



Manual on the Competencies of Civil Aviation Safety Inspectors

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AMENDMENTS

Amendments are announced in the supplements to the Catalogue of ICAO Publications; the Catalogue and its supplements are available on the ICAO website at www.icao.int. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

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PURPOSE AND USE OF THIS MANUAL

This manual provides guidance to oversight Authorities and training organizations on the development and maintenance of a competent Civil Aviation Safety Inspectors (CASIs) workforce. It is one component of a suite of guidance materials and tools to support States in conducting effective oversight.

Effective Oversight guidance materials and tools

Available at: www.icao.int/Pages/default.aspx.....

Manual



Manual on CASIs (Doc 10070)

Information



Organizational Structure Guidance

Determine the
organizational
structure that suits
you best

Tool



Benchmarking

Compare what
you've got with best
practice

Tool



Resource Planning

Determine how
many CASIs you need

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GLOSSARY

When the following terms are used in this manual, they have the following meanings:

***Aerodrome.** A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Air navigation services. Services provided to air traffic during all phases of operation including air traffic management (ATM), communication, navigation and surveillance (CNS), meteorological services for air navigation (MET), search and rescue (SAR) and aeronautical information services/aeronautical information management (AIS/AIM).

***Air traffic services.** A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

***Approved training organization (ATO).** An organization approved by and operating under the supervision of a Contracting State in accordance with the requirements of Annex 1 to perform approved training.

Note.— The Contracting State is required to ensure that the ATO is included in the State's ongoing safety oversight programme.

Audit. A systematic and objective review of an entity's operation to verify compliance with aviation regulations, conformity with or adherence to required standards as well as CAA-approved documented policies, processes, and procedures.

***Civil Aviation Authority (CAA).** The government entity or entities, however titled, that are directly responsible for the regulation of all technical (i.e. air navigation and aviation safety) and economic (i.e. the commercial aspects of air transport) aspects of civil air transport.

Civil aviation safety inspector (CASI). A qualified person authorized by the State to carry out safety oversight activities for civil aviation.

***Commercial air transport operation.** An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.

***Competency.** A dimension of human performance that is used to reliably predict successful performance on the job.

***Competency-based training and assessment.** Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

***Compliance.** The state of meeting those requirements mandated through regulation.

***Conformity.** The state of meeting established criteria, standards, specifications and desired outcomes.

Contracting State. A State, which is a party to the *Convention on International Civil Aviation* and has agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically.

Director General of Civil Aviation. A designation that identifies the senior official who is the head of the State's Civil Aviation Authority.

Finding. A finding is a conclusion by audit personnel that demonstrates either non-compliance with a regulation or non-conformity with a specific standard.

***General aviation operation.** An aircraft operation other than a commercial air transport operation or an aerial work operation.

***Hazard.** A condition or an object with the potential to cause or contribute to an aircraft accident or incident.

Human performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

Inspection. The basic activity of an audit, which involves detailed examination of specific activities, products or services.

Inspectorate. The grouping of all CASIs and their immediate operational managers regardless of where they are assigned within the CAA's organization.

***Instructional systems design (ISD).** A formal process for designing training which includes analysis, design and production, and evaluation processes.

***Operational control.** The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

***Operator.** A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

***Performance criteria.** Simple, evaluative statements on the required outcome of the competency element and a description of the criteria used to judge whether the required level of performance has been achieved. A performance criterion consists of an observable behaviour, condition(s) and a competency standard.

***Quality.** The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

***Quality assurance (QA).** All the planned and systematic actions necessary to provide adequate confidence that all aviation activities satisfy given standards and requirements, including the ones specified by the organization in relevant manuals.

***Quality management.** A management approach focused on the means to achieve product or service quality objectives through the use of its four key components: quality planning; quality control; quality assurance; and quality improvement.

Risk assessment. The analysis of the consequences of the hazards that have been determined as threatening the capabilities of an organization or person(s). A safety risk analysis uses a conventional breakdown of risk into two components to define the level of safety risk: the probability of occurrence of a damaging event or condition, and the severity of the event or condition, should it occur to define the level of safety risk.

