



ICAO

Measuring the Effectiveness of AVSEC Training: Summary Document of Best Practices, Guidance, Performance Indicators and Tools



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1. Introduction

In conjunction with the ICAO Aviation Security (AVSEC) Panel's Working Group on Training, ICAO has produced this Summary Document on *Measuring the Effectiveness of Aviation Security Training*.

The document is designed to support training assistance providers, donors and recipients in delivering and receiving aviation security training (competency based training and general awareness/knowledge training). It provides best practices, guidance and tips for the delivery of training and the subsequent determination of its effectiveness. The document also includes various tools and performance indicators to help support aviation security training and its quality assurance.

2. Definitions

The following definitions have been adapted from other ICAO publications to fit the scope and purpose of this document and are used in the context of aviation security training.

- **Assessment.** The wide variety of methods or tools that instructors use to evaluate, measure, and record learning progress, skill acquisition or educational needs of participants.
- **Certification.** A formal evaluation and confirmation by or on behalf of the appropriate authority for aviation security that a person possesses the necessary competencies to perform assigned functions to an acceptable level.
- **Course.** Training that is generally structured in modules with mastery tests designed to evaluate competency and the achievement of learning objectives.
- **Competency Based Training.** Training that is characterized by performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.
- **End of Course Report.** A report of the training containing administrative, technical and statistical information (including participant/instructor feedback and mastery test results).
- **General Awareness/Knowledge Training.** Training that is primarily focused on the acquisition of knowledge (the familiarity with facts, programmes, procedures, concepts, principles).
- **Human Factors.** Principles which apply to design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.
- **Hybrid and/or Blended Learning.** A combination of classroom and online training (including virtual training).
- **Interviews.** A focused opportunity to ask staff questions either individually or in small groups and to get their in-depth views on security and on training programmes.
- **Key Performance Indicators (KPIs).** Quantifiable measurements used to evaluate the success of an organization, employee, etc., in meeting objectives for performance.
- **Kirkpatrick Model.** A key tool for evaluating the efficacy of training within an organization.
- **Knowledge, Skills, and Abilities (KSAs).** The attributes an employee must possess to successfully work in a specific position.
- **Module Progress Test.** An evaluation of relevant training material administered at a certain point within the module being presented.
- **Modular Mastery Test.** An evaluation of relevant training material administered at the conclusion of the module.
- **Observations.** A visual check on how a security measure is implemented – this allows for a first-hand account of what is happening and how staff respond.
- **Quality Assurance.** A systematic process of determining whether training materials or their delivery and/or assessment meets specified requirements.
- **Questionnaire.** A set number of questions asked of staff via a paper-based or electronic form, asking for their feedback and views on a specific security topic or range of topics.

- **Return on Investment (ROI).** The comparison between financial benefits obtained from a training programme and the total cost of running that training programme.
- **Security Culture.** A set of security-related norms, values, attitudes and assumptions that are inherent in the daily operation of an organization and are reflected by the actions and behaviours of all entities and personnel within the organization.
- **Self-Assessment.** An organization assessing its own security performance against a set number of criteria to obtain security insights.
- **Virtual Learning.** Training material that is remotely presented by instructors in a classroom format in real time using computers or mobile devices.
- **Workshop.** Training that is generally designed for awareness or to develop a document (programme/process) at the end.

3. Best Practices and Guidance

To help quantify the benefits and impacts of aviation security training, it is important to be clear on why it is being delivered in the first place. A number of best practices can therefore be followed as described in this section.

3.1 Identify Training Needs

Careful scoping of training needs is essential. It is important that any offer of aviation security training (or wider assistance) is considered and agreed upon at all levels. It should address security issues, needs and other competency gaps as identified internally by the State, by regional/international subject matter experts, and/or by third party audit inspections and trends (e.g. the ICAO Universal Security Audit Programme). The State or recipients at an organizational level can then work collaboratively with the training provider to agree on a training curriculum and the ownership of next steps to help address training needs.

***Top Tip:** A good relationship with the State authority or organization receiving the training can help assess staff skill levels and the procedures and practices in place that might require attention to help address the root causes of identified aviation security vulnerabilities.*

3.2 Engagement and Support

It is crucial that training receives the support and the full engagement of participants and their supervisors/managers. With senior management engagement, a willingness to learn and improve security behaviours, the training is more likely to be successful and have a meaningful and sustainable impact.

***Top Tip:** Management engagement and support both before, during and after the training is key for effective learning outcomes.*

Skills cannot be taught in isolation and the implementation of basic aviation security systems is essential to maximize the chances of success. In addition to ensuring training programmes are in place for staff, changes at an organizational level might be necessary (e.g. the promotion of a strong and effective [security culture](#) by managers and leaders and an emphasis on project and programme management).

3.3 Target Audience

It is important that participants meet the criteria of the target audience for the aviation security training to enable transfer of the learning back in the workplace. Indeed, those who receive the training need to be able to apply the knowledge and the skills taught.

Organizations should avoid selecting participants merely for the prestige of attending. It is important to establish suitability and any terms and/or pre-requisites for training participation beforehand (e.g. knowledge of aviation security legislation, capability to understand and speak the language in which the

training is delivered, knowledge of airport and airline processes, etc.). During the training, participants should be encouraged to be actively engaged to optimize learning.

***Top Tip:** There is value in training staff in a new skill if this change can be directly applied in their day-to-day work and/or supported by the organization and its leadership.*

3.4 Human Factors

Training should be developed with the needs of participants in mind, taking into account human factors and human performance principles. This requires designing the training delivery and assessment around their capabilities, skills and limitations.

