

SUPPORTING  
EUROPEAN  
AVIATION



## Human Factors Newsletter

Welcome to the second EUROCONTROL Human Factors newsletter. Within these pages, you will find updates on our HF initiatives over the last six months. We bring you details on conferences, such as the Just Culture Conference 2025 in Ljubljana, focusing on 'Justice and Automation'. You'll learn about our HF courses, and recent webinars. Finally, some team news, including spreading the word at major international aviation and Human Factors conferences.

We hope this newsletter helps you to stay up to date with our initiatives.

**Please pass on the newsletter to anyone who may be interested.**

*Steven Shorrock*



# JUST CULTURE IN AN AGE OF AUTOMATION AND AI

Every two years, EUROCONTROL as the Network Manager, with the support of a European air navigation service provider, organises a Just Culture Conference.

Representatives of European judiciary meet with professionals from aviation and other industries to discuss the challenges of balancing the needs of safety with those of the administration of justice, to protect and serve public interest.

This conference was held on 23-24 September in Ljubljana, in cooperation with Slovenia Control, supported by sponsors and distinguished speakers. This year's theme concerned automation and AI, and implications for safety and justice.

Several perspectives were explored – management, technological, legal, ethical, operational, training, safety, and HF – by professionals in each of these fields.

The exchanges emphasised the unprecedented and accelerating speed of technological change and the opportunities this creates for high-risk industries. We heard how this comes with shifts in how technology, including AI, is developed and deployed through a mix of agile and traditional approaches.



Despite these changes, people remain fundamentally the same, bringing enduring strengths and limitations that give rise to familiar automation dilemmas described in thinking and research on joint cognitive systems, resilience engineering, and automation.

At the same time, law and regulation evolve slowly and struggle to keep pace, while prosecutors and courts are often tightly constrained in how they apply existing legal frameworks.

Looking ahead, the next 10–15 years are likely to bring fundamental surprises as well as more predictable but difficult changes, making preparedness essential. The discussion highlighted significant blind spots and missing stakeholders, often including senior leaders and policymakers, and the need to better understand leverage points and possibilities. Above all, it highlighted the urgency for collaboration across management, technological, legal, ethical, operational, safety, and human factors domains to bridge silos and address increasingly interconnected challenges.

Contact:

[radu.cioponea@eurocontrol.int](mailto:radu.cioponea@eurocontrol.int)



CONFERENCE

# DR KEVIN FONG ON AVIATION, SPACE & EXTREME ENVIRONMENT MEDICINE

This [EUROCONTROL 'Life in Pictures'](#) webinar series explores the lives and careers of inspirational people who have made a significant difference to the safety and performance of safety-critical industries.

Our guest on 26 September 2025 was [Dr Kevin Fong](#), who reflected on ten pictures to tell the story of his life in hospital and prehospital medicine, space medicine and exploration, and extreme environments.

Hosted by [Dr Steven Shorrock](#).

Kevin Fong is a British doctor and broadcaster. He is a consultant anaesthetist and anaesthetic lead for Major Incident Planning at UCL Hospitals, and a professor at University College London where he teaches Extreme Environment Physiology.

Dr Fong also serves as a prehospital doctor with Air Ambulance Kent Surrey Sussex, and specialises in space medicine in the UK.

Dr Fong's broadcasting work includes [Extreme A&E](#) (Channel 4), and the BBC series [Horizon](#), [Astronauts: Do You have What It Takes](#), [Space Shuttle: The Final Mission](#), as well as the BBC Radio 4 Programme [The Artificial Human](#).

The video is available at:

<https://skybrary.aero/webinars>



## DETECTING WEAK SIGNALS

If you're interested in improving everyday work, catch up with the webinar on '[Advancing safety management through pro-active weak signal detection](#)'. On 14 October 2025, [Dr Riccardo Patriarca](#) (Associate Professor, Sapienza University) and [Adriana-Dana Schmitz](#) (Human Performance Expert, EUROCONTROL) joined to introduce a practical method to unearth weak signals in modern socio-technical systems. A corresponding course is available at the EUROCONTROL Aviation Learning Centre. Check it out at the [Learning Zone](#).