***Safety management system (SMS).** A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety oversight. A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

***Safety risk.** The predicted probability and severity of the consequences or outcomes of a hazard.

***Significant safety concern.** Occurs when the State allows the holder of an authorization or approval to exercise the privileges attached to it, although the minimum requirements established by the State and by the Standards set forth in the Annexes to the Convention are not met, resulting in an immediate safety risk to international civil aviation.

***State safety programme (SSP).** An integrated set of regulations and activities aimed at improving safety.

**These terms have been defined in other ICAO documents.*

ABBREVIATIONS/ACRONYMS

AIS	Aeronautical information services
AMO	Approved maintenance organization
AOC	Air operator certificate
ATM	Air traffic management
ATO	Approved training organization
CAA	Civil Aviation Authority
CASI	Civil Aviation Safety Inspector
CNS	Communication, navigation and surveillance
DGCA	Director General of Civil Aviation
EDTO	Extended diversion time operations
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
ISD	Instructional systems design
MEL	Minimum equipment list
MET	Meteorological services for air navigation
OECD	Organization of Economic Cooperation and Development

OJT	On-job training
PANS	Procedures for Air Navigation Services
PANS-TRG	Procedures for Air Navigation Services — Training
PBR	Performance-based regulations or performance-based regulatory
QA	Quality assurance
RA	Risk assessment
SARPs	Standards and Recommended Practices
SME	Subject-matter-expert
SMS	Safety management system
SSP	State's safety programme

CHAPTER 1. WHY WE NEED CIVIL AVIATION SAFETY INSPECTORS (CASIS)

This chapter describes the State obligations regarding oversight emphasizing the role of civil aviation safety inspectors (CASIs), their recruitment, the changing regulatory environment in which they work and how a competency-based approach can prepare CASIs for the future.

A CASI is a qualified person authorized by the State to carry out safety oversight activities. Safety oversight is a function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations. For the purpose of this manual, CASIs will be understood to exclude authority personnel involved exclusively in the oversight of product design and type certification.

1.1. STATE OBLIGATIONS

There are two types of States' obligations with regard to oversight: those that relate to supporting international civil aviation and those that relate to supporting CASIs to effectively perform safety oversight functions on behalf of the CAA.

1.1.1. FULFILLING REGULATORY OBLIGATIONS TO SUPPORT INTERNATIONAL CIVIL AVIATION

The Convention and its supporting nineteen Annexes establish several key obligations for Contracting States. One of the obligations is oversight of various aviation entities and activities.

To accomplish these obligations, Annex 19 — *Safety Management*, Appendix 1 identifies eight critical elements (CE) (Figure 1):



Figure 1. The eight critical elements of a State safety oversight system

Critical elements 4 and 5 are particularly related to the qualification of CASIs and the implementation of critical elements 6, 7 and 8. Of particular interest are the Standards associated to these critical elements 4 and 5 in Annex 19, namely:

“CE-4 Qualified technical personnel

4.1 The State shall establish minimum qualification requirements for the technical personnel performing safety oversight functions and provide for appropriate initial and recurrent training to maintain and enhance their competence at the desired level.

4.2 The State shall implement a system for the maintenance of training records.

CE-5 Technical guidance, tools and provision of safety-critical information

5.1 The State shall provide appropriate facilities, comprehensive and up-to-date technical guidance material and procedures, safety-critical information, tools and equipment, and transportation means, as applicable, to the technical personnel to enable them to perform their safety oversight functions effectively and in accordance with established procedures in a standardized manner.”

States should ensure that their State Safety Programme manages the challenge of the growth of their aviation industry and maintains a safe operating environment. Each State should identify what investments need to be made in order for the State to continue to meet its international obligations under the Convention on International Civil Aviation and plan for the future air transportation system in accordance with Doc 10004, *2014-2016 Global Aviation Safety Plan (GASP)* and Doc 9750, *Global Air Navigation Plan (GANP)*.

SAFETY OVERSIGHT AUDIT RESULTS FOR CE 4 AND CE 5

According to the report of the Universal Safety Oversight Audit Programme and Continuous Monitoring Approach consulted at the time of writing this manual, CE-4 remains the CE with the lowest effective implementation (EI) rate at the global level. The report indicates that:

- In the December 2013 to December 2015 period, all CEs from CE-1 to CE-5 have seen an increase of their EI. However, all CEs related to the actual implementation of the State’s safety oversight system, i.e. CE-6, CE-7 and CE-8, have seen a decrease of their EI (Figure 2).