***Top Tip:** The training environment should be conducive to learning to help ensure participants are fully able to engage and be motivated. Participants should be free from their normal work commitments for the duration of the training to ensure they can focus fully on their learning activities.*

***Top Tip:** Training should be learner-focused, i.e. learning that is interactive and engaging to ensure maximum participation and learning.*

3.5 Sustainability

Training should be developed to provide a sustainable and lasting improvement in the ability of participants to deliver effective aviation security and to embrace a robust security culture. A well-planned, well-designed and well-run training programme that is learner-focused is likely to better engage participants, resulting in achievement of course objectives and goals, and better long-term security outcomes.

***Top Tip:** Training should be undertaken to build capacity and capability at all levels in the organization and include the training and certification of instructors. This will help to improve the skills and competencies of participants and encourage sustainability. Recurrent training should be undertaken at regular intervals to aid in the formation of lasting skills.*

3.6 Quality Assurance

It is important to routinely check that the training is designed and delivered in a way to support the learning goals intended to be achieved. This includes an external check of the materials and delivery to provide feedback on its quality by a person other than the instructor who designed/delivered the training. This should form part of the overall evaluation cycle of training (see next section).

Guidance material on how to undertake quality assurance of training material, delivery and assessment is available from ICAO¹ to help guide the process.

***Top Tip:** To support the achievement of successful learning outcomes, consider the use of quality assurance from an independent entity outside of the training delivery organization. External checks can help to provide honest and authentic feedback to improve the training product.*

3.7 Outcome Measures

Measuring the effectiveness of training should primarily be based on its outcome, rather than the fact it took place. Thus, the quality of the training offered, its relevance and the ability to offer adequate follow-up is more important than quantitative outcomes, i.e. training should be offered to those who will be applying the skills learned in their day-to-day tasks, rather than training extraneous staff whose duties do not directly apply. Though it may happen that expected outcomes are not fully achieved, a focus on the results that have been achieved allows for goals to be re-evaluated. This ensures that goals are feasible and that there is a continued effort to reach desired outcomes.

¹ www.icao.int/Security/isd/Training/Pages/Quality-Assurance-of-Training-Material.aspx

Top Tip: Take care to select the right participants for a training course or workshop. This will help to ensure there is a good chance that the training will have a positive outcome.

Outcome measures at a national level can provide valuable information on the effectiveness of training. This data can be gathered by surveying the participants after the training to see if they were able to apply the knowledge gained to their jobs, as well as by measuring increases in security compliance through iterative assessments.

4. Monitoring and Evaluation Tools

All organizations responsible for the training and development of aviation security personnel should perform some form of training evaluation to determine the extent to which its objectives are being achieved. This will ideally use a number of different indicators and areas of focus, which gather thoughts, observations, and critiques (open and anonymous) from both instructors and participants.

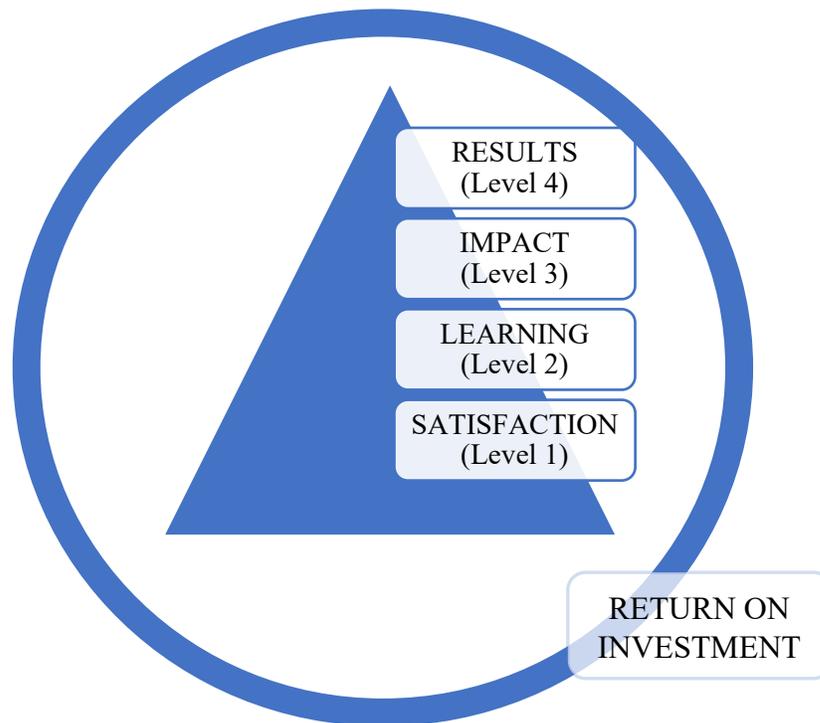
Training evaluation should be conducted on a regular basis with the aim of improving all aspects of training, including course development and content, the learning environment, and the method of delivery.

Top Tip: Before developing an evaluation process, know exactly what is going to be measured during the training and share that information with all participants (ensuring they know there will be several levels of evaluation).

Top Tip: Ensure training resources are available, including time, budget, and people for the evaluation.

4.1 The Kirkpatrick Model

A useful and widely used tool to support evaluation is the [Kirkpatrick Model](#). The Model covers **four levels of training evaluation and return on investment (ROI)**. This model is globally recognized as one of the most effective evaluations of training.



LEVEL ONE: REACTION (SATISFACTION)

Did the participant enjoy the training?

This level measures personal reactions or the experience of participants to the training, such as the degree to which participants find the training favourable, engaging and relevant to their jobs. Participants can give verbal reactions or complete forms, questionnaires and surveys at various stages of the training (e.g. after each module to rate their satisfaction and offer feedback). Some areas that a feedback form might focus on are: programme objectives, course materials, content relevance, module delivery, etc., with space for numerical assessments and the provision of written comments, i.e. most/least liked and suggestions for improvement.