Don't miss future talks and the live interaction. Sign up at

<https://skybrary.aero/webinars>

WEBINARS

# CALLING FUTURE HF PRACTITIONERS

Do you know someone with operational, safety, technical or management background, who could develop their expertise in Human Factors to support their organisation? Then let them know about EUROCONTROL's Human Factors Practitioner Programme [[HUM-PRG-PP](#)].

The programme consists of:

- 2 mandatory introductory classroom courses – [HUM-HFA](#) and [HUM-DESIGN](#);
- 2 mandatory e-learning courses [HUM-FAT-ATC](#) and [HUM-STRESS](#);
- a minimum of 2 out of the following specialised classroom courses - [HUM-SFM](#), [HUM-SYS](#), [HUM-HF-CASE](#) and [HUM-TRM-ADV](#).

After completing this training programme, you will be able to explain the essential HF concepts for ATM and elements of relevant applied psychology, and provide support in projects related to HF and better integration of HF in operations.

Contact: [fabrice.drogoul@eurocontrol.int](mailto:fabrice.drogoul@eurocontrol.int)



# SYSTEMS THINKING IN PRACTICE

Systems thinking is fundamental to understanding and intervening to improve how sociotechnical systems work.

EUROCONTROL's Systems Thinking course ([HUM-SYS](#)) took place at Aviation Learning Centre 21-24 October 2025 in Luxembourg. Participants joined from European and Asian ANSPs and regulators. We learned about sociotechnical systems through finding meaning in imagery, metaphor, and idioms. We explored complexity and system archetypes in everyday life at micro, meso and macro levels. We reflected on a little theory. We worked through the messy details of a case study. And we learned through small group discussion via with a variety of diagramming methods on familiar problem situations and opportunities in aviation.



The course is designed for aviation stakeholders, but is relevant to all sectors. It's especially helpful for those in management, policy or regulatory roles. Keep an eye out for the next course in Autumn-Winter 2026.

Contact:

[steven.shorrock@eurocontrol.int](mailto:steven.shorrock@eurocontrol.int)

COURSES

# INTEGRATING HUMAN FACTORS IN ATM PROJECTS

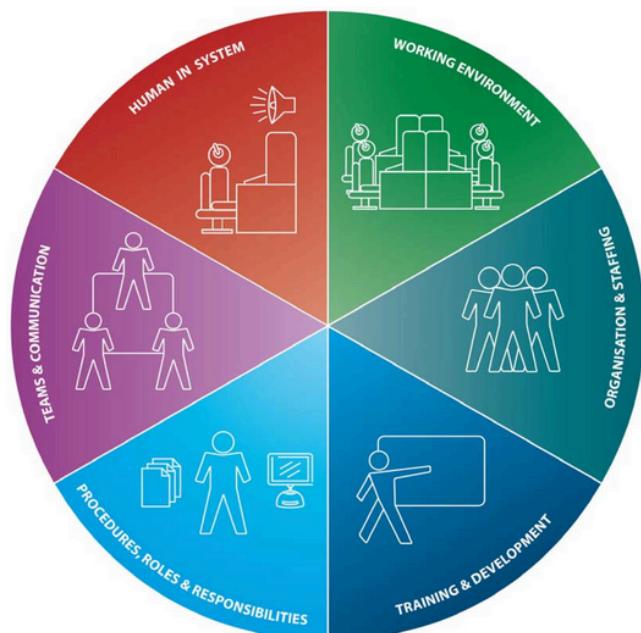
Are you a Human Factors Practitioner and you need to structure and standardise the way you conduct assessments? Join the HF Case course, that was developed to provide a systematic approach in the development of HF Assessments and HF Cases.

The course was recently updated to embed more in-depth guidance on the six categories of the 'Human Factors Pie', allowing for an explicit way to manage HF issues and benefits. The course is module-based and covers each of the stages involved in the preparation of a case for HF and the use of the HF case e-tool.

