



Safety II in context

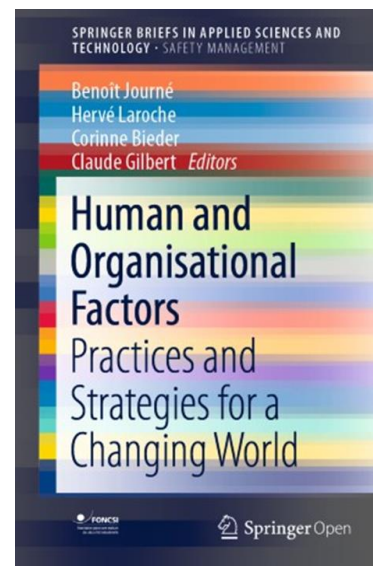
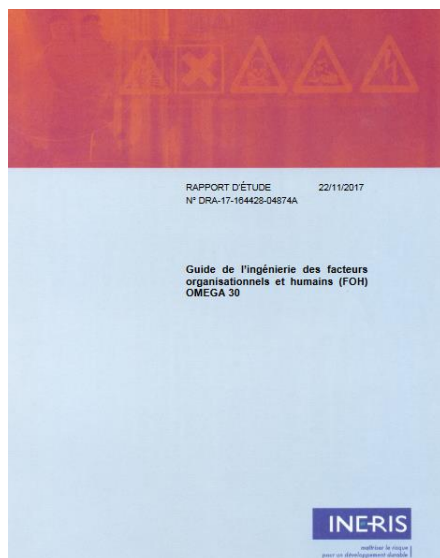
a discussion

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Jean-Christophe Le Coze

Safety II in context

For a few years, there has been a growing interest *in* « *human and organisational factors* » as they are promoted in safety-critical companies



Safety II in context

Publication of a guide on “*human and organisation factors engineering*” in 2017 (in French)

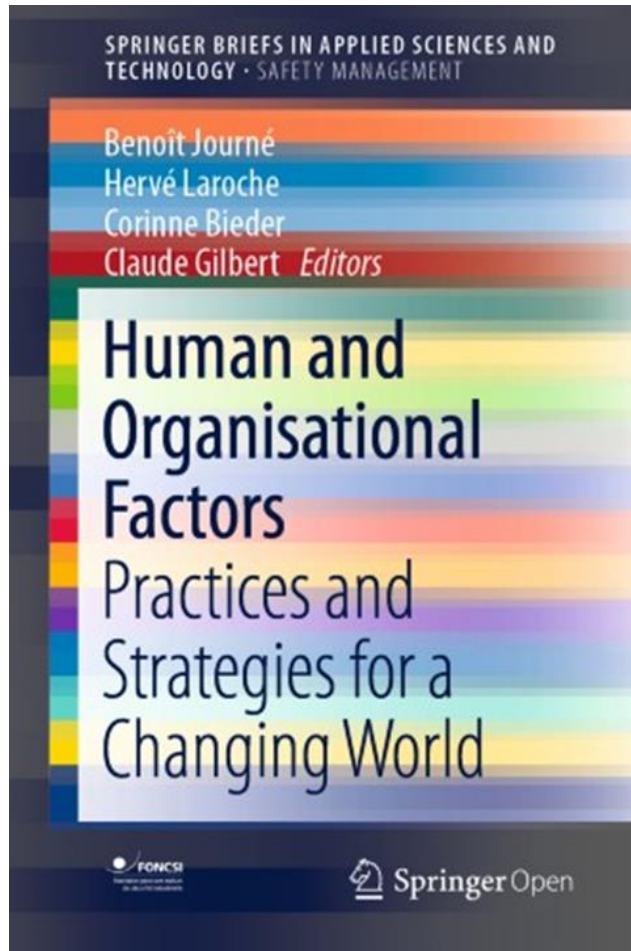
<https://www.ineris.fr/fr/omega-30-guide-ingenierie-facteurs-organisationnels-humains-foh>

