

**IFATSEA Position Paper on Resilience and Efficiency through
Leadership and Cooperation**

Presented by IFATSEA

Crises calls for Leadership and Resilience

The Corona pandemic is currently not only bringing the global economy to its knees but is hitting the global economy with full force.

Share prices crash, public and economic life is restricted by the state - the Corona pandemic has hit the global economy with full force.

Now, in such critical times, it becomes apparent whether corporate success is sustainable. Leadership and resilience are required.

For companies, the crisis can mean a drop in orders, liquidity problems, short-time work and, as a last consequence, possibly also the necessary adjustment of cost and personnel structures to secure the existence of the company or to save it through the crisis.

More specifically, in the area of Air Navigation Services and especially Corporatized ANSPs, the fact of relying on the income from route charges within a cost recovery basis and not being allowed to build capital for a crisis time, had kept them away from building resilience. State help has almost invariably been used to ensure corporate survivability.

Ensuring the continuity of the company

For companies, the order of the day is "business continuity management", i.e., ensuring the company's continued existence. Especially in times of crisis, managers bear an enormous responsibility for their employees and, despite difficult decisions, must have a great deal of tact in dealing with employees. Many employees are not only unsettled, but also have fears, for example, of infection or job loss.

Maintenance areas may also be affected due to cost cuts or inability to travel. It must be noted that ICAO after many years refocused on the Navaid periodic tests and certification with a State letter effectively addressing ATSEP tasks (including Preventive and Corrective maintenance).

In order for managers to be able to act professionally in times of crisis, they need crisis competencies. Practical crisis competence requires professional competence (broad-based knowledge and skills), social competence (dealing with employees) and personal competence (dealing with crisis oneself). Important leadership qualities in a crisis are:

- Positive thinking and confidence,
- Maintaining calm (internally and externally),
- Maintaining priorities enabling Safety and efficiency of operations
- Empathy (emotional, social and mental skills),
- Courage and determination to make decisions,
- Communication skills,
- Confidence in one's own strengths (professional knowledge and practical experience)

Keeping an eye on your own behavior

At present, it is especially important for managers to keep a cool head and not let themselves be led by emotions and corporate management pressure. Personal misconduct could further fuel the crisis at the company level.

Especially in crises, negative reaction patterns often emerge. These normal human patterns should be accepted and not be repressed or faded out. It is important not to fall victim to these patterns of behavior, but to recognize them and take countermeasures (e.g. close exchange and association with others).

Building crisis competence through learning

To deal with a crisis in a resilient way, one should neither take it lightly nor fixate exclusively on possible risks and negative effects. One should also recognize the opportunities. For example, there is an opportunity for managers, companies, and employees to learn from crises.

Crisis competence can ultimately only be built up through learning and practice. In this respect, the current crisis is a challenge, but also a learning and practice process for the state and companies, from which as many insights as possible should be drawn.

Admitting mistakes

This also requires an evaluation after the crisis. Experience shows that there is resistance to this because of fear of uncomfortable insights, reflection and discussion of misconduct or loss of prestige and status. Responsible leaders are self-critical and aware of the fact that without admitting mistakes, learning and improving is not possible. Here, the corporate culture is also crucial: How has the company dealt with mistakes so far? An open crisis follow-up is the most effective preparation for the next crisis and building resilience and crisis stability of companies and managers.

The current crisis shows once again that companies must attach more importance to leadership in crises. People are always at the center of crises. Therefore, crises are not only about leadership processes and leadership methods, but also about leadership with a vision, goals and values.

Leaders should therefore pay attention to the following:

- common goals
- values and interests
- Motivation
- commitment
- interpersonal relationships

These points provide orientation, security and support in crises and thus form an essential contribution to operational crisis stability. Continuous training (competence development) is important to support this.

Resilience and Efficiency through Leadership and Cooperation in the context of Air Traffic Management and Regulations of the European Union (EU)

Resilience and Efficiency through Leadership and Cooperation is lacking or inefficient from political decision makers in the EU.

