

Domain



Motivation

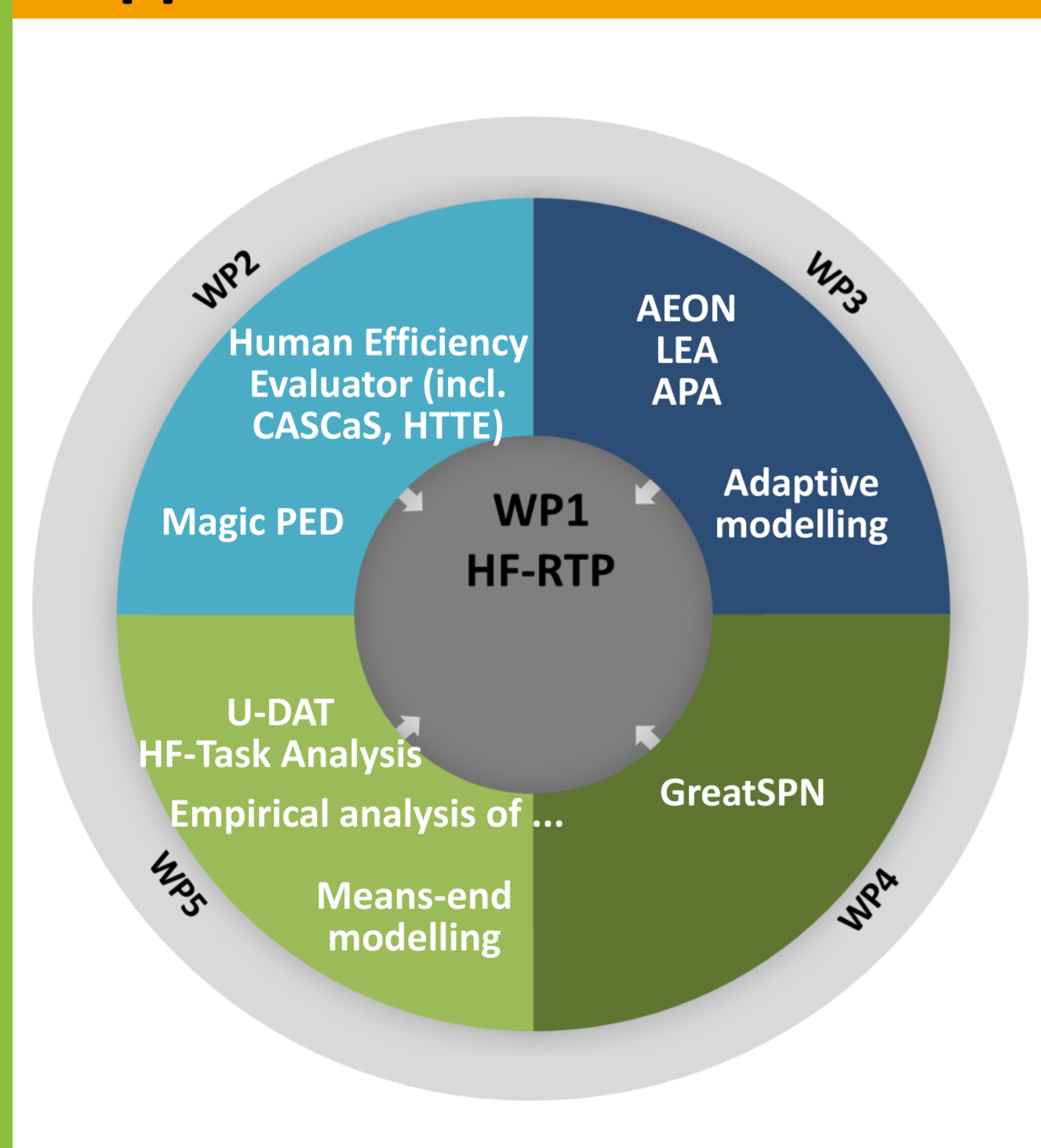
For the Health Work Package a diverse series of healthcare AdCoS and use cases are selected. All require strong interaction between machine, operator, and patient, which make adaptive human factor design very important.

MTTs that support the design process by **simulating and modeling** the AdCoS and user interaction are important to optimize the design.

