

July, 2026

Follow up questions Training Panel

During the panel discussion at annual conference in Bucharest, Romania titled: Flight plan for the future: the new ATC Value Chain: Attract, Recruit, Train and Retain. We could not answer all the questions from the floor. Therefore, we asked the speakers to answer in writing. We invite you to read the extensive answers from our speakers and thank them for taking the time to provide answers! Four out of five panel speakers provided answers and not everyone answered all questions.

The following document is also of interest to people who could not attend the discussion during conference as it addresses and answers fundamental questions regarding attraction, recruitment, training and retention of air traffic controllers.

The Panel Moderators:

Renz Bulseco – Chair IFATCA Training Task Force

Benjamin Fichtner – IFATCA EVP Europe

Do you have any options to get a more tailor-made training for units in a way to increase success rate? Any new strategies to support the learning process of gen Z students?

Answers:

Adrian Flora (ROMATSA):

At ROMATSA, we see clear value in unit-specific training design. A single curriculum applied uniformly across all sectors does not account for differences in traffic complexity, team composition, or operational tempo. We are moving toward modular training frameworks where core competencies are standardized but unit-level scenarios are localized. For Gen Z learners, shorter feedback cycles, simulation-based learning, and transparent progression metrics have shown better engagement than traditional classroom formats.

Anne Kathrine Jensen (EPN):

At EPN, tailor-made training is a core principle. With Regulatory requirements and a module concept as a base, we work closely with ANSPs to adapt programs to specific operational environments, traffic complexity, and local procedures rather than applying standardized solutions.

To support newer generations of learners, we increasingly use modular program design, blended learning, and data-driven insights and progress monitoring. Digital tools and advanced simulation allow training pathways to be adapted while maintaining common qualification standards. The objective is not to lower requirements, but to create more effective, engaging learning environments that increase success rates and long-term retention.

Dirch Jans (GATE):

Tailor-made training has been our core approach since inception, and we were an early mover in customized Ab-initio training solutions. All programs are developed in close collaboration with partner units to meet specific operational and performance needs, supporting high success rates.

Based on client experience, this tailored approach not only improves Ab-initio performance but can also contribute to more efficient training pathways and, in some cases, a reduced overall training duration.

To further enhance outcomes—particularly for Gen Z learners, we continuously refine our methods through modular course design, data-driven progress monitoring, blended learning, and scenario-based training, ensuring an adaptive and effective learning environment.

Targeting gamers for ATC cites cognitive overlap—how well does this translate in practice, and what behavioral gaps (e.g. discipline, risk, communication) must training address?

Answers:

Adrian Flora (ROMATSA):

The cognitive overlap is real: spatial awareness, multitasking under pressure, and rapid decision-making are genuine shared traits. In practice, however, the transfer is partial. Gaming environments reward risk-taking and tolerate failure as part of play. ATC requires the opposite mindset: zero-defect outcomes, disciplined phraseology, and structured communication protocols. Training must explicitly address these gaps early, before operational habits form, rather than assuming cognitive aptitude will carry over automatically.

Anne Kathrine Jensen (EPN):

Certain cognitive skills associated with gaming, such as spatial awareness or high information processing speed, can be relevant. However, our experience shows these skills alone are not strong predictors of ATC training success.

Operational performance depends heavily on behavioral and professional competencies: structured communication, discipline, risk awareness, accountability, and the ability to operate within strict safety frameworks. Selection and training must therefore assess and develop a broad competency profile rather than focusing on isolated cognitive traits.

Dirch Jans (GATE):

Targeting gamers for ATC recruitment is based on some relevant cognitive overlap—such as multitasking, spatial awareness, and fast information processing. However, in practice, this has shown limited impact on overall training success in Europe.

The main gap lies in behavioural competencies. Gaming does not typically develop the level of discipline, risk awareness, structured communication, and accountability required in ATC. It also differs significantly in terms of sustained performance under real-world pressure and working within strict operational frameworks.

As a result, while gamers may bring some useful baseline skills, these do not translate directly into ATC performance. Training must therefore focus on bridging these behavioural gaps, as successful outcomes depend on a much broader competency profile than cognitive ability alone.

In Bucharest during the panel mentioned that I believe that the industry needs to draw down a new profile for the future ATCO's.

In the context of FEAST, do you have any data or studies comparing the performance of qualified air traffic controllers versus non-experienced individuals?

Answers:

Adrian Flora (ROMATSA):

ROMATSA uses FEAST as a pre-selection tool for ab initio candidates, as intended. From our operational experience, the performance gap between FEAST-selected ab initio trainees and lateral entrants with prior aviation exposure exists but from our previous experience that narrows significantly after the first year of OJT. We do not have a controlled internal study comparing the two groups statistically. That said, FEAST scores alone are a reliable predictor of long-term controller performance; resilience, adaptability, but also the quality of OJT instruction matters at least as much.