Appendix A contains several sample surveys that can be used for Level One evaluation.

***Top Tip:** Using online evaluation surveys is considered preferable as it enables the automated extraction of data and graphics. This is more efficient than doing it manually with paper-based surveys.*

***Top Tip:** Processes should be in place to ensure participants fill out the evaluations during and after training delivery. Anonymous evaluations can help participants feel comfortable to provide authentic and honest feedback, which may enhance the quality of the training.*

LEVEL TWO: LEARNING

Did knowledge transfer occur?

This level measures the degree to which participants acquire the intended knowledge or capability, skills and attitude based on their participation in the training. Questionnaires and surveys can be used in a variety of formats to help evaluate performance and ensure training objectives have been met (e.g. modular progress/mastery tests, pass/fail exams (written/operational), interviews, assessment exercises and also certification where appropriate). The scoring process should be defined and clear, and determined in advance in order to ensure consistency.

***Top Tip:** For accuracy in results, pre- and post-learning assessments and tests should be used to measure if training objectives and transfer of knowledge or capability have been met.*

***Top Tip:** Tests can be presented in a written Multiple Choice/True/False format, short answer, or narrative. Tests may also be presented as an activity/exercise that is also formally evaluated.*

LEVEL THREE: BEHAVIOUR (IMPACT)

Did the participant's behaviour change as a result of the training?

This level measures the degree to which participants apply what they learned during training when they return to their workplace. It helps to demonstrate not only if the participant has correctly understood the training, but also if the training is applicable in that specific workplace. A mix of on-the-job observations, 360-degree feedback, surveys, validations, interviews, end of course reports, and technical data to assess behavioural change and competency can be used.

To help evaluate behavioural changes after learning, there should be a clear definition of what the desired change is - exactly what skills should be put into use by the participant? How is mastery of these skills demonstrated? How are these skills measured?

Appendix B contains an end of course report that can be used to support Level Three evaluation (and to document Level Two evaluation results).

Appendix C contains samples of post-training evaluation questionnaires for participants and their supervisors that can be used for Level Three evaluation.

***Top Tip:** The most effective time period for evaluating retention of the training is three to six months after the training is completed.*

***Top Tip:** Where possible, collect evidence of changes in staff performance, capability, processes and attitudes delivered by the training as these 'outcomes' help demonstrate that the new capabilities are being used and are becoming embedded. In cases of incomplete or non-transfer of learning into the workplace, analysis of the data collected may assist in the identification of contributing factors, (e.g. a poor security culture), and provide the organization with information on areas they can change to further improve aviation security.*

LEVEL FOUR: RESULTS

Did the training have a measurable impact on performance?

This level analyses the effect on the organization and its security performance resulting from the improved behaviour or performance of the training participants. It focuses on the degree to which targeted outcomes occur as a result of the training, thereby helping to determine its overall effectiveness. An analysis of Key Performance Indicators (KPIs) such as system testing results (overt or covert) and passenger throughput can be used.

Additional information on KPIs and Performance Management Tables can be found below.

***Top Tip:** A diverse range of appropriate indicators and data can be useful to accurately measure the impact on organizational performance.*

RETURN ON INVESTEMENT (ROI)

Did the training provide a positive return on investment? Did it meet expectations?

As part of training evaluation, it is recommended to consider the *return on investment* for the organization including the positive outcomes from the training programme (e.g. improved results in quality control activities, audits, inspections, and overt and covert tests), all of which can enhance the reputation of the States and organizations receiving the training.

***Top Tip:** Training should be aligned to business plans and the strategic direction of the organization. Robust training programmes can assist organizations in enhancing overall security performance and support a positive reputation.*

4.2 General

Each level of training evaluation provides a different type of feedback. All evaluations help to produce results for measuring performance (or ‘benchmarking’). Practitioners should choose the evaluation(s) they will pursue by balancing the resources required to conduct the evaluation against the value of the information likely to be provided by the evaluation. The ROI should also be considered, as it can add complementary information tying training to the organization.

The various levels are also linked: motivated participants are more likely to study more efficiently, participants who study more efficiently are more likely to apply their new knowledge on the job, and participants who apply their new knowledge on the job are more likely to affect an organization’s results in a beneficial way. However, these links cannot be taken for granted and a thorough evaluation of training should always look at other organizational factors that could affect evaluation results.

***Top Tip:** Training evaluation should be conducted on a regular basis to support the continual improvement of the training programme (including its course and workshops), and to ensure that it continues to meet its objectives in a manner that is effective for each new group of participants.*

***Top Tip:** Training evaluation can be automated for those able to access the appropriate technology, e.g. computers/work emails, and have the required time and support. For example, after a period of three to six months, participants of training (and their supervisors) are sent a questionnaire asking for a self-assessment (and supervisory assessment) of the training.*

4.3 Certification

Certification and competency assessment are essential for improving aviation security and a valuable basis for measuring training effectiveness and improving training procedures. The certification process may utilize both theoretical and practical tests and exams, and also help inform the evaluation process with useful data. This confirms the participant has gained the required skills and knowledge to perform their duties and functions.

4.4 Make Time

Sufficient time should be allocated for aviation security training evaluations to ensure that participants are able to provide considered and detailed feedback (throughout and at the end of the training). Participants should also be advised in advance of the expectation to complete a survey or questionnaire during and after the course.

For those receiving the feedback, i.e. instructors or course designers, ensure there is time for data to be analysed and implemented to improve future training.

