

<p>¹Title: <i>Introduction of Safety Management System in UK Regulation (EU) No. 748/2012 and UK Regulation (EU) No. 1321/2014</i></p> <p>Date: 23/01/2023</p> <p>DMA No: DfTDMA275</p> <p>Lead department or agency: Department for Transport</p> <p>Other departments or agencies: Civil Aviation Authority</p>		<h2 style="margin: 0;">De Minimis Assessment (DMA)</h2>	
		<p>Stage: Final</p>	
		<p>Source of intervention: Domestic</p>	
		<p>Type of measure: Secondary</p>	
<p>Summary: Rationale and Options</p>		<p>Contact for enquiries: aviationsafety@dft.gov.uk</p>	
<p>Total Net Present Value</p> <p>Not quantified</p>	<p>Business Net Present Value</p> <p>Not quantified</p>	<p>Net cost to business per year <small>(EANDCB in 2019 prices)</small></p> <p>£0.04m</p>	
<p>Summary of Impacts – Explanatory Memorandum Impact Section</p> <p>The Department for Transport (DfT) has not published an impact assessment for this measure as the direct impacts on business have been assessed at under £5m per year. Instead, light-touch internal analysis has been conducted, the findings of which are presented below.</p> <p>It has been assessed that businesses will face transition costs as a result of the need to provide initial training to all employees, provide further training to nominated postholders, and undertake Exposition/Handbook updates. Ongoing costs for businesses will result from the additional work hours required to comply with SMS requirements. Government will face ongoing costs as a result of the requirement to fund CAA oversight of SMS. Over a 10-year appraisal period, a total net present cost of £2.8 million is estimated.</p> <p>Benefits have not been monetised, but primarily come in the form of improvements in the safety records of organisations that implement it, leading to a reduction in safety incidents and a consequential reduction in lost man hours. This is likely to lead to further benefits, including: reductions in insurance premiums; avoided litigation; increased employee and consumer confidence; and brand protection and improved reputation. However, it has not been possible to quantify the primary or further benefits of the regulation.</p>			

<p>Rationale for intervention and intended outcomes</p> <p>The primary rationale for intervention is to fulfil international obligations, by ensuring compliance with International Civil Aviation (ICAO) Annex 19. The objective of proposed amendments to UK Regulation (EU) No. 748/2012 and UK Regulation (EU) No. 1321/2014 is to establish a safety management system (SMS) framework for design and production organisations (Part 21 approval holders) and maintenance organisations (Part-145 approval holders).</p> <p>All measures introduced by the proposed amendments are designed to significantly enhance organisations’ safety. They address organisations’ risk management, systematic hazard identification, creation of safety culture, improved occurrence reporting, establishment of safety policies and objectives including continuous monitoring of safety performance and ongoing safety promotion.</p>

Describe the policy options considered

Option 0 – Do Nothing. In this option, we assume no government action. It is assumed that any organisations that have not already implemented SMS will not do so without intervention. Compliance with ICAO Annex 19 will therefore not be met.

Option 1 – Introduction of Mandatory SMS (preferred option)

In this option, any design and production organisations, Part 21 approval holders, and maintenance organisations, Part-145 approval holders that have not already implemented SMS will be required to do so. This will ensure compliance with ICAO Annex 19 and is the preferred option.

Rationale for DMA rating

We estimate that the policy has an Equivalent Annual Net Direct Cost to Businesses (EANDCB) of £0.04 million and therefore falls within the £5 million De Minimis Threshold. The primary benefit of the regulation is an anticipated improvement in the safety record of affected organisations. The improved safety record is likely to lead to a number of subsequent benefits. It has not been possible to monetise these anticipated benefits and their likely scale is not known with any certainty. However, these are deemed to be indirect and therefore not within the scope of the EANDCB calculation.

Will the policy be reviewed? No		If applicable, set review date: n/a		
Are these organisations in scope?	Micro Yes	Small Yes	Medium Yes	Large Yes

Senior Policy Sign-off:	✓	Date:	17/01/2023
Peer Review Sign-off:	✓	Date:	13/01/2023
Better Regulation Unit Sign-off:	✓	Date:	16/01/2023

1.0 Policy Rationale

Policy background

1. The International Civil Aviation Organization (ICAO) High-level Safety Conference 2010 (HLSC/2010) ²provided the impetus for the development of a new Annex dedicated to Safety Management. The proposed Annex sought to: re-enforce the role played by the State in managing safety at the State level; to stress the concept of overall safety performance in all domains; and to ensure that safety risks are proactively addressed.

