

Comparison of the WB- and STAMP-Analyses of the Brühl accident

2. Bieleeschweig Workshop

Dipl.-Ing. Oliver Lemke

Braunschweig, 01.07.03

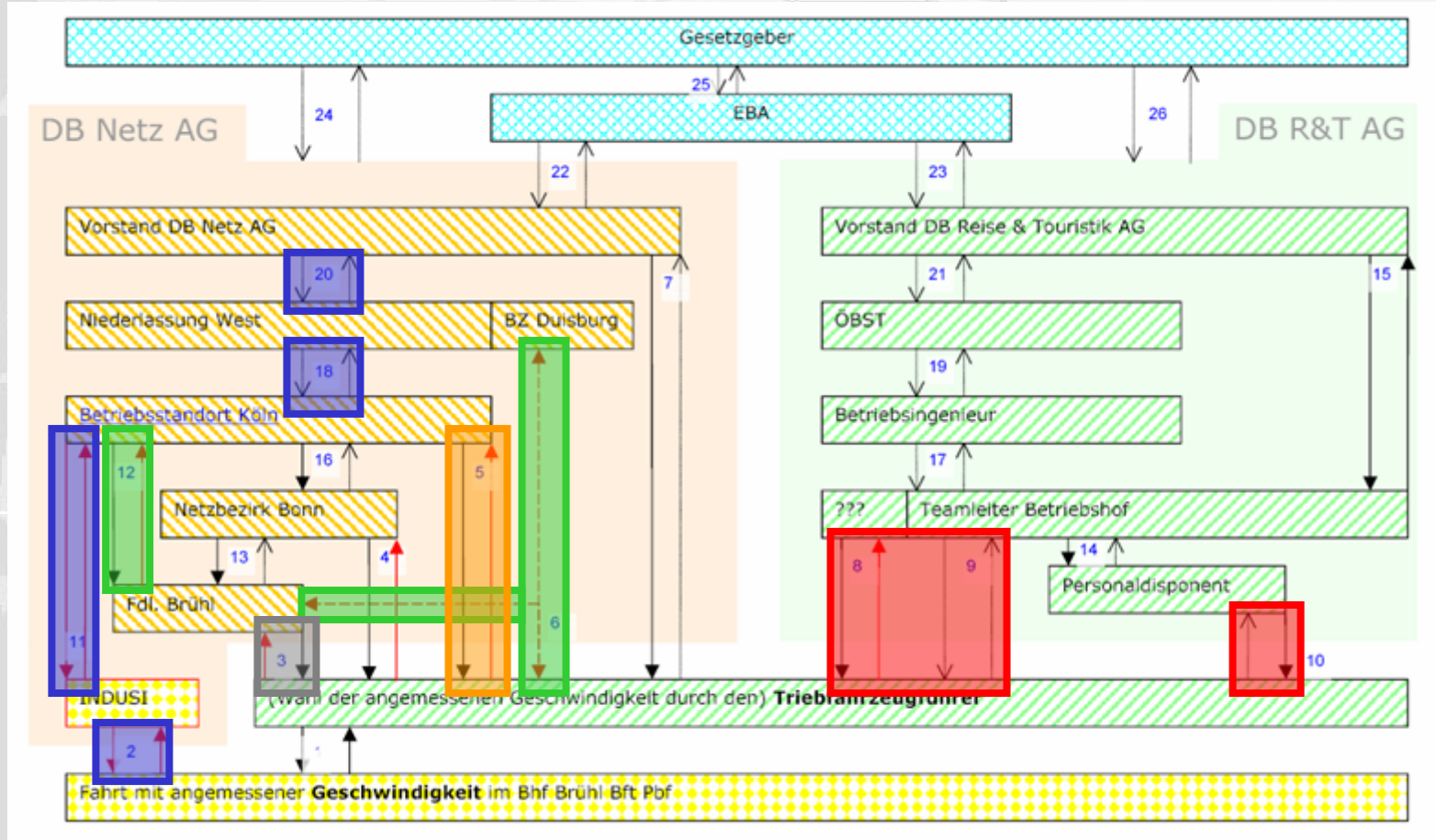
Identifying those aspects covered by both analyses

