Recruiting and Retaining Talent: The Key to Success in the Aviation Industry

The case of Air Traffic Safety Electronics Professionals

(Presented by IFATSEA)

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During and after the recent covid-19 crisis, the total aviation system was faced with an unprecedented economic sustainability challenge. Airlines, ANSPs and airports as well all supporting services had to maintain financial resilience and survivability in a very hostile environment. Many 'short sighteted' economic measures and initiatives were invented/ one of which was to let go professionals from the related business areas. And I am using the word professionals instead of just employees because the aviation environment both in flight or on the ground rotates on well-oiled and designed gears through specialization and continuous training that maintains the high competence levels and currency of capabilities.

The easy step and formula towards letting thousands of professionals with a well-established expertize did not plan, prepare or take into account the day after. A job is the way of earning a living for the worker's family budget. Of course there is job satisfaction and other elements of employee rewarding but the principal objective is financial strength to drive the family budget requirements some of which are imperative.

The 2020 ACE report* states " 2020 saw a -3.4% reduction (-1 943 FTEs) in the total number of ATM/CNS staff, mainly reflecting decreases in the following staff categories:

- Other staff (-780 FTEs, or -20.1%);

- ATCOs in OPS (-477 FTEs, or -2.7%);

- Technical support for operational maintenance (-376 FTEs, or -3.9%);

- Administrative staff (-323 FTEs, or -3.3%); and,

- Staff for ancillary services (-112 FTEs or -5.8%).

Whereas in 2022 in the ACE Report it is stated: " In 2021, the number of ATM/CNS staff fell by -1.5% (-783 FTEs) compared to 2020 reflecting the impact of measures implemented by ANSPs to adapt to lower traffic volumes.

The lower staff number observed for 2021 mainly reflects decreases in the following staff categories:

- Administrative staff (-306 FTEs, or -3.4%);

- ATCOs in OPS (-197 FTEs, or -1.2%);

- Ab-initio trainees (-126 FTEs, or -12.5%); and

- Technical support staff for planning and development (-102 FTEs, or -3.2%).

Thus people who lost their jobs during the covid-19 crisis had to look for other jobs many of which proved, judging from employee return rate, equally satisfying and rewarding for them so as not to return to their old jobs in their aviation related domain. Moreover, the fact that aviation is now considered a volatile industry in terms of permanency of employment and continuous salary flow equally guaranteeing, like for corporate entities, the cash flow ensuring economic resilience. Who knows when the next pandemic or regional conflict will come up and what to do then? This is one of the ways, employees will look at their old jobs in aviation.

Having to hire new employees in place of the old experienced ones revealed the issue of a hidden, not-originally anticipated cost that of retraining the new employees and making sure that they will be attracted for the job and after training they will be retained in the corporate entity. Issues like the learning curve of the employees as well as the time to reach maximum performance levels, similar or equivalent to those that have been laid off, have their negative impact on the related company performance index. Moreover, today, in 2023, traffic has returned back stronger and despite regional conflicts like in Ukraine, it is more demanding for more capacity, less delays, more punctuality and airport passenger flow.

More specifically for ANSPs, the issue of their financial resilience became apparent since, especially in Europe the financial model is mainly on just cost recovery without allowing for them to build a sustainability fund that could ensure their financing during crisis times like it has been for the SARS epidemic, the Covid 19 pandemic etc.

All this has happened when the world and more specifically in Europe there is an effort to drive aviation towards more digitalization and automation, the renovation of the legacy CNS/ATM systems in a technologically intensive endeavor. This needed a considerable amount of funding, estimated only within SESAR of the order of magnitude of 2.5 bn Euros. Of course, deploying new CNS/ATM systems, especially in some cases of a hybrid nature, space and ground based, and integrating it with legacy ones, requires expertise, deep understanding and time resources for the technical personnel, the ATSEP, to operate, maintain and attend to them while maintaining the legacy or state of the art CNS/ATM systems and services.

Needless to say, when implementing state of the art or beyond, ATSEP are required to be trained to new technologies and concepts data and services of which will be fused with the old, existing elements of the technical and operational leg of the Total ANS. Moreover, the new architectures like the SJU Air Space Architecture study (https://www.sesarju.eu/sites/default/files/2019-05/ AAS_FINAL_0.pdf) new challenges came about like Cybersecurity. Therefore, the adjustment of training in order to be able to address failure and degraded modes of distributed ANS systems and services needs to be made quickly and proactively. But that needs to shine the light onto this crucial profession elements starting from their entry qualifications with the scientific background required to serve the new technologies, their training, competency and recurrent training. This has not been done so far.