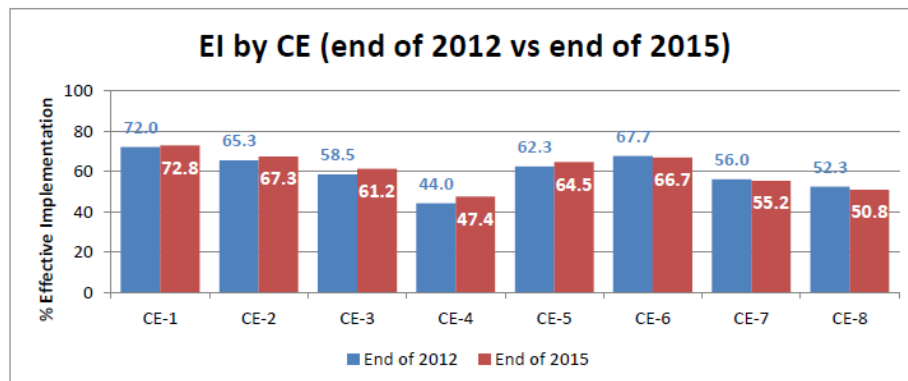


Figure 2. Global rate of effective implementation of the eight critical elements of a State’s safety oversight system in the years 2012 to 2015.

The EI decrease during this period resulted from a number of factors.

- One of them is the deterioration of the safety oversight system when the State had not been able to retain some of its qualified and experienced technical staff. In other States, the CAA had not been sufficiently staffed to effectively perform all necessary additional certification, surveillance and enforcement activities associated with a significant increase of their level of aviation activity. The limited qualified human resources available to States also impact the identification of differences with ICAO provisions. This requires sufficient understanding of the SARPs involved, which may be limited by the actual qualification and training of the State's personnel, by the complexity or formulation of some SARPs and by the inherent difficulty associated with the assessment of the level of compliance of national regulations and practices with SARPs.
- While some States manage to recruit adequately qualified experts, they may not be able to retain them. Once these experts receive significant training and accumulate experience, they are offered positions in the industry, in other States or in international or regional organizations which have more attractive employment conditions or compensation packages. The lack of or insufficient number of qualified inspectors remains the main obstacle to the implementation of an effective State safety oversight system, and is often the root cause of situations leading to the identification of Significant Safety Concerns (SSC) in the State by ICAO.
- Another difficulty for some States is to objectively estimate the CAA's staffing needs in the various aviation domains, based on the State's level of activity and complexity of the aviation system, as well as to estimate, obtain and train additional human resources when a significant increase in the State's level of aviation activity is observed or forecasted.
- Many States have not yet established a training policy. A training policy together with the availability of sufficient funds for the effective implementation of the training programmes are the building blocks of the CAA's training system. In the absence of such a policy, or when the training policy exists but is not comprehensive or appropriately implemented, States may lack or have insufficiently detailed training programmes for some or all of the CAA inspector positions; training records may be partially maintained (consisting mainly of a compilation of course completion certificates); and the on-the-job training (OJT) may not be performed by sufficiently qualified and experienced staff and/or may not be documented in the training records.
- The lack of sufficient financial resources remains the main obstacle to the provision of training, which results in the inspectorate and relevant staff not having the necessary qualifications.

1.1.2. CAA OBLIGATIONS TO SUPPORT AN EFFECTIVE INSPECTORATE

The State must establish conditions that allow CASIs to discharge their duties. This requires the State to delegate specific powers of authority to CASIs supporting the accomplishment of their tasks. Some States codify the CASI's power of authority and degree of accountability into aviation law to enable CASIs to effectively carry out their assignments. Creating the conditions that allow CASIs to discharge their duties also requires the DGCA to:

- establish clear and comprehensive workplace policies and procedures;
- provide a safe working environment; and
- supply CASIs with adequate workplace resources.

These are discussed further below.

POLICY AND PROCEDURES

The CAA must have comprehensive documented policies and procedures which establish expected standards of service for all inspector-related tasks. Policies and procedures should at least explain departmental values, codes of conduct, operational procedures, and internal reporting and recordkeeping requirements.

