

OUTSOURCING INITIAL TRAINING

Presented by PLC

SUMMARY

As ANSPs work to increase the number of licensed air traffic controllers in the system, the need to increase training capacity has arisen. In some cases, the solution was the outsourcing of initial training (basic and rating).

The solution raised some questions about advantages and disadvantages, about possible gaps between expectations and outcomes, and about possible differences among external training providers.

PLC was tasked to look for information about outsourcing the initial training, to analyse the advantages and disadvantages and to propose possible ways to overcome the issues that might arise.

1. INTRODUCTION

- 1.1.** Initial training for air traffic controllers requires considerable time, staffing, and financial resources. These resource demands have contributed to a growing trend among air navigation service providers (ANSPs) to outsource elements of initial training.
- 1.2.** While this approach can offer increased flexibility and capacity, it has also raised questions regarding potential gaps between training expectations and outcomes. This includes the potential knowledge gap of what a student who finished the initial training is expected to know and be able to demonstrate prior to unit training. Another issue is the possible differences in the quality of training provided by different training organisations.
- 1.3.** These concerns underline the need to examine how outsourcing is implemented, monitored, and evaluated.

2. DISCUSSION

- 2.1.** To accommodate the constantly increasing demand of new ATCOs, which leads to an increased number of students, ANSPs may reach a point where their internal capacity to train is exhausted, necessitating the outsourcing of training.

- 2.2.** ATCO's initial training is a key component in aviation, ensuring that personnel have the necessary skills, knowledge and competencies is crucial to guarantee the safety and efficiency of the operations. Maintaining high training standards is essential regardless of whether training is done internally by the ANSP or outsourced by an Approved Training Organisation (ATO), which ICAO defined as "an organisation approved by and operating under the supervision of a Contracting State in accordance with the requirements of Annex 1 to perform approved training"¹
- 2.3.** Increasingly, ANSPs that used to train their ATCOs internally are outsourcing the initial training to one or more ATOs in order to save costs or to support peak recruitment periods. Although the outsourcing model is expanding worldwide, in regions such as Asia, the Middle East, Australia and Africa, the internal model is still predominant.
- 2.4.** As an example, the Federal Aviation Administration (FAA) plans air traffic controller hiring that aligns with maximum capacity at the Academy. They are also working with colleges and universities in the Enhanced Air Traffic Collegiate Training Initiative (AT-CTI) to offer an initial training equivalent, allowing graduates to skip initial FAA Academy training and proceed directly to an FAA facility for on-the-job training. Their graduates still need to pass the Air Traffic Skills Assessment (ATSA) exam, be selected for employment by the FAA and meet medical and security requirements.
- 2.5.** In Spain, six ATOs have been in the market since 2015, following the partial liberalisation of the air traffic control services.
- 2.6.** One of the main challenges associated with outsourcing initial training is ensuring standardisation and consistency of training outcomes. When students are trained by different ATOs, noticeable differences in theoretical knowledge, practical skills and overall competency level may appear upon entry to the OJTI at the unit. These discrepancies are often linked to variations in training tools, simulator realism and the complexity and length of both exercises and courses, requiring additional standardisation efforts by the ANSP during OJTI.
- 2.7.** To ensure a certain level of knowledge, when the training is completed, every student should pass a theoretical examination and a practical evaluation. Regardless of who provides the initial training, ANSP or an external ATO, both the theoretical examination and the practical evaluation should meet ICAO licensing standards.
- 2.8. Existing regulation**
- 2.8.1.** International and regional regulatory frameworks establish minimum requirements for ATCO training, licensing, and the certification of training organisations.
- 2.8.2.** Regarding ATCO's training and licensing, ICAO:
- established minimum requirements for training and licensing and stated that training must be conducted in an "organisation approved by the competent authority of the State"²;
 - explained how initial training should be structured (theory, simulator, OJT)³;

¹ ICAO Annex 1 – Definitions and general rules concerning licenses

² ICAO Annex 1– Personnel Licensing

³ ICAO Doc 10056 – Manual on Air Traffic Controller Training

- regulated the organisation of ATS and personnel competence⁴;
 - provided detailed procedures for the uniform implementation of competency-based training and assessment programs⁵;
 - provided a manual on the approval of training organisations⁶ in which detailed even the third-party providers and foreign ATO, acknowledging that this can be driven by cost considerations or lack of specialised local training.
- 2.8.3. ICAO does not limit the number of training organisations or training centres. States may approve multiple organisations, under the condition that they meet quality and standardisation requirements.
- 2.8.4. While these regulations are essential, compliance alone does not guarantee homogeneous training outcomes or alignment with the operational needs, procedures, and culture of a specific ANSP. This regulatory flexibility places greater responsibility on ANSPs to ensure consistency and quality.
- 2.8.5. European regulation defines detailed requirements for ATCO licenses and training⁷ and provides the legal framework into EU that allows Member States to authorise training organisations as long as they meet common requirements⁸.

