



SAN MARINO
NATIONAL AVIATION SAFETY PLAN
2024 - 2026

NATIONAL AVIATION SAFETY PLAN OF SAN MARINO

1. INTRODUCTION

1.1 Overview of the NASP¹

San Marino is committed to enhancing aviation safety and to the resourcing of supporting activities. The purpose of this national aviation safety plan (NASP) is to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a national aviation safety strategy. A safe aviation system contributes to the economic development of San Marino and its industries. The NASP promotes the effective implementation of San Marino's safety oversight system, a risk-based approach to managing safety, as well as a coordinated approach to collaboration between San Marino and other States, regions and industry. All stakeholders are encouraged to support and implement the NASP as the strategy for the continuous improvement of aviation safety.

The NASP of San Marino is in alignment with the ICAO *Global Aviation Safety Plan* (GASP, Doc 10004) and the European RASP.

San Marino is a small State, and the profile of our aviation community is not typical of some larger aviation nations. Our main priorities remain the same, although our issues are slightly different in some areas and our general situation can benefit from a different approach. For these reasons, our safety strategies are tailored to reflect our national context.

Marco Conti
Director General Civil Aviation

¹ Section 1.1. may also be presented as a standalone foreword.

1.2 Structure of the NASP

This NASP presents the strategy for enhancing aviation safety for a period of 2 years. It is comprised of six sections. In addition to the introduction, sections include: the purpose of the NASP, San Marino's strategic approach to managing aviation safety, the national operational safety risks identified for the 2024 - 26 NASP, other safety issues addressed in the NASP, and a description of how the implementation of the safety enhancement initiatives (SEIs) listed in the NASP is going to be monitored.

1.3 Relationship between the NASP and the State safety programme (SSP)

Through an effective SSP, San Marino identifies and mitigates national operational safety risks. The SSP provides safety information to the NASP. The SSP allows San Marino to manage its aviation activities in a coherent and proactive manner, measure the safety performance of its civil aviation system, monitor the implementation of the NASP's SEIs and address any identified hazards and deficiencies. The NASP is one of the key documents produced as part of San Marino's SSP documentation. It is the means by which San Marino defines, and drives the implementation of SEIs generated by the SSP process and drawn from the ICAO GASP and the EUR RASG. It also allows San Marino to determine initiatives to strengthen the SSP or otherwise needed to achieve its safety objectives. Safety intelligence gathered through the SSP also contributes to other national plans, such as the Emergency Response Plan. Further information on San Marino's SSP can be found at <https://www.smar.aero/about-sm-caa>.

1.4 Responsibility for the NASP development, implementation and monitoring

The San Marino Civil Aviation Authority is responsible for the development, implementation and monitoring of the NASP, and in alignment with the of the GASP 2023 – 2025 and the EUR RASP 2023 – 2025. Progress of actions will be monitored by the Safety Review Board (SRB).

1.5 National safety issues, goals and targets

The NASP addresses the following national safety issues:

- 1) Effectiveness of Safety Management in AOCs
- 2) Effectiveness of Safety Management in other organisations
- 3) Awareness of hazards and risk priorities from local and international sources
- 4) Operational discipline as evidenced by SAFA and Inspector Findings
- 5) Adequacy of management in a small number of organisations
- 6) Availability of qualified Inspectors and skilled aviation personnel
- 7) General aviation attitudes to safety

In order to address the issues listed above and enhance safety at the national level, the 2023 - 2025 NASP contains the following goals and targets:

- 1) Raise the capability and standardisation in the oversight of SMS by our Inspectors and Surveyors
Target: Develop and deliver recurrent and refresher SMS training for Inspectors and Surveyors
- 2) Improve understanding of SMS amongst service providers in commonality with Inspectors
Target: Deliver a Safety Conference focused on practical implementation of SMS in AOCs
Target: Communicate Analysis of San Marino Safety Data to all stakeholders (AOC and non-AOC organisations) to raise risk awareness
Target: Communicate international safety priorities and common contributors or precursors to e.g. Significant Seven / ICAO HRCs, including those related to flight ops, engineering and support issues
- 3) Enforce discipline of aviation standards in regulated organisations
Target: undertake heightened oversight where poor standards are observed and if improvements are not achieved, deregistration
Target: ensure continued availability of sufficient and qualified Inspectors through a regular meeting to monitor forecast demand against known availability
Target: monitor Findings from Inspectors and SAFA to provide feedback to service providers to facilitate improvements

