



Supplement of

Extended peer reviews for resilient safety

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Extended Peer-Reviews for Resilient Safety

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Motivation

- Perception and reception of the Safety Case
 - Hints for sporadic unease and mistrust towards a complex work generated by a relatively small community of specialists
- Findings in the social science literature
 - Need to open science to society
 - Extended peer communities appropriate in the light of complex – in particular risk related – issues, pluralistic values and unpredictable developments
- Experiences from research within TRANSENS
 - Non specialists generate substantial input for improvements of the Safety Case, inspired among others by their professional knowledge and experience

Research Question

- Can a specific Safety Case
 - complementary to peer reviews -
 - be improved through transdisciplinary reviews?
- Transdisciplinary reviews («td Reviews») are extended peer reviews, performed in a td research setting using appropriate methods and tools

Peer Reviews of a Safety Case

Performed by persons within
the professional Safety Case community

- Types of reviews
 - Assessment of preliminary results on behalf of the implementer
 - Assessment on behalf of the authorities reviewing a Safety Case prepared by the implementer
 - Additional assessments of the Safety Case and the results of the official review, for example due to a political initiative

Td Reviews of a Safety Case

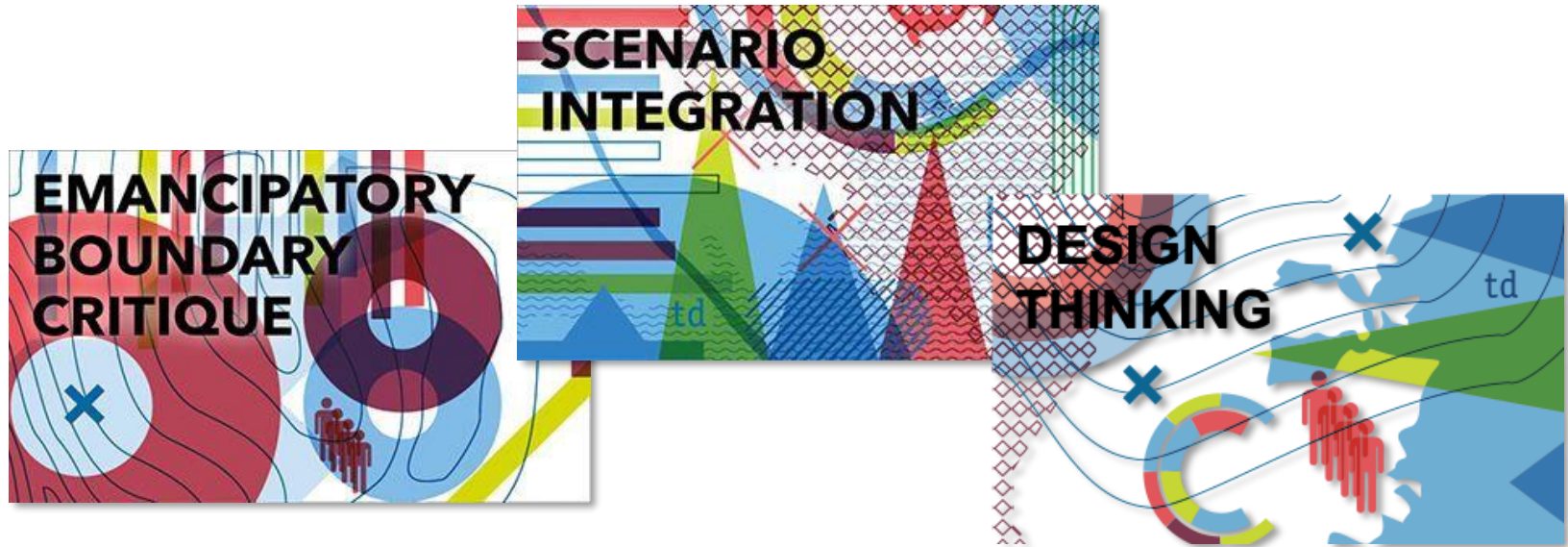
Performed by persons outside
the professional Safety Case community

- Characteristics
 - Aim of integrating different perspectives and knowledge
 - Use of transdisciplinary methods and tools
 - Interactive and participative
 - no tightly defined terms of reference

Transdisciplinarity

- Oriented towards scientifically addressing societal challenges
- Integrative and holistic approach
- Linking scientific and practical knowledge
- Participative, engaging td partners throughout the research process (co-production and co-design)
- Using specific methods and tools for systematic and comprehensible cooperation

Tools for Td Research and Td Reviews



<https://transdisciplinarity.ch/de/methoden/>

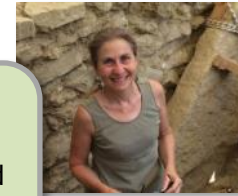
Relevant Types of Competence



“Independent” expertise from disciplines already represented in the Safety Case



Potentially useful competences in the fields of management, organization and methodology



Expertise from disciplines that are not or hardly represented in the Safety Case



Competences from life experience

Types of Results

- Content-related impulses
- Methodical impulses
- Notes on perception, reception and communication of the Safety Case

Implementation of Td Reviews

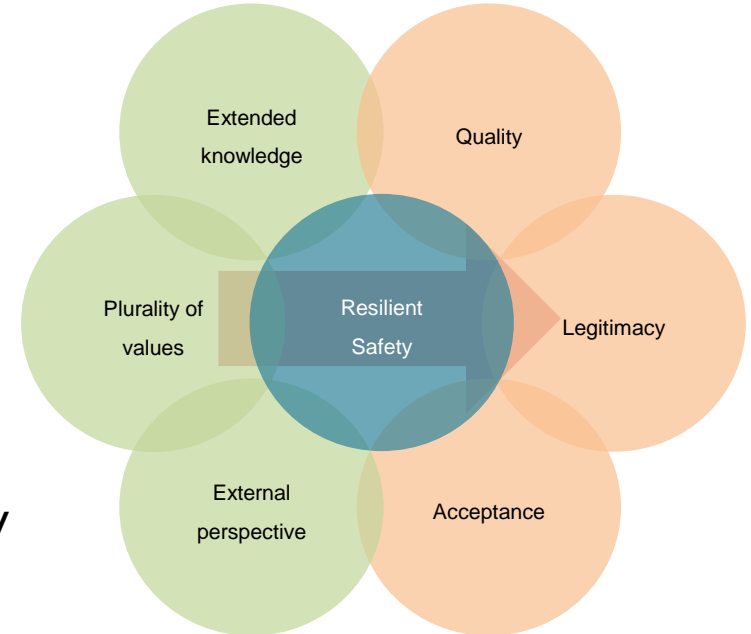
- Key points
 - Implementation ideally during the development of a Safety Case
 - Selection of reviewers based on the criteria of competence, representation, diversity and motivation
 - Mission balanced between participative openness and thematic focus
 - Professional support recommended

Td Reviews for Resilient Safety

- Introducing supplementary bodies of knowledge
- Integrating supplementary points of view
- Encouraging a self-questioning attitude in the Safety Case professional community
- Counteracting professional biases
- Fostering discourse

Impacts on Resilience

- Strengthening
 - Scientific quality
 - Legitimacy
 - Acceptance
- Contribution to the robustness of the Safety Case and the flexibility to respond appropriately to changes in the environment



Conclusion

- Can a specific Safety Case be improved through transdisciplinary reviews?
- Research results from TRANSENS and a number of arguments based on scientific literature speak in favor of extended peer reviews.
- Now it would be interesting to make a start with a real Safety Case.

Many thanks for your attention

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