The new thing is that as the ATSEP job complexity increases significantly, there is a new threat from other industrial areas that have significantly better and less demanding career paths as well as

a lot more rewarding salaries and job appreciation from corporations. Establish frameworks for assessing and accrediting relevant skills and competencies, ensuring a smooth transition and facilitating career progression. For sure we need to apply some incentives to compromise the burden of all these requirements and give these professional the feeling that we appreciated their critical safety duties. The best approach to this is the inclusion of the ATSEP Profession in ICAO Annex 1 and subsequent licensing like the Pilots, aircraft avionic engineers and ATCO

It is clear that most technical jobs that ensure the resilience and service continuity like the ATM environment almost never come into contact with the customer, being the passenger, the pilot or the airline and thus the job important recognition is not there. We hear of many cases when the technical staff of an ANSP never come into contact with management apart from their customary inaugural speech.

The fact that in most ANSP technical and operational jobs, there is 24/7 rostering and the expertise attained mostly does not relate to the wider, outside aviation, industrial environment is a counterattractive element. The fact that the ATSEP job is also connected with responsibility, even liability in some cases e.g an aviation accident/incident, is repelling to young engineers looking for a job as an ATSEP. To add to this, there is no concern on the ATSEP career path, nor any publicity or promotion for the existence and benefits related to the profession. This drives towards a situation where, while the European commission or ICAO are driving towards a more technology based and dependent ANS system, there will be not enough ATSEP to maintain the legacy system running, implement and deploy the new SESAR or NextGen technologies developed.

The International Federation Air Traffic Safety Electronics Associations has warned, there is already an evident lack of ATSEP in Europe as we speak. Many countries across the European continent are looking to hire ATSEP but they cannot find them. A lot of them are doing advertising campaigns promoting the benefits of the job. One of them has had an out flux of ATSEP that were hired and trained but could not be retained.

The poor career paths and financial compensation, salaries, were the main reasons of the shortage of those professionals. Why should a trained engineer who invested up to a university or a postgraduate course in electronics or networks not choose a job in the industrial sector where the salary would be quadruple? I know of my personal experience that ATSEP in Greece are about 65% with postgraduate diplomas as we speak. A careful staff power planning exercise per ANSP has to be developed, as EU regulations demanded, and audited by EASA and NSAs at every inspection. In this aspect, the retirement rate and projected times have to be integrated in the staff planning exercises so as to identify any staffing problems and proactively address their potential shortages taking into account the time to train them, their average learning curve translated into time, as well as the on the job training before they takeover full duties.

If we want to face the situation and address the problem, these issues have to be elaborated, measures and steps towards addressing them be developed, in collaboration with Professional staff organizations, employer's organizations like CANSO, regulatory establishments like ICAO and EASA or organizations like HERMES.

If there is no job recognition by the corporations, salaries are low and no career path projected, how will a new engineer look into the ATSEP or similar job direction? If no professional esteem is generated, how and why a young scientist would look into the specific and proprietary networks in aviation which would not add specific expertize that may enable mobility for a young engineer? The best approach to this, besides the safety benefit, is the inclusion of the ATSEP Profession in ICAO Annex 1 and subsequent licensing like the Pilots, aircraft avionic engineers and ATCO.

Studies like the European study on Legal, economic and regulatory aspects of ADSPs talks about raising the level of scientific expertise requirements of the ATSEP, but at the same time talks about the economies of scale implicitly due to the reduction of ATSEP, giving a warning sign against job security which is counterproductive. The reduction of ATSEP must not be seen as a means of reducing cost but as an investment that impacts positively and sustains CNS/ATM systems and services availability and continuity that drives ANSP and even national economies and international interconnectivity. In fact, ATSEP must be part of the performance scheme in the ANSP and be rewarded for their performance. These professionals are an asset to every organization.

And last but not least, the issue of diversity as women are currently a minority in most ANSPs. It is commendable that recently ICAO in their EURONAT area, have approached the issue of gender vigorously and starting a campaign. IFATSEA has also a Women's committee that is addressing the issue. This is also a factor of the equation on the human resources question of the present and the future.

So coming to the questions in in an attempt to summarize or elaborate on the prologue:

➢ Q1: How can the aviation industry **attract** new employees? What advice can you provide to your constituent firms and organizations for successfully attracting talent, given stiff competition from many other industries?

