



Energy and Resilience Management



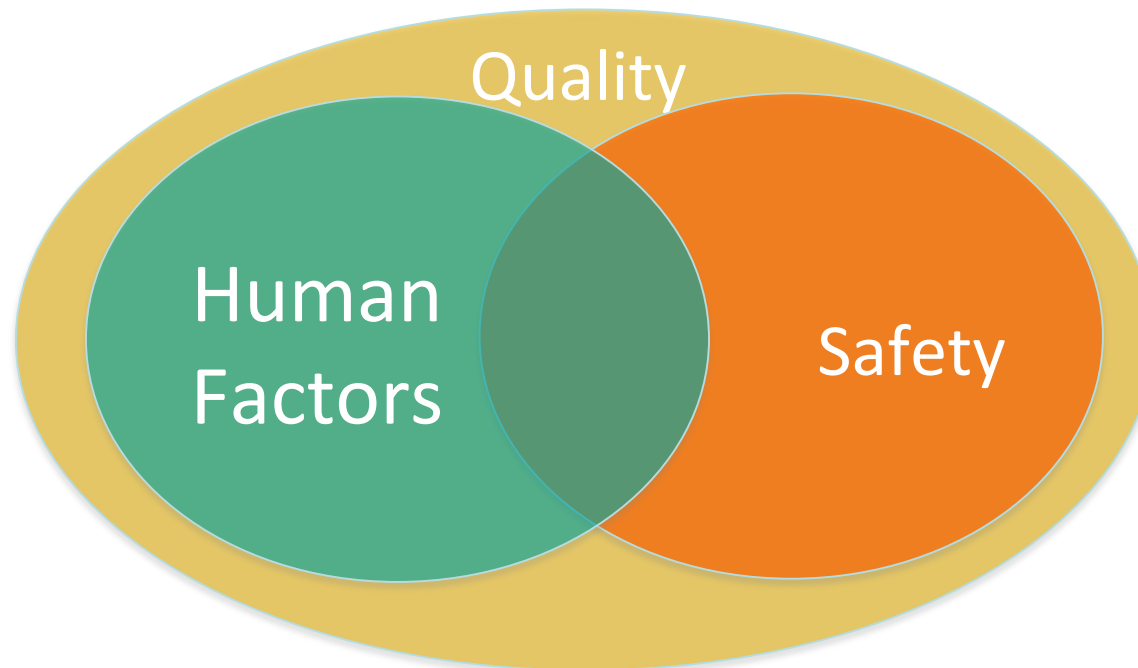
[Maastricht Upper Area Control Centre](#)

Marinella LEONE

Operations Safety, Quality and Human Factors

Team Leader

Safety, Quality and Human Factors



The study of **Human Factors** is about understanding **human** behavior and performance. When applied to **aviation** operations, **Human Factors** knowledge is used to optimize the fit between people and the System (equipment, people and procedures) in which they work in order to improve safety and performance

Team Resource Management

- About 10 years TRM with ATCOs on the following topics:



www.eurocontrol.int/articles/team-resource-management-trm

Benefits?

- Did TRM help reduce the number or minimise the impact of teamwork related errors in incidents?
- Did ATCO develop positive attitudes and behaviours towards teamwork skills?
- Did TRM help reduce the consequences of unavoidable errors?



Incident investigation process

- **Reporting** in occurrence repository
- To come to a **reconstruction** of the sequence of events that lead to an incident we make use of off-line programs in order to extract required details from the legal recordings available for radar data and flight plan processing and voice recordings.
- **Interview** and/or a review of the situation – CISM support possible
- **Investigation** report concerning the incident contains:
 - Sequence of Events
 - Observations
 - Conclusions = WHY DID IT HAPPEN
 - Follow-up and Recommendations (from cross-competence team)
- And of course **feedback** will be given to all involved, i.e. controllers, crews/companies, units, report available to wider audience and TRM

Major current trends of incident investigation

- **Systemic safety issues**? Not anymore, safety barriers are in place and are working effectively
- **TRM benefits**? It is hard to prove soft skills. However, stopping TRM in 2015 has increased the requests of this support, particularly:
 - Learning from case studies about incidents
 - Opportunity of exchanging coping strategies
 - Awareness about teamwork interactions
 - Social connection and trust
- Other **observed trends** -> misjudgement, overlooks? No statistical relevance to demonstrate there is a real issue, however...
 - Can we acknowledge that pressures are increasing?
 - Do pressures have an impact on human performance?
 - How can we counterbalance the effects of pressure?