CASIs decisions and actions can have significant consequences. There need to be safeguards protecting the CASIs. Procedures and other regulatory provisions should provide guidance to CASIs in discharging their duties. Adherence to them protects CASIs in case an authority action or decision is challenged. Other safeguards could include documented government policies providing the individual inspector with the full legal support and representation of the government when circumstances could lead to the CASI facing judicial prosecution.

The CAA may consider implementing a condensed operational procedures guide, similar to a checklist to support a uniform level of service. The tool can take different forms. It can be generic and provide the critical steps in conducting activities such as an audit or approving a licence application or it can be more detailed. ICAO guidance related to these operational procedures to help CAAs develop their own inspector guides can be found in Appendix C. CAAs should customize them to ensure that they are consistent with State regulatory requirements and CAA procedures.

A CAA training policy should clearly address the initial training of CASIs, as well as the periodic recurrent and specialized training necessary for CASIs to perform the tasks for which they are responsible. The CASI training lifecycle is described in Chapter 4.

SAFE WORKING ENVIRONMENT

The day-to-day operation of an inspectorate involves the provision of civil aviation regulatory services to a law-abiding community. However, there will be occasions when some entities will wilfully attempt to operate outside the regulatory boundaries. For this reason, DGCAs should have adequate security procedures in place, which track the whereabouts of each inspector and confirm that their personal well-being is not jeopardized. Although not a frequent occurrence, inspector's field work can put the individual in harm's way. In particular, the CAA should manage with due care surveillance activity at remote locations. As per 1.1.2, CASIs are empowered to carry out their assigned responsibilities. Without such authority, unscrupulous entities are free to be uncooperative and even belligerent when dealing with CASIs carrying out their duties.

The DGCA must develop and maintain a good working relationship with judicial bodies and police forces to ensure adequate powers of enforcement. This enables each group to effectively fulfil its responsibilities and to collaborate in bringing about a just and proper resolution of any serious offences.

In addition, CASIs are expected to undertake tasks in operational hazardous environments. As part of managing the health, safety and welfare of CASIs in the workplace, the CAA should determine what might cause harm to its inspectors and risk assessments should be undertaken to identify sensible risk control measures.

WORKSPACE AND EQUIPMENT

Inspectors and supporting staff should have suitable workspaces in CAA offices. The main point of entry to the building should lead to a reception area where the general public can seek assistance. Inspectors and stakeholders should have access to a sufficient number of meeting rooms close to the reception area. Inspector workspaces should be in a secure

area of the building that does not permit access to non-authorized visitors to ensure confidential information is not compromised. Similar security arrangements should also apply for the recordkeeping area of the CAA. If data or correspondence is electronically managed, a firewall should be in place to safeguard against unauthorized access or deliberate tampering.

Since much of an inspector's workload involves field work, the CAA should issue each CASI with sufficient equipment to effectively function away from the office. Ideally, the CASI should have easy access to all applicable CAA rules and guidance material while in the field. At the very least, there should be communication arrangements so that inspectors are able to obtain specific details of a regulatory provision and/or consult with subject-matter experts (SMEs) while outside the office.

CASIs should be readily identifiable to the public, law enforcement officials and employees of other government agencies. They should be provided with appropriate government-issued outerwear identifying them as aviation safety inspectors. They should be provided with an official government-issued photo identification that attests their role as aviation safety inspectors.

For enhanced security, CAAs may provide credentials with embedded biometric data to prevent unauthorized entry to restricted areas by holders of forged documents.

All inspectors should have access to a library containing all CAA policy and operational procedure documents and up-to-date copies of all ICAO Annexes, PANS and relevant manuals as well as copies of the latest versions of national aviation laws, regulations and standards. The library is an essential reference centre for inspectors; the library facility and its material should be secure and well-maintained.

REMUNERATION, CONDITIONS OF SERVICE AND STAFFING

As stated in Annex 19, Appendix 1:

"3.3 States should take necessary measures, such as remuneration and conditions of service, to ensure that qualified personnel performing safety oversight functions are recruited and retained.

3.4 States shall ensure that personnel performing safety oversight functions are provided with guidance that addresses ethics, personal conduct and the avoidance of actual or perceived conflicts of interest in the performance of official duties."