Attracting new Air Traffic Safety Electronics Personnel (ATSEP) to the aviation industry can be challenging, given the competition from other industries. To successfully attract talent, here are some strategies and advice for constituent ANSPs and organizations in the aviation industry:

○ **Standardization of Job Requirements:** Collaborate on establishing standardized job requirements for ATSEP across the industry. Define the necessary qualifications, skills, and experience needed for different ATSEP roles. This ensures consistency and clarity in attracting talent from other industries. This standardization must be done with a vision to future requirements.

○ **Indicate the Importance and Impact**: Emphasize the critical role ATSEP play in ensuring the safety and efficiency of air navigation systems. Highlight the impact their work has on the aviation industry and the opportunity to contribute to a vital sector that connects people and drives economic growth.

○ **Promotion of the Profession:** Jointly promote the ATSEP profession and its benefits to professionals in other industries. Engage in targeted marketing campaigns, organize industry events, and leverage digital platforms to create awareness about the unique opportunities and

challenges that the ATSEP profession offers. Identify the counter argument towards selecting an non safety critical job.

○ **Competitive Compensation and Benefits**: Offer competitive salary packages and attractive benefits to make the aviation industry more appealing compared to other sectors. Conduct market research to understand industry standards and adjust compensation accordingly to attract and retain top talent. ATSEP and their management must feel that they are part of the performance of the ANSP and its success. Provide the correct incentives for such safety critical profession.

○ **Career path Development and Advancement Opportunities:** Collaborate on the development of clear and structured career paths for ATSEP. Provide clear paths for career development and advancement within the organization. Offer training programs, certifications, and opportunities for skill enhancement to demonstrate a commitment to the professional growth of ATSEP. Define competency frameworks, establish training programs, and provide guidance on career progression to attract professionals looking for long-term growth and development opportunities

○ **Skills Recognition and Transferability**: Establish mechanisms to recognize and transfer skills from other related industries. Create pathways and support programs that enable professionals from related fields such as IT, telecommunications, or electronic engineering to transition into the ATSEP profession and leverage their existing skills and knowledge.

○ **Technological Advancements**: Showcase the cutting-edge technologies and innovative projects that ATSEP will have the opportunity to work on. Highlight the industry's commitment to staying at the forefront of technological advancements, such as automation, artificial intelligence, and cybersecurity, to attract individuals interested in working with advanced systems.

○ **Collaborate with Educational Institutions**: Establish partnerships with universities, technical schools, and training centers to promote the profession and offer internships or apprenticeships. Engage with students in related educational areas like technical colleges and universities early on to create awareness and attract talent to the aviation industry.

○ **Employer Branding and Marketing:** Develop a strong employer brand that highlights the unique aspects and advantages of working in the ANSPS. Leverage social media platforms, industry events, and career fairs to showcase the organization's culture, values, and opportunities for growth. Promote scholarships during education paths as one of the ways of stimulation of interest.

○ **Work-Life Balance and Flexibility**: Recognize the importance of work-life balance and offer flexible work arrangements when possible. Highlight initiatives such as remote work options, flexible schedules, and employee well-being programs to appeal to individuals seeking a healthy work-life integration.

○ **Diversity and Inclusion:** Emphasize the organization's commitment to diversity and inclusion. Creating a welcoming and inclusive work environment can attract talent from diverse

backgrounds and enhance the industry's reputation as an inclusive and equal opportunity employer.

○ **Networking and Collaboration:** Engage with professional associations, industry networks, and forums to build connections and collaborate with other organizations. Actively participate in events, conferences, and workshops to promote the organization and attract talent through networking opportunities.

○ **Employee Referral Programs:** Encourage current employees to refer potential candidates through referral programs. Incentivize employees to refer qualified individuals and recognize their contributions when successful referrals are made.

By implementing the above strategies and advice, constituent firms and organizations in the aviation industry can enhance their ability to **attract** new ATSEP and compete effectively with other industries for top talent. Creating an appealing work environment, offering competitive compensation, highlighting career development opportunities, and showcasing the industry's technological advancements and impact can all contribute to attracting and retaining skilled ATSEP professionals.

➢ How can the aviation industry **retain** its current employees? What advice can you provide to firms and organizations to ensure that personnel have the necessary skills to advance the industry in the 21st century?

To retain current ATSEP and ensure their skills align with the needs of the 21st-century aviation industry, firms and organizations can consider the following strategies:

○ **Continuous Professional Development**: Offer ongoing training and development opportunities to ATSEP, enabling them to enhance their skills and stay up-to-date with industry advancements. Provide access to relevant courses, workshops, conferences, and certifications to support their professional growth.