2. The resulting Annex 19 became applicable on 14 November 2013. States have been required to implement the safety management Standards and Recommended Practices (SARPs) to stay in compliance with the Annex.

3. Aircraft maintenance (Part 145 approval holders) and design and production organisations (Part 21 approval holders) are the remaining two domains for which ICAO Annex 19 has not yet been fully transposed into the UK regulatory framework. In addition, Annex II, Essential requirements for airworthiness, to UK Regulation (EU) 2018/1139 explicitly calls for design, production and maintenance organisations to implement and maintain a management system (point 3.1(b)), including the management of safety risks and its continuous improvement as supported by the occurrence-reporting system already mandated by UK Regulation (EU) No. 376/2014.

Problem under consideration

4. Whilst part of the European Union Aviation Safety Agency (EASA), the UK Civil Aviation Authority (CAA) together with its industry representatives, were active members and contributors of rulemaking working groups tasked with implementation of the ICAO Annex 19 requirements. The scale and complexity of proposed amendments is a result of a decade long active collaboration and an intimate knowledge and understanding of the issue.

5. EASA published the first Safety Management System (SMS) related Notice of Proposed Amendment (NPA) in 2013. It intended to cover all airworthiness domains. However, the complexity of the task meant that 6 years later a revised NPA, was issued, split into three parts, which divided the implementation into two phases in order to make the process manageable.

6. Phase I introduced SMS into continuing airworthiness organisations as a new part, Part-CAMO (Continuing Airworthiness Management Organisation) which details the rules for continuing airworthiness management organisations which are subject to UK regulations. The proposed regulation is part of Phase II, which introduces the SMS principles into production, design and maintenance organisations.

Rationale for intervention

7. If SMS was not to be mandated via a rule change, the UK would remain non-compliant with the ICAO Annex 19 that became fully effective in November 2013. Therefore, the primary rationale for intervention is to **ensure compliance with international obligations**.

8. Apart from focus on organisations, amendments are also proposed in relation to the CAA. These amendments will enhance the CAA's ability to streamline oversight procedures and carry out effective performance-based oversight in the remaining airworthiness domains.

² https://www.icao.int/Meetings/HLSC2015/Documents/9935_en.pdf, page ii-4

9. The presence of SMS is a condition of export in most of the UK bilateral agreement/arrangements and has already featured in discussions with other potential bilateral partners. If an organisation does not have an SMS system, it will at some point no longer be able to export maintained or new parts. UK organisations are having to comply with foreign SMS requirements as part of the implementation of bilateral agreements whereas as the introduction of SMS requirements into UK legislation will allow for the recognition of these under future bilateral agreements.

10. The CAA has been at the forefront and instrumental in the development of SMS SARPs and guidance material via the ICAO Safety Management Panel and Safety Management International Collaboration Group. Not adopting SMS would damage the UK's reputation.

11. The safety critical nature of the amendments proposed reflect safety recommendations of investigation authorities following serious accidents and as such are considered critical to improving safety.

12. In line with the Government's Better Regulations Principles, the proposed amendments adopt a proportional approach to smaller organisations.

Policy objective

13. The objective of the proposed amendments to the UK Regulation (EU) No. 748/2012 and UK Regulation (EU) No. 1321/2014 is to establish a safety management system (SMS) framework for design and production organisations (Part 21 approval holders) and maintenance organisations (Part-145 approval holders).

14. All measures introduced by the proposed amendments are designed to significantly enhance organisations' safety. They address organisations' risk management, systematic hazard identification, creation of safety culture, improved occurrence reporting, establishment of safety policies and objectives including continuous monitoring of safety performance and ongoing safety promotion. ICAO recognises that full implementation of all components and elements of the SMS framework may take up to 5 years, depending on organisation's maturity and complexity. In the first year, the SMS system is only expected to be Present and Suitable. As the system evolves through practice towards excellence, it becomes Operating and Effective.

Options considered

Option 0 – Do Nothing

15. In this option we assume no government action. It is assumed that any organisations that have not already implemented SMS will not do so without intervention.