***Top Tip:** The best measure of success and sustainability comes from continued and ongoing monitoring, follow-up communications, and through the examination of anecdotal evidence, reports, best practices and case studies.*

5. Performance Measurement

5.1 Key Performance Indicators (KPIs)

KPIs are quantifiable measurements used to evaluate the success of an organization and/or an employee in meeting performance objectives.

The use of KPIs, timelines, conditions and quality assurance measures are essential when delivering aviation security training to help guide and focus outcomes. They can help assess the impact of the training (in addition to security measures in place) and enable the formal benchmarking of security performance using data taken from a variety of sources.

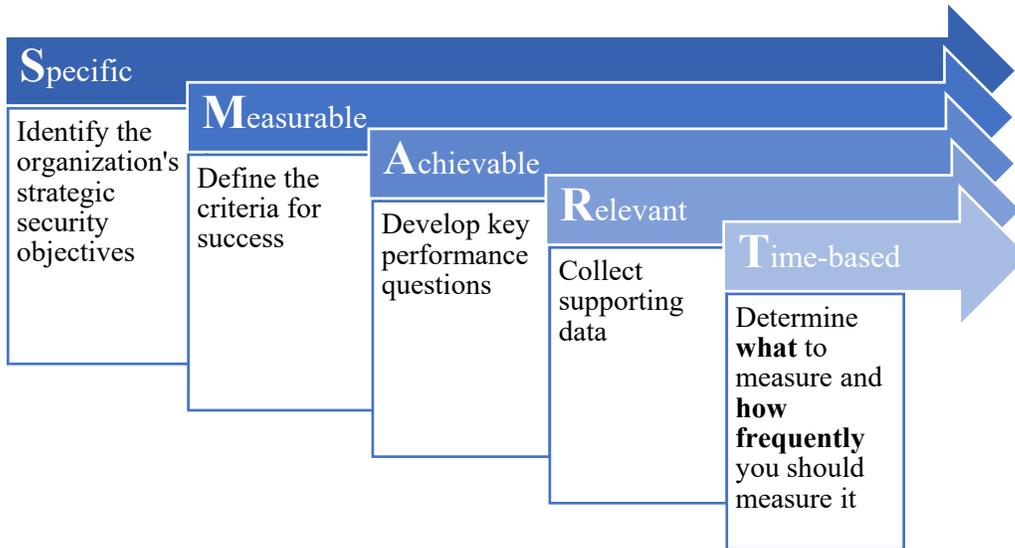
Some **examples of KPIs** can be found in the table below.

KPI:	EXAMPLE:
Measure outcomes and goals of the training	<ul style="list-style-type: none">• 85% success rate in the certification, progress/mastery tests and the final exam
Focus on participant's reaction	<ul style="list-style-type: none">• environment was conducive to learning• credibility of instructors
Measure the ability to learn	<ul style="list-style-type: none">• ability to identify deficiencies in overall security performance
Measure the impact of training on their daily responsibilities	<ul style="list-style-type: none">• increase of quality control activities
Measure business impacts	<ul style="list-style-type: none">• decrease of security incidents• decrease of reports of suspicious activity

5.2 Creating KPIs

KPIs must be something that you can measure objectively to track a participant's progress and to acquire comprehensive data. It is important that training indicators are **SMART** (Specific, Measurable, Achievable, Relevant and Time-based).

Consider the following steps to create and utilize KPIs effectively:



When creating KPIs that are specific to your aviation security training, the following two figures may be helpful examples:





Appendix D also provides a sample template for the creation of KPIs.

5.3 Performance Measurement Plans

A performance measurement plan or table can also be a useful tool to measure the effectiveness of aviation security training, especially competency based training. These can articulate the expected results or outcomes of the training, and provide SMART indicators that permit the measurement of these outcomes.

A plan or a table can also include information on data sources and identify the organization/entity responsible for reporting such information.

Appendix E provides a sample Performance Measurement Table.

6. Conclusion

It is important that aviation security training is effective to support a well-functioning and secure aviation network. Therefore, it is essential that the development and delivery of training is optimized to give participants the lasting knowledge, abilities, skills and competencies that they need to do their job and to keep motivated.

The tools, best practices and guidance provided in this document can be utilized by training providers, donors and recipients to help monitor and measure the effectiveness of aviation security training and to achieve positive and sustainable results.

Appendix A: Surveys for Level 1 Evaluation

Sample Survey 1: Training Module Questionnaire

Title		Delivery date	
Module Number		Facilitator(s)	
Module Title			

(5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree)

A. Instructor / Facilitator Feedback		5	4	3	2	1
1.	Credible and fully knowledgeable of the subject matter.	<input type="checkbox"/>				
2.	Well prepared and organized, e.g. module objectives clearly stated; started and ended module on time.	<input type="checkbox"/>				
3.	Engaging and able to generate and maintain interest and participation.	<input type="checkbox"/>				
4.	Clear and easy to understand language.	<input type="checkbox"/>				
5.	Gives clear and constructive feedback and provides answers and examples to help understanding.	<input type="checkbox"/>				
6.	Stimulates critical, analytical and creative thinking relevant to AVSEC.	<input type="checkbox"/>				
B. Module Content Feedback		5	4	3	2	1
7.	Relevant to stated objectives.	<input type="checkbox"/>				
8.	Balanced (quantity vs. time available) and well organized.	<input type="checkbox"/>				
9.	Up-to-date and accurate.	<input type="checkbox"/>				
C. Training Materials Feedback		5	4	3	2	1
10.	Course documents are clear, complete and easy to use.	<input type="checkbox"/>				
11.	Course documents are relevant to the objectives and content.	<input type="checkbox"/>				
12.	Information on slides is clear and easy to understand.	<input type="checkbox"/>				
13.	Number of slides is well suited to content and module duration.	<input type="checkbox"/>				
D. Activities and Exercises Feedback		5	4	3	2	1
14.	Relevant to accomplishing the module objectives.	<input type="checkbox"/>				
15.	Balanced (number and complexity).	<input type="checkbox"/>				
16.	Effective to confirm learning and apply knowledge.	<input type="checkbox"/>				
Additional Module Comments						
<p><i>For example</i></p> <ol style="list-style-type: none"> 1. <i>What did you find most valuable in this module? Why?</i> 2. <i>Are there any topics you still don't understand in this module?</i> 3. <i>What suggestions do you have to improve the training module? Explain</i> <p>If you selected a score of 1 or 2 for statements 1-16, please explain why.</p>						