○ **Status Recognition**: Advocate for the recognition of ATSEP inclusion in ICAO Annex I as a job accreditation scheme and status recognition of safety importance element for ATSEP. Work collectively to establish industry-wide ATSEP licensing framework that not only ensure competence but also professional status to ATSEP professionals, contributing to their motivation and retention in the industry.

○ **Career Progression, job security and Advancement:** Create clear career progression paths for ATSEP, allowing them to see opportunities for growth within the organization. Offer mentorship programs, job rotations where possible and leadership development initiatives to nurture their career advancement. Emphasize the importance of continuous professional development for ATSEP. Encourage participation in training programs, conferences, workshops, and industry events to keep professionals up to date with the latest technological advancements and best practices.

○ **Recognition and Rewards:** Implement recognition programs to acknowledge the contributions and achievements of ATSEP. Provide competitive rewards, bonuses, and incentives based on performance and significant contributions to motivate and retain talented personnel.

○ **Work-Life Balance**: Promote a healthy work-life balance by offering flexible work/ rostering arrangements, such as flexible schedules or remote work options when feasible. Encourage a supportive and inclusive work culture that values the well-being of employees.

○ **Industry-wide Recognition and Advancement:** Advocate for industry-wide recognition and advancement opportunities for ATSEP. Work together to establish professional certifications, industry standards, and career advancement frameworks that support the growth and recognition of ATSEP professionals.

○ **Technology and Innovation:** Invest in state-of-the-art technologies and tools that enhance the capabilities of ATSEP. Provide them with access to cutting-edge equipment and systems, enabling them to work efficiently and stay engaged in their roles.

○ **Collaboration and Teamwork**: Foster a collaborative work environment that encourages teamwork and knowledge-sharing among ATSEP. Promote cross-functional collaboration, where they can learn from each other's experiences and collectively contribute to solving complex challenges. The same with other professions e.g ATCO , AIS or AFISO in teamwork towards common goals , exchange of ideas , promoting interdisciplinary cooperation and mutual understanding.

○ **Feedback and Communication:** Establish open lines of communication with ATSEP to understand their needs, concerns, and suggestions. Conduct regular performance reviews and provide constructive feedback to help them improve and align their skills with ANSP requirements and management to understand ATSEP requirements.

○ **Competitive Compensation and Benefits**: Ensure that ATSEP are well compensated in line with similar industry standards. Regularly assess salary structures and benefits packages to remain competitive and demonstrate that their contributions are valued.

○ **Safety and Cybersecurity Culture:** Foster a strong safety and cybersecurity culture within the organization, emphasizing the importance of safety and security in air navigation services. Provide ATSEP with the necessary resources, training, tools and support to prioritize safety in their work.

○ **Employee Engagement:** Create opportunities for ATSEP to provide input and contribute to decision-making processes. Involve them in projects and initiatives that align with their interests and strengths, making them feel valued and engaged in their roles. An involved and appreciated employee is far more involved than one that is not or partially appreciated. This is not an easy task as it necessitates that the management side understands (which is demanding) and appreciates the ATSEP contribution to the ANSP final product. If they feel that they are not part of it they will not be as involved and motivated. ANSPs need to inform of their business plans to their employees.

- ○ **Psychological support:** As in any other safety critical job with extended working hours (24/7) the effects of fatigue and stress should be handle professionally. Also in cases of incident or accidents implementing CISM principles will certainly improve the job perception.

By implementing these strategies, ANSPs and organizations can <u>enhance the retention</u> of current ATSEP and ensure they have the necessary skills to advance the aviation industry in the 21st century. Providing continuous professional development, career progression opportunities, work-life balance, recognition, and a supportive work environment will contribute to the satisfaction and engagement of ATSEP, fostering their commitment to the organization and the industry

➤ Q3: How can **industry associations work together** with aviation firms and other stakeholders to ensure that the industry attracts and retains talent from a diverse employment pool?

Professional associations such as and IFATSEA (International Federation of Air Traffic Safety Electronics Associations) and industry CANSO (Civil Air Navigation Services Organization) can collaborate with aviation firms and other stakeholders to ensure that the industry attracts and retains talent from a diverse employment pool through the following approaches:

- ○ **Collaboration and Networking**: Associations can facilitate collaboration and networking opportunities among ANSPs (Air Navigation Service Providers), aviation firms, and other stakeholders. This can include organizing conferences, workshops, and forums where industry professionals can share experiences, exchange ideas, and collaborate on initiatives aimed at attracting and retaining diverse talent. Combine efforts through mutual understanding and appreciation of the ATSEP job.