MTTs to **test and validate** proposed designs and implementations are important to systematically access the quality, which is also a legal obligation.

MTTs to **summarize and archive** the results are important to be able to retrieve insights and validation results of previous designs.

Applied MTTs



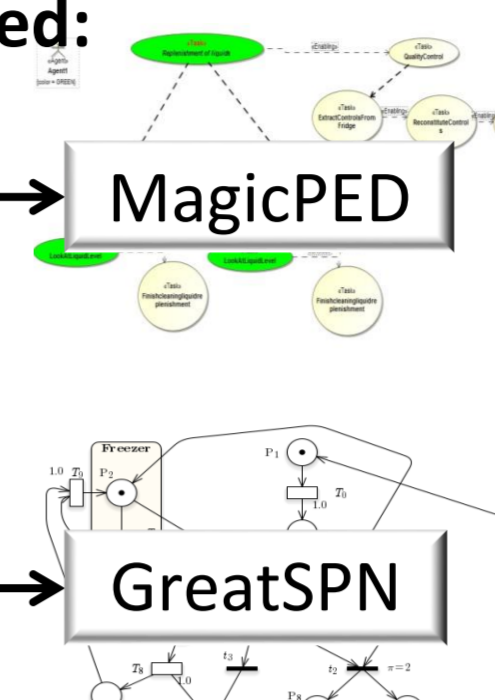
Current State: Tailored HF-RTP

A broad range of MTTs is currently exercised:

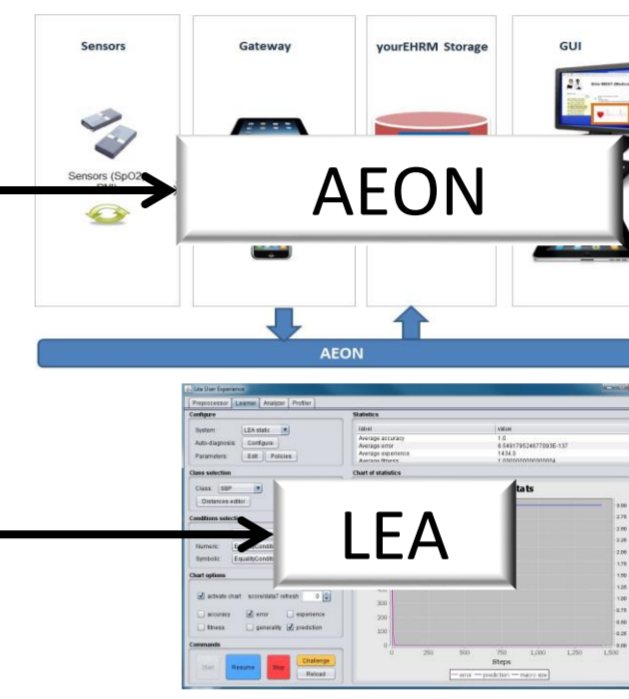
Hospital Workflow



Operator task schedule and guidance



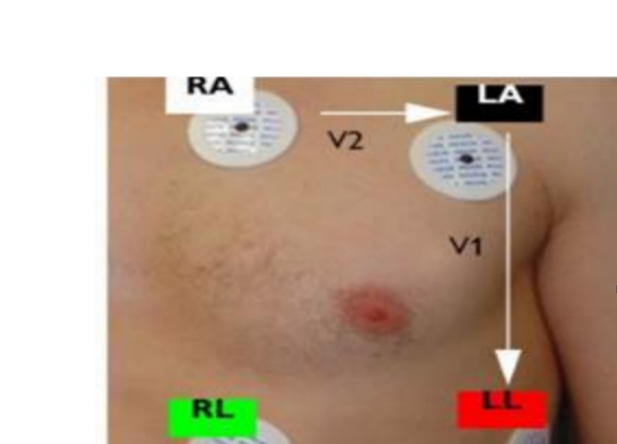
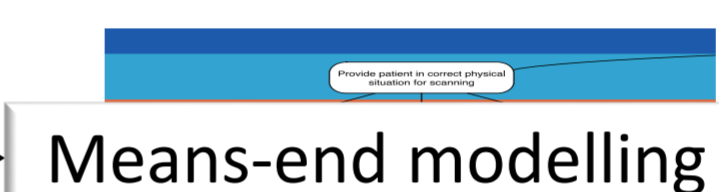
Querying openEHR data & Internal analysis and reporting