Aspects only covered by STAMP analysis

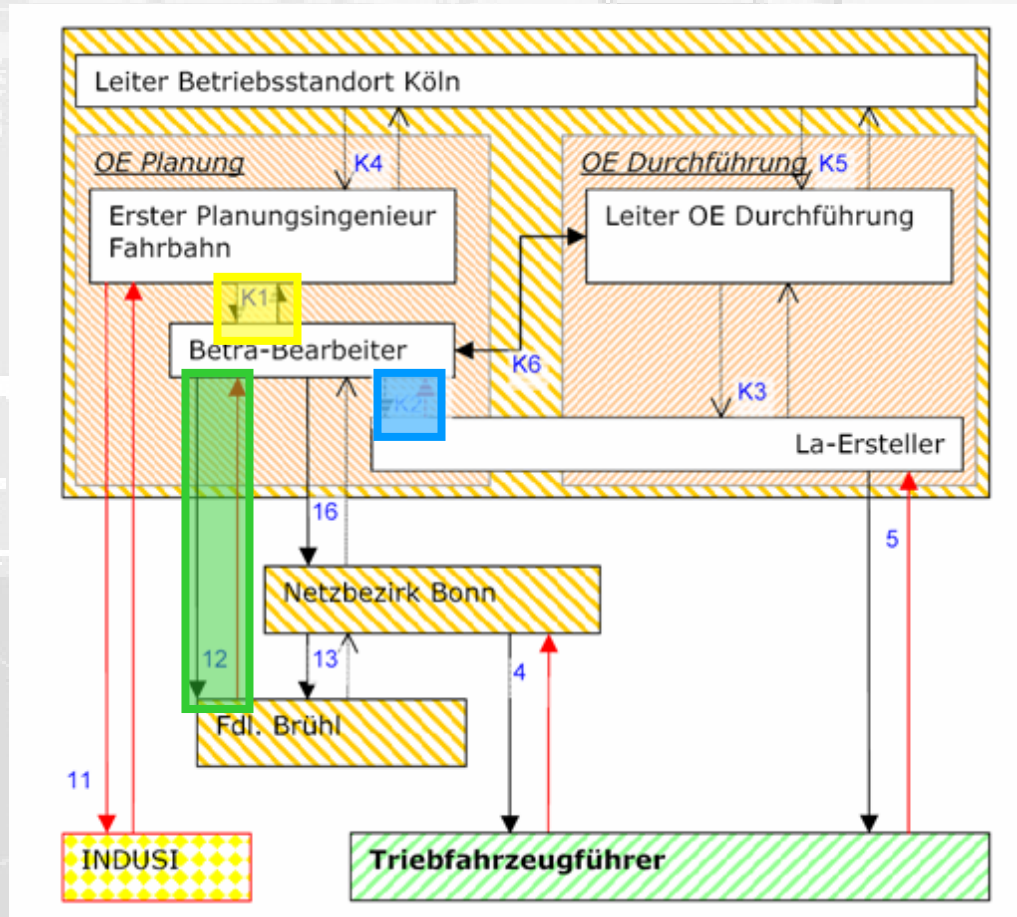
Aspects only covered by WBA

Conclusions

STAMP control structure I



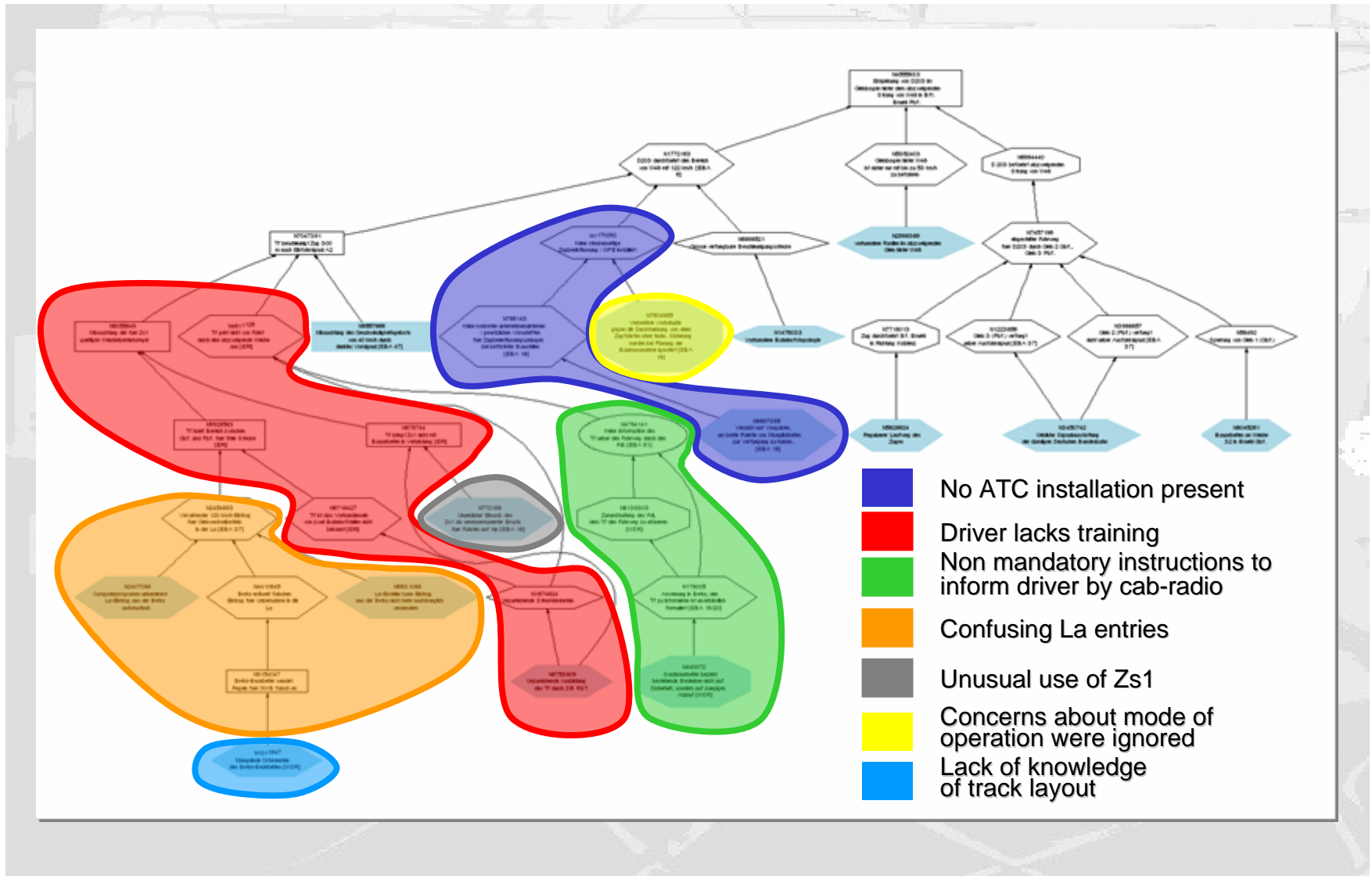
- No ATC installation present
- Non mandatory instructions to inform driver by cab-radio
- Unusual use of Zs1
- Driver lacks training
- Confusing La entries



