



ETF
SESAR projects
Social analysis

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The European Transport Workers' Federation (ETF) is the pan-European trade union organization which embraces transport trade unions from the European Union, the European Economic Area and Central and Eastern European countries, representing more than 2,5 million workers from 40 European countries, 14,000 European Air Traffic Controllers and all other categories of ATM staff in Europe

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Executive summary

During 2012 ETF has performed a survey using a list of possible Social consequences including areas such as Human Factors aspects (i.e. Roles and Responsibilities, Workload, HMI, new Working environment, etc.) and Legal aspects considered important and leading to Social implications. The main goal for SESAR is in the area of Cost Effectiveness with the “political” target to save 50% of ATM cost. Almost all SESAR projects have performance targets leading to cut costs with the consequence of redundancy of staff and the risk of the mobility of exceeding staff. As far SESAR is a European project the main mitigation action is basically the effective Social Dialogue at European level, but also at FAB and National level.

One of the main affected areas is training. Where high automation is expected, the main threat will be to recover from degraded mode and non-nominal situations. An adequate training before operational deployment and a recurrent training to avoid the loss of ATCOs skills will be crucial for SESAR implementation. A mutual negotiation between employers and employees at European, FAB and National level will be the key enabler.



The deployment of several new technologies, procedures and tools will introduce new tasks leading to a more complex environment (e.g. through the maximum use of human flexibility) increasing workload, stress and fatigue. The SESAR solution to mitigate is the Human Performance assessment process. This process informs the design and development of an operational concept through the identification of recommendations and / or requirements that may be necessary to prevent or mitigate any potential negative impacts a concept may have on Human Performance.

One of the main and problematic issues is that in SESAR, Human Performance is not systematically taken into account as the other Key performance areas; consequently it will be difficult to collect all necessary evidences to set up an exhaustive list of recommendations and requirements to mitigate social consequences and Human aspects affecting SAFETY.



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Introduction

During last 3 years ETF has been involved in SESAR R&D phase providing operational contribution to SESAR through the operational expertise of its representatives. In order to anticipate and manage Social change of SESAR deployment a Social investigation has been performed outside and in parallel with SESAR activities. The first attempt was done in 2011 and two pilot projects were selected: Sector team operation - Multi Sector planner (P4.7.8) and Remote and Virtual Tower (P6.9.3). Three Social consequences were detected: Redundancy, Mobility of staff and Fatigue.

As a follow-up of the first analysis, a second survey has been performed by ETF representatives involved in SESAR projects. A Social consequences template has been distributed to ETF SESAR representatives, asking to evaluate their own projects from a Social perspective and 16 of them involved in 32 projects answered according to their opinion and experience. The survey will be performed on a six monthly basis in order to update and integrate the analysis according to SESAR implementation steps.



Social issues and mitigations actions

During 2012, the second survey was performed using a list of possible Social consequences¹ provided by the SESAR project dealing with Social Factor and change management (P16.4.4) including some new areas such as: Human Factors aspects (Roles and Responsibilities, Workload), HMI, new Working environment and Legal aspects considered important and leading to Social consequences. All ETF representatives have been asked to investigate their own projects. 32 projects have been evaluated by 16 representatives: 4 projects of En-Route operations, 6 projects of TMA operations, 8 projects of TWR operations 7 projects concerning systems, 7 transversal areas. The major Social issues detected have being identified in the areas of Training and employee age, Working Culture, Mobility, Redundancy, Fatigue and Workload. Other aspects are in the areas of Working together, Roles and Responsibility, HMI, new working environment, Working time, Paying aspects and career development.

¹ See Annex A



1. Training and Employee Age

Training (normal and recurrent) will be a main requirement for the implementation of SESAR solutions. The huge amount of automation developed by SESAR is the main reason of the need of initial and additional training. The advance planning (4D trajectory, CTA, CTO, etc.) introduced by SESAR will change current ATM system to a less flexible one in case of non-nominal or unexpected scenario. In a second phase, greater reliance on automation will de-skill² ATCOs. Without an appropriate training, ATCOs could be de-skilled and will not have sufficient flexibility to handle complex, non-nominal or unexpected situations affecting the ability to 'take over' when the operation encounters unusual circumstances.

Other issues are related to the Age of ATCOs/ATSEPs/Pilots. Operators could have problem to use new and sophisticated technologies, additional training should be provided. Social mitigation should be foreseen for employees encountering difficulties.

