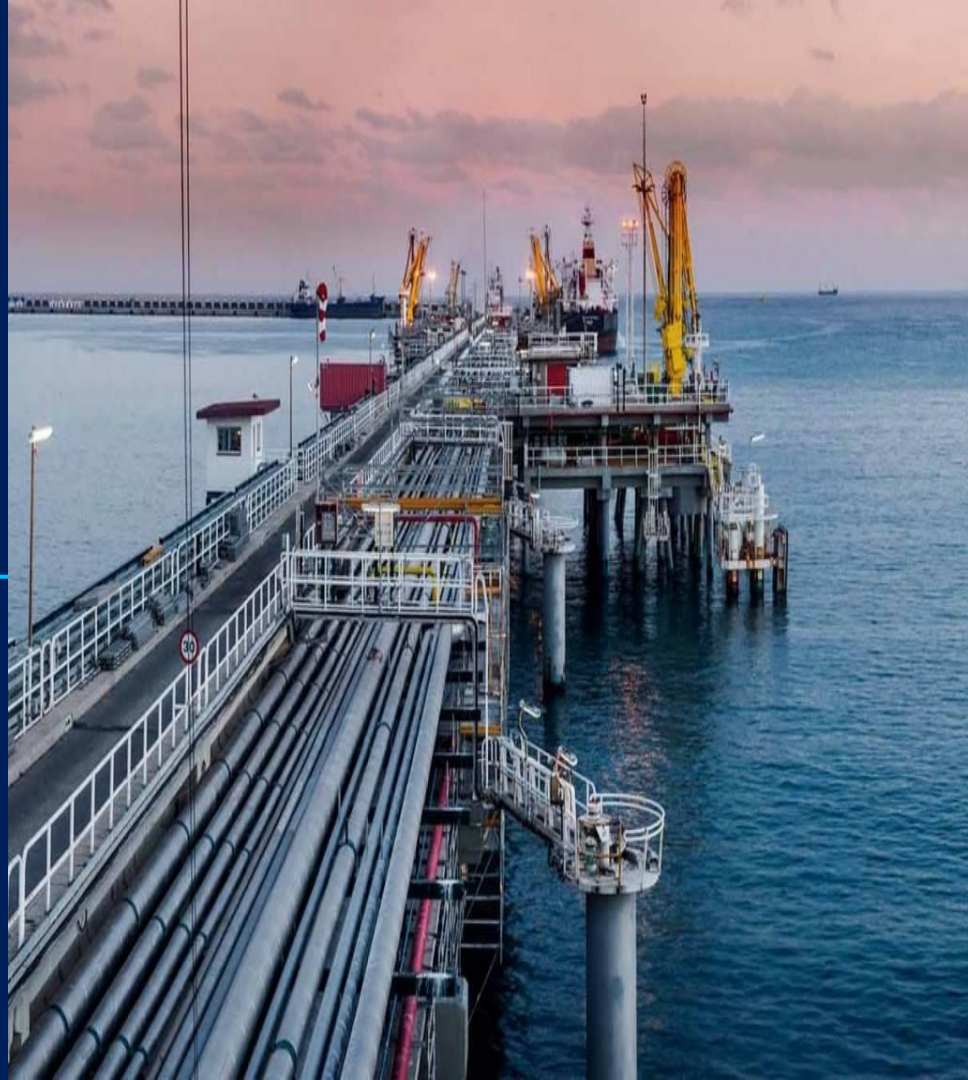


What level of Human Factors do you need to stay safe?