■ Non mandatory instructions to inform driver by cab-radio

■ Concerns about mode of operation were ignored

■ Lack of knowledge of track layout



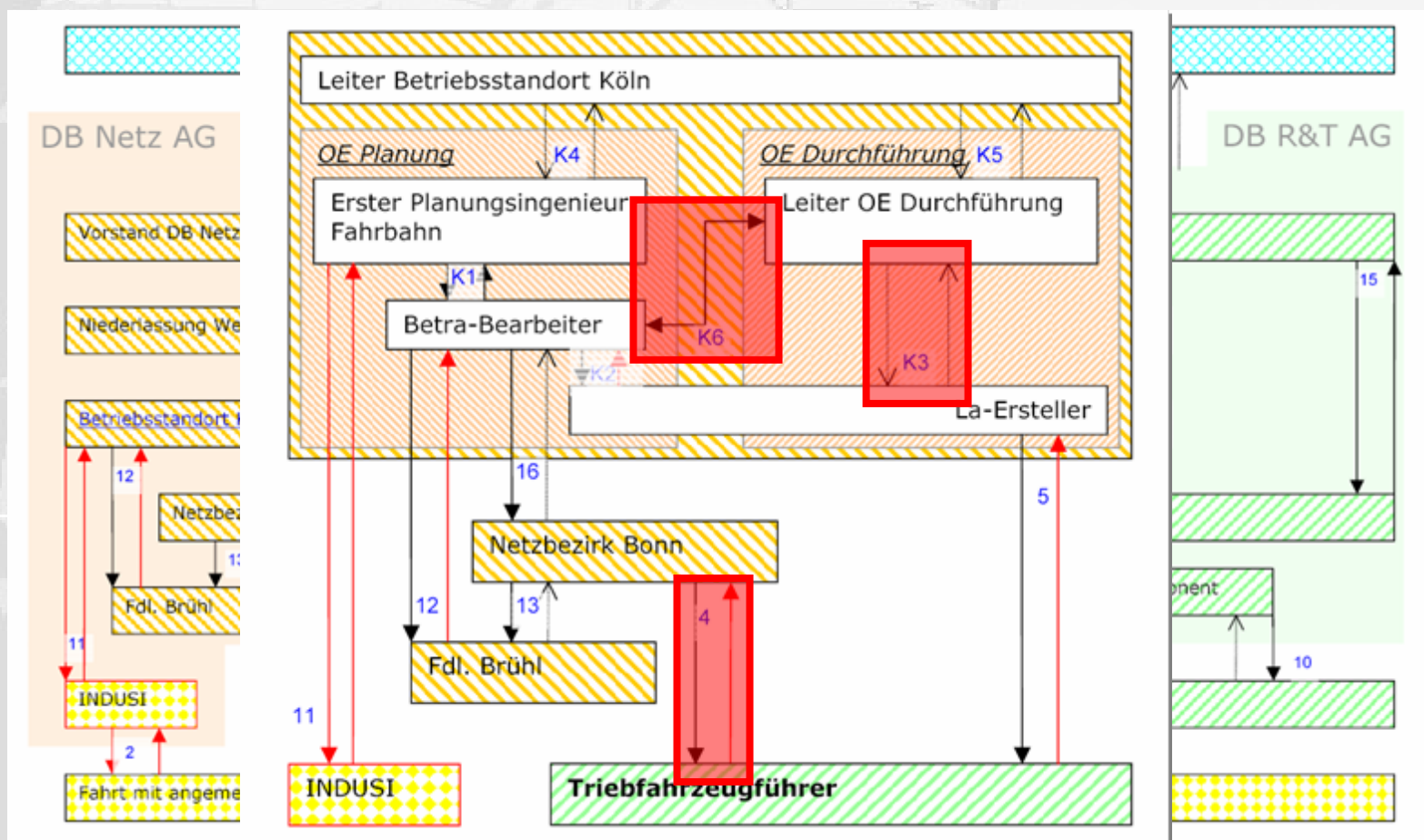
Identifying those aspects covered by both analyses