Helping companies to develop and implement their programs

Working group with some companies to exchange practices and experiences (2020-)



Safety II in context



Following the publication of the guide, a working group with various researchers and practitioners on this topic in the following years (2018-2019) which led to a free publication available online

<https://link.springer.com/book/10.1007/978-3-030-25639-5>

Safety II in context

« *Human and organisational factors* » is an expression used to refer to a translation of *human and social sciences* into actionable methods and practices in the industry, in particular high-risk industries (1970s onwards)



Nuclear power plants



Nuclear weapons



Commercial aviation



Safety II in context

There are many examples and a diversity of stories of translations from human and social sciences to industries (we have heard some of them mentioned during the workshop):

- Safety culture
- Crew resource management
- High reliability organisations
- Just Culture
- ...
- Safety II



Safety II in context

One interesting aspect of “*human and organisational factors*” (HOF) is the different historical, legal, political, organisational and social contexts across safety critical systems on this topic

Safety II in context

Let's think for instance of:

- Nuclear industry
- Aviation
- Railway
- Healthcare



Case 1. Nuclear Power Plant



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Cas 2. Agriculture. Silos.

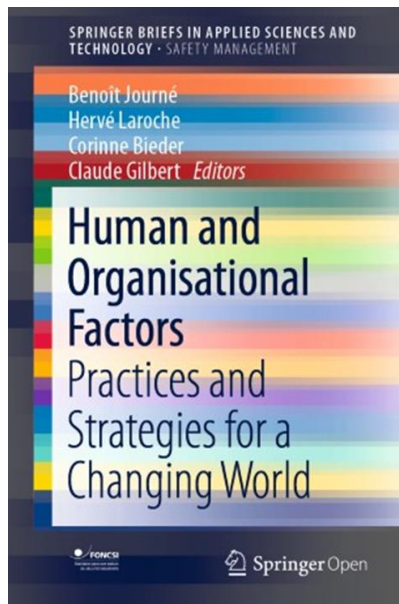


- internal resources in companies on human and organisational factors (e.g. R&D department), including programs with universities,
- networks of dedicated practitioners (e.g. internal consultants),
- control authorities with an eye on this topic (e.g. the national expert body has experts, the independant agency has experts), and ,
- an international activity through global players of the profession (Wano, IAEA)

- no internal resources on human and organisational factors,
- no network of dedicated practitioners (e.g. internal consultants),
- control authorities with an eye on this topic,
- no international activity nationally or internationally on this topic

Safety II in context

The notion of maturity is used for instance to refer to the context which is more or less favourable to embrace, incorporate and promote views of practices based on the insights of human and social sciences translated in actionable models, methods and processes



The Key Drivers to Setting up a Valuable and Sustainable HOF Approach in a High-Risk Company such as Airbus

Florence Reuzeau





Safety II in context

Key dimensions of HOF maturity are (1/2)

Number and activity of competent people to promote “*human and organisational factors*” in organisations

- **Experts** with qualification/education in human and social sciences
 - Inside or outside companies
- **In house professionals** trained in “*human and organisational factors*”

Their position in organisational structures & their relationship with top and middle management



Safety II in context

Key dimensions of HOF maturity are (2/2)

Favourable regulatory contexts pushing for integrating HOF in companies' processes

Scope of HOF in companies' processes:

- In design
- In daily operation
- In learning after events (including crisis)

Safety II in context

Development of a maturity matrix in the guide (Ineris, 2017)