Option 1 – Introduction of Mandatory SMS (preferred option)

16. In this option, any design and production organisations, Part 21 approval holders, and maintenance organisations, Part-145 approval holders that have not already implemented SMS will be required to do so.

2.0 Rationale for De Minimis Rating

17. The analysis contained within this assessment shows that this policy satisfies the De Minimis Threshold. Many of the potentially affected organisations already satisfy the requirements of the policy. For the remaining organisations, we estimate that the policy has an Equivalent Annual Net Direct Cost to Businesses (EANDCB) of £0.03 million and therefore falls within the £5 million De Minimis Threshold.

18. The primary benefit of the regulation is an anticipated improvement in the safety record of affected organisations. The improved safety record is likely to lead to a number of subsequent benefits. It has not been possible to monetise these anticipated benefits and their likely scale is not known with any certainty. However, these are deemed to be indirect and therefore not within the scope of the EANDCB calculation.

19. We do not expect there to be significant distributional impacts, disproportionate burdens on small businesses, any significant wider social, environmental, financial or economic impacts or for there to be a novel or contentious element to the regime.

3.0 Costs and Benefits

Option 0 – Baseline

20. There are no costs or benefits associated with this option as this is the counterfactual and will be therefore be used as the baseline against which to compare further options. It is assumed that there will be no changes to current SMS uptake in the absence of the policy.

Option 1 – Introduction of Mandatory SMS

21. Table 1 provides a summary of the costs associated with the proposed policy. The estimates below represent the additional costs/benefits of Option 1, relative to the Option 0 baseline. Unless otherwise stated, all costs and benefits within this document are presented in 2022 prices.

Table 1: Costs of Option 1 compared with baseline

Description of cost	Transition/ongoing cost	Estimate (central scenario)	Estimate (high scenario)
Initial training for all employees	Transition cost (Year 1 only)	£71,345	£168,210
Initial training for postholders	Transition cost (Year 1 only)	£42,470	£59,400
Administration costs linked to Exposition / Handbook updates	Transition cost (Year 1 only)	£218,220	£514,500
Additional work cost	Ongoing cost (Years 1 to 10)	£2,078	£4,900
CAA oversight cost	Ongoing cost (Years 1 to 10)	£328,000	£328,000

22. In the central scenario, we estimate a total cost of **£662,113 in the first year following implementation and £330,078 per annum in subsequent years.**

23. In the high scenario, we estimate a total cost of **£1,075,010 in the first year following implementation and £332,900 per annum in subsequent years.**

24. It has not been possible to monetise the benefits of the proposed regulation, and these have instead been considered qualitatively.

Summary

25. This section contains a summary of the costs and benefits identified in the impact assessment. For each cost or benefit, we identify if the cost is direct or indirect, transitional or ongoing and highlight the affected party .

Monetised Costs – Transition

- Costs associated with employee training (businesses, direct)
- Costs associated with postholder training (businesses, direct)
- Administration costs linked to Exposition/Handbook updates (businesses, direct)

Monetised Costs – Ongoing

- Additional work hours cost (businesses, direct)
- Cost of CAA oversight (government, direct)

Unmonetised Benefits

- Improved safety record, i.e. reduction in safety incidents (businesses, direct)
- Reduction in lost man hours (businesses, indirect)
- Improvements in decision making processes (businesses, indirect)
- Reduced insurance and litigation costs (businesses, indirect)
- Improved employee and consumer confidence (businesses, indirect)
- Improved brand reputation (businesses, indirect)

Costs

26. We have assessed, through CAA engagement with industry, that businesses will face three types of cost as a result of the implementation of the policy: 1) training costs relating to implementation of the policy; 2) administration costs as a consequence of the need to update key documentation; and 3) ongoing costs linked to oversight of the SMS once implemented.

27. It is anticipated that there will be no ongoing staff training requirement. Following the implementation of the policy, any ongoing SMS training will form part of the pre-existing continuation training syllabus. For new starters, SMS training will be integrated into existing onboarding materials.

28. In addition to the costs to businesses, it is anticipated that there will be a cost to Government, as a result of the CAA being required to recruit 4 additional full time employees to provide SMS related oversight.