Marc Damitz (Eurocontrol):

FEAST is explicitly designed for ab-initio Student Air Traffic Controller selection. It is not intended, designed, or foreseen to be used for the selection of already trained or operational ATCOs, and any such use would be outside the scope of the system.

During the early development of FEAST, when no predictive validation data from training outcomes were yet available, a concurrent validation study was conducted. In this study, the performance of qualified ATCOs was compared with that of non-experienced ATC applicants. As expected, qualified controllers scored higher on average.

However, the results of concurrent validation studies must be interpreted with caution. Their meaningfulness depends strongly on the motivation of participating ATCOs to fully engage and perform well in the tests. Without full motivation, results risk underestimating actual ability levels.

Today, FEAST validation primarily relies on predictive validation, linking applicant performance to subsequent training outcomes, which is the appropriate and scientifically sound approach for an ab-initio selection system.

Anne Kathrine Jensen (EPN):

I cannot share any data, but some of our customers are beginning to ask for alternatives to FEAST and we provide other recruitment tools and Assessment Centre modules on request.

Given the global shortage of air traffic controllers, what structural changes not just recruitment campaigns are needed to make the profession sustainable long-term?

Answers:

Adrian Flora (ROMATSA):

Recruitment campaigns address symptoms, not causes. Structural sustainability requires three things. First, training pipelines must be funded and planned on a multi-year horizon, not reactive cycles driven by short-term vacancy counts. Second, retention conditions, including career progression, mental health support, and scheduling models, must match the demands of the role. Third, ANSPs must work with regulators to clarify how automation and remote operations will reshape staffing requirements, so that candidates and current staff both understand the future they are entering.

Marc Damitz (Eurocontrol):

Indeed, the current ATCO shortage cannot be solved by recruitment campaigns alone. From a structural perspective, long-term sustainability requires changes across the entire value chain, including:

- *Training capacity and throughput, particularly instructor and simulator availability*
- *Training duration and structure, for example staged qualification or modular progression*
- *Better alignment between selection, training design, and operational requirements*
- *Retention strategies that acknowledge career development, workload, and wellbeing*

Recruitment quality matters, but without parallel changes in training and retention, increased recruitment simply moves the bottleneck downstream.

Anne Kathrine Jensen (EPN):

From EPN's perspective, the ATCO shortage is primarily a structural challenge rather than a recruitment problem. Long, rigid training pathways combined with high attrition rates limit output even where candidate interest is strong.

Addressing this requires more efficient training models, better use of digital and simulation-based learning, and stronger candidate support throughout training. Sustainability will depend on aligning training systems with operational realities and evolving workforce expectations, while ensuring that safety and performance standards remain unchanged.

A changed mindset from the employer's side will also be necessary to accommodate the expectations from Gen Z and to secure retention in the long run.

Dirch Jans (GATE):

The global ATC shortage is fundamentally a structural issue rather than a recruitment problem, and this is increasingly influenced by changing workforce expectations, particularly among Gen Z.

While recruitment campaigns can increase interest, evidence shows that long, rigid training pipelines and high attrition limit how many candidates actually qualify. At the same time, Gen Z candidates tend to expect clear progression in their work, more flexibility, continuous feedback to their effort, and purpose-driven work, which traditional ATC career structures do not always provide.

This creates a mismatch: the system is designed for stability and standardisation, while newer generations place higher value on adaptability, work-life balance, and development transparency.

Addressing the shortage therefore requires structural changes, including more flexible and efficient training models, improved candidate support to reduce attrition, and working conditions that support long-term retention.

How do you know the difference between someone who is a slow learner and just needs a bit more time and someone who will never achieve the needed level, in a reasonable time

Answers:

Adrian Flora (ROMATSA):

This is one of the most difficult judgements in ATC training. The indicators we rely on are trajectory, not snapshots. A trainee who is slow but consistently improving, who demonstrates self-awareness about errors and applies corrective feedback, is a different case from one who plateaus or regresses despite targeted support. Structured progress reviews at defined milestones, with clear competency benchmarks, are the most defensible approach. Instructor quality is critical here: an experienced OJT reads these signals differently from a technically excellent controller who has never been taught how to assess learning.

Anne Kathrine Jensen (EPN):

There is no single indicator that distinguishes a slow learner from someone unlikely to reach the required standard. What matters is development over time.

In training, we focus on learning trajectories: whether feedback is applied, error patterns improve, situational awareness develops, and complexity can be managed progressively. Slow learners continue to progress, even if gradually. Non-progressing trainees tend to plateau despite support.

Dirch Jans (GATE):

This is a well-known challenge in ATC training, and there is no single test that provides a clear answer. Instead, instructors rely on observing patterns over time, using structured assessment against defined competencies rather than judging isolated performances.