² De-Skill: loss of Job skills



2. Workload and HP assessment

One of the main concepts of SESAR is related to automation aiming to reduce the operator workload. On the other hand for the achievement of SES KPA³, the employees will have to operate in an increased performance scenario. In addition the deployment of several and new technologies, new procedures and new tools will introduce new tasks leading to a more complex environment (e.g. through the maximum use of human flexibility) and this will be exacerbated during non-nominal and degraded mode operation increasing workload, stress and fatigue.

The implementation of the future HMI will integrate several automated tools in an integrated Control Working Position (iCWP). An appropriate Human Performance assessment, considering the overall tools integration and an alarm strategy, must be performed in SESAR.

The Human Performance assessment goal is to demonstrate that:

- The role of the human actors in the new ATM system is consistent with human capabilities and characteristics;
- The contribution of the human within the ATM system supports the expected system performance and behavior.

³ KPA: SESAR Key Performance Areas



The HP assessment process informs the design and development of an operational concept through the identification of recommendations and / or requirements that may be necessary to prevent or mitigate any potential negative impacts a concept may have on human performance.

Social partners shall promote in the ATM community the central role of the Human and ensure that the SESAR Human performance assessment is effectively performed.

3. Redundancy and mobility

The main goal for SESAR is in the area of Cost Effectiveness with the “political” target to save 50% of ATM cost. Almost all SESAR projects have performance targets leading to cut costs. A clear example is Multi Sector planner (current work of two ACTOs (planners) will be performed by one Multi Sector planner) with the consequence of redundancy of staff and the risk of the mobility of exceeding staff.

Another example is the Remote and Virtual Tower. It will lead both to mobility (towards Remote TWR centers) and redundancy (Multiple airports controlled by one operator).

It will be crucial to handle these paramount changes and related Social unrests through an effective Social dialogue at European, FAB and national level.



4. Working culture and Working together

The current way to operate will drastically change: the automation and new procedures will change the task-sharing between ATCOs, PILOTs, ATSEPs and any new roles (identified in SESAR CONOPS). The role of team has to be promoted among ANSPs and CA stakeholders and TRM (team resource management) has to be improved and must become part of the ATCOs training.

The introduction of new technologies (such as AMAN extended horizon⁴) will imply a task/responsibility sharing between different countries/FABs for the benefits of the EU traffic flow. As a consequence, ATCOs/ANSPs/FABs will increase their workload for benefits outside their own airspace/FAB. Additional workload (e.g. AMAN) sharing between ACTOs/ANSPs/FABs will have to be negotiated.

⁴ AMAN, arrival manager (extended horizon)



5. Roles, Responsibility and Legal aspects

The introduction of new roles (MSP, ROT, etc..) and responsibilities (legal accountability) will lead to paramount changes compared to the today operation.

The role of EC & EASA is to investigate any possible changes in the current licensing system, in full consultation with ATM and CA Social Partners.



Conclusions

SESAR deployment is expected to start next 2014 and some operational changes have already been implemented and others will be ready in 2013.

The SESAR JU role is to ensure Human Factors and Human Performance inclusion in SESAR. Social Partners should promote in the ATM community the role of the Human, promoting **HP policy⁵ in SESAR** as a requirement in the program and during Decision Making Process at the same level as the other KPAs.

Unfortunately, Human Performance is not taken into account so far by some SESAR members. There is evidence that HP assessments are not performed systematically and therefore it is not possible to build a credible Business Case that takes into account qualitative data like SAFETY and Human related aspects.

⁵ HP policy: P16.6.5 policy document outlines the major objectives and processes to ensure an appropriate integration and management of Human Performance within the SESAR program. It summarizes the resulting requirements on all project management within SESAR to be imposed by SJU. Therefore this SESAR Human Performance Policy will require extensive consideration by affected stakeholders.



EU institutions, to facilitate the SESAR deployment, must promote Social Dialogue related to the Social consequences of SESAR at all levels (EU, FAB and National), to anticipate the changes needed.

Social partners should start to investigate any possible social consequences of SESAR. They should anticipate and manage any changes mitigating risks prior to the deployment phase, through effective Social Dialogue at European, FAB and National levels. This will prevent and help avoid any tensions, unrests or industrial conflicts.



ANNEX A

List of Possible Social consequences

- Redundancy and Social security;
- Mobility of staff (e.g. job rotation between ATSUs or ANSPs);
- Training;
- Changes in working time;
- Working culture (i.e. change in current working procedures and working culture);
- Working together (i.e. team work, more home office, etc.);
- Age (i.e. older employees could have problems with new systems / new working procedures);
- Career development;
- Payment aspects;
- Roles and Responsibilities;
- Fatigue Workload;
- Legal aspects;
- HMI (Human Machine interaction), New Working Environment.