		Avant		Pendant		Après		
FH	1	/		1	Projet en cours pour déploiement de 'visites sécurité' pour les opérationnels par l'animateur FOH et suite à sensibilisation de l'ensemble du personnel	1	Projet en cours par l'animateur sécurité pour déploiement, par les opérationnels dans différents services, d'analyse d'accidents.	Expertise métier
	2	/		2	L'animateur formé aux FOH met en œuvre deux projets FOH dont visite sécurité. Rédaction par l'animateur FOH d'attendus de sensibilisation aux FOH des prestataires.	2	L'animateur formé aux FOH met en œuvre deux projets FOH dont analyse d'accident. Participation à certaines analyses prévues.	Sensibilisation FOH/réseau
	3	/	4	Consultant ergonomiste pour modifications d'installations	3	/	4	Consultant externe pour session de sensibilisation de l'ensemble du personnel aux FOH
FO	1	/		1	Intégration des activités FOH dans le système de management de l'entreprise.	1	/	Expertise métier
	2	/		2	/	2	/	Sensibilisation FOH/réseau
	3	/	4	/	3	/	4	/

Tableau 3 : Illustration de l'ingénierie à partir d'une étude de cas



Safety II in context

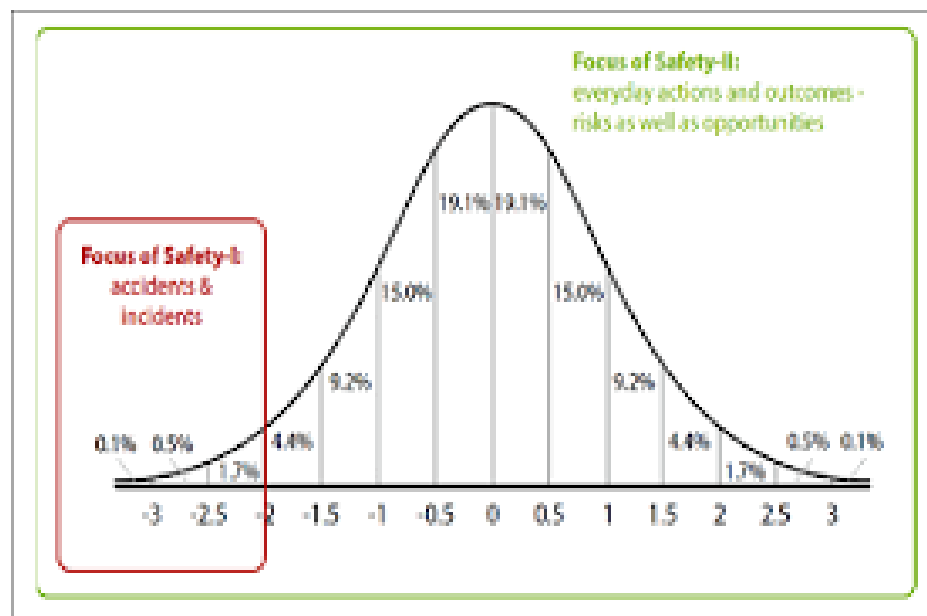
Safety II is one recent case of “*human and organisational factors*” approach which is popular because of its discourse and combined visuals designed to change mindsets about work & safety:

- *What goes right - what goes wrong*
- *Work as done - work as imagined*
- *Variability & Adjustments - Compliance & Standards*
- Combined with many clever visuals

Safety II in context

Many clever visuals for (1/6)

- Thinking
- Communicating
- Analysing
- Engineering
- Convincing
- Enacting



Safety II in context

Many clever visuals for (2/6)