In practice, instructors look at several key aspects of development: how quickly a trainee improves, the type and frequency of errors, their ability to recognize and correct mistakes, how well they handle increasing traffic complexity, and whether they can apply what they have learned in new situations. The focus is not only on what the trainee does, but on how their thinking and understanding evolve.

The distinction between a slow learner and someone unlikely to reach the required level lies primarily in their learning trajectory.

A slow learner will typically show steady, if gradual, progress. Errors decrease over time, feedback is increasingly applied, and situational awareness improves. Even if development takes longer, there is clear evidence that learning is taking place.

In contrast, a trainee who is unlikely to reach the required standard tends to plateau. The same errors recur, feedback does not translate into improved performance, and the trainee may struggle to cope even with moderate levels of complexity. Often, there is difficulty in forming a consistent mental picture of the traffic situation.

Ultimately, the key difference is not how fast someone learns, but whether they continue to progress and adapt over time. For instructors, this means focusing on trends in performance, particularly improvement, error patterns, and adaptability, rather than making judgments based on individual sessions.

As roles shift from ‘active control’ to more ‘system management’, what new cognitive and human-factor competencies are becoming critical — and are we adequately preparing trainees for that shift?”

Answers:

Adrian Flora (ROMATSA):

The shift from manual separation to system management changes the cognitive load profile rather than reducing it. Controllers need stronger skills in exception handling, automation monitoring, and trust calibration with decision-support tools. Complacency and mode confusion become the primary human factors risks. We are not yet adequately preparing trainees for this shift at most ANSPs. Training still centers on procedural execution. We need to build deliberate curricula around automation interaction, mental model maintenance, and recovery from unexpected system states.

Marc Damitz (Eurocontrol):

From a selection and human-factors perspective, the future ATCO profile is unlikely to be radically different from the one required today. The fundamental ability profile remains largely the same, but the relative importance of certain competencies is shifting.

Key developments include:

- *Operational monitoring becoming central: the ability to responsibly follow information from multiple automated sources without continuous manual action, while being prepared to fully take over at any time.*
- *Visual scanning increases due to a growing number and complexity of displays.*
- *Perceptual speed and accuracy increase because of the volume of data provided by controller support tools.*
- *Sustained attention increases as traffic levels continue to rise.*
- *Problem solving increases, particularly in situations involving automation limitations or failures.*

- *Mental flexibility, which is already important today becomes even more critical, as controllers must switch efficiently between information sources and between monitoring and intervention.*
- *Trust in automation becomes a key human-factor competence.*

At the same time:

- *Visualisation and explicit planning demands may decrease due to advanced support tools, without disappearing entirely.*
- *Communication patterns may shift (e.g. data link), but verbal comprehension will remain essential.*

Within FEAST, we follow these developments very closely. In response, we have already introduced new tests that capture abilities increasingly important for operational monitoring and automation-rich environments. These tests are either:

- *integrated into the standard FEAST battery, or*
- *offered as complementary modules for organisations wishing to place stronger emphasis on future-oriented competencies.*

Anne Kathrine Jensen (EPN):

The ATCO role is gradually shifting towards increased system supervision and automation management. While core competencies remain the same, their application is changing.

Training still tends to emphasize tactical control. To prepare for future operations, greater focus is needed on anticipation, monitoring skills, human-machine interaction, and recovery from non-routine situations. This requires both technical adaptation and industry-wide acceptance that the role of the controller is evolving.

By introducing more features in the training based on technology and actively utilizing digitalization, EPN prepares the future generation of ATCOs for what is coming. However, the pace of this shift is unknown, and it will be a challenge for everybody to adapt along the way.

Dirch Jans (GATE):

As roles shift from active control to system management, the focus moves toward competencies already highlighted in the ICAO and EASA framework, particularly situational awareness, decision-making, and workload management, but applied in a different context.

Controllers increasingly need strong monitoring skills, the ability to manage and supervise automation, and to intervene effectively when systems degrade or behave unexpectedly. This also places greater emphasis on human factors such as maintaining vigilance, managing reduced workload, and calibrating trust in automation.

I would like to add, that training still tends to emphasise tactical control rather than strategic monitoring and system oversight. To fully prepare trainees, we need to better integrate scenarios that develop anticipation, automation management, and recovery from non-routine situations, ensuring competencies are demonstrated not only in active

control, but also in low-activity and highly automated environments. But here we need the industry to accept this coming change.

How can IFATCA work with ICAO to set a minimum wage globally for atco all over the world

Answer from moderator: IFATCA is not a trade union as well as ICAO is not an employer. Setting minimum wages is therefore out of the scope of both organizations.

What are your thoughts about not trying to go against the younger people's choice to change roles mid-life but attract more people and even raise the maximum age for ATC?