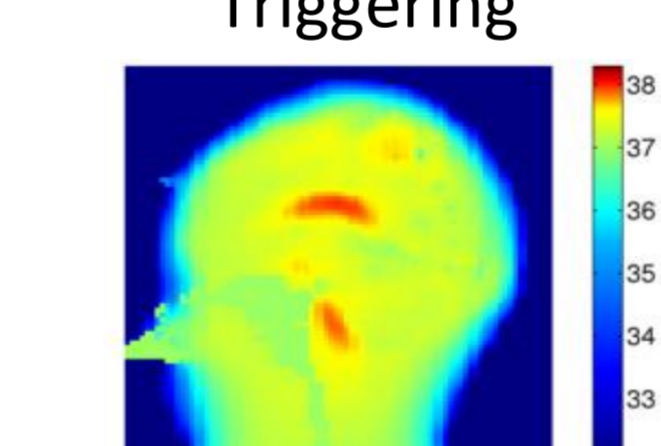
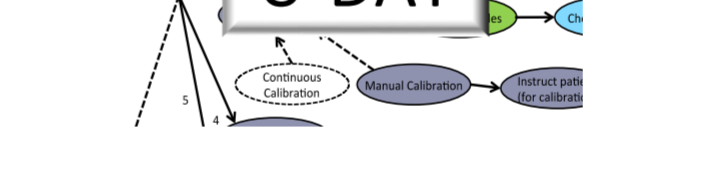
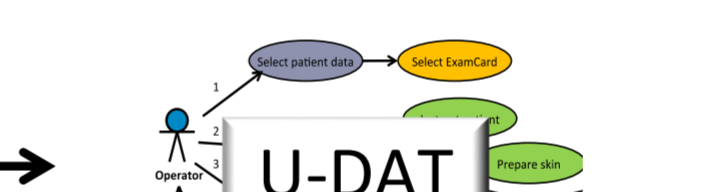
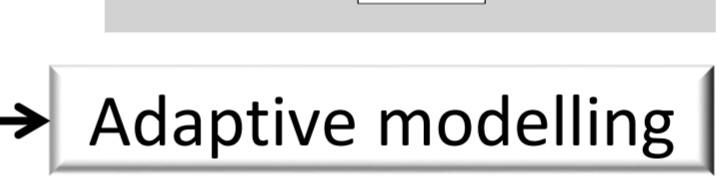
MRI diagnostics



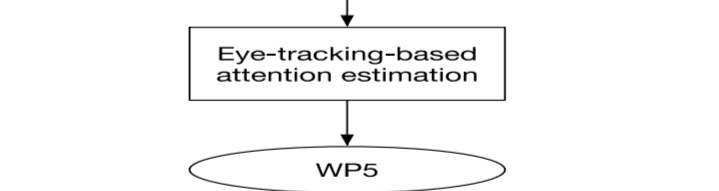
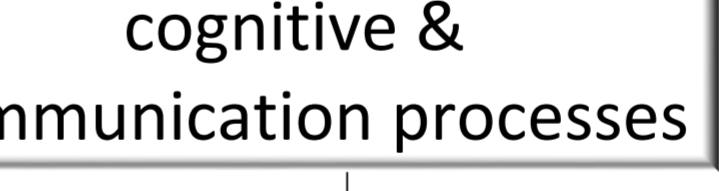
Guided Patient positioning