The Safety Oversight Manual (Doc 9734), paragraph 3.4.2.1 further indicates that CASIs should enjoy remuneration and conditions of service consistent with their education, technical knowledge and experience and comparable to the industry staff whose activities they will inspect and supervise.

A CAA must consider the staffing necessary to cover all the expertise required to fulfil its responsibilities. Chapter 6, Part 1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) provides guidelines on the initial employment requirements for inspectors. However, these recommendations in the strictest sense may not be the most appropriate under all circumstances and other valuable qualifications or experiences for the position should also be taken into account.

As stated in Annex 19, Appendix 1:

"3.5 **Recommendation.**— States should use a methodology to determine their staffing requirements for personnel performing safety oversight functions, taking into account the size and complexity of the aviation activities in their State."

For guidance on inspectorate manpower planning go to web.....

1.2. RECRUITING AND SELECTING CASIs

As the safety oversight audit results for CE 4 show, the ability of CAAs to recruit, train and retain an appropriate number of competent aviation professionals affects any State's capability to fulfil its obligations under the Convention. This includes conducting safety monitoring under a performance-based regulatory (PBR) approach or assessing safety assurance levels under a compliance approach system.

Traditionally, CASIs are technical specialists recruited from those sectors of the aviation industry that they will eventually oversee. While it is appreciated that some States with limited aviation activity have difficulty finding suitable CASI candidates, not acquiring the necessary competencies within the CAA inspectorate impacts safety. The DGCA should champion the acquisition and maintenance of a well-balanced CAA inspectorate suitably funded by the State to ensure aviation safety levels are not compromised.

When recruiting CASIs, the CAA should consider the factors that would attract an aviation professional to work for the CAA, beyond remuneration and conditions of service (See Annex 19, Appendix 1, paragraph 3.3). An additional recruitment strategy would be to highlight the benefits of belonging to a team of highly-trained professionals working towards creating a safer and more efficient air transportation system for the country and its citizens and the opportunity of further developing themselves professionally¹. This approach will appeal to those who have a strong sense of personal ethics and values and who wish to "serve" or "give something back" to society. Some aviation professionals may also desire the potentially more regular hours in a CAA compared to shift work in the industry.

CAAs are responsible for determining the suitability of candidates and must be mindful that strengths in one area cannot always counterweigh deficiencies in another. To eliminate biases and reduce errors in the selection process, it is recommended that the CAA develop job specifications in order to identify the entry-level requirements (in terms of competency and experience) for the particular job. For an example of potential entry-level competencies, go to Appendix A.

CASIs should have a thorough understanding of the areas in which they will assess safety oversight of organizations or individuals. This can be achieved either by selecting CASI personnel at least as qualified as the personnel to be inspected or supervised, or by ensuring that the inspecting team possesses the necessary competencies for a safety oversight activity. In addition, a CASI should have experience compatible with the activities to certify or supervise.

For example, CAAs may recruit or designate personnel in the following disciplines:

- licenced aviation professionals: pilots, aircraft maintenance (technicians/engineers/mechanics) and air traffic controllers; and/or
- personnel from other technical specialities (e.g. cabin crew, flight dispatchers², ground handlers, aerodrome operators, dangerous goods personnel, etc.); and/or
- other subject-matter-experts (e.g. medical specialists, civil/aeronautical/chemical/aerospace engineers/technicians, business process specialists and financial analysts).

¹ The CAA also needs to adopt internal policies that support this employment statement.

² Dispatchers may be licensed.

Increasing levels of responsibility should be delegated in recognition of the individual mastering competencies additional to those that a CAA considers necessary for the initial assignment as an inspector. New or enhanced competencies should be demonstrated prior to assuming increased responsibilities or being required to function within a performance-based regulatory environment.

In general, competent CASIs should be considered for openings of supervisors or operational managers of oversight activities. Ideally, CASIs who have demonstrated excellent performance within a CAA; who have the appropriate technical background; and who demonstrate the potential to master most of or all the competencies found in paragraph 3.3 should be appointed to supervisor or operational manager of oversight activities. If persons outside the inspectorate are also considered, they should have the technical background to supervise or operationally manage CASIs conducting oversight activities.