Answers:

Adrian Flora (ROMATSA):

The current age restrictions reflect assumptions about cognitive plasticity and training investment return that deserve re-examination. Mid-career entrants often bring discipline, communication skills, and stress tolerance that younger candidates are still developing. Raising the upper age limit for ab initio entry, with appropriate medical and aptitude screening, is worth a structured pilot across willing ANSPs. The profession should compete for talent across a wider demographic rather than accepting attrition as inevitable.

Marc Damitz (Eurocontrol):

It is realistic and appropriate to accept that younger generations are more likely to change roles during their careers. This reinforces the need for broader attraction strategies, and evidence-based discussions on age limits rather than purely traditional ones.

Anne Kathrine Jensen (EPN):

It is hard to avoid people wanting to pursue different things in their lives. Personally, I believe that the best an employer can do is to remain attractive by actively working with the working environment (which is a shared effort of all employees) and by creating career pathways that are compelling enough to make staff want to stay long-term.

The q is for Marc: What does the statistics you have say of the numbers of the successful candidates based on the gender? And from a different question: passed vs failed per year and what adjustments were done as a learning?

Answers:

Adrian Flora (ROMATSA):

This question is directed primarily at Eurocontrol. From ROMATSA's perspective, gender-disaggregated data on candidate outcomes is tracked but not yet systematically analyzed for bias or structural barriers. We support greater transparency on this across European ANSPs, as pooled data would give the industry a much clearer picture of where selection and training processes may be inadvertently filtering out capable candidates.

Marc Damitz (Eurocontrol):

Gender statistics related to pass/fail outcomes need to be interpreted very carefully.

Success rates by gender:

- *vary between countries and organisations,*
- *depend on which FEAST modules are applied, and*
- *may change over time even within the same organisation depending on recruitment context, applicant pool, and selection configuration.*

For these reasons, there is no single, globally valid FEAST success rate, including generally valid success rates for male and female applicants. Where group-level performance differences between genders appear, they are typically linked to specific abilities that are job-relevant (for example, related to spatial abilities). Furthermore, most gender differences remain below adverse-impact thresholds.

FEAST continuously monitors gender effects and has already implemented measures such as:

- *removal or adjustment of tests with pronounced gender effects,*
- *introduction of the official FEAST preparation platform,*
- *guidance to user organisations on optional mitigation measures.*

Ultimately, selection alone cannot correct gender imbalance if the applicant pool itself remains strongly imbalanced. Across FEAST users, approximately 70% of applicants are male and 30% female. This imbalance already exists at the attraction stage, before selection takes place. Attraction of female applicants is therefore decisive.

Do you think the emergence of AI threatens attracting young people that may think the profession will disappear soon due to AI replacing the human?

Answers:

Adrian Flora (ROMATSA):

The perception risk is real and we should not dismiss it. Young people do research professions before committing years to training, and the public narrative around AI and automation is often imprecise. The industry needs to communicate clearly and early: AI in ATM is a decision-support tool, not a replacement. Controllers will manage increasingly complex systems, but the legal, ethical, and safety accountability for separation remains human. ANSPs and training organizations need to make that case directly in recruitment materials and education outreach.

Marc Damitz (Eurocontrol):

Some young people may initially worry that AI will replace controllers. In reality, AI is changing the role, not eliminating it. ATC remains a safety-critical profession where humans are essential for:

- *managing unexpected situations*
- *system supervision*
- *retain final decision-making authority*

The challenge for the industry is therefore communication: presenting ATC not as a disappearing profession, but as a high-skill role evolving with technology.

Anne Kathrine Jensen (EPN):

At EPN, we do not see AI as a deterrent for younger generations. Younger candidates typically adapt quickly to digital tools and often view AI as a natural part of modern, technology-driven professions. In some cases, advanced systems even increase the profession's appeal.

Greater skepticism is more often found among parts of the existing workforce, where automation may be perceived as a challenge to established roles. Training plays a key role in positioning AI as an enabler rather than a replacement, while reinforcing that human judgment and responsibility remain central.

Have failure rates in ATC training increased compared to the past? If so, what factors might be contributing to this trend?

Answers:

Adrian Flora (ROMATSA):

Based on ROMATSA's internal experience, attrition in OJT has been a persistent challenge, though trend data over a longer period is incomplete. Contributing factors we observe include a mismatch between simulator-based training environments and live sector complexity, increased traffic density and procedural change rates, and variability in OJT quality and availability. Where selection tools have been applied without sufficient validation against actual OJT performance, there is also a risk that candidates who pass selection do not reflect the full competency profile the operational environment requires.

Anne Kathrine Jensen (EPN):

ATC training has always been demanding, and it remains so. Furthermore, training environments are under growing pressure from increased complexity, limited capacity, and instructor availability.

