Proposal for a Master thesis

# How do people cope with Boredom in Air Traffic Control?

**Primary goal:** To study the coping mechanisms that controllers use consciously or sub-consciously to manage boredom, monotony, attention, vigilance and fatigue during a shift.

**Abstract:** Air Traffic Management and the aviation industry more broadly aims to deliver increasingly higher demands for traffic safely, efficiently and within the envelope of sustainable carbon footprints. The impact to human operators for high workload is widely known with areas of fatigue and human error studied heavily. One area that is not well understood is the concept of 'underloading' whereby operators must maintain low workload for long periods of time. Underload seems to be intertwined with terms such as boredom, monotony and fatigue, however, the practically applied countermeasures are rarely studied. The phenomena usually can occur in all types of air traffic control units, especially during night time or during seasonal-related low traffic load. What is not understood are the coping mechanisms that air traffic controllers (ATCOs) use to keep themselves awake, vigilant and attentive during these periods of boredom and monotony. Furthermore, to our knowledge, ATCOs are not substantially trained how to be bored and must learn and develop this patience over their careers. How well someone copes with boredom or can sustain focus for long periods of time without losing attention is also not a selection criterion during the recruitment process. The thesis aims to develop and deploy a large-scale survey methodology to capture as many facets of coping mechanisms as possible. The survey will be electronic and distributed primarily to Austrian and Swedish controllers at Austro Control and LFV but may also be used more widely across Europe and Globally if there is enough interested.

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