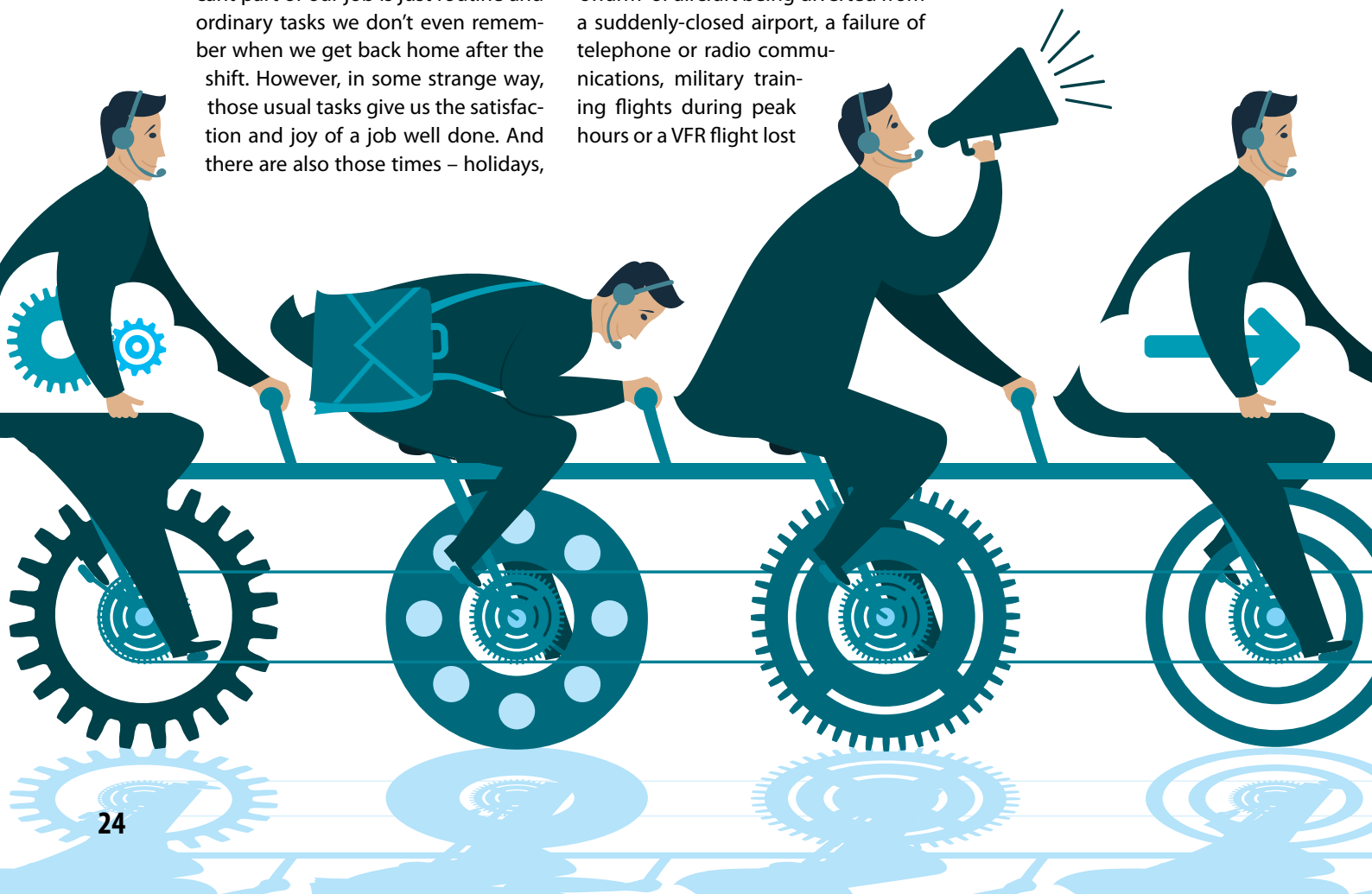
# Your team is likely to be the key

**by Adrian Bednarek**

It is a common belief that an air traffic controller's profession is one of the most stressful jobs in the world. But actually, I am more inclined to agree with another opinion common in the controller community – that our job is 90 percent daily routine and 10 percent of rapid heartbeat.