More specifically, the actual way to implement the “Single European Sky” is a top-down approach together enhanced with the idea of fragmenting all Air Navigation Services as it is promoted by the recent regulations 2017/373 and the revisiting of the unsuccessful SES2+ Legislation Package. Also, the promotion of the idea of competition of services is displaced in a naturally given monopolistic safety critical infrastructure like Air Traffic Management. Sadly, despite the redrafting of the regulation and the COVID crisis, it does not include tools or processes that will enable the Financial Resilience of ANSPs.

First steps regarding Resilience leadership in Air Traffic Management were officially taken by the Eurocontrol White Paper on Resilience Engineering for ATM.

The following definition can be found there:

“Resilience is the intrinsic ability of a system to adjust its functioning prior to, during, or following changes and disturbances, so that it can sustain required operations under both expected and unexpected conditions”.

Other definitions go in the same direction.

As it was stated by IFATSEA we provide Air Navigation Services and especially CNS/ATM system services irrespective of the number of airplanes in the air. And naturally ATSEP are on duty 24/7 to provide System Management and Control.

Resilience Leadership

Resilient leaders could sustain their energy level under pressure, to cope with disruptive changes and adapt. They bounce back from setbacks. Leadership is sustainable only if individuals and teams can consistently recover high energy levels.

What is resilience?

Resilience is the human capacity to meet adversity, setbacks, and trauma, and then recover from them to live life fully. Resilient leaders can sustain their energy level under pressure, to cope with disruptive changes and adapt. They bounce back from setbacks. They also overcome major difficulties without engaging in dysfunctional behavior or harming others.

They all basically say the same thing. It is about being prepared for any incidents as best as possible and reacting to them as quickly as possible.

There is a Eurocontrol project called "Expect the Unexpected", which has been discussed and presented by ANSP safety experts, but never implemented due to cost reasons. The whole thing served the self-promotion of individuals to show how advanced they already are in this area.

The day-to-day action looks much more sobering. Lack of personnel, lack of know-how, obstruction of internal audit teams, organizational interpretation of safety regulations and requirements that are only met on paper, among other reasons, make it difficult to loop back possible errors and misjudgments.

Safety and security management under cost pressure always ends in patchwork. Even the states themselves, including the regulators, often look the other way to avoid hindering an important branch of their own economy.

Since the EU was unable to move forward a new path has been taken since 2016:

In addition to the ATM Master Plan, the European Airspace Architecture Study and the Airspace Study Transition Plan developed by SJU, were adopted by the EU Parliament.

The ideas for this were originated in the SESAR Administrative Management Board. Then the Wise Persons Group was created. The heads of international organizations such as IFATSEA, ATCEUC, IFATCA and ETF were invited to interviews to provide their operational and technical input. IFATSEA participated in all European fora, let it be ATM MP, AAS, and others, with proposals and opinion submissions. In fact, letters were sent to all European institutions e.g. COVID and ANSP economic resilience related, on Cybersecurity, Artificial Intelligence, and technical enablers like the ATSEP WP for systems SMC.

Regulatory Framework as an enabler

Due to the decision in the SES regulations from 2004 to involve the industry more closely, on the one hand, and the project developments from SESAR, on the other, it became clear that the Interoperability Directive 552 from 2004 had to be updated.

The EU Regulation 552/2004 was then also partly withdrawn in September 2019 but continues to apply in some articles until a successor regulation comes into force at the end of 2023.

As a result, it is now possible to separate the actual function (application), from the technical hardware and have this executed potentially by external parties to the integrated (bundled) ANSP model (contracted activities).

Now the proposal from the ATM Master Plan, the Airspace Architecture Study and the projects planned at SESAR are possible to be implemented, provided that the regulatory issues, including liability and sovereignty, can be solved. It must always be kept in mind that according to the Chicago Convention Article 28, the ANS Systems are a responsibility of the State. It must also be kept in mind that regarding the infamous Unbundling is to be done only on a voluntary basis,

In fact, instead of continuing referring to “unbundling”, which would have meant a complete separation of services between themselves, as in the previous documents, they now mention the word “decoupling”.

Decoupling, as a new notion, means that a service provider can continue to have several certificates for each different service provision. However, the individual services are to be regarded as independent services that can be used as desired in the European ATM network and hold separate accounts and Economic certificates.