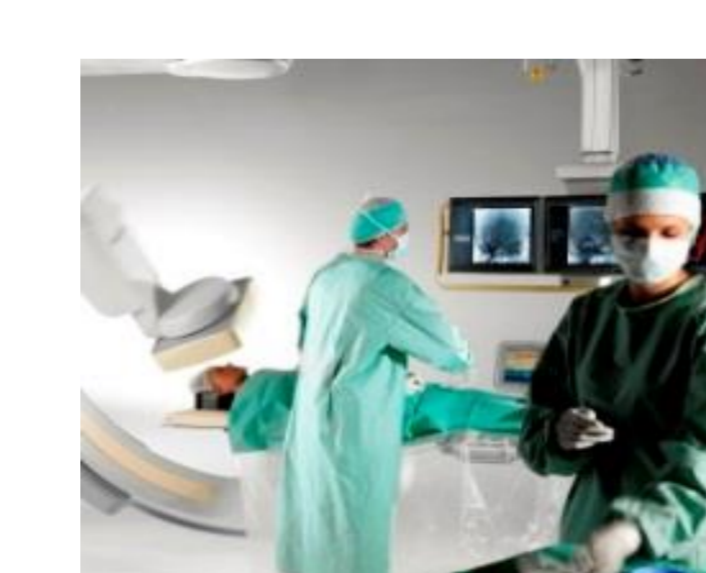
Robust ECG Triggering



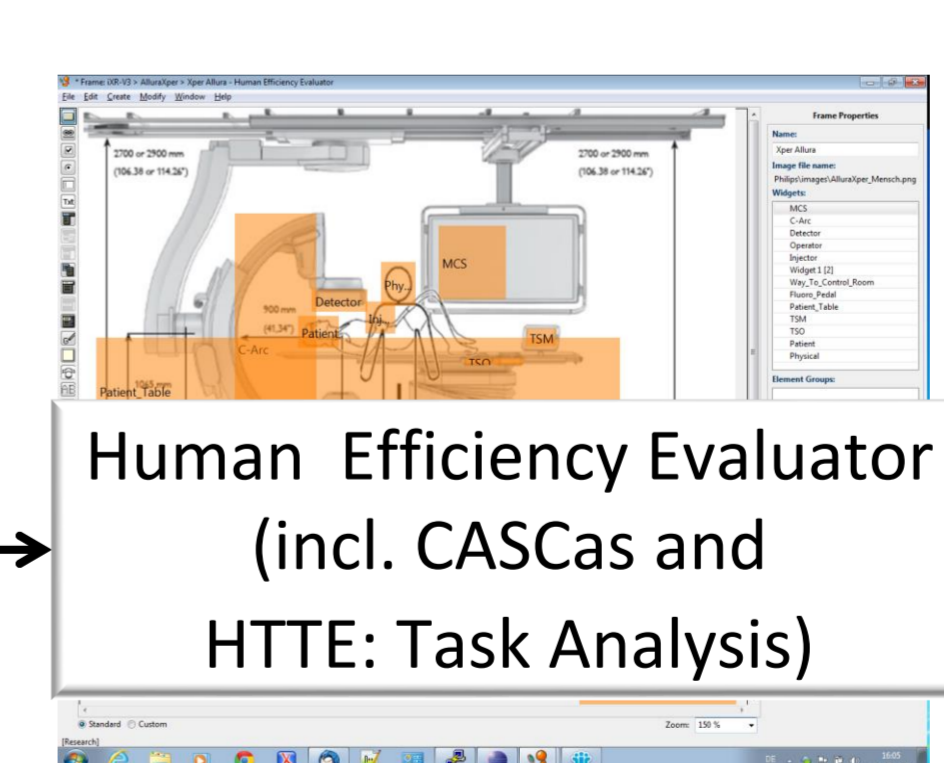
Safe parallel transmit scanning



X-ray guided intervention



iXR 3D Acquisition



Human Efficiency Evaluator (incl. CASCas and HTTE: Task Analysis)

Results

In order to have broad coverage the AdCoS are in linked to different MTTs. The evaluation is still in progress, but the results are promising:

- MagicPED and GreatSPN adequately model the operator task scheduling and guidance.
 - OpenEHR applied HEE to model the use cases, AEON as communication platform and LEA and APA to learn and detect behaviors, respectively.
 - Means-end modelling and Adaptive modelling provide an interesting summary for guided patient positioning and can be combined with other models used for the ECG triggering AdCoS
 - The combination of U-DAT and HF-Task Analysis shows to be very promising. The HF-filer can indeed be applied to capture the results.
 - For the intrinsically complex UI task needed for Safe parallel transmit scanning the Empirical Analysis shows promising insights.
 - Last but not least: The Human Efficiency Evaluator demonstrates to be a comprehensive tool, currently effectively exercised for openEHR and iXR 3D acquisition, but well applicable for various other AdCoS.
- In the final phase of the HoliDes project the evaluation will be completed and the added value will be quantified.

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