Presented by:
Barry Kirwan

Date:
22nd May 2025





1987



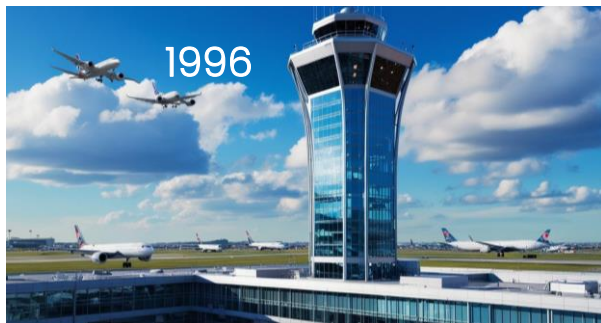
2015



2019



1984



1996



Today

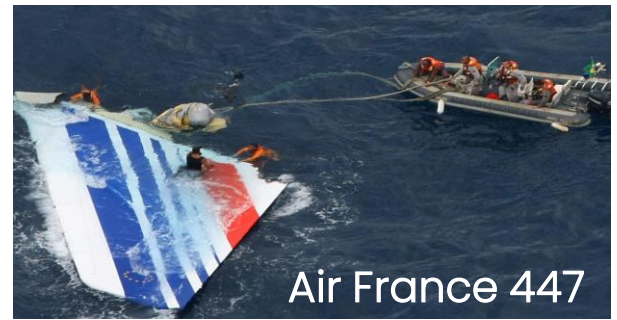
My CV



Three Mile Island



Piper Alpha



Air France 447



Chernobyl



Deepwater Horizon

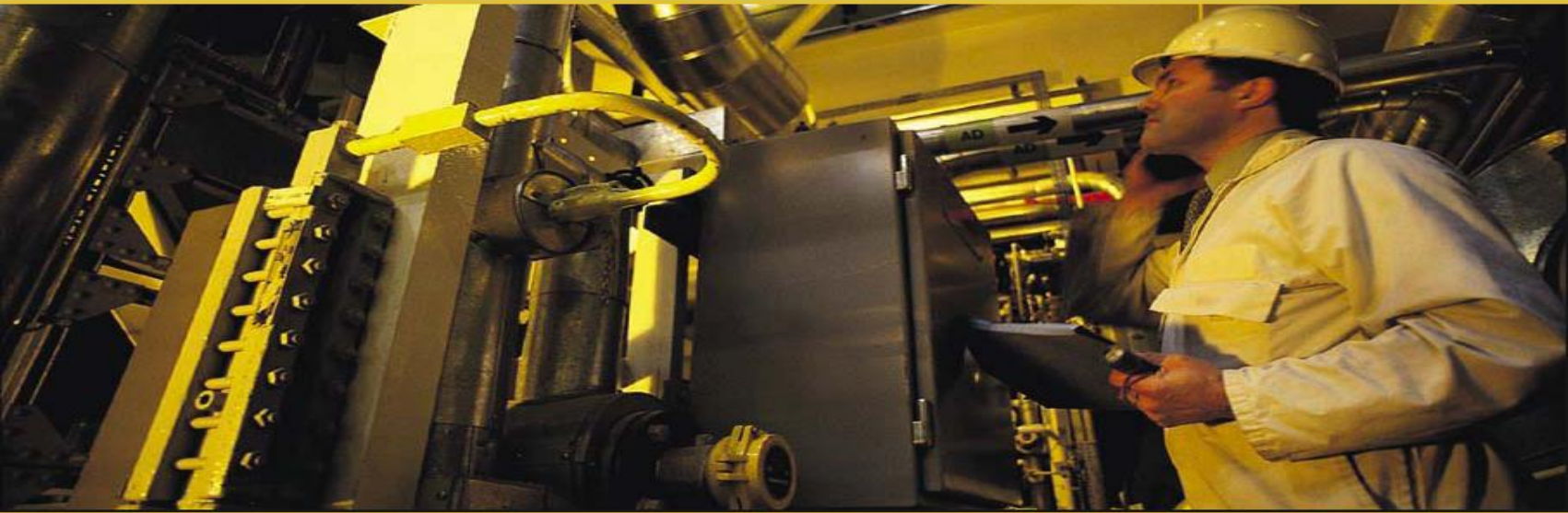


Boeing 737 Max (2)