Number of affected businesses

29. Many of the calculations contained within this impact assessment depend to a large extent on two key parameters, namely the number of businesses that will be impacted by mandatory SMS and the number of employees that work for these businesses. These parameters were estimated using CAA data regarding organisations holding any of the following UK airworthiness approvals: Part 145 for maintenance; Part 21G for production; and Part 21J for design.

30. According to the CAA records, 377 entities (further organisations) hold any of the following UK airworthiness approvals: Part 145 for maintenance, Part 21G for production and Part 21J for design.³

31. Any of these UK airworthiness organisations can hold multiple UK and foreign approvals. The proposed Regulation provides for organisations to have one integrated SMS system across their approvals to promote efficiency. In order to establish the number of entities that will be directly affected by the proposed amendments, duplications at the approval level were identified and eliminated as detailed below. Costs associated with administration of approvals where the SMS is already in place are considered later in this document.

32. Of these organisations, 139 organisations hold the UK Part CAMO approval for Continuing Airworthiness Management Organisations. These organisations adopted the SMS as part of the Phase I process and therefore will not be impacted by the introduction of mandatory SMS.

33. Apart from overseeing organisations engaged in civil aviation, the CAA is also contracted to oversee some of the Military Aviation Authority (MAA) approval holders. These include holder participating in the DAOS - Design Approval Organisation Scheme and/or MAOS – Maintenance Approval Organisation Scheme. The MAA has already mandated the SMS requirements as part of the Regulatory Article 1200, Air Safety Management. As a result, a further 10 organisations that participate in the above schemes would face no additional impacts as a result of the regulation.

³ This is unpublished data which is collated by the CAA as a regulatory requirement concerning all new and continuing approvals.

34. In December 2021, EASA introduced the SMS requirements into Part 145. By the time the UK legislates the proposed SMS requirements, the UK organisations holding EASA third country Part 145 approvals will already have an SMS in place as part of their foreign approval compliance process. EASA records show that 212 organisations hold such approval at the time of writing this Impact Assessment paper. These organisations will also face no additional impacts as a result of the regulation.

35. It is important to note that no UK Production Organisation Approval (POA) holder of Part 21G approval could also hold an EASA production approval as this is precluded by the Trade and Co-operation Agreement reached between the EU and UK.

36. An individual organisation can hold more than approval, e.g. an organisation could hold both Part 145 and Part 21G approvals. CAA records have therefore been queried to identify any organisations that currently do not hold any of the required approvals, leaving 76 organisations that will be required to implement SMS.

37. Of these 76 organisations, 26 are ISO (International Organisation for Standardisation) certified. All the SMS requirements are already captured by ISO in its ISO Quality Management System requirements. Whilst ISO certified organisations that have effectively integrated SMS into their business should have addressed the basic principles and processes associated with SMS, they will need to review and possibly adjust their existing documentation to clarify the potential terminology differences and ensure that the introduced regulatory obligations are addressed.

38. Therefore, the 26 ISO certified organisations will not require initial training, rather an update on the differences of the SMS system. As part of being ISO certified, the organisations will already be required to ensure that their staff are competent on the basis of appropriate education, training or experience.

39. It is expected that the remaining 50 organisations would not need to introduce the SMS requirements from anew as they are already required to comply with occurrence reporting system which had been mandated in UK Regulation (EU) No. 376/2014 for all airworthiness organisations. Being an essential element of the SMS, occurrence reporting requires organisations to collect and analyse reports, perform risk assessment and establish “Just Culture”.

40. UK Regulation (EU) 376/2014⁴ defines Just Culture as “a culture in which front-line operators or other persons are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but in which gross negligence, wilful violations and destructive acts are not tolerated.”

41. The key SMS processes are therefore expected to be in place already and it is envisaged that no organisation should need to introduce the SMS requirements in their entirety. However, these organisations will only have the occurrence reporting incorporated into their system and will need to provide initial training to their staff.

42. Table 2 provides information about the number of employees at the 76 organisations that will face some impacts as a result of the introduction of the regulation.