2.9. Existing IFATCA policy

- 2.9.1. Regarding ATC training and licensing, IFATCA's policy⁹ covers the whole process from selection to training after licensing.
- 2.9.2. IFATCA policy does not differentiate between internal training (being conducted by ANSP) and external training (being conducted by a training organisation rather than the ANSP's). It only refers to general principles to be applied by the Approved Training Organisations (ATOs).
- 2.9.3. Regarding the link between ATC school and operational units¹⁰, IFATCA TRNG 9.2.3 sustains that:

There should be close cooperation between Approved Training Organisations (ATOs) and ATC units for which training is performed.

Current validated OJTIs should assist at an ATO whenever possible during simulation and theoretical training.

Instructors working at an ATO shall be able to update their knowledge regularly in operational units.

⁴ ICAO Annex 11 – Air Traffic Services

⁵ ICAO Doc 9868 – Procedures for Air Navigation Services – Training

⁶ ICAO Doc 9841 – Manual on the Approval of Training Organizations

⁷ Regulation (EU) 2015/340, amended by Regulation (EU) 2023/893

⁸ Regulation (EU) 2018/1139 (Basic Regulation)

⁹ Technical and Professional Manual, version 68.0 – December 2025, TRNG - ATC TRAINING AND LICENSING

¹⁰ Technical and Professional Manual, version 68.0 – December 2025, TRNG 9.2.3 LINK BETWEEN ATC SCHOOL & OPERATIONAL UNITS

An exchange of information on the performance of students should be maintained between the ATO and ATC unit.

All controllers shall be trained in accordance with ICAO requirements.

All controllers shall be licensed and shall hold ATC ratings appropriate to the duties they are undertaking.

2.9.4. Human resources are vital in an ATO: Theoretical Training Instructors (TTI), Synthetic Training Device Instructors (STDI) and On-the-Job Training Instructors (OJTI).

2.9.5. The ATO shall ensure their TTI, STDI/OJTI update their knowledge regularly in the simulator and/or operational units. This is essential in providing high quality and up-to-date training.

2.10. Initial ANSP internal training versus outsourcing initial training

2.10.1. Initial training encompasses basic aviation theory, basic simulation training, regulation compliance, training evaluation process and monitoring training process. Providing such a highly specialised service requires appropriate educational facilities (classrooms for theoretical lessons as well as rooms for practical exercises and simulators) and qualified training staff (lecturers, instructors, and evaluators).

2.10.2. Outsourcing should be seen neither as an inherently superior nor as an inherently weaker option, but as one among several organisational strategies available to ANSPs. Its impact ultimately depends on how effectively the relationship between the external provider and the contracting ANSP is managed, and on the mechanisms put in place to ensure that training outcomes remain consistent with the overarching objectives of safety and operational reliability.

2.10.3. While outsourcing can offer significant advantages, including flexibility to adjust training capacity, reduce fixed infrastructure costs, access to modern training technologies and experience to international training approaches and best practices, it also raises important questions related to standardisation, adaptation to local procedures and long-term workforce planning such as:

- How much of the whole process can be outsourced?
- Are the standards monitored and adjusted when required?

2.10.4. Challenges associated with outsourcing include reduced direct control over training quality, potential fragmentation of training outcomes when multiple providers are involved, increased dependence on third parties, and limited customisation to the specific operational environment of the ANSP. Differences in tools, procedures and organisational culture may affect trainees for OJTI and their integration into operational units.

2.10.5. In States where initial training has been outsourced to more than one training organisation, students coming from different schools often show noticeable differences in their theoretical and practical knowledge or uneven competencies when entering the operational phase. This situation is often linked to the high competitiveness of the training market, where schools tend to compete by offering shorter or less expensive courses, an approach that can ultimately be reflected in the overall quality of training outcomes.

2.10.6. Although ATOs must operate under the same regulatory framework and comply with common standards, each applies its own training program, uses different tools that

provide varying levels of information, and employs exercises of differing complexity and duration.