1.6 Operational Context

There are no international aerodromes in San Marino. The only airport is the Torraccia airfield and helipad which is managed by the Aeroclub San Marino. There is a grass runway and no Air Navigation Service. The airspace of San Marino is classified as Class G up to 5000 ft, above this it is Italian Class D. There are currently 23 air operator certificates (AOCs) issued by San Marino, and all conduct international commercial air transport operations. San Marino also has 0 operators which operate domestic air taxi services. There is 1 heliport in San Marino.

San Marino has no international airport or ANSP, and many of our Inspections and oversight visits take place remotely from our base. There are a higher proportion of business jet operators and privately operated aircraft than would be typical of a national fleet, many of whom fly a wide variety of routes, rather than a scheduled back and forth to a regular destination. They tend to be less constrained by cost but have smaller volumes of data available within their operation.

Common challenges in San Marino include meteorology and wind effects of the mountain, and the short grass runway.

2. PURPOSE OF SAN MARINO'S NATIONAL AVIATION SAFETY PLAN

The NASP is the master planning document containing the strategic direction of San Marino for the management of aviation safety for a period of 2 years (2024 to 2026). This plan lists national safety issues, sets national aviation safety goals and targets, and presents a series of safety enhancement initiatives (SEIs) to address identified safety deficiencies and achieve the national safety goals and targets.

The NASP has been developed using international safety goals and targets and HRCs from both the GASP (www.icao.int/gasp) and the EUR RASP. These are highlighted in the text, where applicable. The SEIs listed in the NASP support the improvement of safety at the wider regional and international levels and include several actions to address specific safety risks and recommended SEIs for individual States set out in the EUR RASP <https://www.icao.int/eurnat> . San Marino has adopted these SEIs and has included them in this plan. Cross-references are provided to the EUR RASP for individual SEIs where relevant.

3. SAN MARINO'S STRATEGIC APPROACH TO MANAGING AVIATION SAFETY

San Marino is a small State, with a small CAA and a unique aviation community. Our operations have a high proportion of business aviation; which can be diverse and span the globe, and operators are often small organisations. For these reasons, San Marino SEIs focus on raising awareness and capability for self-management of safety within our industry, rather than attempting to generate new 'one size fits all' solutions for their operations. In our context, the best approach is more likely to involve communication of safety priorities and safety performance to our community, providing links to useful information and ensuring our Inspectors and Surveyors provide effective oversight of their safety management practices. The plan is developed by the San Marino Safety Review Board (SRB) with all relevant disciplines represented.

The NASP presents the SEIs derived from the SSP, including San Marino's safety risk management process and safety data collection and processing systems, as well as the work undertaken by service providers in the development and implementation of their safety management systems (SMS). This plan is developed and maintained by San Marino Civil Aviation Authority, in coordination with all stakeholders and is updated at least every 2 years.

The NASP includes the following national safety goals and targets, for the management of aviation safety, as well as a series of indicators to monitor the progress made towards their achievement. They are tied to the goals, targets and indicators listed in the GASP and the EUR RASG and include additional national safety goals, targets and indicators.