One option emerging by optionally separating the ANSP application/service from the actual hardware, it is now possible to have the hardware operated by external companies who provide the processing power (e.g., Data Centers). However, since private companies naturally focus on profit, security and especially safety will suffer, despite appeasements to the contrary as they are not Safety related or Certified.

Regarding Safety, the Air Navigation Service Providers who offered technical services were responsible for them until a couple of years back. However, by changing the requirements for all ANSP providers in the recent 2017/373, only the ATS providers are legally responsible for everything, all others must only perform a "Safety Support Assessment" and pass this on to the respective ATS provider. Moreover, since the 2nd amendment of ICAO Annex 19 Safety Management, only the ATS is clearly required to adhere with Safety management requirements while it remains obscure or undefined for the rest of the ANSPs, from the ANS Domain.

However, since the ATS providers lack the technical know-how and, due to the separation of the technical systems from the applications, the hardware can be operated by external parties, a decisive criterion is missing from the safety management system. Air Traffic Safety Electronics Personnel (ATSEP), who know the interrelationships of the interlocking systems, and are the only professionals allowed to put into or take out of operation ANS systems including software are left out.

Again, external companies, such as cloud operators, have employees who are specialists in their field but have no idea about Air Navigation Services and safety. Thus, a latent critical for safety issue may arise where, ATS providers and external companies will work together in the future without any aeronautical technical background.

Resilience leadership is massively hindered here, although no one involved publicly admits it or is willing to take it seriously into account due to potential and not always justified claims of cost reduction. Attempts are made to find solutions, but these are always directed toward savings (money). It appears that Safety plays only a subordinate role.

In the security (cyber security / IT security) area and critical infrastructure, the situation is not better. It must be noted that the ANS area is not a classical situation with networked PCs like any other e.g., banking system. The information presented to the ATCO working position and the pilot in the cockpit, is a combination of data but also Signal in space either by ground or space-based CNS/ATM systems.

The new EU SECURITY regulations obliges states to enact a national regulation in which the critical infrastructures are defined, and their handling is regulated. The responsibility is borne by the respective state which in the case of Cyber Security has appointed a CERT Computer Emergency Response Team.

In the event of a cyberattack on air traffic control infrastructure, this CERT now intervenes in the responsibility of air traffic controllers and ATSEP but only for the ground networks.

The new European AMC for ATSEP Training have been recently updated with the contribution of IFATSEA and now include ATSEP Tasks related to Cybersecurity. In the definition of the required tools for the ATSEP WP developed by EGHD of the EC, but also, in the context of the new European research context for CNS/ATM provisions, have been suggested by IFATSEA that were adopted by the EC that deal with the Cybersecurity requirements in the AAS and ATM MP proposed environments.

We suggest creating a security ATSEP training stream that will provide the required competences to them as they are responsible for the safe operation of the CNS/ATM systems and services. In this way they will become a reliable partner with the corresponding security know-how of the CERT as they have air traffic control know-how and can understand the impact of remedial actions on the air traffic controllers and technical services.

We proposed this on behalf of IFATSEA at a meeting with EASA, which was initially not taken up.

Meanwhile, a rethinking process has taken place and an ATSEP Security Subgroup has been established under the ATM / ATS group of the Stakeholder Advisory Board, which generally handles security training objectives for ATSEP.

On the one hand, because of the delegated responsibility of the air traffic control staff and the efforts of individual stakeholders to reduce the costs to the detriment of safety and security, our concern was to bring this issue to the ICAO, to create appropriate documents to make flying as safe as possible, Safety should always come first and not be lowered for financial reasons.

Considering the delegated responsibility of both technical air navigation services and air traffic control staff and the increasing efforts of individual stakeholders to reduce costs in detriment of safety and security, we maintain our intention to bring this issue to ICAO to take the appropriate measures for the best assurance of safety standards in aviation. Finally, our aim is to stress and support that resilience and efficiency through leadership and cooperation shall be instrumental to put safety first without compromising it for financial reasons.

IFATSEA considers that ATSEP are critical contributors in the safe, efficient, and secure delivery of the Air Navigation Services to all related stakeholders. Technical outages can have a cost in human life but also and more frequently on the cost efficiency of ATM. Higher competencies for ATSEP are required, on the basis of a scientific background (just think of AI driven ATM applications), and can help the thriving of business and the economic sustainability of ANSPs.