*Organizational culture plays a critical role in how new colleagues are integrated. More adaptive cultures that support phased progression, structured feedback, and intermediate validation, such as operation on fewer sectors before full endorsement, can support competence development without lowering standards. Such a model requires that ANSPs be brave and willing to change the existing model to increase the success rate of validated ATCOs. I believe that **willingness to change** is the hardest challenge of all when it comes to training and success rates.*

Dirch Jans (GATE):

I don't believe that there is global evidence that failure rates in ATC training have increased, attrition has always been relatively high due to the demanding nature of the job. However, I do see a slightly increased of difficulty in completing training.

This is likely driven by several factors. Operational complexity has increased, raising performance expectations. Training environments are also under pressure due to staffing shortages, time constraints, and variability in instructor quality. In addition, there may be a mismatch between selection processes and real operational demands.

Importantly, a generational and cultural gap is becoming more visible. Traditional ATC training tends to be high-pressure and implicit, while newer generations often expect more structured feedback and supportive learning environments.

Overall, the issue appears less about declining trainee ability and more about a system that is struggling to adapt to changing operational and human factors.

What is your opinion on age limit for candidates for ATCOs? Eg. no older than 21 years, no age limit at all?

Answers:

Adrian Flora (ROMATSA):

A hard upper age limit of 21 is too restrictive and not supported by evidence. Cognitive flexibility, working memory, and the capacity to acquire complex procedural skills remain strong well into the late thirties for most individuals. The relevant screening criteria are aptitude, medical fitness, and the ability to complete training within a defined timeframe, not a birth year. ANSPs that apply rigid age caps are narrowing their talent pool without a corresponding safety gain. A risk-based approach to age, anchored in validated selection tools, is more defensible.

Marc Damitz (Eurocontrol):

Within the European Union, non-discrimination legislation prohibits discrimination based on age unless a strong and objective justification can be provided. As a result, many European ANSPs have removed formal upper age limits. At the same time, anecdotal and operational evidence is frequently reported that older students tend to experience:

- *higher training failure rates, and*
- *greater difficulties acquiring certain skills.*

This is consistent with well-known trends of age-related decline in specific cognitive abilities, several of which are highly relevant for ATC training (e.g. processing speed, flexibility, and learning rate).

For this reason, many organisations continue to apply age limits, justified by:

- *training duration and complexity,*
- *expected return on investment,*
- *observed training performance patterns.*

The discussion therefore remains context-dependent and must balance legal constraints with operational realities.

Dirch Jans (GATE):

There is a lot of different opinions to this topic. While younger candidates may benefit from cognitive flexibility and longer career horizons, age alone is not a reliable predictor of success from my view. Many of the key competencies for ATCOs—such as situational awareness, decision-making, stress resilience, and communication, can be developed at different stages of life.

Setting the limit too low risks excluding candidates who bring valuable qualities like maturity, responsibility, and prior professional experience, which can positively influence training performance and team dynamics. We need all types in our industry.

Would you offer a run thru testing at your facilities for active ATCOs and they can then have meeting afterwards with suggestions/questions?

Answers:

Adrian Flora (ROMATSA):

ROMATSA periodically conducts refresher and recurrency exercises for active controllers, which include structured debriefs. Opening a version of this to peer ANSPs or as part of cross-ANSP knowledge exchange is an interesting proposal. It would require coordination on data protection, operational security, and assessment framework alignment. At a network level, EUROCONTROL training facilities already offer some of this capacity. We would support expanding such exchanges as part of the broader RP4 and RP5 performance commitments on human resources.

Anne Kathrine Jensen (EPN):

Yes. We always welcome exchange of ideas and try as much as possible to encourage our partners and customers to send practical instructors to participate in the simulator training to ensure as much “real operational experience” and feedback on our training as possible.

Dirch Jans (GATE):

Yes, absolutely. Continuous development is essential to maintaining high training standards, and that requires input from all stakeholders—especially active ATCOs. Offering run-through testing at our facilities for operational controllers is a valuable way to ensure that training remains relevant, realistic, and aligned with current operational demands.

At GATE, we already support this approach by welcoming operational staff from our clients on a yearly basis. During these visits, they test training exercises, monitor ongoing training, and engage directly with students. This provides valuable real-world feedback and helps ensure our training reflects current operational needs.

Following these activities with structured discussions allows for meaningful feedback, exchange of perspectives, and identification of improvement areas. Encouraging active ATCOs to invest time and effort in this process is key, as their experience plays a crucial role in helping training organizations continuously evolve and achieve the highest possible standards.

Gen Z places a high value on mental health, work-life balance, and purpose. In a high-stress profession like ATC, how can the industry position itself as both challenging & sustainable wellbeing?

Answers:

Adrian Flora (ROMATSA):

Authenticity matters more than marketing here. Gen Z candidates have high tolerance for challenge and stress when they perceive purpose and institutional support. The industry needs to demonstrate, not just claim, that it invests in controller wellbeing: peer support programs, accessible occupational health services, scheduling that respects recovery time, and career pathways that do not require sacrificing personal life to advance. ROMATSA is actively developing its internal wellbeing framework as part of broader HR reform. The profession is meaningful. The conditions need to reflect that.