Sample Survey 2: Training Course Evaluation Questionnaire

Please rate the course you have just completed.

Course Title		Delivery Date	From:	
			To:	

(5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree)

A. Environment Feedback		5	4	3	2	1
1.	The training environment was appropriate for learning.	<input type="checkbox"/>				
B. Course Feedback		5	4	3	2	1
2.	The course followed a logical sequence.	<input type="checkbox"/>				
3.	The training materials were appropriate and user friendly.	<input type="checkbox"/>				
4.	The training activities allowed me to achieve the learning objectives.	<input type="checkbox"/>				
5.	The equipment and tools used in the course delivery were functioning and appropriate.	<input type="checkbox"/>				
C. Expectations		5	4	3	2	1
6.	The course has allowed me to obtain the appropriate knowledge and competencies to better perform my job.	<input type="checkbox"/>				
7.	The course fulfilled my expectations.	<input type="checkbox"/>				
D. Additional Comments						
<p><i>For example</i></p> <ol style="list-style-type: none"> 1. <i>What did you find most valuable about the training? Why?</i> 2. <i>Did anything noticeably hinder or promote your ability to learn during the training?</i> 3. <i>What suggestions do you have to improve the training course? Explain</i> 4. <i>What specific actions will you implement in your work as a result of this training?</i> <p>If you selected a score of 1 or 2 for statements 1-7, please explain why.</p>						

Appendix B: End of Course Report for Level 2 Evaluation

Sample End of Course Report

Course title	
Dates	
Location (Country)	
Instructors	
Language the course was presented in	
Contents of this report	<ol style="list-style-type: none"> 1. Participant Attendance 2. Performance Report 3. Opinion Questionnaires 4. Instructor Report and Evaluation 5. Recommendations Appendix: Full Participant Details Full Performance Log Evaluation Data
Summary remarks (if any)	State if this is the first run of the course after major changes; special situation; any other remarks

1. Participants

Participant Name	Gender	Job	State	Attendance	Test score	Certificate issued
						e.g. Completion, Attendance

Participation comments

Provide comments on the participants (summarize details on number of attendees, any unexplained no-shows, any additional unexpected attendees, or any issues with attendance).

Include comment on whether all attendees were from target population for the course.

2. Performance Report

Note the number of successful participants.

Even if the training centre or organization does not require a passing score to successfully complete it, provide comments on the performance in module mastery tests and progress tests, and general assessment of how successfully the trainees attained the course objectives.

Make reference to any factors that significantly affected the performance of trainees, or their ability to meet course objectives.

3. Opinion Questionnaires: Summary

Module Evaluation Summary Data

Enter statements that reflect the scores given in the questionnaires under each section, as well as a representative comment drawn from the additional text comments provided by trainees.

<i>Module 1</i>
Instructor
Content
Instructional Materials
Activities and Exercises
Additional Comments

Add additional tables for any remaining modules where applicable

Training Course Evaluation Data

Enter statements that reflect the scores given in the Training Course Evaluation questionnaires under each section, as well as a representative comment drawn from the additional text comments provided by trainees.

Training Conditions
Training Content
Training Methods
Expectations
Additional Comments and Recommendations

4. Instructor Report and Evaluation

Report relevant details and give instructor's evaluation comments on these sections (refer to trainee opinion scores/comments where applicable):

Course Opening and Closing

- a. *Course opening and closing (note local guest speakers, etc.)*

Training Facility and Logistics

- b. *Facilities (training room, refreshments, meals, equipment, support with communications, certificates, etc.)*
- c. *Logistics (transportation, organizing of social event/dinner, schedule changes etc.)*

Training Materials and Content

- d. *Course materials and activities (note any problems with training materials; include trainee comments, value of external airport visits, etc. – balance positive and negative opinions)*
- e. *Any problems with the materials from instructor perspective?*

Instructor/Facilitator's Course Critique

Provide comments as applicable. These comments are the instructor/facilitator's opportunity to provide specific feedback on their experience of using the materials and delivering the course.

1. COURSE PREPARATION:

- a) Were the Notes for Instructors during Course Preparation Phase sufficient as guidance?
- b) Was the Course Schedule suitable to cover all training needs?

2. MODULES:

- a) Was the order in which the modules were presented appropriate?
- b) Were the General Notes for Instructors sufficiently descriptive?
- c) Were the module time frames sufficient for the subject matter?
- d) Was the guidance in each Module Lesson Plan adequate in terms of directing the instructor in his/her presentation?
- e) Did you experience any difficulty with the visual aids (slides/posters/discussion cards/films) supporting each module?
- f) Were the supplied Handouts and website links to further information adequate in your view?
- g) Were additional Handouts supplied to the trainees? In that case, should such additional Handout be added in the future to enhance the quality of the training material?
- h) Was the range of questions in written Progress and Mastery tests suitable for your trainees?
- i) Was the guidance supplied for each practical Exercise sufficiently detailed?