If we took a closer look at those figures, we would quickly discover times of unwelcome boredom and monotony interspersed with short intervals of total panic and bewilderment. Clearly, the balance between these would differ if we took some additional factors into account – controller experience and age, type of service being provided, level of traffic, available equipment. But what we would see is that significant part of our job is just routine and ordinary tasks we don't even remember when we get back home after the shift. However, in some strange way, those usual tasks give us the satisfaction and joy of a job well done. And there are also those times – holidays, night shifts on Saturdays or days when some Icelandic volcano with an unpronounceable name erupts – when I wonder if my presence in the ops room was even noticed. These are the times when minutes become hours and hours become infinity. At the other end of the scale are those short seconds and minutes which passed in the blink of an eye and turned some of my hair grey. Maybe an unexpected 'swarm' of aircraft being diverted from a suddenly-closed airport, a failure of telephone or radio communications, military training flights during peak hours or a VFR flight lost in cloud and not visible on a screen.. I'm sure every controller can easily recall moments like those and will remember them for a long time.

Workload which has been identified as 'too high' or 'too low' is something not desirable in any human activity, especially in high risk activities. Both of these situations have specific hazards associated with them, which are direct consequences of the fact that people don't like to be bored and neither do they like to face situations which require extraordinary effort. That can raise several questions, starting with the most obvious one: how do you measure workload? Are there any reliable data available? Who would set the limits of an acceptable workload and how?



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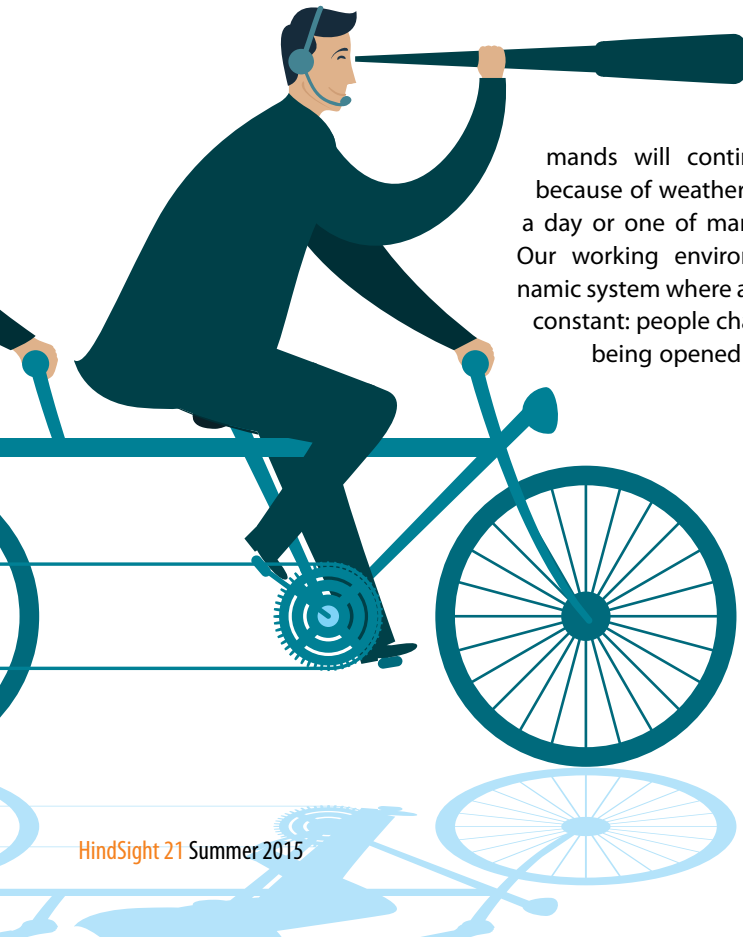
One could perhaps use a simulator to help answer those questions but even that wouldn't be a perfect tool yielding a clear picture. There are too many variables and interactions which cannot be readily simulated – at least not at a cost proportional to the benefit. What would happen to workload if one particular phone line went dead? What if our airspace becomes a favourite destination for the training flights of nearby flight schools? What if it turns out that Tower windows fog up or there are so many reflections in them it's not possible to see anything outside at night? And what about low workload? It's almost impossible to test such conditions in a simulator.

As a result, even if you assume optimistically that all resources are being used efficiently and everyone else is doing everything correctly, there is no guarantee that your working environment will perfectly match the needs of your fluctuating workload. But you can be sure that those demands will continuously change because of weather, season, time of a day or one of many other factors. Our working environment is a dynamic system where almost nothing is constant: people change, sectors are being opened and closed, traffic flows in unpredictable ways, equipment fails and weather doesn't want to follow forecasts. It is not possible to respond to those changes merely with regulations and procedures. In the end, there is always a human operator – the air traffic controller sitting there in the ops room – who has no other option but to find a way to cope with those issues in real time.