Marc Damitz (Eurocontrol):

For younger generations, workload and wellbeing are not “soft issues” — they are core career criteria.

Positioning ATC as sustainable requires:

- honest communication about stress
- visible mental-health support structures
- predictable rostering and recovery opportunities
- meaningful professional purpose

A profession that acknowledges its demands and shows how people are supported is more attractive than one that ignores the issue.

Anne Kathrine Jensen (EPN):

ATC will remain a high-responsibility profession, and pressure cannot be removed entirely. The challenge is ensuring the surrounding system is sustainable.

This includes stronger focus on mental wellbeing, structured recovery, and open cultures around support. Creating an environment where controllers can perform, recover, and develop over time is essential for long-term retention.

Dirch Jans (GATE):

I believe the industry needs to be honest about the reality of ATC, it is a demanding and high-stress profession, but at the same time, that challenge is also part of what makes the job meaningful and attractive.

Where I see we need to evolve is in how we support people within that environment. For Gen Z, it's not about removing pressure, but about ensuring that the system around them is sustainable. This means stronger focus on mental wellbeing, better recovery and rostering practices, and creating a culture where asking for support is seen as a strength, not a weakness.

In the end, it's about balance: create a work environment where people want to work, not only focus on the art of work, but of what is the company offering.

*From a business point of view I understand making a box for people to fit in
but isn't it better to make the training flexible to fit more people in it?*

Answers:

Adrian Flora (ROMATSA):

The tension between standardization and flexibility is legitimate. Standardization in ATC training exists because the output, a licensed controller, must meet a defined safety threshold regardless of how they got there. The question is whether current training designs are optimized for that outcome or for administrative convenience. Where evidence supports flexible pathways, for example, adaptive pacing, modular progression, or credit for prior learning, there is no safety argument against them. The box should be defined by the competency standard, not by the shape of the historical curriculum.

Anne Kathrine Jensen (EPN):

A flexible training system is becoming more accessible with different digital solutions in place. Since 2022 Entry Point North has developed digital training solutions combining On Demand material that grant 24/7 access to readings, videos, exercises, and quizzes and Live Guidance sessions that add instructor-led sessions for interaction and guided learning. The hybrid approach, which combines onsite and online training formats, has become the most preferred and appreciated method for delivering the ATC Basic theory section. By integrating modern digital elements with traditional classroom learning, the hybrid model supports a consistent and effective learning journey tailored to the needs of each and every student.

Taking this further into the simulator environment is key going forward. Enabling the student to practice as much as she/he wants/need is essential and creates the security and confidence needed in the ATCO role where decisions need to be taken in a high pace.

Dirch Jans (GATE):

I understand the need to define a clear profile and select candidates who fit it. I said during our panel debate, I believe that the industry needs to redefine the profile for the future ATCO-job. ATC has traditionally been a very conservative field, and while that has worked well in the past, it may not be sufficient for the future.

Ideally, training should become more flexible. Not every trainee develops at the same pace, yet current systems often expect uniform progress. In many fields, such as sports, individuals reach top performance at different ages and speeds, some quickly, others over time. What matters is the end capability, not the path taken to get there.

Creating a more flexible training system would allow us to accommodate a broader range of talent without compromising standards. However, this would require a cultural shift within ANSPs, from a “one-size-fits-all” approach to a more adaptive, performance-based model.

When a trainee fails the school or OJT. More often than not, it's the quality of the instructors. How can we identify and qualify an atco suitable to be an instructor? An atco can be a bad ojti 😊

Answers:

Adrian Flora (ROMATSA):

This is accurate and underacknowledged. Operational excellence and instructional competence are distinct skill sets. At ROMATSA, OJTI selection increasingly incorporates assessments of communication, feedback delivery, and situational coaching, not just technical scores. We follow EASA-aligned competency frameworks for instructor qualification, but implementation quality varies. The industry needs to invest in instructor development as a career track, not a collateral duty, and to create feedback mechanisms that allow trainees to safely report poor instruction quality without career risk.

Anne Kathrine Jensen (EPN):

Being an excellent controller does not automatically make someone an excellent instructor. Instruction requires additional competencies such as communication skills, adaptability, emotional intelligence, and motivation to develop others.

Instructor selection and development should go beyond minimum regulatory requirements. Continuous development, coaching, and evaluation are essential, and instructing should be treated as a professional role in its own right.

Dirch Jans (GATE):

I don't fully agree that trainee failure is more often than not due to instructor quality. But instructors do play a critical role, and we should be honest that being a great ATCO does not automatically make someone a great instructor.

