

Optimizing the safety case through transdisciplinary research?

Appraisal of Workshop 04, SafeND23

In the workshop, three groups of participants dealt with the topics “design of a digital safety case”, “extended peer reviews” and “indicators”. The topic “extensions of the FEP¹-catalogue” had to be cancelled due to lack of interested participants.

For each topic, different transdisciplinary tools and methods were provided and could be tried out. This opportunity was well received by the participants at the end of the workshop who especially valued the highly interactive approach to the safety case.

Thus, the workshop can be perceived as an example of mutual learning: TRANSENS scientists learned about the views and knowledge of workshop participants, and the participants became familiar with transdisciplinary tools and methods.

1 Design of a digital safety case

Td-tool: Sailboat (structured brainstorming, open discussion)

Particularly interesting results from the perspective of the organising team: A certain degree of conflict could be observed: On the one hand, the focus was on the goals of transparency, accessibility and comprehensibility, which are intended to benefit actors such as the public, NGOs and journalism in particular; on the other hand, there was a common understanding that the safety case as a document in the site selection procedure must be tailored to the needs of the regulator (i.e. technical depth as a basis for legal certainty). Digitalisation, in particular the use of mark-up languages, offers many benefits with regards to structure, navigation and review of the safety case and aids the cooperation within a user community.

Integration of results: in progress, publication type still open

2 Extended peer reviews

Td-tool: Design Thinking (silent discussion, development of the prototype of an extended peer review, open discussion)

Particularly interesting results from the perspective of the organizing team: Extended peer reviews should be initiated by the regulator, because he represents the interests of society at large. The results should not be published in the classical

¹ FEP: features, events and processes

report format, but in an innovative way. Extended peer reviews can optimize the safety case, if they are carried out with a limited group of participants and do not divert resources from the required scientific tasks.

Integration of results: Report on Transdisciplinary Reviews (in German, publication by the end of 2023), www.transens.de

3 Indicators

Td-tool: Anonymous silent discussion (questionnaire), open discussion

Particularly interesting results from the perspective of the organizing team: Dose rate (i. e. annual individual effective dose) as the basis for assessing long-term safety was a subject of both silent and open discussion. A polarisation of the participants was observed: dose as a "standard indicator", which ultimately integrates all other indicators and can be easily communicated (e.g. through comparisons with known situations such as long-distance flights), versus dose as the result of model calculations, which are difficult non-experts to understand and are already fraught with uncertainties when considering the near future. The measurability of indicators was mentioned several times, which is interesting in the context of the immense time spans considered: Participants seemed to value measurability and consider it more trustworthy than modelling.

Integration of results: PhD thesis (in German, publication envisaged for 2025)

The participants' feedback on the Td formats was mostly positive. The focus was on the possibility to interact with other participants in different ways and to deal with a topic in new ways. However, there were also critical voices that criticised the fact that specific opinions were not sufficiently heard and questioned the usefulness of the Td approach.