Usually, he or she is a part of a bigger group of individuals – a team of controllers, assistants, unit or shift supervisors as well as various other people who are physically in the same room. These are the people we interact with for several hours a day, several times per week. This is the environment where complex interpersonal relations grow, where friendship and hostility emerge and, finally, where our job gets done every day. This is also the place where mechanisms for coping with workload problems are being created. Those formal and informal methods can differ from place to place but I am sure that every person in your ATS unit makes use of them, maybe even without being aware of it. We have known each other in our teams for several months, quite often for years. Unlike the pilots in big airlines, it is unusual for most controllers to work with somebody whom they don't already know. We've been seeing our colleagues doing their jobs for a very

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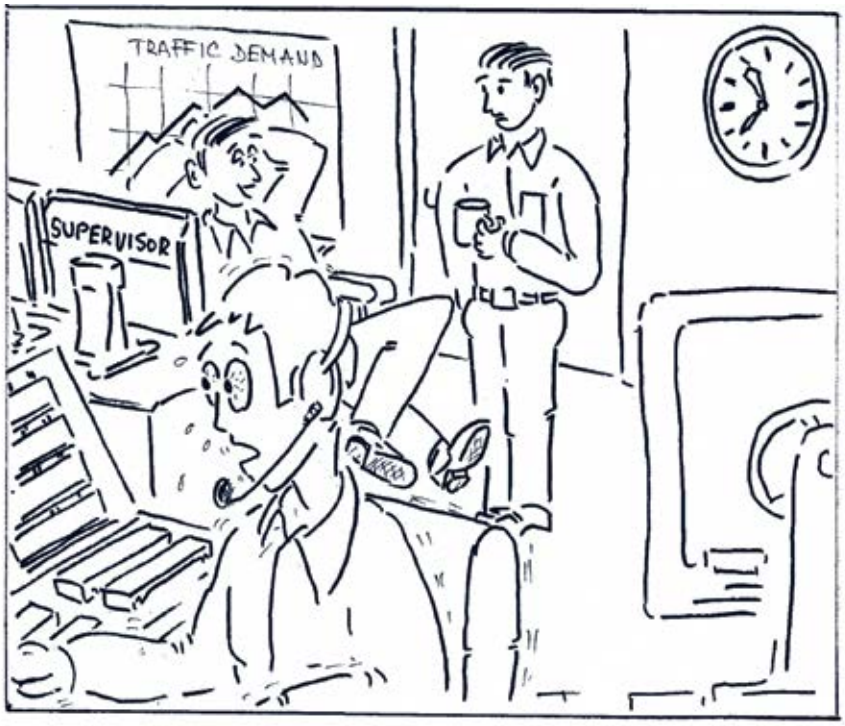
## Your team is likely to be the key (cont'd)




If he doesn't blink in the next 5 minutes it means that we have to split the sector...

long time and we know what their usual way of working looks like. We're also the first people to notice how the workload (both high and low) changes their behaviour...

When things become more complicated than usual, we may see them moving closer to the screen; they stop talking to us and – quite often – they stop listening. We may see them overlooking an aircraft, momentarily missing some actions which are obvious to us. Perhaps their faces blush or they start to fidget or stamp their feet! Being an incidental observer gives us an opportunity to focus on the situation while being released from the burden of decision making, listening and talking. At the same time, a controller doing his or her own job can be tempted to ignore all of the symptoms of 'overload' in order to get the job done and to protect their feelings of personal pride and professionalism. Plus, if the workload level increases gradually, controllers directly involved may not even notice the change at its early stage.

I remember one afternoon when I was just a rookie being trained for my radar rating. Traffic was low so there was only one sector open with me working as an assistant and an experienced colleague as an executive controller. The rest of the team were on their break, waiting for a phone call in case we needed any assistance. Suddenly, our flight strip printer woke up and started to spit out new arrivals, one after another, until they formed an impressive pile at the controller's strip bay. There were a lot of aircraft heading our way and I began to worry we wouldn't be able to deal with all this on our own. But when I asked if we should call for help, the controller answered with a simple "no". Before long, I was able to see all the symptoms of high workload appearing: lack of plan, chaotic actions, overlapping transmissions, asking for repetition, giving impossible-to-follow instructions etc. It took me a while to get the courage to ignore the controller's refusal and call for help myself.

If I had done it earlier, we would have avoided the embarrassment and confusion but, as always, it was only easy to say so with hindsight... At the time, the situation was not so clear and alongside me was a much more experienced controller saying 'no', He was also well-known for having unconventional working methods and I was pretty sure that he knew what he was doing. He was also an OJTI and I was afraid that not following his instructions would have a counter-productive effect on my future training progress. But even taking situations such as that into consideration, I am still convinced that our closest co-workers are the place we should look for help. In most cases this method will rely on interpersonal interactions and social connections within the team.