My other CV

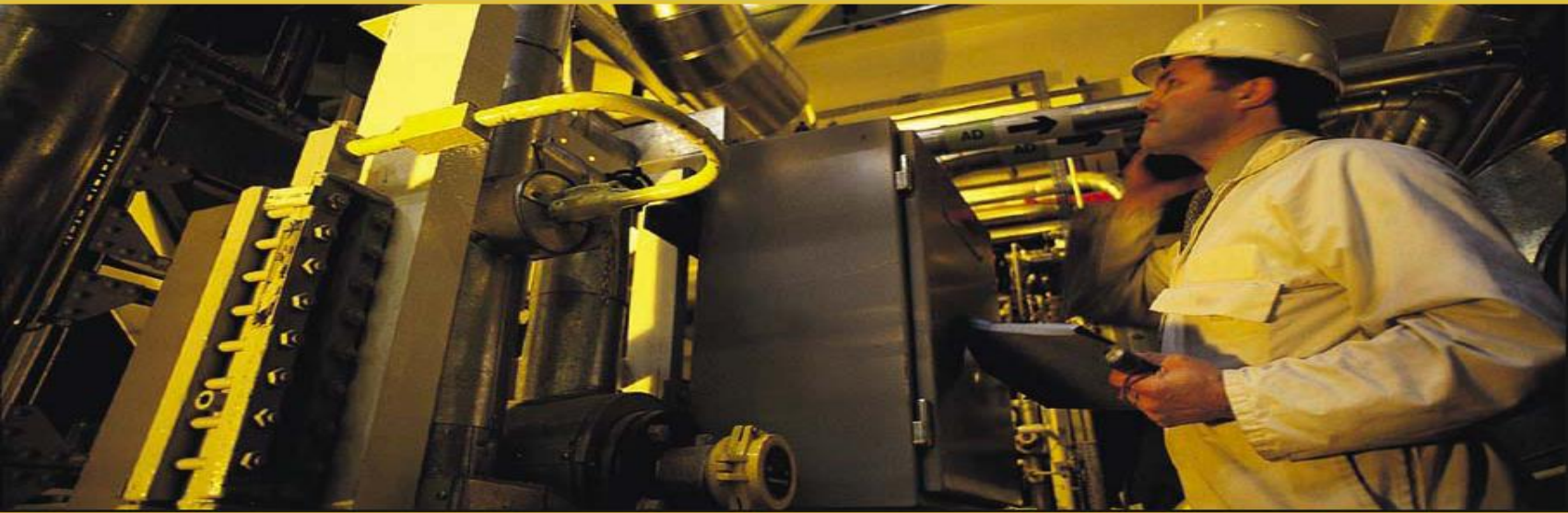
Human Factors & Safety Culture

Human performance is about people at work, and covers workload, teamwork and communications, situation awareness, decision-making, well-being, fatigue and human error.



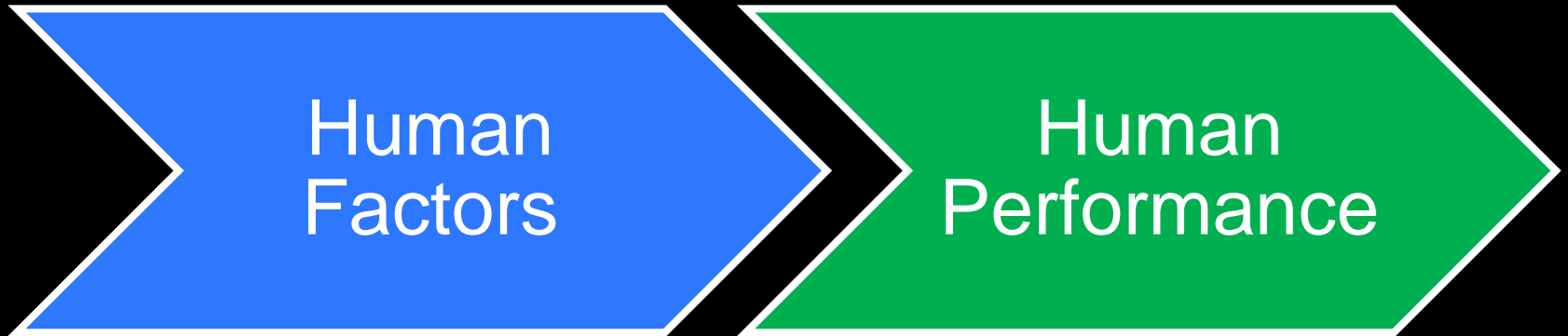
Human Factors (HF) aims to optimise human performance. It focuses on design of the operator's tasks, equipment and user interfaces, procedures and training, teamwork, and the physical and organisational environment.

