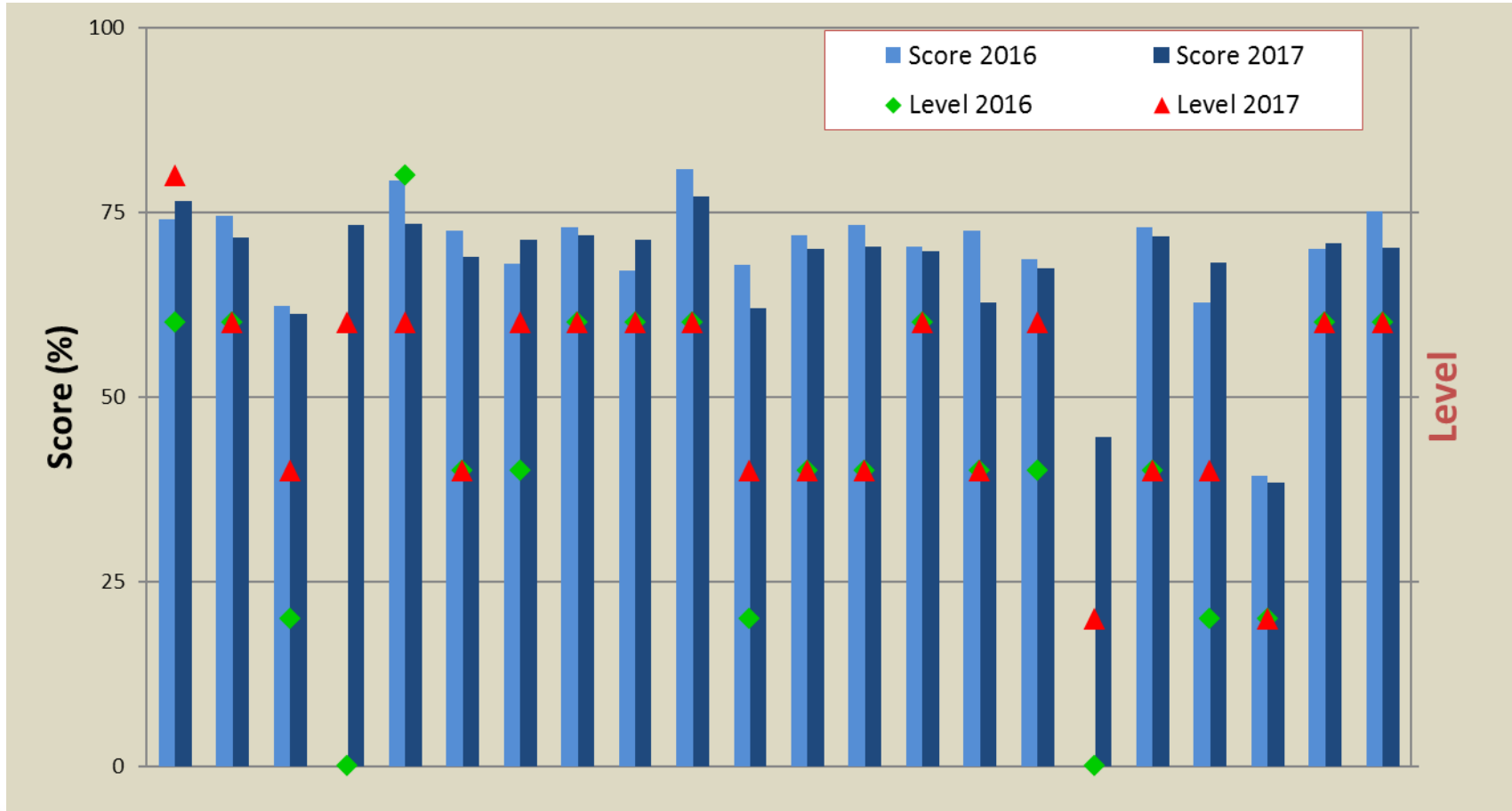
Maturity Levels by SA in 2017



Maturity Levels by SA: 2016 vs. 2017

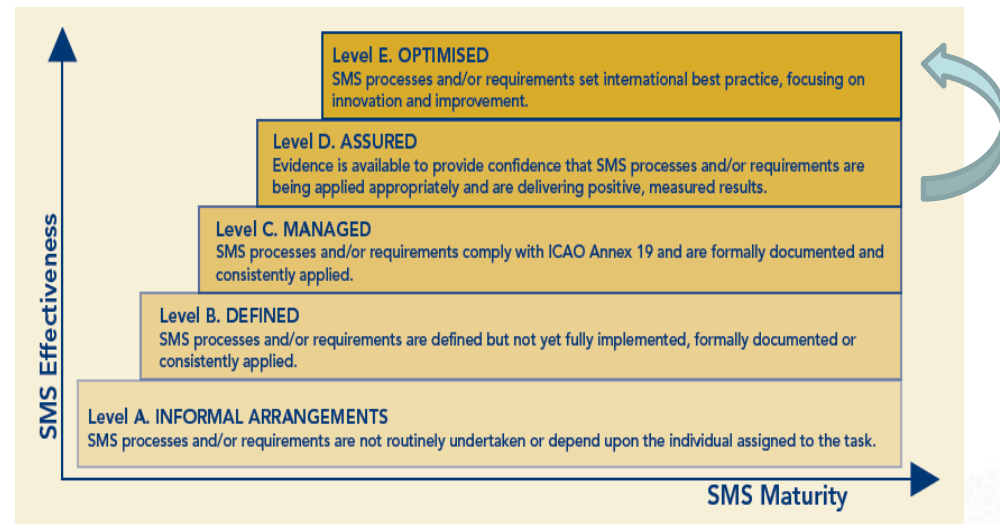


Maturity Levels per organisation



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What constitutes Level E?



ANSP provide details of the approach they feel is best practice, with evidence of its application, i.e., the outputs

Reviews and endorses any approach which they agree is current best practice

Panel may agree more than one approach constitutes best practice or there is no best practice approach for a particular element.

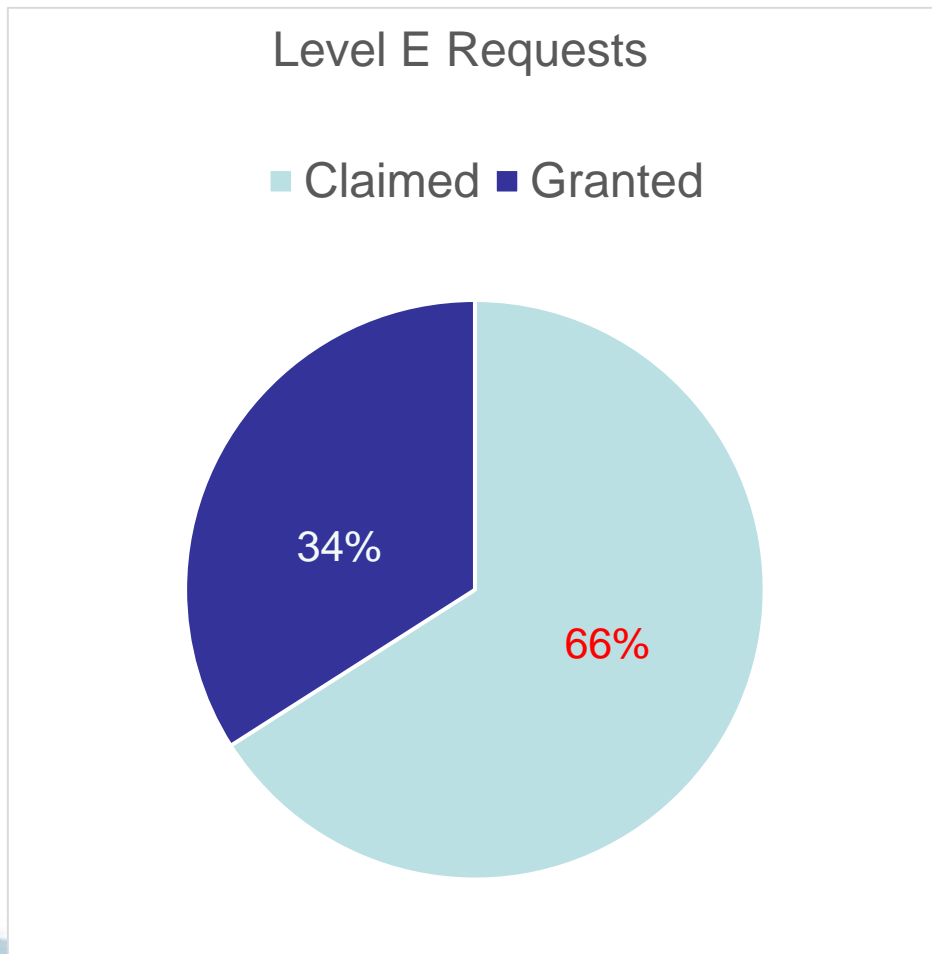
These become the basis of the Evolution Guide

Optimised Review Process: key aspects

1. Panel made up of a core group (quorum) plus additional membership to ensure a balance on ANSP size and regional representation.
2. No member of the group can assess their own Best Practice.
3. Applications must follow fixed format
4. Information provided will be treated in confidence, taking account of commercial sensitivity, patents, and IPR.
5. Aim is to achieve a consensus on whether the practice constitutes best practice.; if not then an 80% majority is required to establish best practice.
6. The decision of the review group is final, though the right of appeal to the CANSO Safety Standing Committee Steering Committee may be granted.
7. An agreed best practice will allow the proposer to claim Level E in for the appropriate question.
8. With the proposers permission, the best practice will be reflected in the Evolution Guide for that Study Area.