Table 2: Number and size of relevant organisations

Size (no. of employees)	All		Without ISO Certification		ISO Certified	
	No. of orgs	No. of Employees	No. of orgs	No. of Employees	No. of orgs	No. of Employees
=<10	32	196	30	185	2	11
11-20	11	170	6	88	5	82
21-50	16	532	9	294	7	238
51-100	9	610	3	202	6	408

⁴ <https://www.legislation.gov.uk/eur/2014/376/article/2>

101-500	6	1481	2	716	4	765
501-800	2	1298	0	0	2	1298
Sub-total: <= 50	59	898	45	567	14	331
Sub-total: >50	17	3389	5	918	12	2471
Total	76	4287	50	1485	26	2802

Labour costs

43. In addition to the number of affected businesses, a key parameter impacting the calculations within this impact assessment are the assumed costs of labour within these affected businesses. The central cost scenario presented below adapts the approach detailed in the Regulatory Policy Committee’s guidance note on “implementation costs”⁵. Given that the regulation will impact all employees within affected organisations, we have deemed it appropriate to use industry average wages in the calculations, rather than calculating according to the individual occupations of those undertaking the training.

44. It is anticipated that the regulation will affect businesses represented by the following Standard Industrial Classifications:

- SIC 3030: Manufacture of air and spacecraft and related machinery
- SIC 3316: Repair and maintenance of aircraft and spacecraft

45. We therefore use an hourly staff cost of £29.69 in 2022 prices, based on the mean hourly wage of employees within these two sectors, which has subsequently been adjusted for inflation and uplifted by 26.5% (per Transport Appraisal Guidance Unit A4.16) to account for inflation and non-wage costs.⁷

46. To assess the sensitivity of cost estimates to this key input, we also estimate a high cost scenario using an hourly staff cost of £70, which has been estimated following CAA engagement with a case study organisation.

Transition Costs

Familiarisation costs – staff training

47. As outlined above, organisations without ISO certification will be required to provide training to their staff on the aspects of the SMS system not already covered as part of UK Regulation No. 376/2014. The training will cover how the SMS is tailored to their organisation and what it means to their individual roles. Therefore, the syllabus for initial training should already be in place and organisations will need to review their training to ensure the terminology used is consistent with the proposed Regulation.

48. It is expected that this would be included as an additional component of either induction training for new starters or continuation training for existing staff and will therefore only represent an additional cost in the first year following implementation.

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/827926/RPC_short_guidance_note_-_Implementation_costs__August_2019.pdf

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1102783/tag-unit-A4.1-social-impact-appraisal.pdf

⁷ This was derived from the mean hourly wage of employees within the two sectors from Table 16.5a of the Annual Survey of Hours and Earnings from 2021. The starting point of £22.82 was inflated by one year to bring the value to 2022 prices, then increased by 26.5% to account for non-wage costs, resulting in a total hourly cost of £29.69. GDP Deflators from the TAG Data Book (May 2022 v1.18) have been used to perform this calculation

49. In organisations with fewer than 50 employees, it is estimated that initial training will require one hour per employee. This will affect 567 employees across the 45 organisations of this size.

50. In organisations with more than 50 employees, the SMS system is likely to be more complex and the initial training is expected to take up to 2 hours per employee. This will affect 918 employees across the 5 organisations of this size.

51. Using the costs of staff time outlined above, this results in estimated one-off familiarisation costs for all employees of **£71,345 in the central scenario and £168,210 in the high cost scenario.**

Familiarisation costs – “postholder” training

52. In addition to the training requirement for all employees, it is anticipated that further training will be required for “postholders” in organisations without ISO certification, i.e. individuals who assume the role of Safety Manager/Chief of Independent Monitoring.

53. In organisations with fewer than 50 employees, it is expected that the currently appointed Quality Manager will assume the role of Safety Manager / Chief of Independent Monitoring. For these organisations, it is expected that 1 day of training will be sufficient. A desktop assessment, consisting of an internet search of publicly available training courses estimates that the daily course cost will be approximately £500. This amounts to £22,500 for the 45 organisations of this size which do not hold ISO certification .

54. In addition, there will be a further wage cost for each organisation resulting from the seven hours (i.e. one day) of staff time required to attend the course. The aggregate wage cost is £9,352 for the 45 organisations, leading to a total postholder training cost for organisations of this size of £31,852.

55. In organisations above 50 employees, it is also expected that the current Quality Manager will assume the role of the Safety Manager/ Chief of Independent Monitoring. At this level of organisation’s complexity, a three day practitioner’s course may be more appropriate. 5 organisations without ISO Certification fall into this category, leading to a total cost of £7,500 for postholder training in organisations with more than 50 employees.