Pressure...

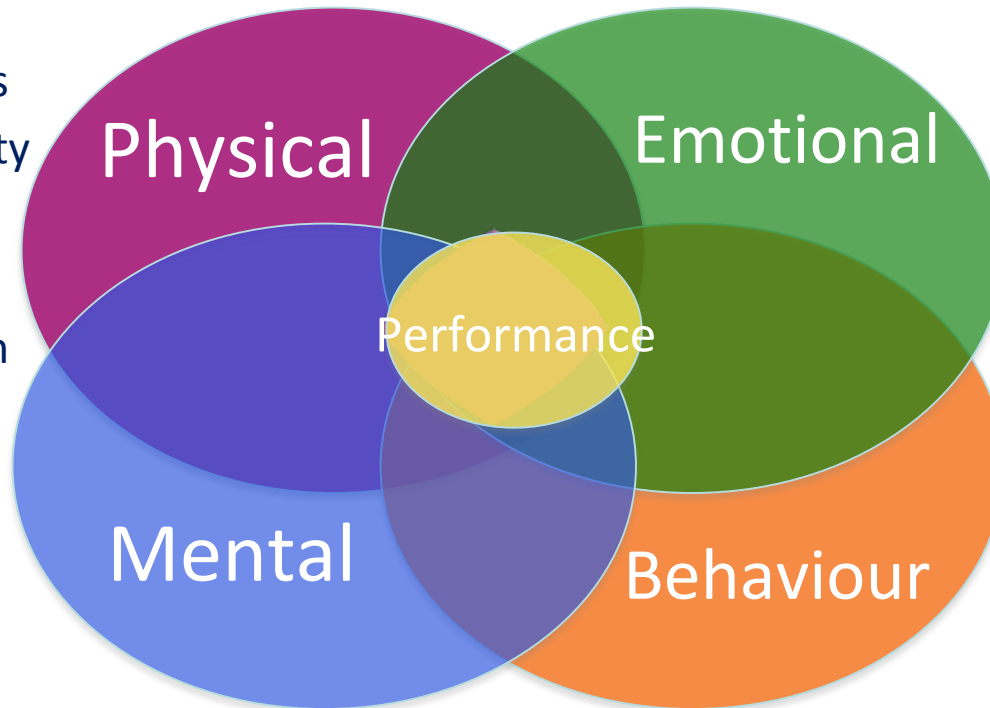
- External factors...

information & communication
 technology
 demographic changes
 increasing globalisation
 economic crisis
 acceleration of the pace of life
 free market
 work intensification
 multitasking
 constant time pressure
 working time
 need to learn new things
 new types of contractual
 arrangements

- Organisational factors...

poor career
 lack of development
 involvement
 unclear roles in the
 organisation
 work pace
 inflexible work schedules
 Individual shift
 patterns
 excessive workload
 poor interpersonal
 relationships
 conflicting demands
 of work and home
 irregular, unpredictable
 or unsocial work hours

Areas of Human Performance



- ↓ Sleep pattern
- ↓ Nutrition
- ↓ Smoking & drugs
- ↓ Physical Flexibility
- ↓ Stamina
- ↓ Strength
- ↓ Health Condition
- ↓ Relaxation

- ↓ Mental flexibility
- ↓ Concentration
- ↓ Focus/attention
- ↓ Perception
- ↓ Learning
- ↓ Short-term memory
- ↓ Word finding

- ↓ Emotional flexibility
- ↓ Positive outlook
- ↓ Self-regulation
- ↓ Social connection

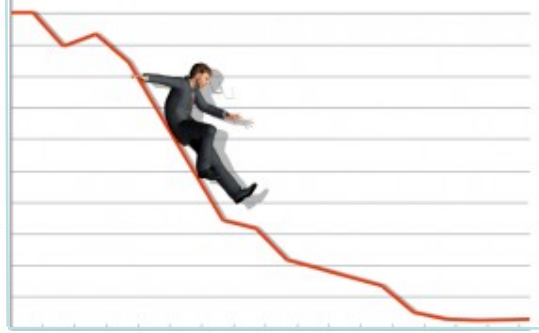
- ↓ Flexibility in behaviour
- ↓ Tolerance
- ↓ Self control