Level E Results

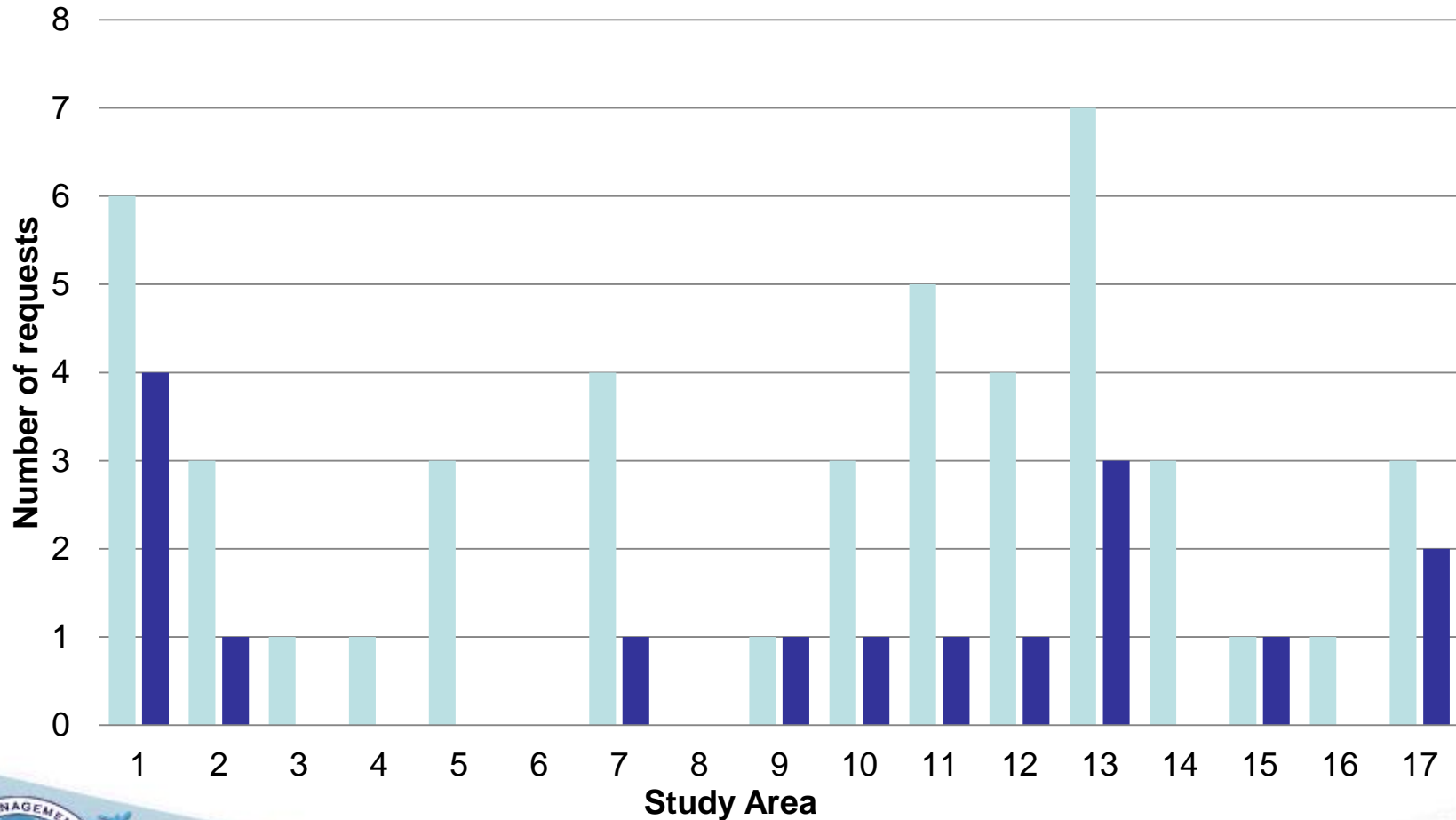


- 46 submissions from 13 ANSPs;
- 16 recognised Level E from 10 ANSPs;
- There was one collective submission from 6 FABEC ANSPs for the IntACT process, which was deemed as Level E.
- three of them could not reach Level E due to other questions in the same SA being scored lower.



Level E Results

Relation between claimed and granted requests



■ Nr. of claimed requests for each SA ■ Nr. Of granted requests for each SA

The CANSO Standard of Excellence in SMS – driving continuous safety improvement

13/11/18



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2017 feedback

- Filling in the questionnaire took longer. However, the quality of the information provided improved and maintenance is much easier.
- The Targeted Yes / No questions reduced some of the confusion in filling in the questionnaire.
- One of the key themes of the revised questionnaire was to justify the levels claimed. Some respondents did not provide the expected level of detail, which may be related to complexity of language or time pressures. Further explanation of what is required to justify each level may also be required.
- Some organisations still seem to be level driven – i.e. they justify the level they want to achieve, not the level they are actually achieving.



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Conclusions

- The process continues to evolve - information is improving year on year
- Some areas e.g. SA10 (Fatigue) are still developing but have evolved significantly;
- Many Level E submissions were not deemed to be realistically that special (strong Level D, but not original, nor particularly innovative);
- A catalogue of best/good practices will be compiled from all submissions
- The questionnaire and method are now considered mature and did not change for 2018.



Thank You