Desempeño Humano versa sobre personas en su puesto de trabajo y abarca la carga de trabajo, comunicaciones, concienciación situacional, toma de decisiones, bienestar, la fatiga y el error humano.



Factores Humanos (HF) tienen como objetivo optimizar el desempeño humano. Se centran en el diseño de las tareas del operador, de los equipos y el interfaz de usuario, de los procedimientos y de la capacitación, así como del entorno físico y organizativo.

Human Factors can improve human performance



The Human Factors Landscape



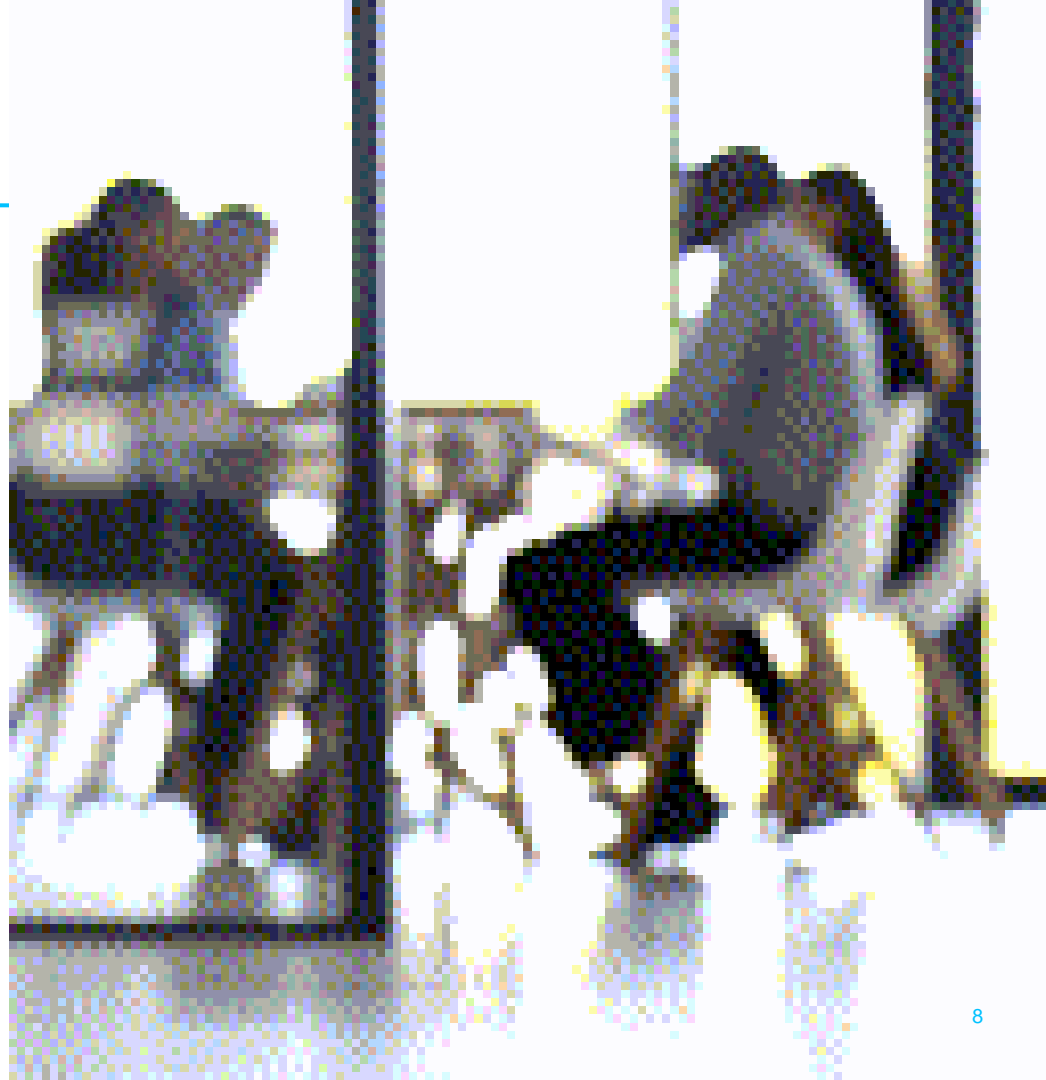
But how much Human Factors does a company need?