Goal	Target	Indicators	Link to GASP and RASP
1. Raise the capability and standardisation in the oversight of SMS by our Inspectors (Flight Operations and Airworthiness)	1.1 Develop refresher SMS audit techniques training for Inspectors to focus on areas commonly raised by external audit Findings	<p>1.1.1 Course developed to address general areas of Findings by 31/03/24</p> <p>1.1.2 Specific material developed for Flight Operations by 31/03/24</p> <p>1.1.2 Specific material developed for Airworthiness 31/03/24</p> <p>1.1.3 Course delivery planned 31/03/24</p> <p>1.1.4 Course delivery commenced 30/04/24</p>	<p>1.1.1.1 This goal is directly linked to GASP Goal 2 (Strengthen safety oversight capabilities), EUR.SPT.0005 States to implement effective State Safety Programmes (SSPs) “including a description of how an SMS is accepted and regularly monitored”, and EUR.SPT.0007 SMS Assessment</p>

<p>2. Improve understanding of SMS amongst service providers in commonality with Inspectors</p>	<p>2.1 Deliver a Safety Conference focused on practical SMS implementation</p> <p>2.2 Communicate Analysis of San Marino Safety Data to all stakeholders (AOC and non-AOC organisations) to raise risk awareness</p> <p>2.3 Communicate common contributors and precursors to ICAO HRCs, including those related to airworthiness and other engineering issues, human factors and communications</p>	<p>2.1.1 Safety Conference delivered by November 2024</p> <p>2.2.1 Safety Notice published January 2024, 2025 and 2026 to provide safety data analysis and links to international safety information to all stakeholders</p> <p>2.3.1 Plan Safety Conference content and review SMS Guidance material to ensure that the ICAO HRCs are highlighted, including airworthiness, engineering and HF aspects.</p>	<p>1.1.1.1 This goal is directly linked to GASP SEI-5 (Improvement of industry compliance with applicable SMS requirements) EUR.SPT.0004 (Safety management implementation)</p>
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3. Ensure discipline of aviation standards is enforced in regulated organisations	<p>3.1 Undertake heightened oversight where poor standards are observed and if improvements are not achieved, consider deregistration</p> <p>3.2 Ensure continued availability of sufficient and qualified Inspectors through a regular meeting to monitor forecast demand against known availability</p> <p>3.3 Monitor SAFA Findings and provide feedback to service providers to facilitate improvements</p>	<p>3.1.1 Place any operator considered to have some deficiencies under heightened oversight in a timely manner (ongoing)</p> <p>3.2.1 Establish regular meetings to review Inspector availability vs forecast demand by 31/01/24</p> <p>3.3.1 Analyse and chart SAFA Findings and make these available to industry in the annual Safety Notice January 2024, 2025, 2026</p>	Goal 1 is to achieve a continuous reduction of operational safety risks
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The SEIs in this plan are implemented through San Marino's existing safety oversight capabilities and the service providers' SMS. SEIs derived from the ICAO global aviation safety roadmap were identified to achieve the national safety goals and targets presented in the NASP. Some of the national SEIs are linked to overarching SEIs at the regional and international levels and help to enhance safety globally.

The NASP also addresses emerging issues. Emerging issues include concepts of operations, technologies, public policies, business models or ideas that might impact safety in the future, for which insufficient data exists to complete typical data-driven analysis. It is important that San Marino remain vigilant on emerging issues to identify potential safety risks, collect relevant data and proactively develop mitigations to address them. The NASP addresses the following emerging issues, which were identified by collection of safety data, international publications such as the EASA EPAS and international issues as outlined in the RASP:

- 1) GPS signal disruption (spoofing and jamming) reports and adequacy of training / checklists
- 2) Increased TCAS RA reports following COVID (and potentially any future pandemic or other disruption)
- 3) Skills shortages, particularly engineering (and associated pressure to accept marginal qualifications)
- 4) Parts availability (and associated pressure to use unsuitable items)
- 5) New technology that has not yet been recorded in San Marino but may occur, such as small drones operating in the vicinity of aerodromes, and new types of aircraft such as eVTOLs, 'flying cars' and hybrid air vehicles, and cyber security threats

To address these emerging issues actions are as follows:

- Feedback to the industry on the events that are being reported to promote awareness and preparedness (GPS spoofing and TCAS RAs)
- Vigilance by Inspectors that standards are not eroded by market pressure (skills shortages, parts availability)
- Remaining informed of EASA responses to new technology to consider adopting a consistent approach in regulation and guidance (drones, eVTOLs, cyber threats etc)

4. NATIONAL OPERATIONAL SAFETY RISKS

The NASP includes SEIs that address national operational safety risks, derived from lessons learned from operational occurrences and from a data-driven approach. These SEI may include actions such as: rule-making; policy development; targeted safety oversight activities; safety data analysis; and safety promotion. Separate sections are provided to address commercial air transport and general aviation, in order to make the information more accessible to stakeholders (if applicable to the State).