3. COURSE OBJECTIVES:

- a) By using the training material, were the Course Objectives achieved?
- b) If the Course Objectives were not achieved, what do you assess as the cause?

4. ADDITIONAL COMMENTS

- a) Do you have any additional comments which may help to improve this or future training materials?
- b) Was the terminology used in the language of the material appropriate?
- c) Would you recommend any modification with regards to translation?

5. Recommendations

Based on the data and evaluation comments from participants, state recommendations to training manager for course enhancements, updates, or any logistical factors that can be addressed.

Instructors Signature:

Date:

Appendix

Participant Details

Full contact details: name, job, State, contact info, any special comments

Full Performance Log

Include this for courses where the tests for each module are recorded to generate a pass/fail outcome

Evaluation Data

Tabulated summaries of each evaluation questionnaire (if available)

Appendix C: Post-Training Questionnaires for Level 3 Evaluation

Sample Post-Training Evaluation (PTE) Questionnaire for Participants

RECOMMENDATIONS FOR COMPLETING THE QUESTIONNAIRE

1. The evaluation of the impact of training delivered through the AVSEC Training Programme is an essential tool to enhance the quality, adequacy and outcome of the training courses and workshops. Accordingly, we ask you to complete this questionnaire in a responsible manner so that it may serve as a reliable source of information.
2. Thoughtful completion of this questionnaire requires no more than 30 minutes.
3. The questionnaire must be completed between **three months to six months** after completion of the training.
4. Read the questions carefully to ensure that you understand them fully.
5. Rate your level of agreement or disagreement with the statements in a scale of 1 to 5, where 1 represents “Disagree totally”, 2 “Disagree”, 3 “Neutral”, 4 “Agree strongly”, 5 “Agree totally”, and N/A means Not Applicable (you have no opinion, or answer).
6. Finally, in the third section of the questionnaire, you are requested to suggest improvements to the course. The Training Department will analyse and assess all proposals and will incorporate those that represent a clear improvement to the organization, structure, content, methodology, teaching resources of the course and/or enhance its impact on the professional performance of the participants.

Thank you for your collaboration

LEVEL 3 POST-TRAINING EVALUATION (PTE) FOR ASSESSING THE PARTICIPANT'S SELF-ASSIGNED IMPACT OF [enter name of course] ON THEIR WORK PERFORMANCE

Rate the following statements concerning the impact of the course on your **professional performance** and, by such changes, on your **job performance**. Apply a 1 to 5 scale, where 1 represents "Disagree totally", 2 "Disagree", 3 "Neutral", 4 "Agree strongly", 5 "Agree totally". If you don't have any opinion or any answer to a given question, checkmark the Not Applicable (N/A) box.

PART I. QUESTIONS ABOUT THE INSTITUTIONAL CONTEXT

1. Prior to your training course, your organization and/or Appropriate Authority had already identified the need to improve compliance with Annex 17 – *Aviation Security*.
 YES NO N/A
2. Prior to the course delivery, you were informed about the learning objectives, the training content and the expected impact on your professional performance.
 YES NO N/A
3. Your participation in the course was aligned to your organization's strategy and business plan.
 YES NO N/A

PART II. OVERALL IMPACT OF THE COURSE ON PROFESSIONAL PERFORMANCE

1. The course has helped you to improve relationships with supervisors and/or subordinates.
 N/A 1 2 3 4 5
 (Influence of received training on the quality of relations with supervisors and/or subordinates, in terms of personal respect, information transparency, instructions clarity, opinions consideration and participation in the decision making)
2. The course has allowed you to clearly understand the relationships and interdependence between your work area and the work areas of others in the organization.
 N/A 1 2 3 4 5
 (Influence of received training on the development of collaborative security attitudes amongst staff in others departments)
3. The course has allowed you to identify the sources of occupational risk (physical or mental) that entails the application of newly acquired competences and develop capacities to prevent such risks.
 N/A 1 2 3 4 5

4. The alignment of the course objectives and contents with the needs of your workplace has allowed you to apply the acquired skills to your professional performance.

N/A 1 2 3 4 5

5. The work environment of your organization has allowed you to apply the skills acquired in the course to your professional performance.

(Your work environment has allowed you to apply the acquired competences to your performance)

N/A 1 2 3 4 5

PART III. SPECIFIC IMPACT OF THE COURSE ON JOB PERFORMANCE

1. The course has improved your autonomy for the accomplishment of security tasks.

N/A 1 2 3 4 5

(Influence of delivered training on the development of the professional’s ability to plan, manage and perform job tasks according to established quality standards, evaluate achievements and solve unforeseen problems in the absence of a supervisor)

2. The course has allowed you to reach the planned target competencies and verify your mastery in real life conditions.

2a. enter a course key competency here	<input type="checkbox"/> N/A	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2b. enter a course key competency here	<input type="checkbox"/> N/A	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
2c. enter a course key competency here	<input type="checkbox"/> N/A	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

3. The course has expanded your vision on the causes and effects of the security problems faced by you and the operational capacity to find solutions.

N/A 1 2 3 4 5

4. The course has helped to improve your skills and abilities and overall work performance.

N/A 1 2 3 4 5

5. The course has had a significant and positive impact on your professional career.

N/A 1 2 3 4 5

PART IV. OBSERVATIONS AND PROPOSALS FOR IMPROVEMENT

Identify small problems and minor issues that can be improved, no matter how insignificant they may seem, observed during course delivery and propose alternative solutions (if any) that mitigate or solve those problems.