Where should the focus be?

Where does Human Factors fit in the company's processes?

Where does Human Factors fit in the organization?

How can we be sure it's working?



Our task

Conduct a human factors capability assessment of Repsol's Engineering Division to determine its level of Human Factors maturity against best practice.

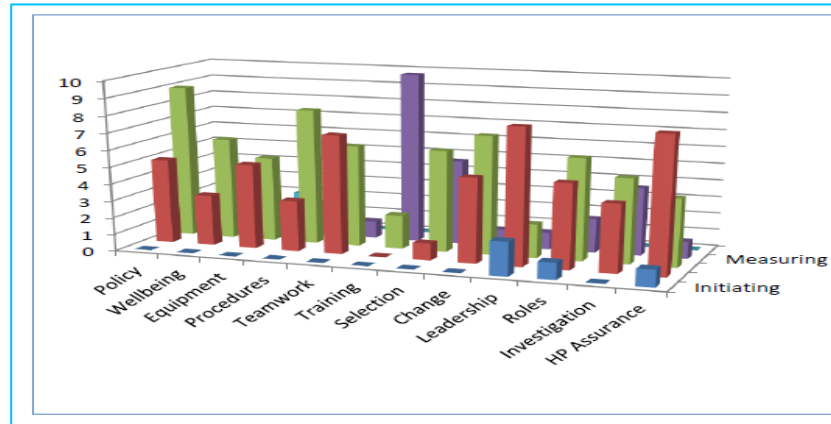
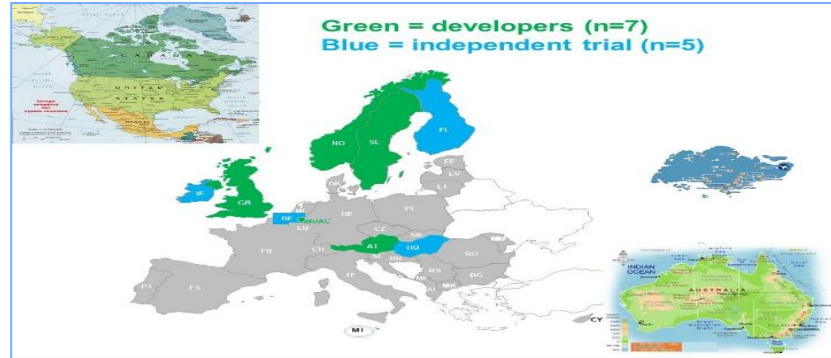


We've been doing this for a while...