Performance & Support

Performance

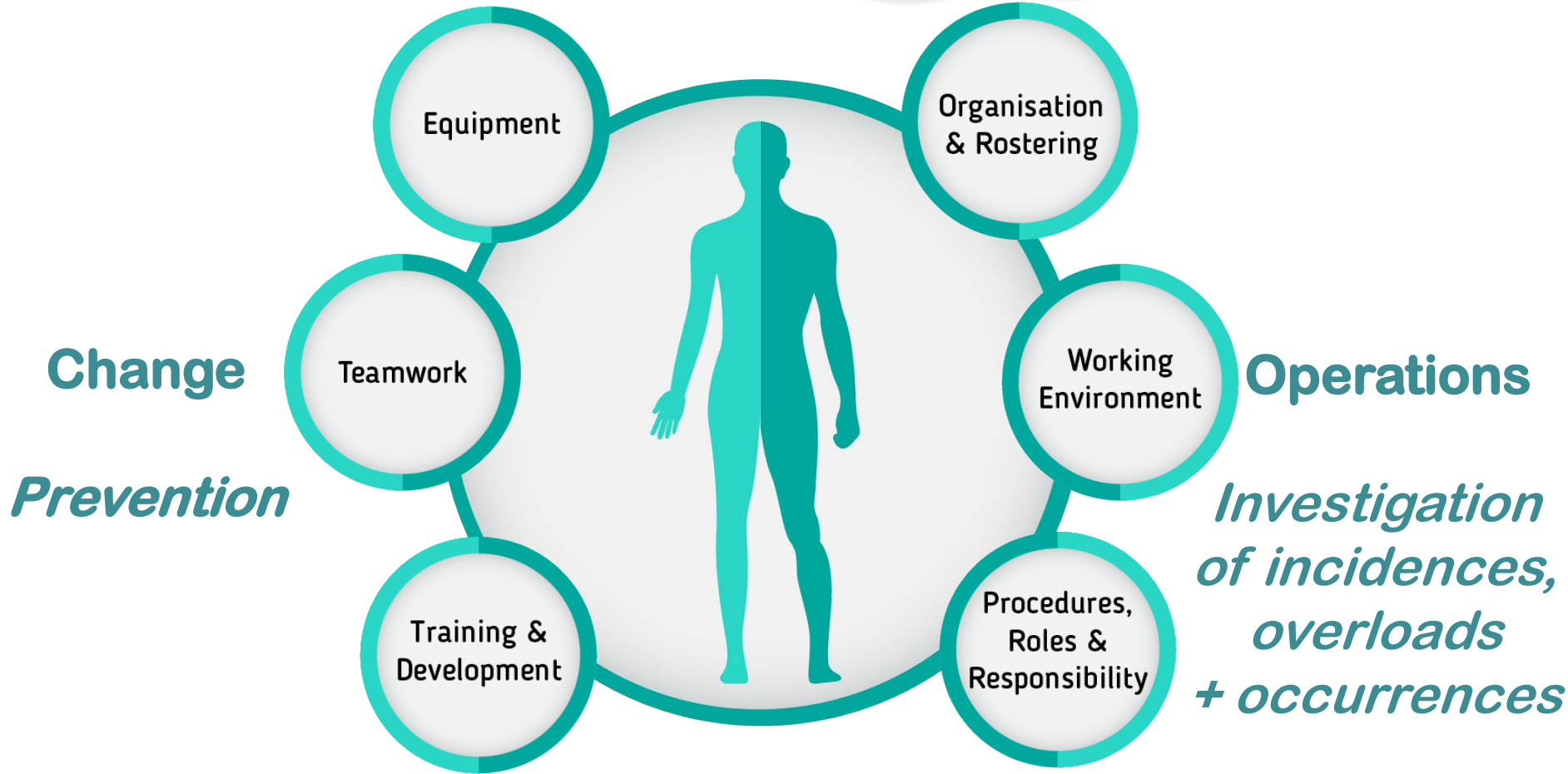
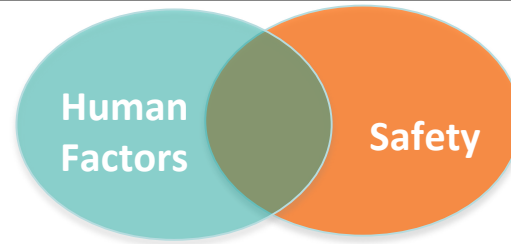


Low Performance

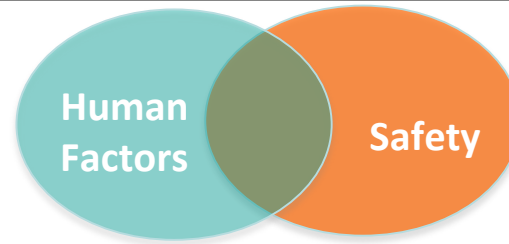


Support

Human Factors Analysis within SMS



Human Performance focus The holistic view



Private environment & lifestyle

Energy & Resilience

- Human beings are not machines. Rather, we're designed to move rhythmically between spending and renewing **energy**. By doing so, we can get more done, in less time, at a higher level of quality, in a more sustainable way.
- **Resilience** is defined as the ability of a system to withstand changes in its environment and still function. For a human being it is the ability to recover from setbacks, adapt well to change, and keep going in the face of adversity.