- Thinking
- Communicating
- Analysing
- Engineering
- Convincing
- Enacting

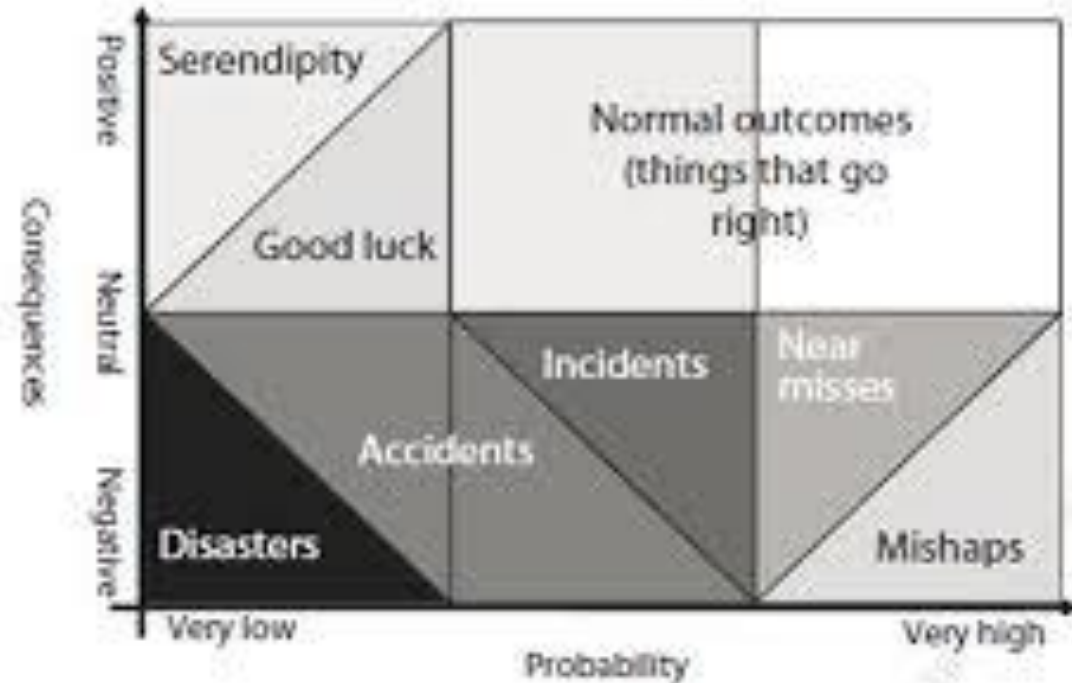


Safety II in context

Many clever visuals for (3/6)

- Thinking
- Communicating
- Analysing
- Engineering
- Convincing
- Enacting

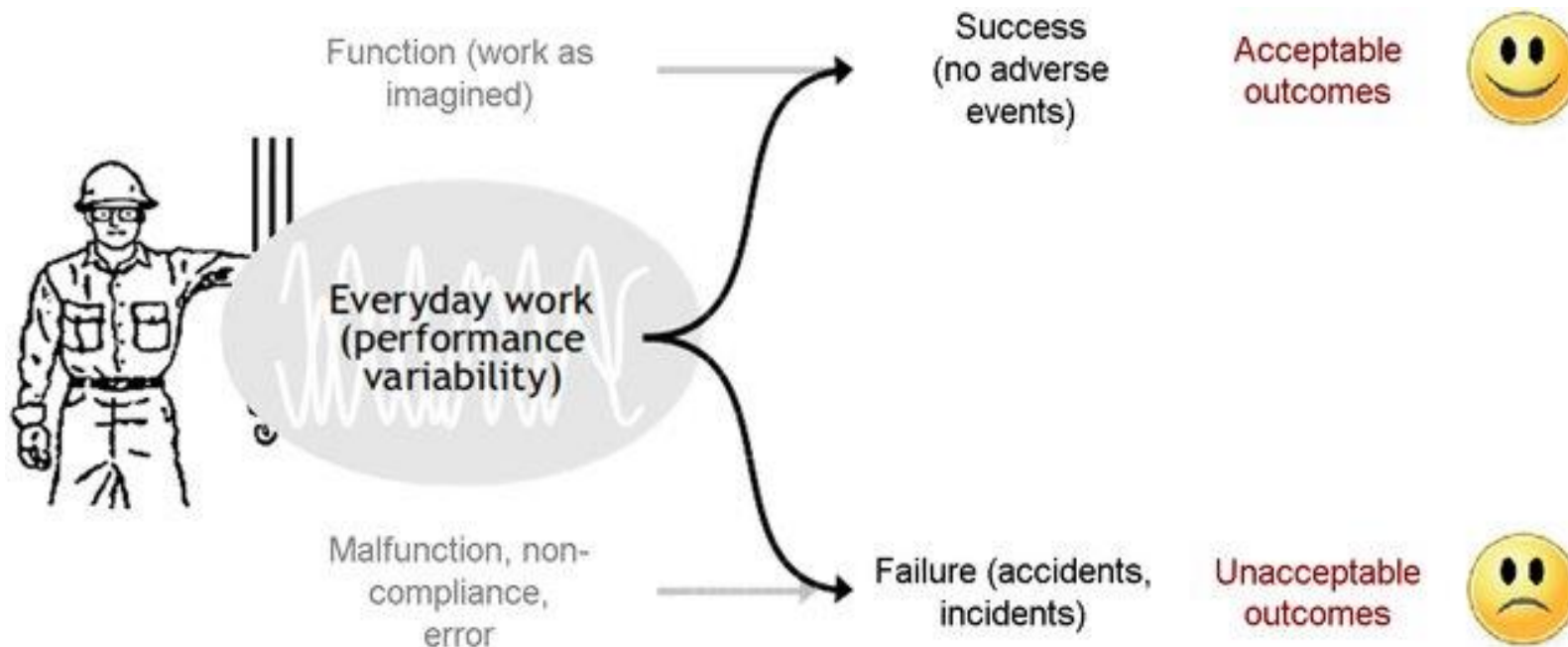
why safety-II?