- ○ **Skills Recognition and Transferability:** Establish frameworks for assessing and accrediting relevant skills and competencies, ensuring a smooth transition and facilitating career progression. The best approach to this is the inclusion of the ATSEP Profession in ICAO Annex 1 and subsequent licensing like the Pilots, aircraft avionic engineers and ATCO.

- ○ **Talent Promotion and Outreach:** Collaborate on joint marketing and outreach campaigns that highlight the unique opportunities and benefits of working in the aviation industry. Showcase the exciting projects, career growth prospects, and positive aspects of the industry to attract professionals from other sectors. Develop mechanisms to recognize and validate skills acquired in other industries, making it easier for professionals from diverse backgrounds to transition into aviation.

- ○ **Promote Diversity and Inclusion**: Industry associations can actively advocate for diversity and inclusion within the aviation industry. They can develop policies, guidelines, and best practices that encourage organizations to foster inclusive work environments and address barriers to diversity. This can include promoting equal opportunities, combating bias, and

supporting initiatives that encourage diversity in recruitment, retention, and career progression.

o **Sharing Best Practices:** Industry associations can compile and share best practices related to diversity and inclusion. They can gather success stories, case studies, and practical strategies that organizations have implemented to attract and retain talent from diverse backgrounds. Sharing these insights can inspire other firms to adopt similar practices and create a more inclusive workforce.

o **Scholarship and Financial Support**: Collaborate on initiatives to provide scholarships and financial support for individuals interested in pursuing a career as ATSEP. Establish funding programs, sponsorships, or partnerships with educational institutions to attract and support talented individuals.

o **Internship and Apprenticeship Programs:** Create internship and apprenticeship programs in collaboration with ANSPs and industry stakeholders. These programs provide hands-on training and real-world experience to individuals interested in entering the ATSEP profession, allowing them to acquire the necessary skills and knowledge.

o **Mentorship and Sponsorship Programs:** Associations can facilitate mentorship and sponsorship programs that connect experienced professionals with individuals from underrepresented groups. These programs can provide guidance, support, and networking opportunities for diverse talent, helping them navigate their careers and overcome challenges.

o **Collaboration with Educational Institutions:** Associations can collaborate with educational institutions like technical colleges or universities to promote careers in the aviation industry, particularly among underrepresented groups. This can involve participating in career fairs, providing guest speakers, offering internships, and establishing scholarship programs to attract diverse talent and expose students to the opportunities within the industry.

o **Awareness and Outreach Campaigns:** Associations can collaborate on awareness and outreach campaigns to promote the aviation industry as an inclusive and attractive career option. These campaigns can target diverse communities, highlighting the opportunities, benefits, and success stories within the industry.

o **Research and Data Collection:** Associations can undertake research and collect data on diversity and inclusion within the aviation industry. It is interesting that the number of ATSEP, i.e the contribution of the Human pilar, has not been included in a recent study on CNS as if systems look after themselves and/or never fail. Thus, by studying and identifying gaps, monitoring and tracking progress over time, associations can provide valuable insights and recommendations to stakeholders on strategies for improvement. However, EU, state or ANSP funding has to be made available through the creation of specific research areas and funding opportunities like for scientific institutions (e.g 100% funding rate)

o **Policy Advocacy:** Industry associations can advocate for policies and regulations relating to the Human factor within the aviation industry. They can collaborate with regulatory bodies, governments, and other relevant organizations to influence and cross fertilize policies that

promote hiring of the necessary qualified individuals by equal opportunities, diversity, and non-discrimination.

By working together, industry associations, ANSPs, aviation firms, and other stakeholders can leverage their collective resources, knowledge, and influence to create a more diverse and inclusive aviation industry. Through collaboration, education, awareness, and the sharing of best practices, they can attract and retain talent from diverse backgrounds, fostering innovation, creativity, and a stronger workforce for the future.

Most of the above elements are not only ATSEP specific and can be used to attract and retain new employees in the aviation ecosystem. We believe that if the aviation professionals are valued and this appreciation practically shared and indicated through rewarding either professionally or financially or in working conditions, every professional will be motivated to contribute his/her best as they feel part of the team. Obviously this applies to all employees in all steps of the employment chain.

IFATSEA remains available to provide our professional expertise to all collaborating organizations and institutions on the question of human resources in aviation especially ATSEP. We also expect and invite International organizations like ICAO, and HERMES to embark on activities that will secure the best Professionals for the Total Aviation System.

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