OVERALL COURSE MANAGEMENT	REMARKS (Issues that can be improved)	PROPOSALS FOR IMPROVEMENTS
COURSE DESIGN		
COURSE PROMOTION AND COMMUNICATION		
QUALITY OF INSTRUCTORS		
LOGISTICS FOR INSTRUCTORS AND PARTICIPANTS		
TRAINING METHODOLOGY		
INFRASTRUCTURE		
EQUIPMENT USED IN TRAINING		
PARTICIPANT'S GUIDE AND TRAINING MATERIALS		
EVALUATION METHODOLOGY IN THE TRAINING CENTRE		
CERTIFICATION OF TRAINING DELIVERED		

THANK YOU FOR YOUR TIME AND ATTENTION. ALL RESPONSES WILL HELP TO IMPROVE FUTURE VERSIONS OF THE COURSE

Level 3 Post-Training Evaluation (PTE) Perceived Impact Questionnaire (Supervisors)

RECOMMENDATIONS FOR COMPLETING THE QUESTIONNAIRE

1. The evaluation of the impact of training delivered through the AVSEC Training Programme is an essential tool to enhance the quality, adequacy, and outcome of the training. Accordingly, we ask you to complete this questionnaire in a responsible manner so that it may serve as a reliable source of information.
2. Thoughtful completion of this questionnaire requires no more than 30 minutes.
3. The questionnaire must be completed between **three months to six months** after completion of the training course (or workshop).
4. Read the questions carefully to ensure that you understand them fully.
5. Rate your level of agreement or disagreement with the statements in a scale of 1 to 5, where 1 represents “Disagree totally”, 2 “Disagree”, 3 “Neutral”, 4 “Agree strongly”, 5 “Agree totally”, and N/A means Not Applicable (you have no opinion, or answer).
6. Finally, in the third section of the questionnaire, you are requested to suggest improvements to the course. The Training Department will analyse and assess all proposals and will incorporate those that represent a clear improvement to the organization, structure, content, methodology, teaching resources of the course and/or enhance its impact on the professional performance of the participants.

Thank you for your collaboration

L3 POST-TRAINING EVALUATION (PTE) QUESTIONNAIRE TO EVALUATE THE IMPACT PERCEIVED BY THE SUPERVISOR ON THE WORK PERFORMANCE OF THE PERSONNEL UNDER ITS SUPERVISION THAT PARTICIPATED IN THE [enter name of course]

Rate the following statements concerning the impact of the course on the **professional performance** and, by such changes, on the **job performance** of the personnel under your supervision. Apply a 1 to 5 scale, where 1 represents “Disagree totally”, 2 “Disagree”, 3 “Neutral”, 4 “Agree strongly”, 5 “Agree totally”. If you don’t have any opinion or any answer to a given question, checkmark the Not Applicable (N/A) box.

PART I. QUESTIONS ABOUT THE INSTITUTIONAL CONTEXT

1. Prior to the course delivery, you were informed about the training objectives, and content.
 YES NO N/A

2. Personnel under your supervision participated in the course which was aligned to your organization’s strategy and business plan.
 YES NO N/A

PART II. OVERALL IMPACT OF THE COURSE ON PROFESSIONAL AND JOB PERFORMANCE

1. The alignment of the course objectives and contents with the needs of the workplace has allowed the personnel under your supervision to apply the acquired competencies to their professional performance.
 N/A 1 2 3 4 5

2. Your work environment has allowed the personnel under your supervision to apply the skills and competencies acquired in the course to their professional performance.
 N/A 1 2 3 4 5

3. The course has improved the autonomy of the personnel under your supervision for the accomplishment of their security tasks.
 N/A 1 2 3 4 5

(Influence of delivered training on the development of the professional’s ability to plan, manage and perform job tasks according to established quality standard, evaluate achievements and solve unforeseen problems in the absence of their supervisor)

4. The course has allowed the personnel under your supervision to reach the planned target competencies and verify/test their mastery in real life conditions.

4a. enter a course key competency here	
4b. enter a course key competency here	
4c. enter a course key competency here	

5. The course has allowed the personnel under your supervision to expand their vision on the causes and effects of the security problems faced and the operational capacity to find solutions.

N/A 1 2 3 4 5

(Influence of received training on strengthening of problem solving capacities)

PART IV. OBSERVATIONS AND PROPOSALS FOR IMPROVEMENT

Based on the information you received about the main objectives and content of the course and after observing the professional behaviour demonstrated by personnel under your supervision after the course delivery, could you provide some comments and/or proposals for the course improvement?

OVERALL COURSE MANAGEMENT	REMARKS (Issues that can be improved)	PROPOSALS FOR IMPROVEMENTS
COURSE DESIGN		
SELECTION OF PARTICIPANTS		
QUALITY OF INSTRUCTORS		
TRAINING METHODOLOGY		
PARTICIPANT'S GUIDE AND TRAINING MATERIALS		
EVALUATION METHODOLOGY OF ACQUIRED KNOWLEDGE		