1.3 INFLUENCING FACTORS ON THE REGULATORY ENVIRONMENT

All stakeholders recognize the impact that the aviation industry has on global and national economies. The aviation industry supports \$2.7 trillion (3.5 per cent) of the world's gross domestic product (GDP)³. Safety deficiencies pose a challenge to the growth of civil aviation, which in turn, has a detrimental effect on economic development. Therefore, the commitment to comply with basic international standards supporting safety should not be undermined by competing interests within the State.

However, over the past twenty-five years the aviation sector has been and continues to be transformed by a variety of factors, including:

- growth of the industry
- emerging technologies
- emerging business models
- increasing trend towards performance-based regulations

These transformations place an enormous strain on Contracting States' ability to perform effective safety oversight and to support the aviation industry as a national economic driver. These are further described below.

GROWTH OF THE INDUSTRY

By 2006, as the commercial air transportation system began to recover from the effects of a major downturn in air travel, almost twenty-eight million scheduled flights transported over two billion passengers in that year alone. Since then, air travel has been experiencing an average 4 to 5 per cent growth rate annually with some minor fluctuations due to variable economic conditions. Overall, forecasts predict those annual growth rates will be maintained beyond 2030. As of 2013, almost thirty-two million people worldwide were employed within the aviation industry. During that year commercial aviation moved close to two and a half billion people around the globe, and transported \$6.4 trillion dollars of cargo representing 35 per cent of the annual world trade. By the year 2030 it is expected that over five billion passengers will be travelling on some fifty million scheduled flights annually. This represents close to a 100 per cent increase in the volume of commercial air travel within a sixteen-year period. The regional estimates of annual traffic growth rates reported by ICAO for the period 2010-2030 (*Global and Regional 20-year Forecasts* (Doc 9956)) presented in Table 1 below.

³ <http://aviationbenefits.org/economic-growth/value-to-the-economy/>

World traffic annual growth rates (%)			
	2010-2020	2020-2030	2010-2030
Africa	4.9%	4.5%	4.7%
Asia/Pacific	6.7%	5.8%	6.3%
Europe	4.3%	3.9%	4.1%
Latin America	6.0%	5.6%	5.8%
Middle East	5.4%	5.0%	5.2%
North America	2.9%	3.2%	3.0%
World	4.8%	4.6%	4.7%

Table 1. Regional estimates of annual traffic growth rate for the period 2010 – 2030

The importance of safety oversight is unquestionable. However, it is also important to consider how safety oversight should be conducted in order to maintain an acceptable level of safety given the growth of the industry and the competition for expertise that may result in a smaller pool of CASIs. The data concerning the growth of the industry combined with the USOAP data regarding critical element 4 strongly suggest that strategies are needed not only to increase the number of CASIs, but also to increase the efficiency and effectiveness of safety oversight activities carried out by CASIs. The need to enhance the efficiency of CASI resources underlies the recommendation in Annex 19, which states that “3.4.1.2 **Recommendation.**— *States should establish procedures to prioritize inspections, audits and surveys towards those areas of greater safety concern or need*”.

EMERGING TECHNOLOGIES

Rapidly evolving technology continues to introduce radical changes in all elements of the air transportation system. These often have a significant impact on current regulatory frameworks and procedures. These changes challenge CAAs as they attempt to effectively include them into their safety oversight programme. Consider for example how CASIs perform oversight of remotely piloted aircraft operators, remote tower services, increased automation and the integration of advanced capabilities on the ground and in the air.

CHANGING BUSINESS MODELS

There is a growing need for CASIs to carefully consider the business models of regulated entities as the delineation of roles, responsibilities and obligations become more complex and difficult to track and oversee. For example:

- An increasing number of pilots are not directly hired by the air operator, thus lacking employment protection and exposing them to retaliation or discrimination.
- An increasing number of air operators operate from bases not located in the State where they are certified, making it difficult for that State of the Operator to track and oversee their operations.
- There is an increased dependency on wet-lease.
- An increasing number of air operators belonging to the same owner exchange aircraft and crews, thereby creating interoperability/interchangeability of aircraft across operators.
- There is an increased use of contracting/subcontracting safety-critical or core business related services: an increasing number of service providers are outsourcing more and more activities under their responsibility to entities that are not approved/certified and that are located in other countries.