Today, we often rely on minimum criteria such as a short instructor course and a certain amount of operational experience. That is necessary, but not sufficient. Instruction requires a different skill set, soft skills like communication, empathy, the ability to adapt to different learning styles, and a genuine motivation to teach.

To better identify suitable instructors, we should look beyond technical excellence and assess:

- *Motivation and willingness to teach*
- *Communication and feedback skills*
- *Emotional intelligence and ability to build trust*
- *Engagement and commitment to trainee development*

This could be done through observation, peer feedback, and even trial periods before formal qualification.

In addition, instructor development should not stop after certification. Continuous training, coaching, and regular evaluation are key to maintaining high standards, what is seen today, is refresher training to tick the box, not to develop the instructor, EASA and the ANSP's has a responsibility here, and they need to understand the importance of development vs. tick the box.

I believe that we need to treat instructing as a profession, not just an extension of being an ATCO. An excellent controller can be a poor instructor, but with the right selection, training, and support, we can ensure that those who become instructors are both operationally strong and truly capable of developing others.

*In research, what is something that new recruits mention about why they
choose not to stay long in the profession?*

Answers:

Adrian Flora (ROMATSA):

Across multiple ANSP surveys and retention studies, the most consistent factors are shift work impact on personal life, perceived lack of career progression beyond operational roles, the psychological burden of accountability without adequate support structures, and the gap between what recruitment communications described and what the job actually involves day to day. Closing the expectation gap starts at the recruitment stage with honest, specific information about what the role demands.

Dirch Jans (GATE):

I have unfortunately no input to this question yet. We need more data for this

Modern air traffic management is evolving rapidly—but one critical question remains: are we designing systems for controllers, or expecting controllers to adapt to systems?

Answers:

Adrian Flora (ROMATSA):

Historically, the industry has too often done the latter. System procurement cycles are long, human factors input comes late if at all, and controllers adapt to whatever is deployed. This is a risk pattern, not a design philosophy. At ROMATSA, we are building human factors review into project governance earlier in the procurement and design process. The shift toward more user-centered design in ATM tools is real at the EUROCONTROL network level, but it needs to become standard practice at ANSP level, not an exception.

Anne Kathrine Jensen (EPN):

In the best of worlds, I believe the system should be designed for FUTURE controllers, meaning that controllers of today probably have to accept adapting for the future.

Dirch Jans (GATE):

This is not so much about training, but I will give my personal view on to this question, because the industry is at a turning point.

My experience is that we traditionally have designed systems and then expected controllers to adapt to them. But with the level of digitalisation and automation we are now introducing, that approach is no longer sustainable.

Modern ATM is clearly moving toward a more digital, data-driven environment, integrated systems, AI support, remote towers, and datalink communication are all changing how controllers work. At the same time, research and industry programs like SESAR emphasize a shift toward human-machine teaming, where controllers and automation work together rather than one adapting to the other.

What we see is not the disappearance of the ATCO, but a transformation of the role. The controller is evolving from a hands-on tactical operator to more of a system manager, overseeing, validating, and intervening when automation reaches its limits.

This means MY real answer is: it must be both. Design the systems around human capabilities, because judgment, flexibility, and handling the unexpected are still uniquely human strengths. But at the same time, controllers will need to adapt, because their tools, workflows, and required competencies are changing significantly.

The risk is when we get the balance wrong. If we expect humans to simply “fit” the system, we create complexity, overload, and inefficiency. But if we design truly human-centric systems—intuitive interfaces, smart automation, and proper training, we enable controllers to perform at a higher level.

So my view is, that the future is not about replacing the human but redefining the role. The ATCO job will remain, but the profile might be forced to change.

*When we say the system should evolve, what exactly are we willing to change
and what are we not willing to change?*

Answers:

Adrian Flora (ROMATSA):

Safety standards and the principle of human accountability for separation are non-negotiable. Everything else, training design, licensing structures, scheduling models, tool interfaces, sector configurations, operational procedures, is subject to evidence-based review. The problem is that many ANSPs treat the second category as if it belongs in the first. Evolution requires organizational honesty to distinguish between what must stay fixed for safety reasons and what is fixed only by habit or regulatory inertia.

Dirch Jans (GATE):

I believe we are talking about the training system, and therefore is my answer based on the question to the training system.

So when we say the system should evolve, we need to be very clear that we are not talking about lowering standards. Safety, operational competence, and the final performance level of a qualified ATCO are non-negotiable, they must remain the same or improve.

What we should be willing to change is how we get there.

This includes making training more flexible, allowing for different learning speeds rather than a strict one-size-fits-all timeline. It also means embracing technology in training. We should not be afraid of using digital tools, simulation, and data-driven insights, not to replace the human, but to support the human and create more efficient and effective learning.

We should also evolve how we select and develop instructors, placing more emphasis on soft skills, engagement, and the ability to coach different types of learners.

