

# Planning Concept for the Human-Robot-Cooperation (HRC) Using Software Tools and Virtual Reality

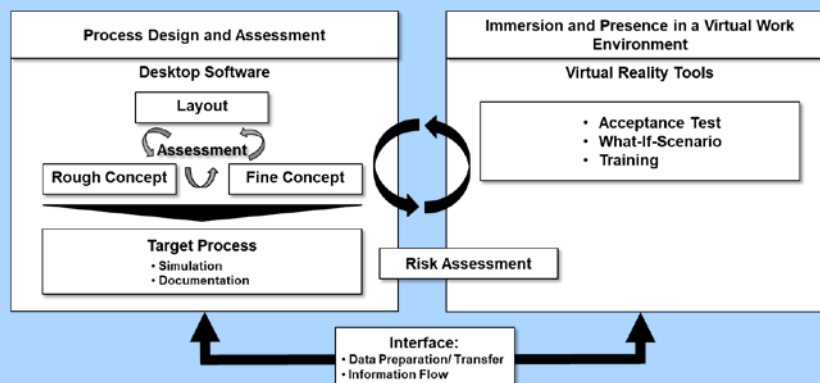
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## Motivation

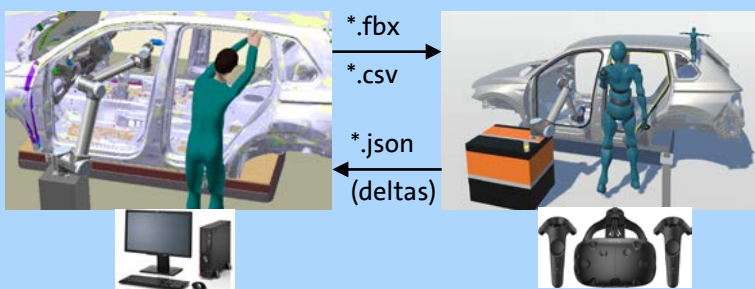
The scope of HRC planning revolves around hardware-based tests, which are normally costly, time-consuming and could cause injury

Aim: To realize a virtual planning for HRC application especially for cooperation between human and robot (including rough and detailed planning, risk assessment, acceptance test, virtual commissioning and training)

## Method



## Implementation and Evaluation



### Expert interviews with planners:

- N=16
- 23 questions with weighting factor
- 1-4 scales (1=good, 4=bad)

### Results:

- Interaction → 1,83
- User experience → 1.98
- Concept → 1.70

## Summary

- The planning of HRC can be carried out by using a combination of software and virtual reality tools
- Hardware-based tests can currently not be completely waived in the planning phase
- A precise reproduction of hardware properties in the virtual environment is the basis for interaction and acceptance tests.
- Interface between desktop and virtual reality tools must be standardized and simplified