SAFETY MANAGEMENT Q&A

Santiago Cortés is Head of Safety, Quality and Environment, ENAIRE, Spain
safetymanagement@enaire.es

1. What the most significant change facing your organisation at the moment that has relevance to aviation safety?

ENAIRE is presently undergoing a very ambitious strategic plan called Flight Plan 2020. This plan was born to respond to the challenges and demands of the Single European Sky, as well as to meet with safety, efficiency and quality the growth of air traffic, in a global and very dynamic market. In this scenario where the organisation is continuously looking to improve the safety and efficiency of our services, we have recently implemented a new project called "BRAIN" (Barcelona RNAV Approach INnovations). We are restructuring the Barcelona TMA by creating new RNAV1 transitions between arrivals, for all runway configurations at Barcelona airport.

2. Why is this change necessary? What is the opportunity or need?

When we conceptualised the redesign of the Barcelona TMA, our priority was fundamentally setting the focus on the most valuable asset on the organisation, the human capital. We considered a crucial objective to support the role of our air traffic controllers, and at the same time, achieving benefits for safety, environment and capacity, even during periods of high traffic density. Operationally, the main expected benefits are:

- The simplification of ATC tasks and the standardisation of operations by reducing radio communications, workload and complexity.
- The improvement of traffic flow sequences, as a way to increase predictability on the arrival sequence, reducing delays, while reducing our environmental impact.

In summary, we have managed to incorporate a greater balance in the distribution of workload among the TMA sectors, whereas improving air space management. A better prediction of trajectories clearly allows more efficient flights.

3. Briefly, how is safety assured for the change?

First, we considered consultation of stakeholders as paramount. Our safety assessment previous to the change was triggered by a session of approximately 30 professionals from different profiles, including pilots of several airlines that usually operate at Barcelona-El Prat airport. Then, all ATCOs in Barcelona TMA received training sessions, both in the classroom and in the simulator. At the same time, ENAIRE's Operational and Safety managers led working meetings with the main airlines operating at the Barcelona-El Prat airport and with AENA, the airport manager. We made a great effort to make sure that the change was sufficiently disseminated, including the publication of an AIC a few months before the actual implementation of BRAIN. Additionally, ENAIRE conducted a series of trials, in cooperation with database providers and airlines, prior to the implementation of this redesign of airspace.

We are restructuring the Barcelona TMA by creating new RNAV1 transitions between arrivals, for all runway configurations at Barcelona airport.

It is extremely important to encourage front line practitioners to participate in the projects from the very early stages

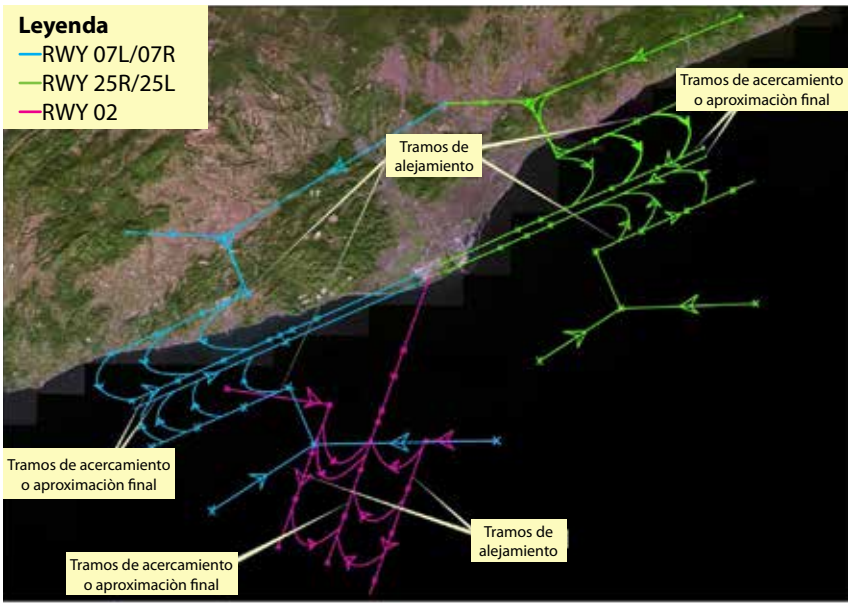
An operational transition plan was developed for the implementation of the change in two different periods, from 26 April to 19 May, and from 24 May to 8 June, including a reduction in capacity in several sectors of the Barcelona TMA (in different phases according to the two periods established). These measures were applied with the clear purpose that air traffic controllers and pilots, as the sharp end personnel, had the opportunity to become familiar with the new procedures. At the end of July, the usual operational capacity was recovered, once we determined it was acceptably safe.

4. What are the main obstacles facing this change?

The complexity and nature of the change were clearly the main challenges. BRAIN has required a complete restructuring of a large number of procedures, affecting all sectors in the TMA. From a human factors perspective, the controllers and pilots had to build new mental models and adapt to a new way of operating in a high density environment.

In addition to the above, another significant constraint is the fact that we also need to provide air navigation services to non-equipped aircraft, or those that do not have RNAV1 operational approval. This involves keeping "alive" the previous procedures for exceptional scenarios such as possible technical failures or severe adverse weather phenomena, which is clearly an additional difficulty.

5. What is the role of front-line practitioners? How is their expertise incorporated into change management?



From a human factors perspective, the controllers and pilots had to build new mental models and adapt to a new way of operating in a high density environment.

The role of the ATCOs working at Barcelona TMA has been decisive to foster the implementation of the change. The involvement of controllers was vital because they are the people who do the work, they are the specialists in their work, and they are essential for any system improvement. They provided their expertise along the whole process: from the initial conceptualisation and design phases until actual deployment. They made the difference and actually solved the problems when raised, helping to minimise the initial resistance to such a great magnitude change.

6. What do they think about the change?

We have consulted the controllers their opinion on a survey and we are still analysing the data. However, our perception is that once the initial resistance to change has been overcome by all the actors involved, the new way of working will be gradually internalised. Generally, it has been well received by the staff, despite the normal constraints related to such a large-scale project. This implementation facilitates traffic management and reduces the complexity of the sequencing of arrival flows to Barcelona airport.

7. How can front-line practitioners get involved in safety management to best support operational safety?

In our opinion, it is extremely important to encourage front line practitioners to participate in the projects from the very early stages, because their involvement contributes to the validity and usefulness of data gathering, analysis, synthesis, and improvement.

The controllers are vital partners in improving a system, and for this reason, it is necessary that they are informed in a timely manner and with sufficient detail, so that they can adequately identify the possible threats, areas of improvement or good practices applicable to the proposed change throughout the life cycle of the project.