THANK YOU FOR YOUR TIME AND ATTENTION. ALL RESPONSES WILL HELP TO IMPROVE FUTURE VERSIONS OF THE COURSE

Appendix D: Sample Template for Creating Key Performance Indicators

<p>Add high level AVSEC training objective here (what it is you want to measure) <i>[For example: Increased compliance with the Standards and Recommended Practices (SARPs) in Annex 17– Aviation Security and to develop a strong and effective security culture]</i></p>				<p>Overall Status: ON TRACK</p>
<p>Add high level summary description of KPIs <i>[For example: The implementation of a strong and effective security culture through training courses/workshops and NCASTP]</i> <i>[For example: Addressing vulnerabilities as identified by the ICAO Universal Security Audit Programme as well as other relevant oversight systems through training course/workshops and the National Civil Aviation Security Training Programme (NCASTP)]</i></p>				<p>Overall accountability: <i>[enter name of lead person(s) and or entity here]</i></p>
<p>Add target goal KPI measure for each level of evaluation – what would be your ideal outcome?</p>	<p>Level 1: <i>[For example: 100% completion of feedback forms with respect to course/workshop or NCASTP]</i></p>	<p>Level 2: <i>[For example: 80% success rate in modular progress/mastery tests and pass/fail exams with respect to course/workshop]</i></p>	<p>Level 3: <i>[For example: after 3-6 months 50% of staff report positive changes in their performance, capability, processes and attitudes having undertaken a course/workshop]</i></p>	<p>Level 4: <i>[For example: after 6 months there are improved test results for the AVSEC system (overt or covert) and improved Threat Image Projection (TIP) scores for staff who undertook a course/workshop]</i></p>
KPI No.	Supporting KPI Actions	Owner/ Person Responsible (for specific KPI)	Supporting quantifiable metrics	Individual KPI status
#1	<p>Add KPI Statement here (action focused with quantifiable results that support high level KPI – think SMART) <i>For example: Deliver two workshops to appropriate authority staff, covering Annex 17 – Aviation Security SARPs and their implementation.</i></p>	<p>Name/ Title <i>For example: Lead person at entity x, y, z in cooperation with appropriate authority lead</i></p>	<p><i>For example:</i></p> <ol style="list-style-type: none"> 1. Workshop 1 (delivery, feedback, results) 2. Workshop 2 (delivery, feedback, results) 3. Further follow up with staff and supervisors 1 month (and 3-6 months) after workshop delivery to confirm the learning has been imbedded 	<p>Status: ON TRACK/ MET</p>

KPI No.	Supporting Key Performance Indicators	Owner/ Person Responsible (for specific KPI)	Supporting Measures	Individual KPI status
#2	<p>Add KPI Statement here (action focused with quantifiable results that support high level KPI – think SMART)</p> <p><i>For example: Deliver a “train the trainer” activity to enable the appropriate authority to implement Annex 17 – Aviation Security SARPs</i></p>	<p>Name/ Title</p> <p><i>For example: lead instructor at entity x,y,z in cooperation with lead NAA instructor</i></p>	<p>Add quantifiable metric</p> <p><i>For example:</i></p> <ol style="list-style-type: none"> 1. Delivery of workshop 2. Follow up with instructors 1 month after workshop to check progress 3. Delivery of training by NAA instructors 	<p>Status:</p> <p>AT RISK</p>
#3	<p>Add KPI Statement here (action focused with quantifiable results that support high level KPI – think SMART)</p>	<p>Name/ Title</p>	<p>Add quantifiable metric</p>	<p>Status:</p> <p>BEHIND/ NOT MET</p>
#4	<p>Add KPI Statement here (action focused with quantifiable results that support high level KPI – think SMART)</p>	<p>Name/ Title</p>	<p>Add quantifiable metric</p>	<p>Status:</p>
#5	<p>Add KPI Statement here (action focused with quantifiable results that support high level KPI – think SMART)</p>	<p>Name/ Title</p>	<p>Add quantifiable metric</p>	<p>Status:</p>

Appendix E: Sample Performance Measurement Table

Performance Indicators	Data Sources	Responsible
Activities: AVSEC training		
N/A	N/A	Member State / Implementing body
Outputs:		
<ul style="list-style-type: none"> • Courses and workshops taught • Training programmes enhanced and quality assured 		
<ul style="list-style-type: none"> • Number of meetings • Number of courses, workshops, webinars, seminars • Experts sent overseas, etc., to share best practices 	<ul style="list-style-type: none"> • Programme documents • Reports • Evaluation/feedback (from various sources) • Quality assurance templates 	<ul style="list-style-type: none"> • Training assistance provider, e.g. ICAO, Donor or Partner State • Implementing body
Short-Term Outcomes		
<ul style="list-style-type: none"> • Increased number of trained, knowledgeable staff who may in turn train other staff • Progress toward new/improved aviation security plans, policies, legislation, regulations, controls in State or government entity • Staff displaying positive security culture behaviours 		
<ul style="list-style-type: none"> • Number of officials trained; evidence that "train the trainer" approach adopted • Production of security plans, policies, legislation, regulations, controls or evidence of progress • Implementation of a strong and effective security culture 	<ul style="list-style-type: none"> • Project reports, feedback (surveys, questionnaires, interviews), evaluations, observational data • Internet, media, reports, government documents, other States 	<ul style="list-style-type: none"> • Training assistance provider, e.g. ICAO, Donor or Partner State • Implementing body
Intermediate Outcomes		
<ul style="list-style-type: none"> • Improved domestic, international coordination and cooperation on security • Compliance with SARPs in Annex 17 – <i>Aviation Security</i> 		
<ul style="list-style-type: none"> • Modified or new aviation security legislation, infrastructure, systems, etc. • Participation in advanced training, exercises, simulations, table-top exercises, self-assessments • Lower reports of suspicious activity and security incidents • Positive staff feedback on security 	<ul style="list-style-type: none"> • Independent quality assurance reports • Feedback from staff and stakeholders • USAP-CMA results • Project and follow-up report, assessments, missions 	<ul style="list-style-type: none"> • Training assistance provider, e.g. ICAO, Donor or Partner State • Implementing body
Impact-Level Outcomes		
<ul style="list-style-type: none"> • Increased capacity to prevent and respond to acts of unlawful interference and/or terrorist threats • Contribute to the reduction in threat to domestic, regional and international flights 		
<ul style="list-style-type: none"> • Improved test results for the AVSEC system (overt or covert) • Improved TIP scores for staff 		