A Human Performance Standard of Excellence

A EUROCONTROL-FAA Action Plan 15 White Paper
December 2015



The Big Five



Policy, Strategy & Resources



Equipment & Support Tools



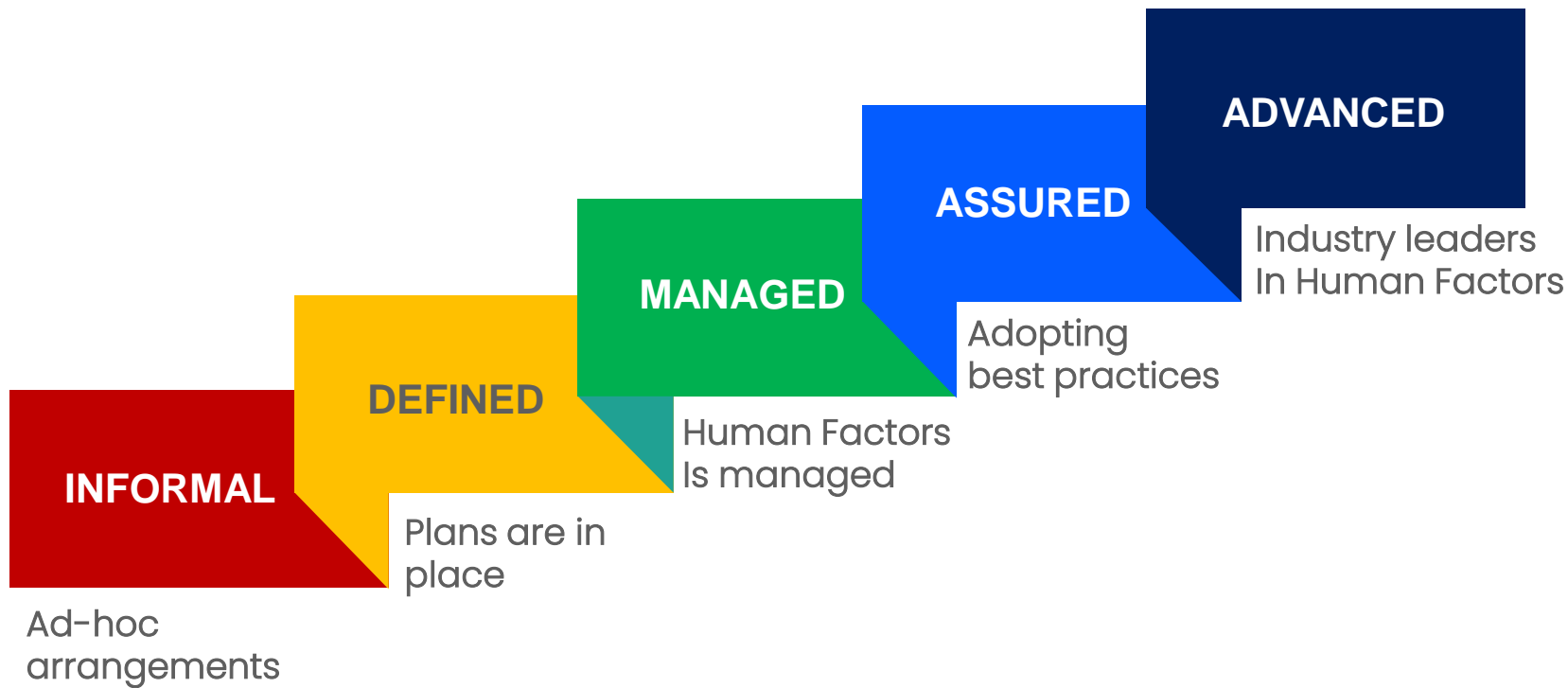
Impact of Change



Investigation & Learning



Human Performance Assurance



**Is Human Factors
connected in the
right place(s) in
REPSOL?**



**Design, Engineering, Safety, Operations, Training,
Occupational Health...**

Policy, Procedures & Strategy

Level 2 Defined

Repsol has included HF/HP elements within appropriate domain policy such as Safety Assurance.

Level 3 Managed

There is a Human Factors integration Plan, as well as a formal review process, for each design project, with objectives and requirements to be achieved by each key design phase.

Level 4 Resilient

Human Factors in Repsol is led by a champion with a formal HF qualification. The Human Factors unit has formal interactions with the design and safety teams.

Level 5 Advanced

Repsol has a HF strategy which recognises the human as being integral to the success of the organisation (and is considered early in concept development).

Equipment & Support Tools



Equipment & Support

Level 2 Defined

Operational end users are included as part of the project team and are involved in design review, testing and acceptance processes.

Level 3 Managed

Specialists evaluate human interfaces related to design using human factors tools and processes. Human performance issues are managed through a project-wide issues Register.