Regulatory framework

- New Human Factors regulation from EASA and ICAO guidance, e.g.

FRMS

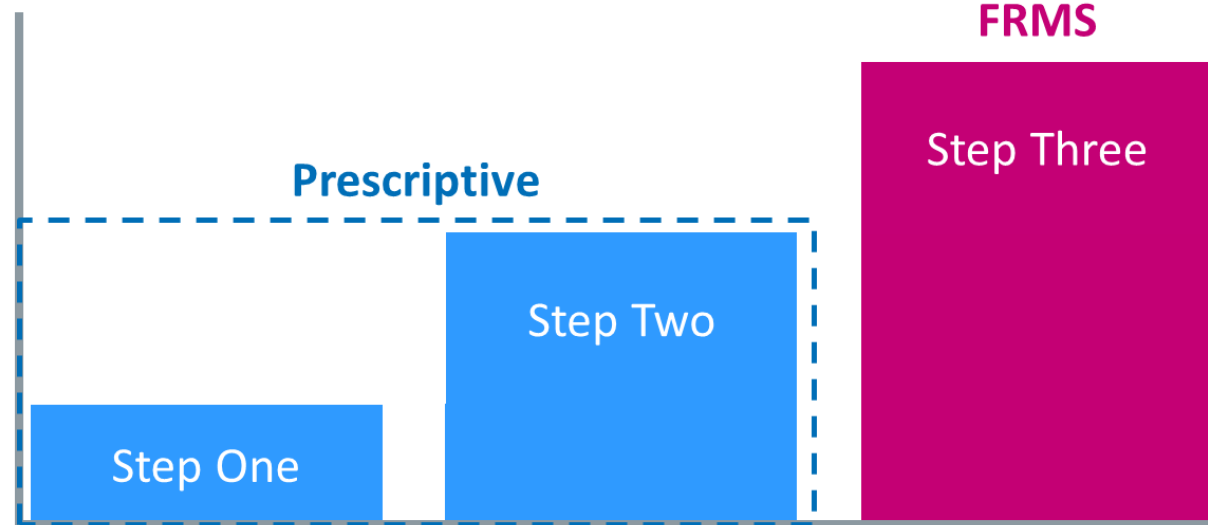
Service providers meet additional requirements to have flexibility outside of prescriptive limitation regulations

SMS

Service providers manage fatigue risks using SMS processes within prescribed limits

Basic

Service providers follow hard limits set by the regulator



- Policy
- Risk assessment of staff & rostering
- Training

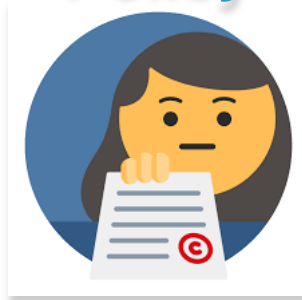
Energy and Resilience Management Project



energy Measurement



Policy



Training



Communication



Facilities



Energy and Resilience Management Project

Energy Measurement



Policy



Training



Communication



Facilities



Energy room



Facilities

**Active
resting**



**Energy
massage**



Energy and Resilience Management Project



Energy Measurement



Policy



Training



Communication



Facilities



Awareness & Training

- Staff are trained in Human Factors (at least Fundamentals)
- With the Energy project workshops (group coaching sessions) help operational staff sustain their performance under pressure and stay healthy in their job
- Individual coaching is available to increase their performances from a behavioural, emotional, mental and physical point of view

- For all new students Human Performance training is standard as part of their unit training to build a strong fundament for the future generation of ATCOs
- Training like mental coaching, resilience training, relaxation techniques, stress & fatigue training, energy management, TRM, CISM, etc.