San Marino publishes an Annual Safety Notice, available on the San Marino website <https://www.smar.aero/safety-notices/>. The summary of accidents and serious incidents that occurred in San Marino and those for aircraft registered in San Marino involved in commercial air transport and aircraft involved in general aviation is shown in the table below. Since San Marino has no commercial airport, there are no CAT event in San Marino. There was one GA accident at the aerodrome.

Year	Fatal accidents	Non-fatal accidents	Serious incidents
Commercial air transport occurrences in San Marino			
5 year average	0	0	0
2023	0	0	0
General aviation aircraft occurrences in San Marino			
5 year average	0	0.2	0
2023	0	0	0

Year	Fatal accidents	Non-fatal accidents	Serious incidents
Occurrences involving commercial air transport aircraft registered in San Marino			
5 year rolling average	0	0	0
2023	0	0	0
Occurrences involving non commercial and general aviation aircraft registered in San Marino			
5 year rolling average	0.4	1.4	3.5
2023	1	1	4

The 5 High Risk Categories (HRCs) of occurrences in the San Marino context were considered important because of the number of fatalities and risk of fatalities associated with such events. They were identified based on analyses from mandatory and voluntary reporting systems, accident and incident investigation reports, and safety oversight activities. The highest priority for attention has been Runway Excursions because this has been shown to be the most common type of accident and also Loss of Control, CFIT, MAC and Runway Incursions and because of the potential for loss of life in these types of accident. Examples of these accident types, or events that could have been precursors to such accident types, have occurred in San Marino during the last five years. In addition there has been war damage which is arguably not the fault of the safety system, and some minor damage during low speed manoeuvring at airports.

The aviation occurrence categories from the CAST/ICAO Common Taxonomy Team (CICTT) were used to assess risk categories in the process of determining national operational safety risks. The CICTT Taxonomy is found on the ICAO website at <https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx>. In order to address the national operational safety risks listed above, San Marino identified the following contributing factors leading to HRCs and will implement a series of SEIs, some of which are derived from the ICAO OPS roadmap, contained in the GASP:

Every accident and incident is unique, however, analysis showed that some contributory factors were present in multiple events:

- Continuing the flight / approach in adverse weather conditions, specifically in poor visibility or gusting wind
- Attempting flight / activity that is very challenging for the individuals involved
- A pilot has lost concentration / strayed from procedure at a critical moment

There have also been a small number of events where aircraft maintenance discipline has slipped. These have not progressed to an accident but none the less deserve attention to prevent such an occurrence.

In addition to the national operational safety risks listed above, the following additional categories of operational safety risks have been identified:

- 1) Aviation security is being reviewed and developed by San Marino CAA. It is a matter of growing importance due to international conflict situations that may develop in unpredictable ways. Fortunately San Marino is not involved in conflict at this time, but these situations can impact upon our fleet. Two Gulfstream aircraft mentioned above have been directly damaged whilst parked in Ukraine. Aircraft cannot fly in or out of Russia and the facility for aircraft maintenance is affected. Pilots and other operational professionals may be affected at a personal level. Additionally, security procedures may impact operations in more subtle ways. Pilots may be distracted, irritated or delayed by security procedures at airports, with the potential to affect available resting time or draw attention away from other safety matters. Restrictions on movement in and out of the cockpit may affect information flows between pilots and cabin crew or engineers and increase pre flight time pressure if appropriate adjustments have not been made. Therefore, our development of Aviation Security protocols is being performed with careful consideration of the potential for unintended consequences.