56. In addition, organisations of this size will face wage costs resulting from the 21 hours (i.e. three days) of staff time required to attend the course. The aggregate wage cost for these 5 organisations is £3,117, leading to a total postholder training cost for organisations of this size of £10,617.

57. Combined, this leads to an estimated one-off transitional cost for **postholder training of £42,470 in the central cost scenario.** The higher estimated wage costs in the high cost scenario lead to an estimated one-off transitional cost for postholder training of £59,400 in this scenario.

Administration costs

58. All organisations are expected to submit the documentation describing their SMS processes. This is expected to be achieved at the approval holder level, taking into account that one organisation may hold several approvals. This activity will include updating organisations’ Exposition/ Handbook linked to their specific approval and training material.

59. The following number of approvals will be affected: 137 production organisations, 69 design organisations and 319 maintenance organisations, resulting in 525 approval holders. Each nominated post holder for each approval holds responsibility for keeping their Exposition/ Handbook current and submitting the document to the CAA for approval.

60. For approval holders holding an EASA third country 145 approval, UK Military Aviation Authority (MAA) or UK Civil Aviation (CAA) Continuous Airworthiness Management Approval (CAMO) approval, the existing SMS related processes and procedures will already be in place and documented. Thus, changes to their Exposition/ Handbook are anticipated to be more editorial rather than contextual, either transposing the SMS system from their foreign approval or adjusting them to allow for an integrated SMS system. Organisations falling into this category will be mid to large in size.

61. Small organisations will benefit from following the SMICG (Safety Management International Collaboration Group) guidance published on the CAA website.

62. Given the above considerations, it is expected that an approval holder will dedicate 2 days (14 hours) to the Exposition/ Handbook update. This results in estimated **transitional administration costs of £218,220 in the central scenario and £514,500 in the high cost scenario.**

63. There will be no additional costs associated with submitting the updated Exposition/Handbook to the CAA.

System cost

64. There is no specific requirement to procure any additional software package beyond what organisations already use. Considering that all 525 approval holders in scope of this Impact Assessment are required to comply with UK Regulation (EU) No. 376/2014 on occurrence reporting, they should already have the ability to collect, analyse and assess safety information either through their existing IT system or, for smaller organisations which are in the majority, through a standard Microsoft Office application.

On-going Costs

Additional work hours costs

65. It is expected that the implementation of SMS will not introduce significant additional workload beyond that associated with current requirements, especially where an organisation is already operating effective risk monitoring and internal reporting arrangements in accordance with the expectations of ISO and Regulation (EU) No. 376/2014.

66. It is anticipated that there will be an additional ongoing time cost associated with the implementation of SMS. In organisations with fewer than 50 employees, the requirement for safety meetings would likely entail adding a more targeted item to their existing management meeting agenda to discuss safety risk management.

67. In organisations with more than 50 employees, it is expected that a separate safety meeting may be needed, which will take the form of a Safety Review Board (SRB). SRB sets strategic direction by the leadership team and evaluates SMS performance. It is expected that the SRB will consist of four nominated postholders and meet once a year for one hour.

68. In addition, a Safety Action Group (SAG) may be established comprising managers or supervisors from key operational areas. The SAG's role is to provide information to and take strategic direction from the SRB. The SAGs are expected to meet up to twice a year for one hour in each organisation and will consist of up to 5 people.

69. The combined impact of the SRB and SAG meetings is therefore expected to be 14 person-hours per annum in the 5 impacted organisations. This leads to an estimated ongoing annual cost of **£2,078 in the central scenario and £4,900 in the high cost scenario.**

Costs of CAA oversight

70. In order to facilitate ongoing SMS related oversight, it is anticipated that the CAA will be required to recruit 4 fulltime employees. These roles will be funded by the Department for Transport. The CAA have estimated a total annual cost of £82,000 per employee, which incorporates wage and non-wage costs. Applying this value to the headcount requirement leads to an estimated ongoing cost of CAA oversight of **£328,000 per year**.

Non-monetised Costs

Initial familiarisation

71. In addition, we have assessed that each of the 377 organisations will be required to read and understand the new regulation and to assess the implications of the regulation for their operations. This is assumed to be a minimal requirement (c. 1-2 hours per business at most), particularly for those organisations with existing SMS in place, and it has therefore been deemed disproportionate to monetise this impact.