2.11. The quality of the training

- 2.11.1. ICAO adopted the ISO 9000 definition of quality as the "degree to which a set of inherent characteristics of an object fulfils requirements"¹¹.
- 2.11.2. For training, quality refers to the overall standard of the entire process.
- 2.11.3. To support this, ICAO defines Quality Management System (QMS) as a framework of policies, processes, and procedures for planning and executing air operations to ensure the safety and efficiency of activities and to meet regulatory and stakeholder requirements. Applied to training, QMS ensures that all ATCOs have the necessary skills, education framework, and experience through a formal system of training, education, and on-the-job experience to perform their roles.
- 2.11.4. Curricula, instructor expertise, methodology, equipment, materials, and adherence to regulatory standards are key aspects that all ATOs must fulfil in initial training, as they are responsible for ensuring the consistency, quality, and regulatory compliance of the outcomes. Alignment across these dimensions is essential for meeting licensing requirements and guaranteeing homogeneity and interoperability within the ANSPs operational and organisational culture.
- 2.11.5. High-quality training does not guarantee that all trainees will become competent or succeed but it maximises the chances.
- 2.11.6. It's important that quality control to ATOs from the ANSP is carried out to guarantee that training is fully aligned with the ANSP's operational needs and that air traffic controller training is delivered using the tools, procedures, and methodologies defined in the ANSP's training program.

2.12. Financial perspective

- 2.12.1. The financial dimension cannot be overlooked. Potential cost savings of outsourcing must be carefully weighed against long-term impacts on safety, workforce readiness, and the strategic independence of the ANSPs. The emergence of private ATOs due to outsourcing training has created two ways of covering the tuition fee: by the ANSP or by the student.
- 2.12.2. When training cost is covered by ANSP, more individuals would consider applying which may result in a larger selection pool and an increased chance of attracting strong profiles.
- 2.12.3. When the student covers the financial cost, there is an obvious advantage for the ANSP which saves training costs and a disadvantage for the student, nevertheless, the financial stress might be seen as a strong motivation for success.
- 2.12.4. Partnership arrangements between ANSPs and private ATOs can mitigate some of these risks by ensuring that only candidates who have successfully passed a selection process are trained. However, where initial training is treated primarily as a commercial activity, higher student volumes and shorter courses may be prioritized, potentially at the expense of training quality and alignment with operational requirements. These considerations highlight the need for clear policy positions and strong ANSP oversight when outsourcing training.

¹¹ ISO 9000:2015, 3.6.2

2.13. Key performance indicators for Training organizations

- 2.13.1. According to the European Commission Implementing Regulation (EU) 2019/317 of 11 February 2019, Key Performance Indicators (KPIs) are used to translate the desired levels of safety, efficiency, environment, cost-efficiency, and capacity into measurable values and to monitor and assess progress towards defined objectives.
- 2.13.2. Currently, no specific KPIs are applied to air traffic controller training, but this paper proposes their introduction as a method for measuring and evaluating the performance of initial ATCO training. Such indicators would serve to assess academic outcomes, operational readiness, safety compliance, training consistency and cost-effectiveness, allowing ANSPs to compare results across different training organizations and identify areas requiring improvement.
- 2.13.3. When initial training is conducted in different schools, it should be the responsibility of the ANSP to require the use of common KPIs as part of its oversight and quality assurance processes.
- 2.13.4. By defining and applying unified indicators, the ANSP can ensure that all training providers meet comparable standards, and that the competencies of graduates remain consistent regardless of where they were trained.
- 2.13.5. Regardless of whether the training organization is internal or external, it is considered essential that training performance be measurable. The use of KPIs ensures evidence-based oversight and continuous improvement of initial training that remains focused on safety, quality, and long-term operational needs rather than commercial considerations.

3. CONCLUSION

- 3.1. The review of existing practices, regulatory frameworks, and IFATCA policy shows that both internal and outsourced models of initial training can meet the needs of Air Navigation Service Providers (ANSPs) when implemented under clear standards and proper oversight.
- 3.2. Outsourcing itself does not necessarily result in a reduction in training quality; however, insufficient standardisation, weak quality control or inadequate supervision may lead to inconsistencies in training outcomes and operational readiness.
- 3.3. Each model brings distinct approaches that may suit different operational realities, depending on the organisation's capacity, strategic priorities, and workforce requirements.
- 3.4. In case of internal training, the curricula and the assessments may be more closely aligned to the ANSP's operational practices, which provide strong benefits regarding standardisation, quality monitoring and cultural alignment. On the other hand, outsourcing training may offer flexibility and, due to market competition, rapid innovation and exposure to international best practices.
- 3.5. Whether training is centralised within the ANSP or delegated to an external provider, it must be governed by a unified framework that ensures quality, consistency, and adherence to international standards. The responsibility for defining requirements, monitoring performance, and ensuring alignment with operational needs remains with licensing authority¹².