Level 4 Resilient

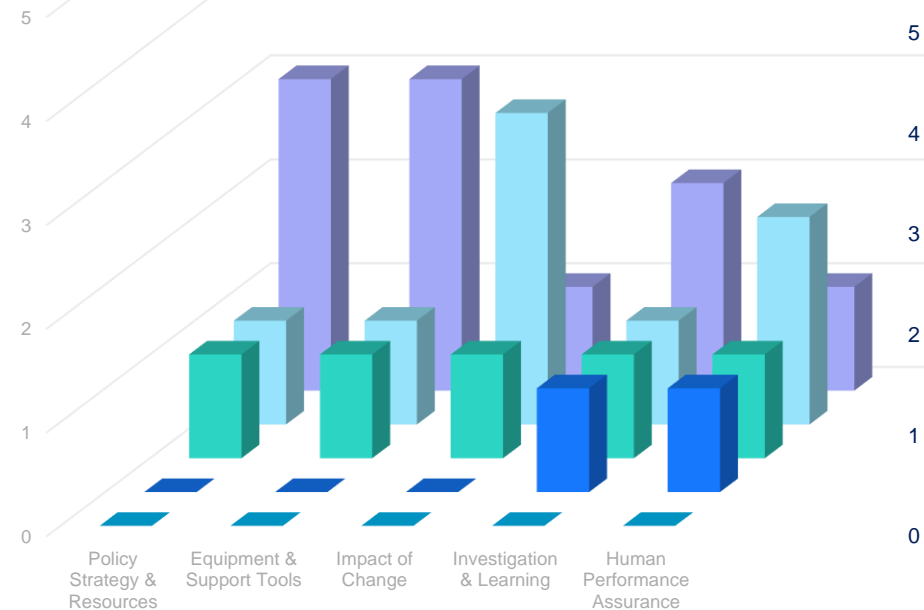
Human performance / factors is an integral part of the safety assurance activities, e.g. HAZOP, HAZID, HRA etc.

Level 5 Advanced

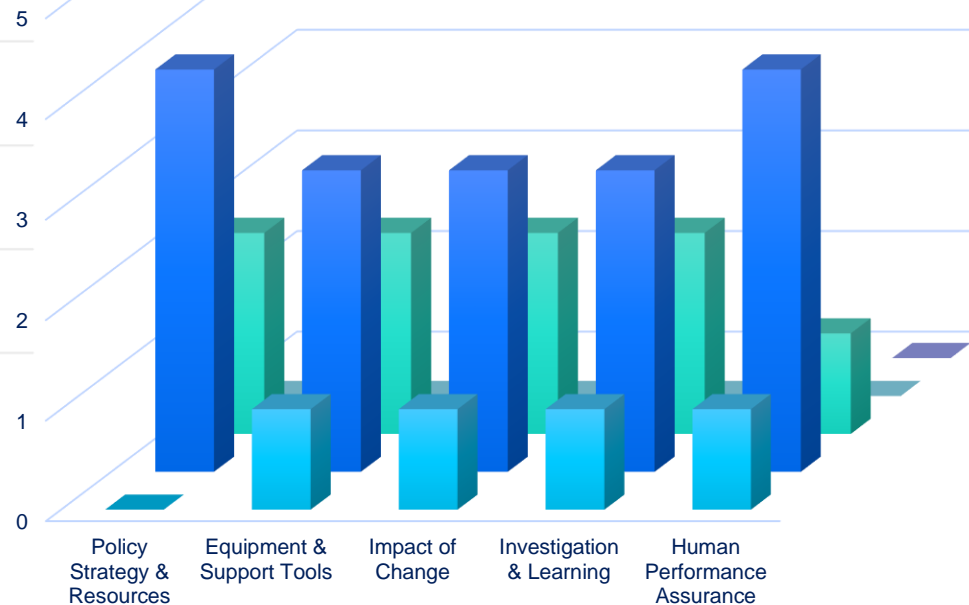
REPSOL carries out or funds research on new ways to enhance human performance.

