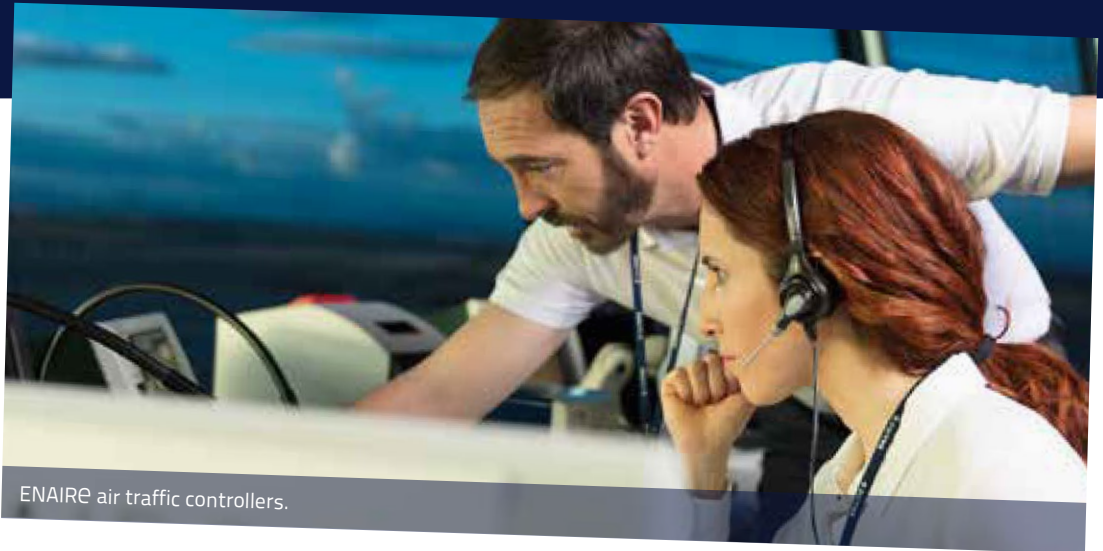




# CLEAR TO CALM: *Mindfulness* in air control

11 September 2020



ENAIRe air traffic controllers.

Safety Division  
Safety, Quality and  
Environmental Division

**Stress reduction programmes based on *mindfulness* have made their way to air traffic control.** ENAIRe has conducted a pioneering study confirming its effectiveness, showing both a **significant reduction in stress-related discomfort** and improvements in aspects related to operational safety.



**New regulatory framework**  
In accordance with Regulation (EU) 2017/373, service providers must "prevent and mitigate the negative effects of stress on air traffic controllers to ensure the safety of air traffic".

\*Kabat-Zinn, J., Lipworth, L., & Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of behavioral medicine*, 8(2), 163-190

## A well-established methodology

Inspired by Zen and Vipassana meditation techniques, the MBSR (*Mindfulness-Based Stress Reduction*)\* programme was developed by the University of Massachusetts's Department of Medicine as an improvement therapy for cancer patients and their caregivers. Ever since, MBSR programmes have expanded to the entire population, to industries that carry out critical tasks, and they have attracted even the interest of governments, like the British Parliament, which endorsed the *Mindful Nation* project for its large-scale implementation in the administration.

*Mindfulness*, far from being simply a current trend, boasts a nearly 40-year history as an MBSR programme, spawning other therapies such as MBCT (*Mindfulness-Based Cognitive Training*), which is recommended for treating certain mental illnesses. This doesn't include the centuries of meditative practice in certain areas.

Moreover, *mindfulness* and MBSR programmes in particular have been the subject of intense scientific research from the outset, and the body of scientific evidence is extensive.

## Promising results at ENAIRE

EUROCONTROL has been recognising and recommending these techniques in the field of air control for years. ENAIRE also wanted to endorse the application of MBSR by conducting an ad hoc study exclusively applied to its professionals.

ENAIRE carried out the “Clear to Calm” project, which consisted of teaching a complete MBSR programme in two groups to personnel from the Eastern Region. By measuring the levels of discomfort before and after MBSR programme, and comparing these results with a control group, researchers showed a **65% reduction in the discomfort rates** in the first group, and 59% in the second group, with a statistical level of confidence in excess of 95%.

Considering that the second group completed the programme just as the COVID-19 health crisis was starting (which in fact prevented the final session from being held in person), the **results are promising** since, on that date, a follow-up test was given to the first group that showed an additional 9% reduction in the levels of discomfort **after three months of completing the programme, despite the lockdown.**

It is important to note that the levels of discomfort exhibited reductions in all the elements measured, with the largest reductions being made **in problems involving memory, irritability, feelings of sadness, sensitivity, double checking previous actions, concentration, stress and exhaustion.**

These are aspects that are also highly related to areas in the field of safety involving situational awareness, failures in attentional processes and their effect on (short-term and long-term) memory processes.

Irritability and sensitivity also affect interpersonal communication skills to a large extent, and can negatively influence decision-making processes, both individually and in groups, making us more vulnerable to impulsiveness, *procrastination* and mental blocks.

## Applying *mindfulness* to operational settings

In addition to measuring the levels of discomfort, the participants’ self-perception was analysed in terms of the impact the MBSR had on operations. In this area, participants noted an **increase in resistance to internal distractions, fewer errors involving concentration, fewer automatic responses, a longer planning timeline, shorter delays in performing tasks, better memory recall, increased tolerance of errors made by others and less emotional reactivity.**

## Well-being and unorthodox approaches to safety

These results have been brought to light at a time when mental health and its impact on the safety of air operations is attracting a great deal of attention from the entire aviation community. Studies such as the one carried out at ENAIRE will inform decisions regarding how to improve the well-being of professionals who provide critical services, such as air traffic management.

In light of the study’s results, the applications of *mindfulness* are very extensive and could help to improve the well-being of our professionals, as well as to enhance their resilience. At ENAIRE, we are aware of the importance of training the mind and the **potential benefits it can bring in professional settings** and in private life.

This project shows that new approaches, despite being seen as **unorthodox activities** that differ greatly from classical actions to improve safety, have an **unexplored potential** that is well worth investigating.



The innovative “Clear to Calm” project, promoted by ENAIRE, seeks to validate the MBSR methodology to actively manage stress levels and confirm that it is directly applicable to the safety of operations.



### CONCLUSIONS

Well-being is a key component of operational safety.

*Mindfulness* enables better cognitive control, which is essential to perform critical tasks.

The “Clear to Calm” project has shown very promising results in reducing levels of discomfort, and yielded improvements in operational settings.