Getting help from other people is the easiest and the most effective way of dealing with high workload. Additional staff can open a new sector (as long as such a possibility was foreseen by the management) or take care of additional coordination (as long as someone had thought about having an extra phone line available) or provide you with an extra pair of eyes which will warn you about the risk before the short term conflict alert does. But the challenge is to know when to call for help and who should make that call. Unfortunately, formal procedures quite often leave that to the controller himself yet he or she might be the last person to notice the symptoms of their high workload. We also have to recognise that making that decision very early is crucial, as some of the possible responses like opening new sectors and briefing an additional controller will themselves briefly add to the workload.

What does it look like in your unit? Who makes the call to get some extra staff? How can you reach those people? Are there specific steps to follow when opening new sectors? Do you need to switch your voice communication system? Do you have a checklist for it? How long will it take to action?

When working as a pair, one planning controller and one executive controller, it may also be a good idea to think how those controllers can support each other during high and low

workload periods. For example, when the majority of the traffic is already in the sector, a planning controller can provide an extra pair of eyes. He or she can simply point out a developing conflict on the screen when the executive controller is focused on problem-solving somewhere else. The problem is we usually don't have clear rules on how to provide such help or how to accept it. This also applies to situations when a planning controller needs extra support from another person in your team. It would help a lot if you had your support action plan sorted out before it is actually needed. Setting clear, but very often informal, rules can greatly improve your team's performance in such situations. If you don't have such rules you're risking an avoidable additional increase in workload caused by the need to assign and clarify individual parts of your job to your colleagues.

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Low workload situations, on the other hand, can be more tricky to detect. Yawning or closing of the eyes are obvious symptoms for others to watch out for. But before that, we should be able to hear controllers starting to talk about things not related to their work, or maybe not talking at all. We may also notice that people move their chairs further away from the screen and sit in more relaxed ways than they would usually do. Sometimes an aircraft is forgotten, especially when it has already flown off the screen. Sometimes, we may also see some of those symptoms affecting ourselves. And we might feel bored and count every minute for that aircraft to leave our sector. At times like this, everything and everyone in the ops room easily gets our attention. Quite often, we also use these moments to perform experiments, like applying minimum separation even when it's not necessary. Or just leaving the situation on its own just to see if it's going to 'resolve itself' instead of applying simple pre-tactical resolution. Our vigilance is effectively relegated to stand-by mode and we need extra time to adapt to any new and more demanding situation.

The problem of low workload can be defined in a very simple way – people don't like to be bored and when they are, they tend to do something silly. Once, I heard a story about one European ANSP experiencing a mysterious series of trackball malfunctions at one of their ACCs. Their technical staff couldn't figure out why those fairly reliable devices kept failing on a regular basis. It took them some time before they found an answer. Controllers working night shifts at that centre had been so bored that they had invented a game in which they were using their trackballs. The goal of the game was to move a cursor to a chosen position on the other side of the screen with one powerful punch. It's hard not to agree that idle brain is the devil's workshop, isn't it?

So, how can we cope with the effects of low workload? As always, it's all "common sense". Consider scheduling all non-routine activities (military training, calibration flights, navaids maintenance) for specific periods of a day or a week. If your airspace and equipment allow you can try to collapse sectors and close supporting services to keep yourself busy enough. If you're terribly bored, you can try to invent a kind of mind game which will keep you looking at the screen such as estimating distances between aircraft or navaids. That might be especially helpful for students during their OJT when the traffic level is low. Another possibility is trying to set up a kind of routine in your mind which involves a specific timeframe for making a cyclic scan of your radar screen, even if it's empty at that time. The same can be done in the TWR environment by periodically scanning the runways, taxiways, or the ground surveillance screen, verifying that you know which vehicle is going where. Think of this as though you are preparing for position handover all the time and you need to be current on every detail of current the situation in order to determine what would merit inclusion in a handover brief. And on the subject of handover, it also might be a good idea to shorten low workload shifts and rotate team members more often thus leaving less time for boredom.

Of course, it is up to you and your colleagues to decide what solutions will work best for variable workload in your local environment. Our job, whether we like it or not, is based on teamwork in complicated socio-technical system. Workload measurement in such systems is neither easily measureable nor predictable and the perception of it is highly subjective both in respect of self-perception and in the observation of others, since both depend on individual character and approach to task. Crucially, it is this that means that controlling workload from a high managerial level may be very difficult, or even impossible. The place where it can be really dealt with is at the sharp end – in your ops room.