Safety II in context

Many clever visuals for (4/6)

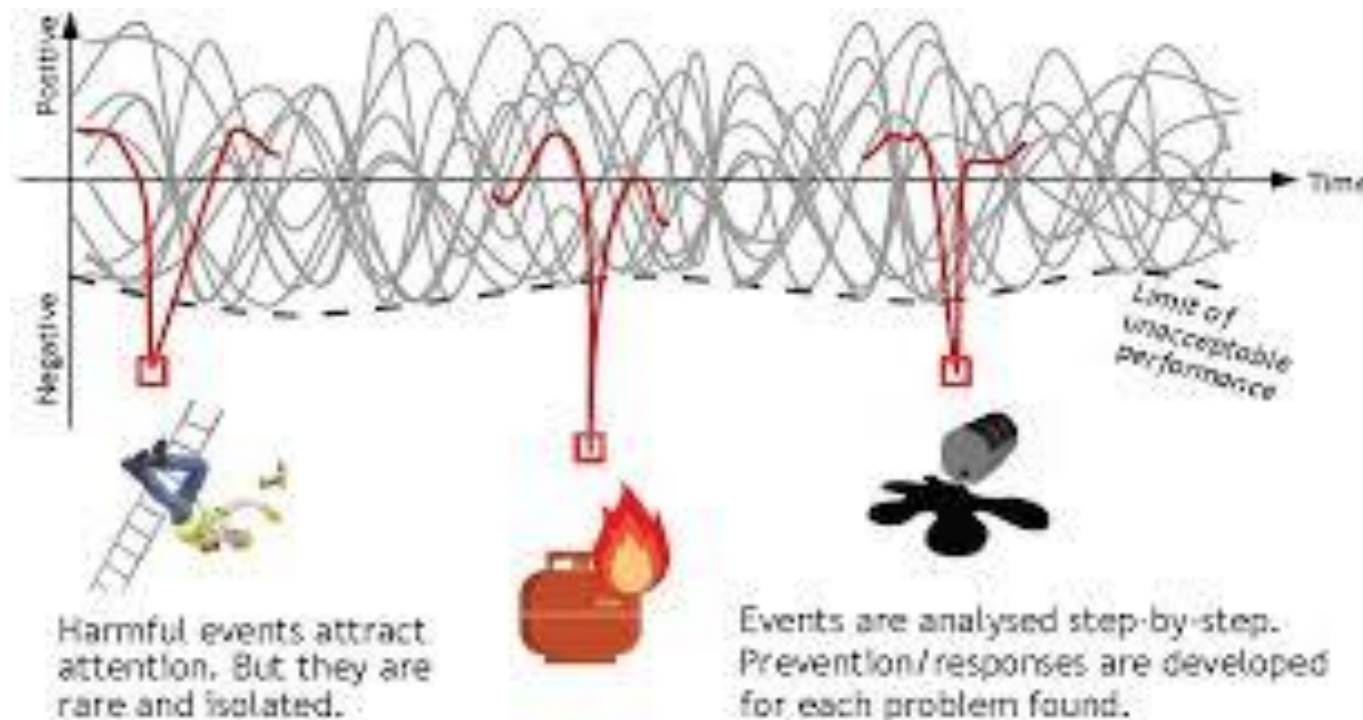
- Thinking, communicating, Analysing
- Engineering, Convincing, Enacting