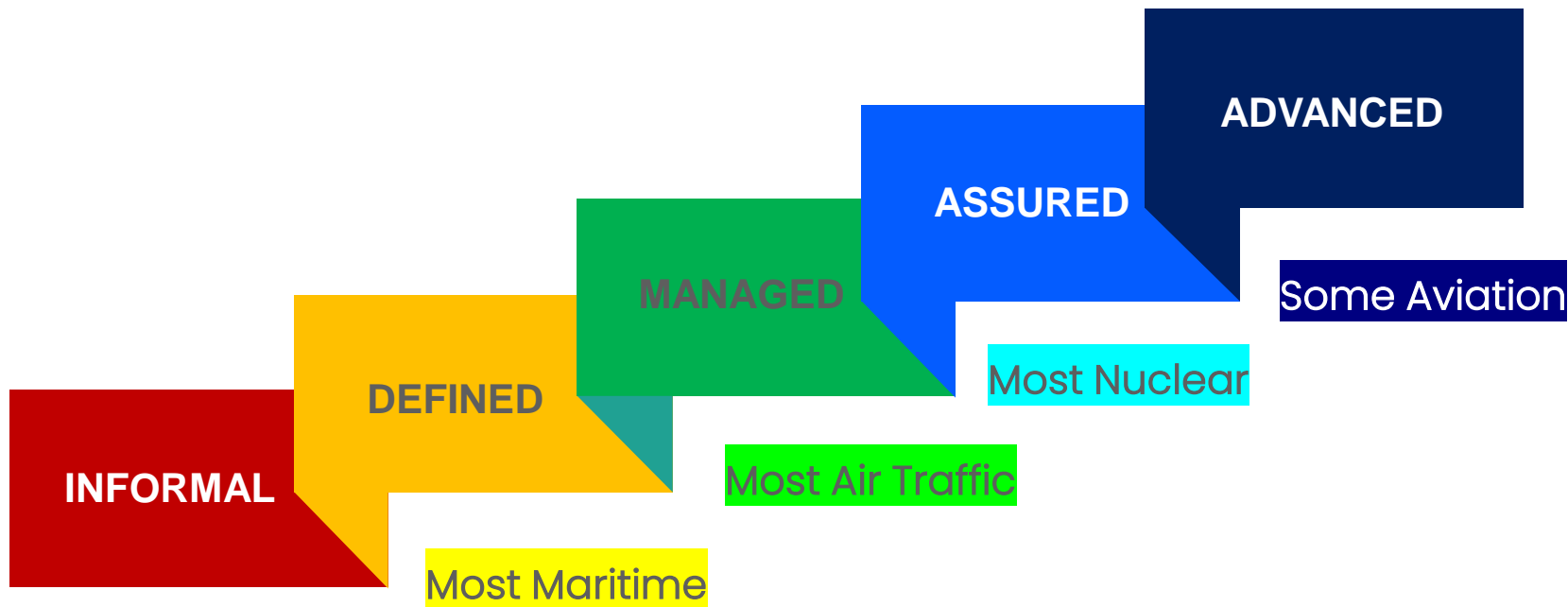
A tale of two industries

AVIATION



MARITIME





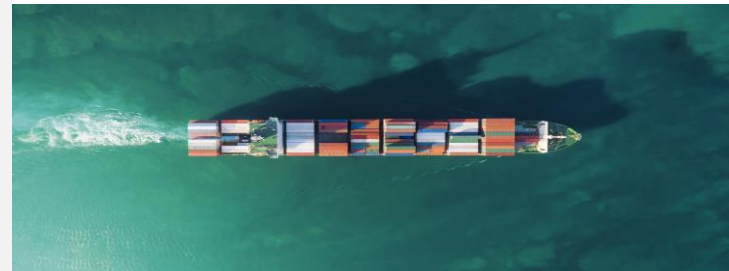
In ***Aviation*** we want better methods, more widespread application



In ***Rail***, things are improving, more rail companies recruiting HF people



In ***Maritime***, understanding of HF is still very rudimentary and sparsely applied





Thanks for Listening!

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