Ultimately, the biggest shift is cultural: moving from a rigid, process-driven system to a more adaptive, performance-based, and learner-centered approach.

So in short: we do not change the standards or safety expectations, but we should be willing to rethink the methods, tools, and mindset that bring us there.

It is being seen first-hand that IQ priority as a part of the hiring process are producing below bar controllers. Where did this approach come from and how can we convince ANSPs to revert from this?

Answers:

Adrian Flora (ROMATSA):

IQ-heavy selection models were adopted because cognitive ability is easier to measure than the composite competencies that actually predict controller success. The evidence that pure IQ screening is insufficient has been available for some time. Convincing ANSPs to change requires presenting that evidence in a format tied to their specific attrition and performance costs, not as an abstract research argument. Validated tools like FEAST, combined with structured interviews and psychological resilience assessments, provide a more complete picture. The shift also needs leadership support; selection reform is not a training department decision.

Marc Damitz (Eurocontrol):

Pure "IQ prioritisation" is a misunderstanding of modern selection practices. FEAST does not aim to select "high IQ" individuals; it is designed to assess job-relevant cognitive abilities that matter for ATC training and operational performance (e.g., attention, processing speed, multitasking, spatial abilities), and to do so in a standardised way.

Just as importantly, selection should not be reduced to cognitive scores alone. In FEAST, cognitive tests are complemented by ATC-relevant work-sample tests (i.e., dynamic tasks designed to approximate ATC demands) and, in many organisations, by the FEAST Personality Questionnaire (FPQ) to assess behavioural/personality-related factors relevant to training.

In practice, a robust selection approach should also include a structured final interview that integrates evidence from all earlier stages and explicitly examines motivation, behavioural fit, and professional attitudes. When organisations rely too heavily on a single metric, they risk selecting people who can score well on one dimension but lack other essential qualities needed to succeed in training and the job.

How to help ANSPs "revert" from IQ-only thinking (practically):

- Use a battery (cognitive + work sample + behavioural/personality + interview), because ATC success is multi-factorial.

Anne Kathrine Jensen (EPN):

EPN is seeing that more ANSPs are recruiting candidates not only for IQ or through FEAST, but also for other qualities. An Assessment centre with different modules is in EPN's portfolio to support ANSPs, who want to look for candidates with a different profile. It is always the ANSP that determines the profile; EPN can help with selection in accordance with that profile.

The new generation has different expectations around working conditions, and many experienced controllers are aging out. How do we bridge that generational gap without compromising operational culture

Answers:

Adrian Flora (ROMATSA):

The framing of this question assumes operational culture is static. It is not. Every generation of controllers has adapted the culture while preserving the safety core. The task now is to distinguish between cultural elements that support safety and professional standards and those that are simply familiarity. Structured knowledge transfer programs, mentoring models that run in both directions, and creating space for newer controllers to contribute to procedure and tool design are practical steps. The experienced controllers who are aging out hold knowledge that needs systematic capture before it walks out the door.

Anne Kathrine Jensen (EPN):

This is a million-dollar question. My personal opinion is that ANSPs – meaning all employees – must lean into one another. The older must accept that things are changing and a new generation is coming on board, and the younger must learn from the older and their experiences. Maybe a vague answer, but it's probably a universal question suited for a more philosophical person 😊

Dirch Jans (GATE):

I have answered this through answers to other question above

The FEAST-test is widely spread on the internet, for students to practice before actually going to the test. Isn't that a problem in the selection process? We might end up letting the best one go!

Answer:

Adrian Flora (ROMATSA):

ROMATSA's view is that the exposure of preparation materials online is a real validity concern for any standardized selection instrument. If candidates are optimizing for the test rather than demonstrating genuine underlying aptitude, the predictive value of the tool degrades over time. This is an argument for regular validation studies of FEAST against actual OJT performance, and for updating or supplementing the tool as exposure increases.

Marc Damitz (Eurocontrol):

Unofficial preparation products exist not only for FEAST but for many ATC and pilot selection systems. These products are not the real tests, but they provide similar types of tasks. The main risk is unequal access: some candidates prepare extensively while others do not. This is why we created an official, free EUROCONTROL preparation/training platform. The platform is designed to help applicants prepare for a FEAST session; the tests are not identical to those in a real session, but they capture the concept and principles of FEAST. Fairness is improved when all candidates have access to structured familiarisation and training on task principles.

Is there a specific time period for a practicing ATCO to go for a refresher training?

Answers:

Adrian Flora (ROMATSA):

Under the applicable EASA regulatory framework, recurrent training and competency assessment requirements are defined for licensed controllers, with specific provisions for controllers returning from absence. At ROMATSA, we align with these requirements and supplement them with internal refresher programs tied to operational change events, including new procedures, sector reconfigurations, and tool upgrades. The regulatory minimum is a floor, not a ceiling. We treat refresher training as a risk management tool, not a compliance checkbox.