Benefits

72. It has not been possible to quantify the benefits of the regulation, and the benefits have therefore not been monetised. Potential benefits of the regulation have been identified qualitatively through engagement with organisations that have already implemented SMS. The case studies presented below have been created by the CAA through discussion and engagement with industry partners.

Case Study 1

73. The first case study organisation introduced SMS gradually, in Air Operations in 2014, in Part CAMO and Part 145 in 2020. Since implementation, the company has managed to secure £17.8 million worth of work from UK based airline customer for the 2022-23 Financial Year where the SMS was a contractual requirement.

74. Since implementation, there has also been a reduction in lost man hours of 55% and a direct cost benefit of £1.26 million per year.

Case Study 2

75. The second case study organisation is a UK operator with a fleet of 21 narrow-body aircraft operating domestic and European short haul routes. The organisation has a mature SMS system in place across all approvals (AOC – licenced air carrier, Part CAMO – Continuing Airworthiness Management Organisation and Part 145 – Maintenance Organisation).

76. One of the London main airports is their main operating base, which requires specific operational considerations. The organisation has been gathering safety data from several different sources under its SMS system (flight data monitoring, occurrence reporting, weather data, air traffic control information) for this specific location to better understand the operational risks.

77. Storm Eunice caused major disruption to the UK on the 18th February 2022. In preparation for the storm, the organisation used safety information and performed the risk analysis for their London airport base. Based on the analysis outcome, the decision was reached to cease operations for 6 hours. The operator has estimated that this action, based on their SMS system saved the operator approx. £1 million in disruption costs. As a consequence, the operator was able to resume their flying programme from their base without disruptions, and therefore avoided additional costs associated with repositioning aircraft and crew, additional passenger care and other costs of disruption.

Unmonetised Benefits

78. The primary benefit of mandatory SMS is expected to be an improvement in the safety record of organisations that implement it, leading to a reduction in safety incidents and a consequential reduction in lost man hours.

79. Improvements in safety will deliver further benefits, namely:

- Overall safety record of the UK industry.
- Quick decision making. SMS allows decision-makers to better understand and evaluate risks, leading to business efficiencies and better allocation of resources to areas of greater concern or need.
- Insurance premium reduction as a consequence evident risk management, improved safety record, lower number of safety events and incidents.
- Avoided litigation. There is a legal requirement to perform a risk assessment in many areas, such as Health & Safety, that form part of the Information Security Management System frameworks. It is anticipated that the financial consequences of litigation or non-compliance would be costly and damaging to airlines.
- Employee and customer confidence. It is likely that organisations with poor safety records will face difficulties retaining existing staff and recruiting new employees. Improvements to safety may therefore lead indirectly to lower wage costs or costs associated with recruitment.
- Brand protection and reputation. Any safety incident, accident or fatality would have a significant negative impact on an organisation's reputation. Improving safety will therefore reduce the risk of significant reputational and commercial damage to organisations.
- Market access – the presence of SMS is a condition of export in most of the UK bilateral agreements. At present, UK organisations are having to comply with foreign SMS requirements, whereas the introduction of SMS requirements in the UK will allow for the recognition of these under future bilateral agreements. The regulation is therefore expected to have a positive impact on access to foreign markets for UK businesses.

Business Impact Target Calculations

80. Utilising a Price Base Year of 2019 and a Present Value Base Year of 2020, the Do Something option has been estimated to have an Equivalent Annual Net Direct Cost to Business (EANDCB) of £0.04 million and a BIT score of 0.2.

Sensitivity Analysis

81. High cost scenario: Labour costs are a key parameter driving the expected costs of this policy. In the central scenario, we have estimated this cost based on average wages within the affected industries and adjusted for inflation and to account for non-labour costs. Sensitivity of the estimated costs to business have been estimated by calculating a high cost scenario, in which labour costs are based on an estimate of £70 per hour which was gathered through engagement with impacted businesses.

82. Costs of CAA oversight: The costs of CAA oversight are a large proportion of the estimated costs of the policy, and changes to these estimated costs would therefore have a notable impact on the estimated aggregate costs. However, these costs have been directly estimated by the CAA and we therefore have a high level of confidence in the accuracy of these estimated costs.

