LOKI – USER-CENTRED DEVELOPEMENT OF HUMAN-AI TEAMING IN AIR TRAFFIC CONTROL
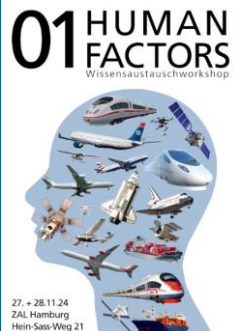
Carmen Bruder, Dirk Schulze Kissing, Sabine Theis, Thomas Stefani,

Robert Hunger und Mohsan Jameel
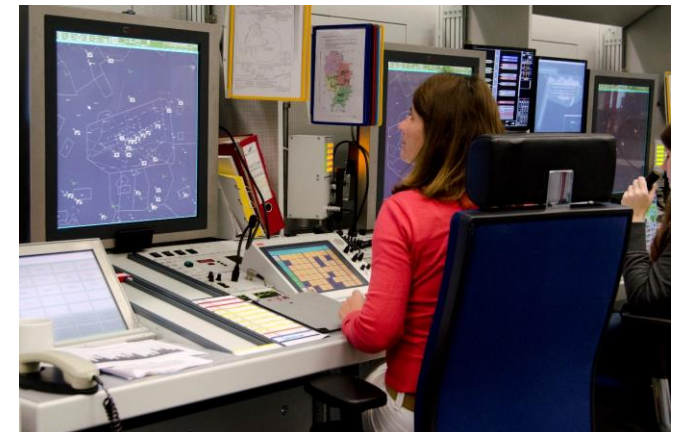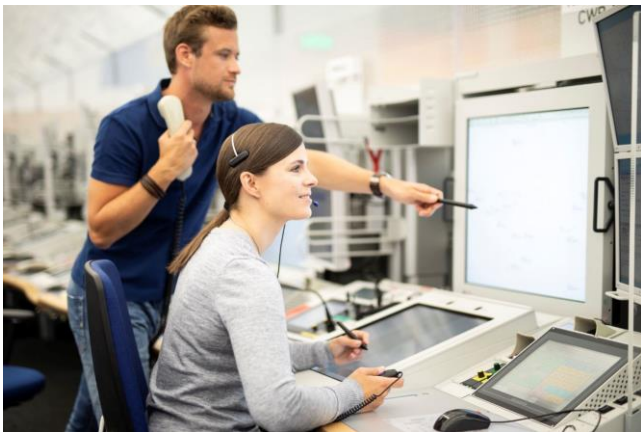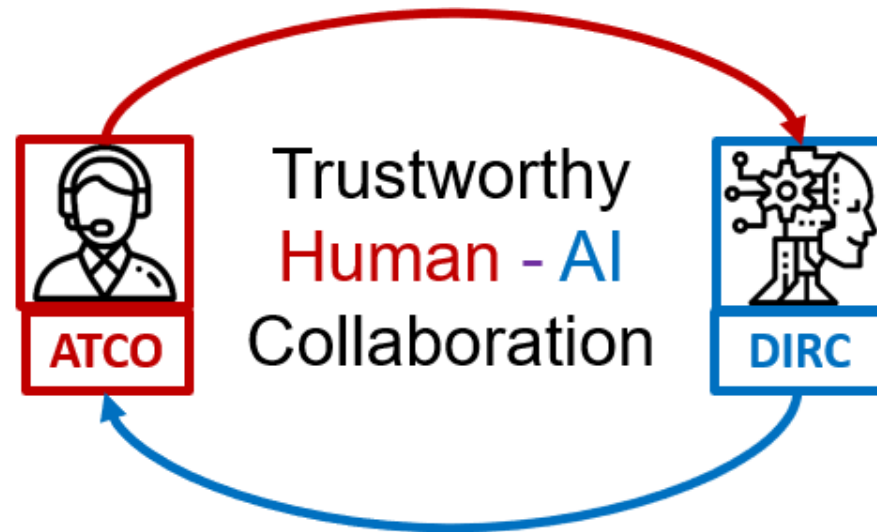
DLR project LOKI

In the DLR project LOKI we develop

- guidelines, prototypes and findings for the

- collaboration between aviation operators and AI systems

- together with users and

- thus lay the foundations for future developments

- trustworthy AI systems
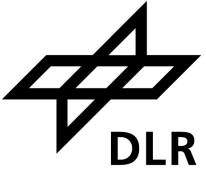
- at DLR and for the aviation industry.