Safety II in context

Many clever visuals for (5/6)

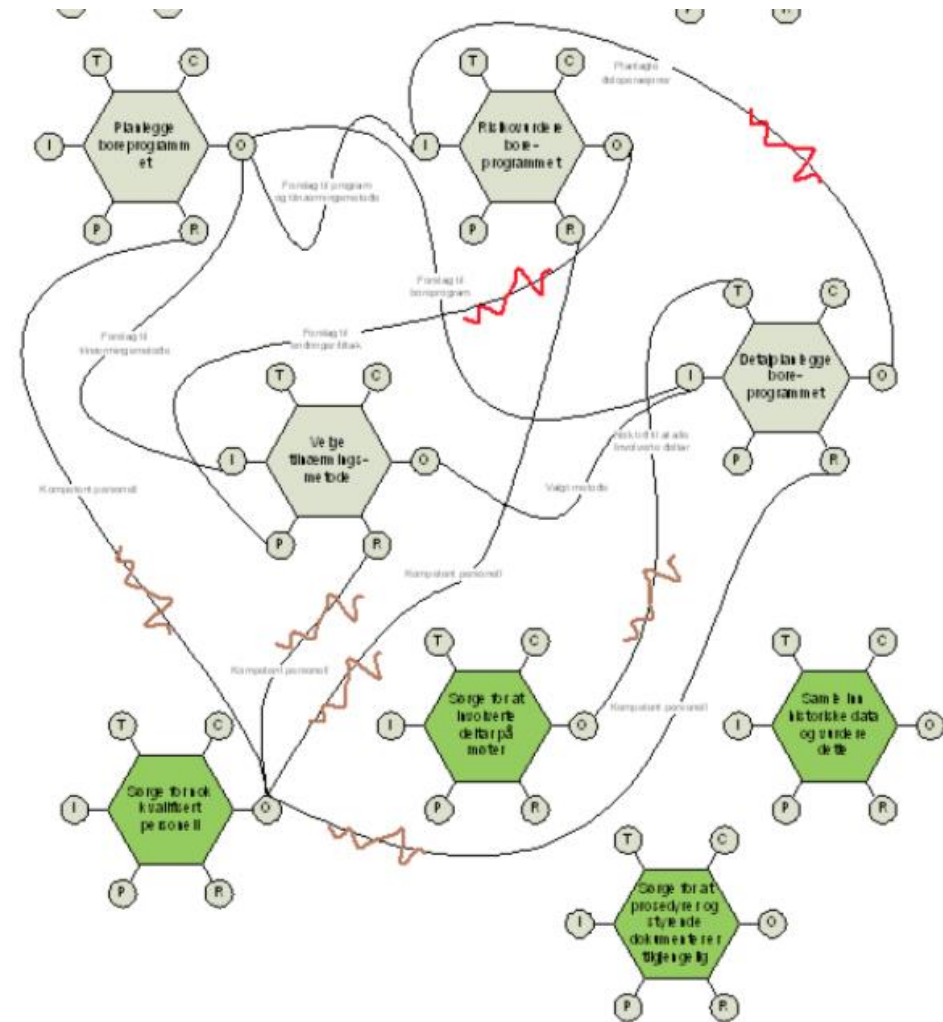
- Thinking, communicating, Analysing
- Engineering, Convincing, Enacting