Risks and unintended consequences

83. No obvious significant risks or unintended consequences have been identified from this policy. It is expected that the regulation will be straightforward to enforce using existing CAA enforcement mechanisms and that SMS will be implemented by the organisations required to do so.

84. There is a small risk that some organisations may inadvertently go beyond the requirements of the regulation when implementing SMS, thereby exceeding the estimated costs presented in this document. To mitigate against this, clear guidance will be provided by the CAA to ensure that organisations fully understand the requirements and dedicate proportionate resources to implementing SMS.

Wider impacts

Equalities Impact Assessment

85. An equalities impact assessment has not been completed as there will be no impact on those groups with a protected characteristic.

Justice Impact Test

86. A justice impact test has not been completed as no criminal offence is being introduced, and there will therefore be no impact on the justice system.

Trade Impact

87. Under the requirements of carrying out a trade test as part of the DMA process, a short explanation has been provided to highlight the possible impacts on the value of imports or exports, impacts on investments and trade flows and impacts on domestic and foreign businesses.

88. The presence of SMS is a condition of export in most of the UK bilateral agreements and has already featured in discussions with other potential bilateral partners. If an organisation does not have an SMS system, it will at some point no longer be able to export or maintain or new parts. UK organisations are having to comply with foreign SMS requirements as part of the implementation of bilateral agreements, whereas the introduction of SMS requirements into UK legislation will allow for the recognition of these under future bilateral agreements.

89. Reducing this potential existing barrier to trade may therefore yield a small positive trade impact, by ensuring easier access to foreign markets for UK businesses.

Small and Micro Business Assessment

90. A number of small (those employing between 10 and 49 FTEs) and micro (those employing between 1 and 9 FTEs) will be impacted by the regulation. As explained previously, 50 organisations form the primary “impact group” of this regulation. Of these organisations, 15 employ between 10 and 49 employees (i.e. small businesses) and 30 employ 9 or fewer employees (i.e. micro businesses), meaning that 45 of the 50 impacted organisations are small or micro businesses (SMBs).

91. These SMBs will face many of the same impacts as larger businesses, and it is not possible to exempt these SMBs from the requirements of the new regulatory measures, however

92. SMBs will be required to provide training to all staff on the aspects of the SMS system not already covered as part of UK Regulation No. 376/2014. This training is expected to be less complex for SMBs and the time requirement is expected to be one hour per employee, compared with two hours per employee in larger organisations. Therefore, the burden on SMBs is not considered to be disproportionate in relation to this impact.

93. In addition, these organisations will be required to provide additional training to “postholders”, i.e. individuals who assume the role of Safety Manager/Chief of Independent Monitoring. For SMBs, it is expected that 1 day of training will be sufficient, whereas the complexity of the training for larger organisations means that 3 days of training will be required for these postholders. Therefore, the burden on SMBs is not considered to be disproportionate in relation to this impact.

94. It is expected that 525 approval holders - consisting of 137 production organisations, 69 design organisations and 319 maintenance organisations – will be required to update their Exposition /

Handbook and submit the document to the CAA for approval. On average, it is expected that an approval holder will dedicate 2 days to the Exposition/Handbook update.

95. Approval holders holding an EASA third country 145 approval, UK MAA or UK CAA CAMO approval, the existing SMS related processes and procedures will already be in place and documented. Organisations falling into this category are expected to be mid to large in size, and the required changes are anticipated to be more editorial rather than contextual.

96. Small organisations will benefit from following the SMICG (Safety Management International Collaboration Group) guidance published on the CAA website. The burden on SMBs is therefore not considered to be disproportionate in relation to this impact.

4.0 Post implementation review

1. **Review status:** Please classify with an 'x' and provide any explanations below.

<input type="checkbox"/>	Sunset clause	<input type="checkbox"/>	Other review clause	<input type="checkbox"/>	Political commitment	<input type="checkbox"/>	Other reason	<input checked="" type="checkbox"/>	X	<input type="checkbox"/>	No plan to review
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Regulations to be reviewed every five years to ensure continued suitability.

2. **Expected review date** (month and year, xx/xx):

N/A

3. **Rationale for PIR approach:**

The policy is estimated to have limited impacts on UK based businesses. While it has not been possible to monetise the benefits, it is thought that these will outweigh the costs of the policy. Therefore, we have determined that conducting a PIR would not be proportionate to the scale of the impact.