Read more on the Learning Zone [here](#).

Contact:

[adriana-dana.schmitz@eurocontrol.int](mailto:adriana-dana.schmitz@eurocontrol.int)



# AVIATION LEARNING IN NUMBERS...

The Aviation Learning Centre in **2025**:

- **5,433** participants
- **371** classroom courses
- **67,843** e-learning courses with overall satisfaction of **90%**
- **61** webinars watched by **5,650** participants & **1,256** recordings watched
- **75** virtual courses with **927** participants
- **500** new micro learning subscribers, with **40** new nuggets published



Human Factors is core to many courses to support:

- Design
- Training
- Safety
- Wellbeing
- Management
- Engineering
- Operations

The courses are supported by qualified and experienced Human Factors and Human Performance specialists with significant experience in ATM and aviation.

Contact:

[fabrice.drogoul@eurocontrol.int](mailto:fabrice.drogoul@eurocontrol.int)

COURSES

# ANSPS, AIRLINES AND REGULATORS MEET TO SUPPORT HUMAN PERFORMANCE

In November 2025, the 25th meeting of the EUROCONTROL Safety Human Performance Subgroup (SHPSG) was held at EUROCONTROL HQ, Brussels. The group, comprising Human Performance and Human Factors specialists and representatives of air navigation service providers and airlines, meet twice a year to exchange information and provide mutual problem solving and opportunity management support concerning people at work. This time, we addressed these topics:

- Human-Automation Synergy
- Behaviour Change
- Team Resource Management
- Peer Support Programmes
- Human Performance Metrics
- Human Factors Team Structures, Programmes and Activities
- Experience Sharing

20 organisations were represented, including air navigation service providers, airlines, and regulators from EUROCONTROL States and beyond.

We started the SHPSG with a presentation from Dr Branka Subotic, Head of Human Factors and Transformation at Skyguide, on their HF team and key activities to support Skyguide in Switzerland.

This was followed by a workshop on behaviour change, hosted by Steven Shorrock. Participants experimented with four behavior change frameworks to consider systemic and cultural perspectives on behaviour and behaviour change.

Steven Shorrock and Adriana-Dana Schmitz (Human Performance Expert) went on to outline the EUROCONTROL Network Manager HF Support to the Network.

We next heard about the EUROCONTROL Maastricht Upper Airspace Centre's approach to human-automation synergy from Marinella Leone (Human Factors Manager) and Adam Tisza (Automation, HF and UX Requirements Expert). MUAC's cutting edge approach to automation development is deeply informed by in-house HF expertise.

Dr Nuno Cebola (Human Factors and Change Management Manager, Saudi Air Navigation Services), started a dynamic discussion on the development of an human performance model that can be used to retrieve relevant metrics in ops and simulations.

Veronica Taliano (Peer Support Programme Coordinator) introduced the group to Brussels Airlines' hybrid approach aircrew peer support. Crew4Crew is a confidential place for pilots and cabin crew members to talk to a colleague, specifically trained to help in difficult situations. Veronica previously outlined the programme in Issue 30 of HindSight magazine in 2020.

Monika Sekita (Team Resource Management Coordinator PANSA) outlined PANSA's inspiring hands-on approach to team resource management (TRM) in Poland.

Participants shared experience on problems and opportunities, gaining support and insight from each other. The next meeting is kindly hosted by LVNL in April.

Contact:

[steven.shorrock@eurocontrol.int](mailto:steven.shorrock@eurocontrol.int)

[adriana-dana.schmitz@eurocontrol.int](mailto:adriana-dana.schmitz@eurocontrol.int)

GROUPS

# SAFETY CULTURE DISCUSSION CARDS: NEW LANGUAGES

The EUROCONTROL Safety Culture Discussion Cards are a practical resource to aid real discussion about safety culture by any person or team within an organisation, in aviation and beyond.