- 2) General Aviation Safety Culture is a difficult subject to quantify. It is not amenable to the corporate level 'safety culture surveys' because the context and subject matter is different. During recent years there have been a small number of events that could indicate some lapses in safety culture although they could equally be 'one off' slips or lapses in judgement. Just as safety culture in GA is hard to measure accurately, it is also difficult to address effectively. It is currently a subject of discussion and may develop into an SEI within the time period of this NASP if a realistic way forward can be identified. However, an ill-conceived or ineffective approach might have a negative impact and so the subject is under careful consideration.

5. OTHER SAFETY ISSUES

In addition to the national operational safety risks listed in the NASP, San Marino has identified other safety issues and initiatives selected for the NASP. These are given priority in the NASP since they are aimed at enhancing and strengthening San Marino's safety oversight capabilities and the management of aviation safety at the national level.

The eight critical elements (CEs) of a safety oversight system are defined by ICAO. San Marino is committed to the effective implementation of these eight CEs, as part of its overall safety oversight responsibilities, which emphasize San Marino's commitment to safety in respect of its aviation activities. The eight CEs are presented in the figure below.



Figure 1. Critical elements of a State's safety oversight system

The latest ICAO activities, which aim to measure the effective implementation of the eight CEs of San Marino's safety oversight system, as part of the ICAO Universal Safety Oversight Audit Programme (USOAP), have resulted in the following scores:

Overall EI score							
89.5%							
EI score by CE							
CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
76.92%	88.71%	87.5%	94.74%	95.08%	91.92%	75.0%	92.86%
EI score by audit area ²							
LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
95.45%	100%	100%	94.9%	93.94%	42.86%	46.15%	--%

The following systemic safety issues in the San Marino context were considered a priority because they are systemic issues, which impact the effectiveness of safety risk controls. They were identified based on analysis of CAA Inspector oversight Findings and SAFA inspections. These issues are typically organizational in nature and relate to challenges associated with the conduct of States' safety oversight functions, implementation of SSP at the national level and the level of SMS implementation by national service providers. They take into consideration organizational culture, policies and procedures within San Marino operations. These safety issues are in line with those listed in the GASP, as well as the EUR RASP:

² Eight audit areas pertaining to USOAP, i.e. primary aviation legislation and civil aviation regulations (LEG), civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA).

- a) Effectiveness of SMS implementation amongst operators
- b) Subcontractor control amongst operators
- c) Maintenance Task documentation
- d) Flight Crew training practices
- e) Discipline in adherence to procedures including MELs, Licence privileges, QA, correct calculations and plans
- f) GA safety culture
- g) Availability of Designate Inspectors

In order to address the issues listed above, San Marino will implement the SEIs described above, some of which are derived from the ICAO ORG roadmap, contained in the GASP.

6. MONITORING IMPLEMENTATION

San Marino will continuously monitor the implementation of the SEIs listed in the NASP and measure safety performance of the national civil aviation system, to ensure the intended results are achieved, using the mechanisms presented in the appendix to this plan.

In addition to the above, San Marino will review the NASP every 2 years or earlier, if required, to keep the identified operational safety risks, safety issues and selected SEIs updated and relevant. The Civil Aviation authority will periodically review the safety performance of the initiatives listed in the NASP to ensure the achievement of national safety goals and targets. If required, San Marino will seek the support of the industry and available expertise to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, San Marino will make adjustments to the NASP and its initiatives, if needed, and update the NASP accordingly.

San Marino will use the indicators listed in Section 3 of this plan to measure safety performance of the civil aviation system and monitor each national safety target. An annual Safety Notice is published to provide stakeholders with relevant up-to-date information on the progress made in achieving the national safety goals and targets, as well as the implementation status of the SEIs.

In the event that the national safety goals and targets are not met, the root causes will be presented. If San Marino identifies critical safety risks, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an unscheduled revision of the NASP.

Any questions regarding the NASP and its initiatives, and further requests for information may be addressed to the following:

San Marino Civil Aviation Authority, Via Consiglio dei Sessanta 99. Dogana , 47891. Republic of San Marino. Tel +378 549 88 29 29 www.caa-mna.sm