-> LOKI from April 2022 to March 2026

LOKI – Human-AI teaming in air traffic control

Trustworthy Human - AI Collaboration

ATCO

DIRC

LOKI – bringing perspectives together
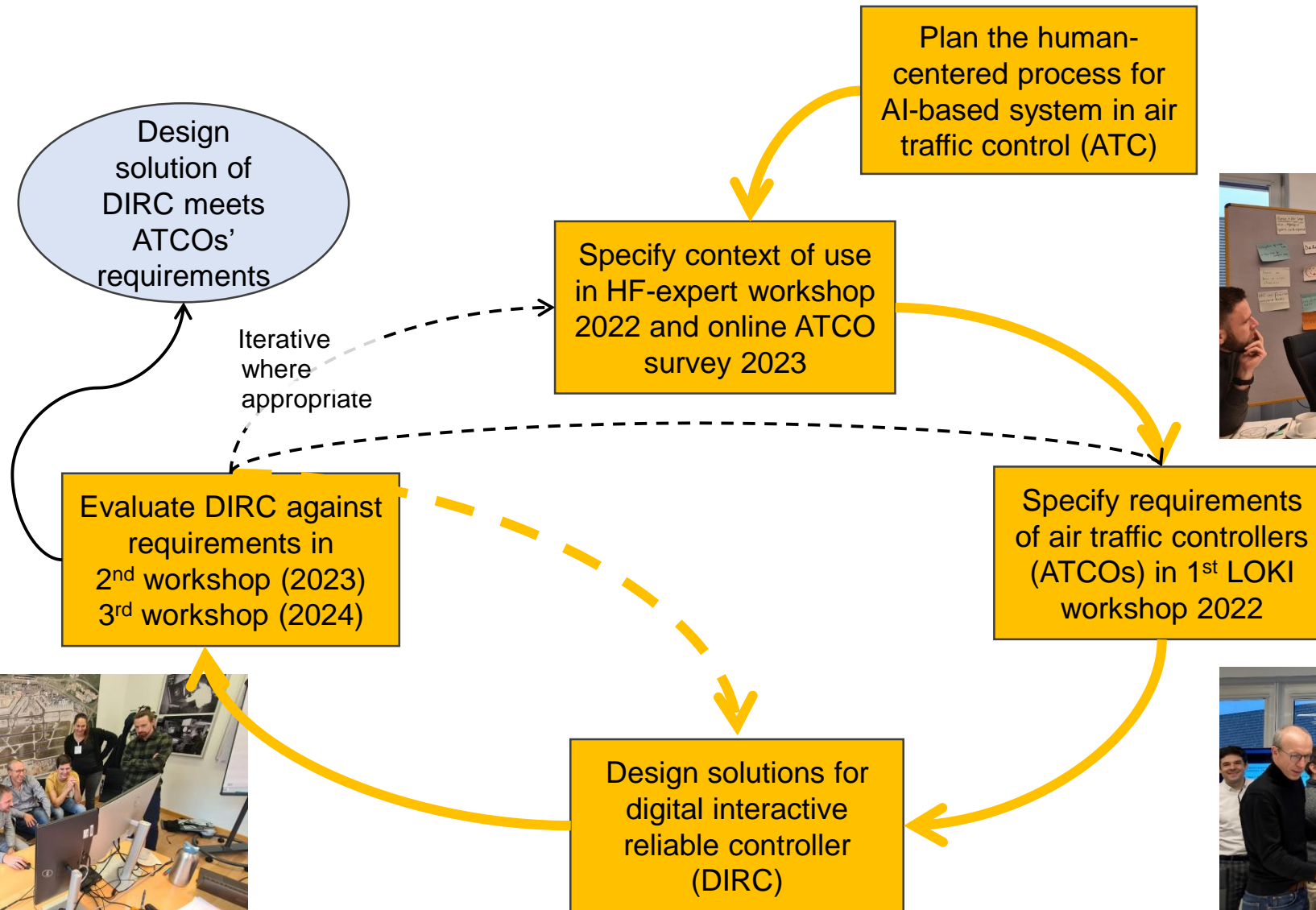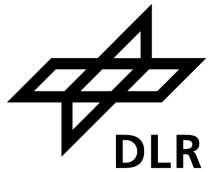
Pooling competencies@DLR

- Luft- und Raumfahrtpsychologie (ME)
- Flugführung (FL)
- KI-Sicherheit (KI)
- Softwaresysteme (SC)
- Datenwissenschaften (DW)
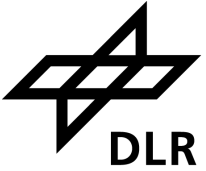- Luftverkehrsökonomie (LV)

Cooperation with partners:

- DFS Research & Invention
- Austro Control GmbH
- EASA AI Group
- Bund Deutscher Luftverkehrswirtschaft
- IFATCA AI Group
- Uni Lübeck (Ingenieurpsychologie)

LOKI user-centred developement (ISO 9241-210)

Plan the human-centered process for AI-based system in air traffic control (ATC)

Design solution of DIRC meets ATCOs' requirements

Specify context of use in HF-expert workshop 2022 and online ATCO survey 2023

Iterative where appropriate

Evaluate DIRC against requirements in 2nd workshop (2023) 3rd workshop (2024)

Specify requirements of air traffic controllers (ATCOs) in 1st LOKI workshop 2022

Design solutions for digital interactive reliable controller (DIRC)
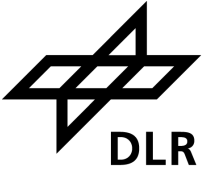
Further steps in LOKI

- online ATCO survey on user requirements for AI in ATC

- validation study with ATCOs in autumn 2025

- final workshop in winter 2025

- LOKI symposium in spring 2026

Impressum

DLR

Title:	LOKI – User-centred developement of human-AI teaming in air traffic control
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