The cards use the same concepts as the EUROCONTROL safety culture programme method, which has been used in over 30 air navigation service providers. The cards use everyday language to make the approach completely accessible, and can be used without the need for external support.

There is no set method for using the cards but several cards are used to provide ideas for how the cards might be used.

The cards are available in several European languages. Edition 2 is available in:

- English
- Spanish
- Dutch
- Polish

The cards will be available soon in **French** and **Romanian**, with more languages to follow.

The cards can be printed in A6 format. They can be downloaded at:

<https://skybrary.aero/articles/safety-culture-discussion-cards>

Contact: [steven.shorrock@eurocontrol.int](mailto:steven.shorrock@eurocontrol.int)

*The EUROCONTROL Safety Culture Annual Workshop will be held in June 2026 in Brussels. Details will be sent via the Safety Team.*

## Responding to concerns

How do managers and senior managers respond to concerns about safety?

How middle and senior managers listen and respond to safety concerns will affect people's willingness to raise concerns and speak up in the future.

How can managers effectively listen and respond to safety concerns?

## Management Commitment to Safety

Photo by Steven Shorrock

Si Cultura de Seguridad



### Conocer los planes

¿Conoces los planes de futuro con respecto a los servicios que proporcionas?

Conocer los planes para el futuro nos permite dar nuestra opinión sobre ellos a fin de garantizar que sean correctos desde el punto de vista de la seguridad, así como prepararnos para el cambio.

¿Cómo mejorarias la comunicación vertical en materia de seguridad?



## Comunicación y aprendizaje



8e Kultura bezpieczeństwa



### Kwestionowanie ryzyka

Co zrobilibyś, gdyby praktyki lub zachowania jednego ze współpracowników wzbudzały twoje obawy?

Musimy rozmawiać o tym, co jest dopuszczalne i bez strachu kwestionować praktyki i zachowania, które wzbudzają obawy związane z bezpieczeństwem.

Co zrobić, żebyśmy bez wahania kwestionowali ryzyko?

## Zaangażowanie współpracowników

Zdjęcie: Derek Gavry

6b Veiligheidsculturen



### Veiligheid in balans

Hoe weegt de veiligheid af tegen de andere vereisten in uw dagelijkse werkzaamheden?

Veiligheid bestaat niet in een vacuüm. Er kan zich een doelconflict voordoen tussen veiligheid en kostenbesparing, capaciteit, emissies, geluid, beveiliging, enz. Voor het oplossen van deze doelconflicten zijn afwegingen en compromissen nodig.

Wat hebben we nodig om een balans te bereiken?



## Omgaan met Risico's

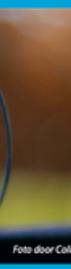


Foto door Colin Harris

PRODUCTS

# SUPPORTING AVIATION SAFETY & OPERATIONS WORLDWIDE

EUROCONTROL's [Dr Steven Shorrock](#) was invited by the [International Air Transport Association \(IATA\)](#) to present at the [World Safety and Operations Conference](#) in Xiamen, China. IATA highlighted three critical priorities for aviation safety and operations. One of these was 'Fostering a Strong Safety Culture Through Leadership'.

Steve facilitated a workshop on 'Embedding Safety into Strategy and Everyday Culture', with [Mariam Khojayan](#). The approaches at EUROCONTROL (air navigation service providers) and IATA (airlines) were developed independently, but overlaps and resonances were clearly evident, with many shared practical findings. Steve introduced workshop participants to the [EUROCONTROL Safety Culture Discussion Cards](#).

Steve also presented on 'Safety as an Organisational Value', with practical and people-oriented implications from our experience in over 33 countries over 20 years, using questionnaires, focus groups, interviews and observations. He reflected on observed good practice among people in air navigation service providers, especially around communication and relationships.

IATA's Global Director Safety [Mark Searle](#) facilitated an engaging panel immediately after, with [Haig Anyonyi](#) (Kenya Airways), [Chris Bowden](#) (HAECO) and [Lacey Pittman](#) (Boeing), who discussed some of these questions and issues, and how their organisations embed safety into strategy and everyday culture. This was inspiring.