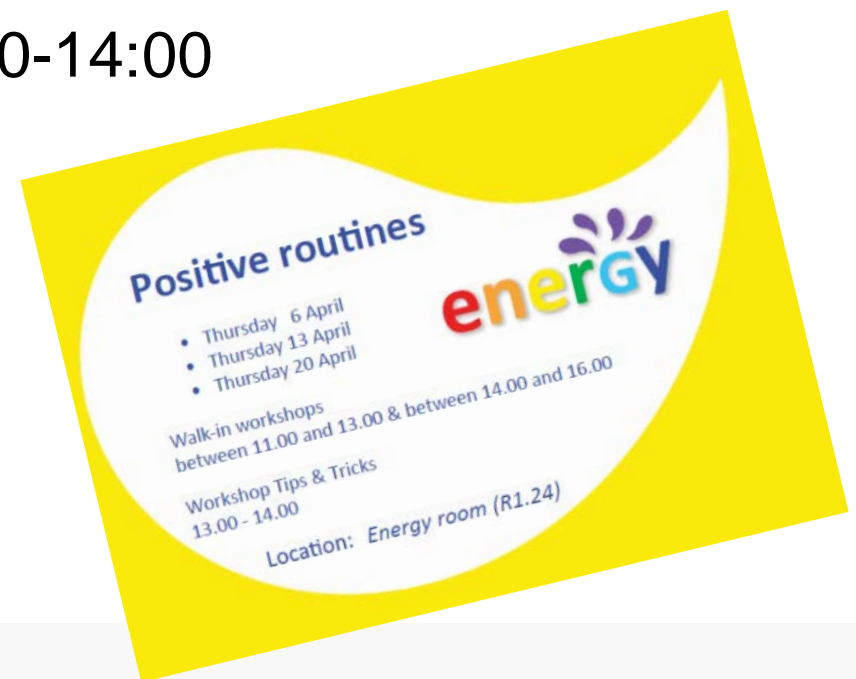
Ab-initio training



Human performance Pillar in Training

Awareness & Training

- On Thursdays
- Walk-in workshops from 11-16
- Flexibility for ATCO's in their break time
- Training and coaching adapted to individual need
- Workshop Tips & Tricks 13:00-14:00
- Every month a new subject



Awareness & Training

Create a transition ritual
Find an activity that allows you
to make the transition
from work to home.

*Life is not about how fast you run,
or how high you climb,
but how well you bounce.*
Old Owl Press

Sleep is the best meditation.
Dalai Lama

Positive routines

- Thursday 6 April
- Thursday 13 April
- Thursday 20 April

Walk-in workshops
between 11.00 and 13.00 & between 14.00 and 16.00

Workshop Tips & Tricks
13.00 - 14.00

Location: Energy room (R1.24)



Nutrition

Positive routines

energy

Work-life balance

Relaxation

Sleeping strategy

Energy seminars & workshops
Starting 19th January

Thursdays, 11.00 - 16.00h, Energy room (R1.24)

For questions contact: ilona.bonten@eurocontrol.int or ellen.beckers@eurocontrol.int

Workshop topics

2017

- [HeartMath](#)
- Sleeping Architecture
- Relaxation techniques
- Positive Routines
- Nutrition
- Postural Art

2018+

- Energy management
- Emotional intelligence
- Work-life balance
- Stress indicators
- Boost your strengths and your energy
- Body and mind alignment
- Mindfulness @ work
- Workload management
- Self-leadership
- Developing resilience



Energy and Resilience Management Project

Energy Measurement



Policy



Training



Communication



Facilities



JOB DEMANDS >

- Work Overload
- Emotional Demands
- Negative Changes
- Conflicts
- Role Conflicts
- Work - Life Conflict
- Job Insecurity

JOB RESOURCES >

- Performance Feedback
- Learning and Development Opportunities
- Career opportunities
- Variety
- Use skills and competencies
- Person-Job Fit
- Job Control
- Colleague Support
- Supervisor Support
- Appreciation
- Team effectiveness
- Team spirit
- Meeting Expectations
- Role clarity
- Communication
- Participation in decision making

PERSONAL RESOURCES >

- Protecting boundaries
- Resilience
- Optimism
- Self-efficacy
- Flexibility
- Gratitude
- Job crafting
- Meaningful work
- Assertiveness
- Perfectionism
- Willpower
- Self-confidence
- Decisiveness
- Meticulousness

LIFESTYLE >

- Exercise
- Nutrition

WELLBEING >

- Engagement
- Boredom
- Ruminating
- Stress Related Complaints
- Exhaustion
- Mental distance
- Sleep problems
- Workaholism

Energy Measurement



<https://pulso.mijngrip.nl>

Energy and Resilience Management Project



Energy Measurement



Policy



Training



Communication



Facilities



Awareness

As it was in 2015, we marked by greater-than-forecasted air traffic growth across the whole MUAAC airspace. In 2016, we controlled 1,779,969 flights, which was 4.6% more than in the previous year. On 12 July 2017, we also beat our 2016 daily record by 203 flights, having controlled 5,689 flights in a single day.

