

ERGONOMICS & SAFETY

Psychology and human factors for managers and decision makers.

Human Factors

In short:

It is widely recognised that humans are a key resource for every organisation. They provide crucial features for Business Performance, like the ability to improve system performance and resilience, the capability to adapt to unexpected situations and to anticipate problems.

Human Factors (HF) helps organisation in defining the best strategy to achieve human performance excellence. Rigorous human evaluation and analysis methods enhance people's working environment, identify resources and support needed for effective change management, improve human behaviour at all levels of the organisation. Human centred design optimizes people's performance and overall system performance, by finding the overlap between what humans desire, what is technologically feasible, and what is economically viable.

This course is on HF fundamentals, designed for a wide audience, i.e. R&D, marketing, health and safety decision makers, innovation decision makers, safety security and quality personnel.... Or any person that faces human related issues.

The course will improve your understanding of HF, bringing structured successful methods from aviation and safety critical systems.

Benefits:

- Increase the impact of your activities thanks to HF considerations,
- Improve the human performance excellence of your organisation,
- Improve the safety performance of your organisation,
- Assess your current status and define your strategy.

Course topics:

The course will cover 3 phases:

- Problem setting: understanding users and the context of a problem. Identify users, stakeholders, needs and motivations, context of use, scenario of reference.
 - o **Observe** what people do, how they think, what they need and want.
 - o **Understand their behaviour:** human cognition, decision making, team work, factors affecting human performance.
 - o **Identify and manage human errors and weaknesses:** human error analysis, latent errors, safety and incident analysis, strategies to detect and recover errors, to reduce likelihood and impact.
 - o **Benchmark technologies and trends.** Identifying enablers and mapping impact.
 - o **Assess your Human Performance level** on the 10 key dimensions.
- Analysis: generating insights and solutions. Create choices.

- **Incident analysis:** analysis of safety events or of critical incidents, human involvement analysis.
 - **Capture requirements** in improvement scenarios, activity and user analysis.
 - **Cultural and organisational factors:** safety culture and organisational intelligence.
- Design and Evaluation: analysing and fitting various solutions to the problem context. Make choices.
 - **HF techniques:** modelling techniques, usability and UX assessment, the Human Factors case.
 - **Solution design and prototyping.**
 - **Human-centred evaluation.**

The course will guide you through the 4 pillars of Human Factors excellence:

- Human-technology-organisation symbiosis: assuring that people and technology work harmoniously as collaborative players.
- Human Factors is a SYSTEMS discipline, to do our work we need to connect with different parts of the organisation, acting as a catalyst to ensure depth of understanding of complex problems.
- Human-centred innovation: thorough observations and analyses of the issues, to ensure that the correct problem is being solved together with an iterative evaluation, ideation, testing cycle.
- Design Thinking: applying the first three principles to deliver practical, effective and efficient solutions for the target population.

Objectives

- Show how Human Factors can be used to improve Business Performance.
- To improve your organisation human performance, defining goals, strategy, and resources.
- To use your HF understanding to feed change and innovation processes.

What you will learn

- To identify and address HF issues in everyday operations.
- To understand humans' weaknesses and strengths.
- To analyse the human contribution to incidents and improve your safety level, your image and your capabilities.
- To select methods and techniques to improve the human contribution to business performance.
- To improve the organisation HF intelligence in your company on various aspects such as safety, security, innovation, decision-making, change management....
- HF techniques: human activity analysis and modelling, task analysis, safety culture measurement, human error classification, analysis of latent and organisational errors, usability and user experience evaluation.

Training Methods

The course mixes lectures on HF methods, techniques and theoretical principles, with practical assignments, group discussions, and videos on case studies. You will discuss examples from various

domains, but also try to apply the same HF reasoning to cases from safety critical systems (aviation, railways and healthcare), replay psychological experiments and engage in video-based assignments.

Instructors

Simone Pozzi is a senior Human Factors and Interaction Design expert with more than 15 years of experience. He is currently working for Deep Blue a consulting company in R&D projects. His expertise covers the application of Human Factors in everyday life and in safety critical systems, like Civil Aviation, Oil & Gas, Healthcare, with a long experience in user research and assessment methods. He holds a Master degree and PhD in Human Factors, with several publications in journals, books and conferences. He is Lecturer in Human Factors at the EUROCONTROL Training Institute (IANS) and in Human Factor at the Design Master Degree Course of the University of San Marino-IUAV (Italy).

Fabrice Drogoul is an Ergonomist and safety specialist with a background in practice and research in safety-critical systems. Since 1998, he provides support, research and training to private and public organisations in aviation, rail, military, space and nuclear sectors in various European projects or activities. Currently working in the European Organisation for Safety in Aviation as Human Factors and safety Specialist, HF case project manager, Member of the EASA European HF Advisory Group, Member of the Safety and human factors sub group for HF in safe ATM design and human error management in investigation, HF; safety tools, accident and occurrence investigation trainer and coach, and validation specialist.

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CHF 1 950, 00 per participant including course material, coffee breaks.

Dates : 9 – 10 – 11 June 2016