The conference was exceptionally well organised and attended, with around 850 participants. Xiamen Airlines and Xiamen city were exceptionally good hosts. As Steve mentioned in his talk, there is much to learn from different national cultures, as well as professional cultures, and team and organisational cultures, when it comes to work, operations and safety. This requires lots of exploring, listening, observing, relating and translating.

Special thanks to [Mariam Khojayan](#), [Dragos Munteanu](#), [Matthew Lillywhite](#), [Mark Searle](#) and colleagues at IATA. It was a honour to help support aviation in line with EUROCONTROL's mission and one of IATA's three critical priorities for aviation safety and operations.



# PEOPLE IN CONTROL? WORK-AS-DONE, WORK- AS-IMAGINED AND WORK-AS-JUDGED

EUROCONTROL's Dr Steven Shorrock was invited to PACDEFF and Australian Aviation Psychology Association to deliver a keynote talk on "People in Control? Work-as-Done, Work-as-Imagined and Work-as-Judged".

Around 400 people attended the conference. The forum is intended as a non-profit, non-partisan opportunity for Human Factors practitioners and others to meet and discuss contemporary issues.

The conference covered a wide range of Aviation Human Factors, and crew resource management/non-technical skills topics, aviation psychology and Human Factors challenges, across the aviation industry, as well as in other high-risk industries with similar challenges.

Steven told the 'three stories' of the accident at Santiago de Compostela in 2013, as well as the preceding context, the aftermath, and the current state of affairs, drawing on investigative and legal documents, and media coverage. (An earlier version of the talk is available here: courtesy Job Brüggen, LVNL.)



# IMPROVING EVERYDAY OPERATIONS, IMPROVING OPERATIONAL SAFETY

Adriana-Dana Schmitz delivered a presentation at the Applied Human Factors and Ergonomics conference 2025 on "Improving Operational Safety by Leveraging the Structured Exploration of Complex Adaptation (SECA) Framework". The approach helps to proactively identify weak signals in everyday operations.

The presentation was a result of the paper co-written with Manuel Lombardi and Riccardo Patriarca (Sapienza University of Rome), and Antonio Licu (EUROCONTROL). The paper is openly available here (*Advances in Human Factors of Transportation*, 186, 2025, 117–124.)

A corresponding course is available at the EUROCONTROL Aviation Learning Centre. Check it out at the Learning Zone.

Advances in Human Factors of Transportation, Vol. 186, 2025, 117–124 AHFE International  
<https://doi.org/10.54941/ahfe1000000>

## Improving Operational Safety by Leveraging the Structured Exploration of Complex Adaptation Framework

Adriana-Dana Schmitz<sup>1</sup>, Manuel Lombardi<sup>2</sup>, Antonio Licu<sup>1</sup>, and Riccardo Patriarca<sup>2</sup>

<sup>1</sup>EUROCONTROL, 96 Rue de la Fusée, 1130 Brussels, Belgium

<sup>2</sup>Department of Mechanical and Aerospace Engineering, Sapienza University of Rome, Via Eudossiana, 18 00184 Rome, Italy

### ABSTRACT

Traditional safety management often overlooks the nuances of human adaptation in complex socio-technical systems, from which derives a wealth of unexploited tacit knowledge. To demonstrate the usefulness of analyzing daily operation, this paper proposes an application of the Structured Exploration of Complex Adaptations (SECA) framework to proactively identify weak signals in everyday operations. Specifically, the framework consists in semi-structured interviews analyzing the Grounded Theory (GT) method, supported by Large Language Models (LLMs), enabling deeper insights into everyday operations.