This has meant a heavier workload for everybody, including the Ops Rooms, our engineers and also the office staff. Student ATCO recruitment is in full swing, with brand new communication materials, social media support and even a virtual reality tour for the jobs fairs, but training new controllers takes years, and also takes up human resources.

We have a good couple of years until we can possibly catch up with the soaring increase in traffic and, until then, our batteries are draining quickly, which is why it's necessary to provide recharging possibilities for our staff. The **MUAAC Energy and Resilience Management project** was initiated for this reason, and it has devised many useful (and often fun!) activities to offer Maastricht staff.

Use your energy wisely
Eat less sugar, you're sweet enough already.

Making one person smile can change the world. Maybe not the whole world, but their world. Start small. Start now.

Take a power nap

In periods of high demand, try to find time for a 10 minute nap in the middle of the day on weekdays. Taking a short nap between 3 and 5 pm, especially on days when you have worked intensely in the morning, will have a remarkable impact on your ability to focus later in the afternoon. Micro-naps, simply lean back in your chair with your eyes closed for 5 to 10 minutes.



"Ops Management has supported this 3-year project which aims to provide our staff with tools to improve themselves in enhancing their resilience."
Ian Middleton, Head of Operations



"The energy initiatives help create awareness of the ingredients which are key to human well-being. They allow us to recognise the symptoms which all of us will come across, in ourselves and in our colleagues. We all have a personal responsibility to foster our own well-being and that of the people around us."
Maurice Van Noppen, Head of OSD Unit (Engineering Domain)



"Love the Energy Room! Just 15 minutes of basic yoga and some breathing exercises in this relaxing space will calm me down and renew my energy levels. Perfect break to get ready for a few more hours in the hectic environment called 'the Ops Room'."
Sjoen Mertens, ATCO in the Hannover sectors

Besides the Energy Room, a second room on the 3rd floor (referred to in-house as the "Penthouse") has been refurbished to allow staff to take an active break or experience a new way of working if they want to break away from our sedentary lifestyle for a short period. Two desk cycles and two standing tables with back support are available to controllers and office staff at all times.



Once a week, usually on Thursdays, thematic workshops are held here, in which some of our in-house coaches give advice and information about certain aspects of life which influence our ability to perform well at work. The same theme usually runs for a month.

It's now also possible to get a professional massage in the Energy Room on a regular basis at one's own cost, as the room has been equipped with massage accessories to facilitate stress and pain relief, and provide relaxation opportunities for MUAAC staff.

So far, we have had sessions on sleeping strategy (especially important for shift workers), strengthening resilience, positive routines and nutrition. For the latter, we actually brought in external experts to provide professional advice on eating habits and lunch boxes. Future topics include stress management, work-life balance and boosting energy, among other things.

"The new penthouse is a perfect place to wind down after working behind the radar. Cozy corners to read a book or the Energy Room to do some yoga, to reset body and mind."
Simone Brilo-Lidka, ATCO in the Hannover sectors



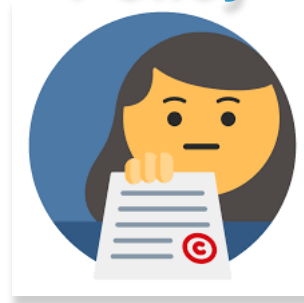
Energy and Resilience Management Project



Energy Measurement



Policy



Training



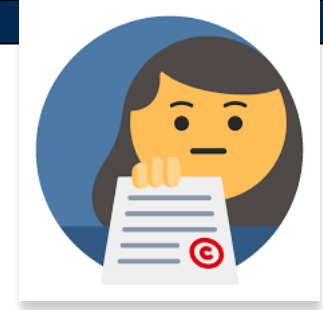
Communication



Facilities



Policy



- Our Management System finally contains a policy related to Human Factors. Procedures to deal with human factors issues are being drafted and they will involve also Human Resources services.
- The support of the **Director** and Board Management is key!



- The support of ambassadors is also very important – underlying philosophy: **Asset-based community development (ABCD)** for a sustainable development of a supporting community based on their strengths and potentials



Questions?

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HeartMath Building Personal Resilience



HeartMath Benelux - Politie