Safety II in context

Many clever visuals for (6/6)

- Thinking
- Communicating
- Analysing
- Engineering
- Convincing
- Enacting





Safety II in context

But as many other of the approach mentioned, it probably depends on the maturity:

- expertise available inside/outside,
- positions in organisational structure & relations with top & middle management
- processes covered (design, operation, learning)
- regulatory expectations

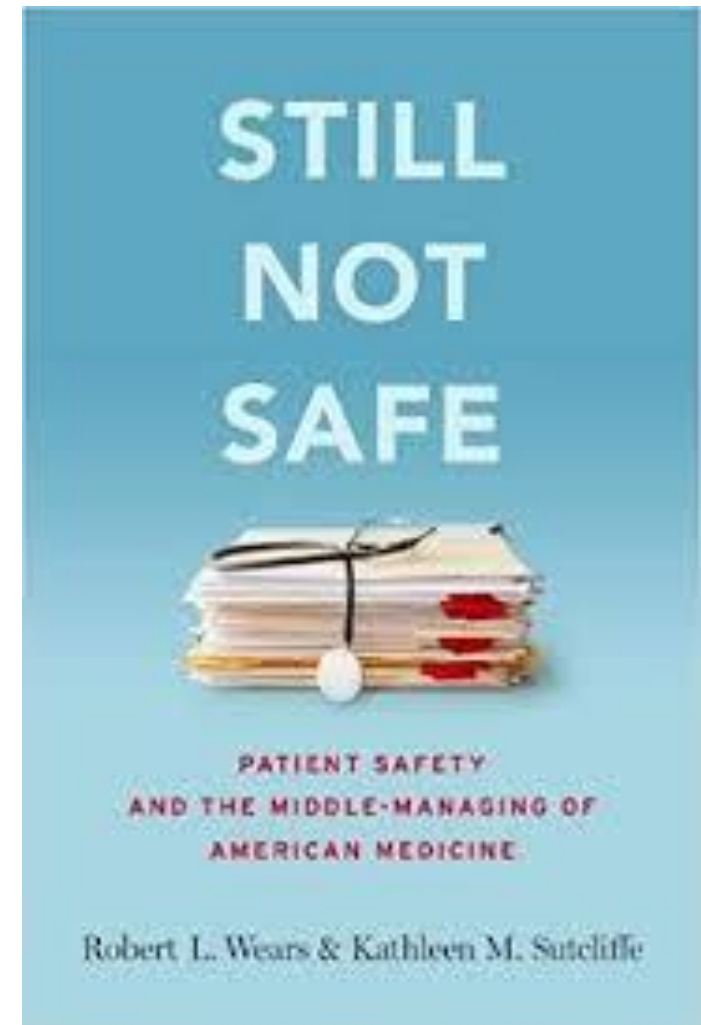
level of the safety critical industry concerned...?

Safety II in context

A recent book is highly critical with the current trend of the *patient safety movement* in US for its lack of ability to embrace the Safety II discourse

What does it say of the healthcare maturity level in relation to “*human and organisational factors*”?

-> First day presentation on healthcare investigations (Melanie & Deinniol)



Safety II in context

During this workshop, we have heard experiences from people developing Safety II initiatives in their organisations,

for instance, Air Traffic Control in Sweden by **Maria** on Tuesday and airline companies today with **Kristine, James & Adam** (in railway now)



Marcin asked a question about the implementation of the SII mindset into full scale in a global, multinational corporation



Safety II in context

Questions for the discussion:

Has Safety II found a way to produce an actionable discourse regardless of maturity levels of companies in “*human and organisational factors*”?

Or is there, also, a maturity issue for Safety II?

What does it take to promote the Safety II mindset across functions, expertise and hierarchies of complex organisations ?

What’s your view on these issues based on your experience?