Keywords: Resilience engineering, Safety management, Knowledge management, Complex adaptive systems, Human adaptation, Systems performance variability

### INTRODUCTION

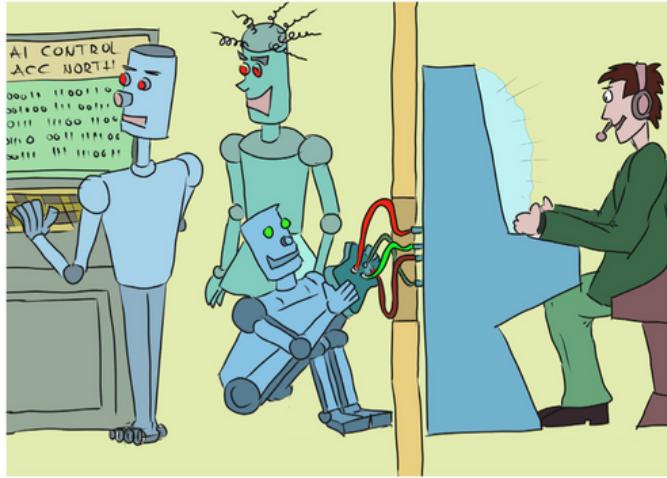
High risk industries, such as aviation, invest heavily in investigating unwanted events, driving continuous improvement in the context of the regulatory framework provided by international and national authorities. While well-established reporting systems successfully support traditional root cause analyses, they often fall short in capturing the nuances of human adaptation within complex socio-technical systems.

The Structured Exploration of Complex Adaptations (SECA), as a novel method inspired by Resilience Engineering and knowledge management principles (Patriarca et al., 2022a). The SECA method aims to capture and analyze data directly from the operators' narratives, enabling the identification of recurring patterns in everyday operations that could indicate potential areas of improvements in operational safety.

### Evolution of Safety Thinking

If we consider the evolution of safety thinking, there are two major paradigms that have guided safety management systems, Safety I and Safety II (EUROCONTROL, 2013). While these labels are often effective

HindSight 36



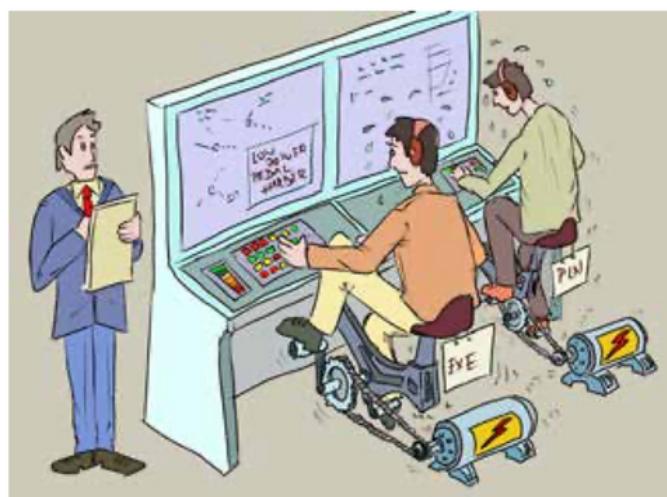
"This is brilliant, George! This way, the humans feel in the loop, we can work undisturbed, and they feel like they have something to do!"

HindSight 35



Now that AI directly analyses the incident reports,  
feedback is lightning fast

HindSight 34



"We now have a solution for the blackout,  
But we need to adjust sector capacity due to the  
controllers' physical condition..."

## GET IN TOUCH

*People in Control* is published twice a year by the Human Factors Team of the EUROCONTROL Network Management Directorate.

For more information about any of the topics in this newsletter, please contact the Editors:  
[steven.shorrock@eurocontrol.int](mailto:steven.shorrock@eurocontrol.int)  
[adriana-dana.schmitz@eurocontrol.int](mailto:adriana-dana.schmitz@eurocontrol.int)

## PASS IT ON

Please forward this newsletter to anyone who may be interested in Human Factors in air traffic management, aviation, and beyond.

Past issues can be found on SKYbrary  
<https://skybrary.aero/articles/people-control-eurocontrol-human-factors-newsletter>

If you'd like to receive future issues personally, please [let us know](#).

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