Aspects only covered by STAMP analysis

Aspects only covered by WBA

Conclusions

Aspects covered only by STAMP analysis



 Aspects only found by STAMP analysis

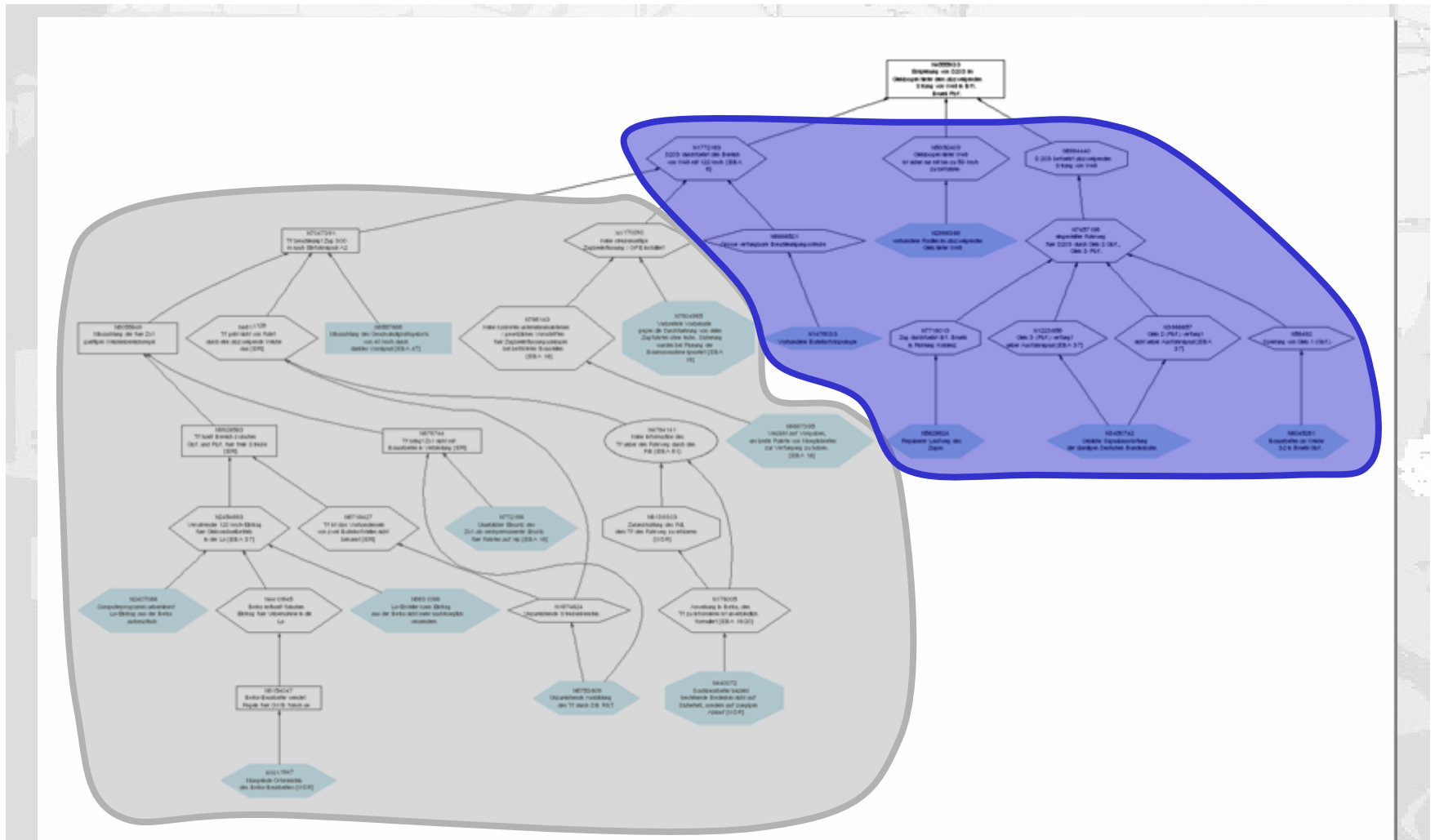
Identifying those aspects covered by both analyses

Aspects only covered by STAMP analysis

Aspects only covered by WBA

Conclusions

Aspects covered only by WBA



Aspects covered by both analyses

Aspects only covered by WBA

Identifying those aspects covered by both analyses

Aspects only covered by STAMP analysis

Aspects only covered by WBA

Conclusions

Aspects These aspects are part of faulty control structures but did not

Those aspects are causal factors for the accident but mostly describe processes / situations in compliance with rules and regulations or properties of the environment. They are not part of a faulty control structure.

directly contributed to the accident.

- The most important aspects are found in both analyses
- Both methods reveal additional factors:
 - Additional factors that form a kind of “necessary environment” of the accident are found in the WBA
 - Additional inadequate control structures that did not directly contribute to this particular accident are revealed in the STAMP analysis
- **Only the combination of both methods leads to a comprehensive analysis!**

- Are those conclusions true for any incident or are they “Brühl-specific”?
- Would the result (of the comparison!) have been different if the analyses (STAMP and WBA) had been performed by different people (“Reproducibility“)?
- Do we get a different result if we perform another analysis, e.g. with SOL?
- ...



Thank you for your attention!