¹² ICAO Doc 9841 - Manual on the Approval of Training Organizations

- 3.6. Accordingly, ATOs providing training services for an ANSP should operate under an additional regulatory framework in accordance with ICAO Doc 9841. Such a framework should include requirements on oversight of curricula, instructors (TTI, STDI/OJTI) competence and updated knowledge, the length of initial training, standardised use of training tools and/or software and uniform exercise design and length across all ATOs to prevent competition based on shorter courses and to ensure that trainees can integrate seamlessly into operational units without the need for additional standardisation unit training.
- 3.7. ICAO USOAP CMA Report highlights that “most States have not implemented an effective programme for the surveillance of ATOs for pilots, air traffic controllers and aircraft maintenance engineers. This applies to both domestic and foreign ATOs which provide training to service providers’ staff. Many States have not ensured consistency in their methods of surveillance, appropriately determined the frequency of inspections, included random inspections in their surveillance program, and have not developed and maintained an effective system to keep track of their surveillance activities in relation to ATOs.”¹³
- 3.8. Through harmonised KPIs, quality management systems objectively measure training outcomes and guarantee consistency across different ATOs. Such mechanisms enable ANSPs to monitor training quality and promote continuous improvement.
- 3.9. The choice between internal and outsourced training should not be viewed as an absolute preference but as a strategic decision guided by national circumstances, long-term goals, and resource availability. Regardless of the model selected, a clear governance framework ensuring accountability, standardisation and quality is essential to guarantee that all trained ATCOs meet the required level of competence.
- 3.10. IFATCA does not oppose the outsourcing of the ATCOs initial training. However, it considers outsourcing acceptable only when subject to strict quality control, standardisation requirements and effective oversight.

4. RECOMMENDATION

- 4.1. It is recommended that the following be accepted as policy and inserted into the TPM TRNG 9.4.1:

“When ATC initial training is completed, every student should pass a theoretical examination and a practical evaluation. The examinations and evaluations shall meet ICAO licensing standards and be developed in consultation with the MA and ANSP.”

TRNG 9.4.1 A SYSTEM COMBINING ASSESSMENTS WITH EXAMINATIONS

¹³ ICAO USOAP - Report on the Universal Safety Oversight Audit Programme, Continuous Monitoring Approach (USOAP CMA) Results, 1 January 2022 to 31 December 2024, cap. 4.3

IFATCA policy is:

During training at an Approved Training Organisation (ATO), assessments on all theoretical subjects should be carried out. Results should be analysed and discussed with the trainees.

Multiple assessments and debriefings should take place consistently throughout the period of simulation training. A written report should be made by the instructor on a regular basis and should reflect the level of achievement of the appropriate performance criteria. Both theoretical assessment(s) combined with multiple practical assessments should contribute to the final assessment

Examination on local regulations and procedures should be made.

Multiple assessments should be carried out during OJT. Reports on the student's progress should be forwarded to the ATO. Trainees shall be kept informed and permitted to see the reports at all times.

A student that has failed an assessment should be permitted a reassessment after a suitable period of time, if some evidence of progress is demonstrated and it can be determined that the individual can meet the required performance standards, after a suitable period of further training, be permitted a re-assessment.

The duration of training shall not be dictated or constrained by a predetermined time, but rather by the achievement of performance standards at determined milestones, taking into account the progression demonstrated by the trainee.

When ATC initial training is completed, every student should pass a theoretical examination and a practical evaluation. The examinations and evaluations shall meet ICAO licensing standards and be developed in consultation with the MA and ANSP.

5. REFERENCES

5.1. ICAO

- ICAO Annex 1 – Licensing Personnel
- ICAO Annex 11 – Air Traffic Services
- ICAO Doc 10056 – Manual on Air Traffic Controller Training
- ICAO Doc 9868 – Procedures for Air Navigation Services TRAINING
- ICAO Doc 9841 – Manual on the Approval of Training Organizations
- ICAO USOAP – Report on the Universal Safety Oversight Audit Programme, Continuous Monitoring Approach (USOAP CMA) Results, 1 January 2022 to 31 December 2024, cap. 4.3

5.2. EASA

- Regulation (EU) 2015/340
- Regulation (EU) 2023/893

5.3. FAA

- FAA, The Air Traffic Controller Workforce Plan 2025 – 2028, August 21, 2025

5.4. IFATCA

- IFATCA Technical and Professional Manual (TPM), version 68.0 – December 2025

- IFATCA Annual Conference, Abu Dhabi, 28 April to 2 May 2025, WP No. 154, “Attracting New Air Traffic Controllers”
- IFATCA, ATCO Shortage: The perfect Storm, Air Traffic Control is drifting into a systemic crisis, by Marc Baumgartner, 2025-05-11
- IFATCA Annual Conference, Singapore, 15-19 April 2024, WP No. 154, “Review of the IFATCA Training (TRNG) Policy”

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