

Remote AFIS/UNICOM

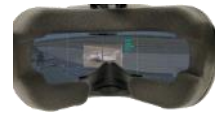
Demo Day

DLR, Braunschweig, Germany – 25 Feb 2020



Knowledge for Tomorrow





Invitation

- **You are cordially invited to:**
 - attend a workshop and hands-on demonstration of a DLR remote AFIS/UNICOM prototype &
 - to discuss the idea's potential among test AFISO, ATCOs and regulatory bodies and other remote Tower experts.
 - to learn about our experiences and results.
- The event is at:
 - DLR's premises in Braunschweig
 - on **25 February 2020**





Agenda

- 09:30 Early Bird Coffee Reception at Foyer of building 117 [Inst. of Flight Guidance]
- 10:00 Welcome & Concept Introduction
Jörn Jakobi (DLR)
- 10:30 User perspective 1
Jens Behse, ATCO, RLG
- 10:45 User perspective 2
Alexander Gums, AFISO QXH
- 11:00 User perspective 3
Thomas Mayer, GF IDRF
- 11:15 Regulatory perspective
BMVI (requested)
- 11:30 DWD demands & offers
Kai Jellinghaus, DWD
- 11:45 Prototype and Test Set up
Fabian Reuschling (RWTH Aachen) & Christian Blessman (HS Osnabrück)
- 12:00 Live-Demo *with lunch in between [2 groups]*
- 14:15 Results
- 14:30 Q&A Session
- 15:30 End of Meeting





Motivation

- Airports, which would benefit from synergies provided by remote services are unable to afford state-of-the-art remote tower technology due to very low revenues

but

- Often traffic is less complex and
 - ATS level is lower (max. AFIS or UNICOM)
- ➔ Simpler optical sensors & visual presentation means are suitable possibly to fulfill operational requirements





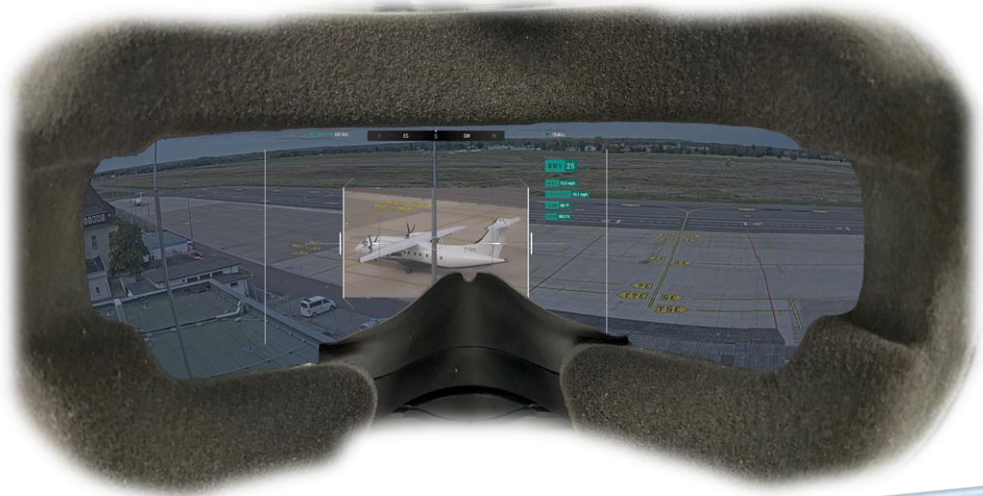
Concept

- Basic panorama &
- PTZ cameras (visual spectrum)

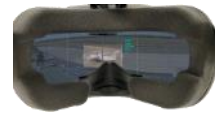


Concept

- Basic panorama &
- PTZ cameras
- virtual reality headset

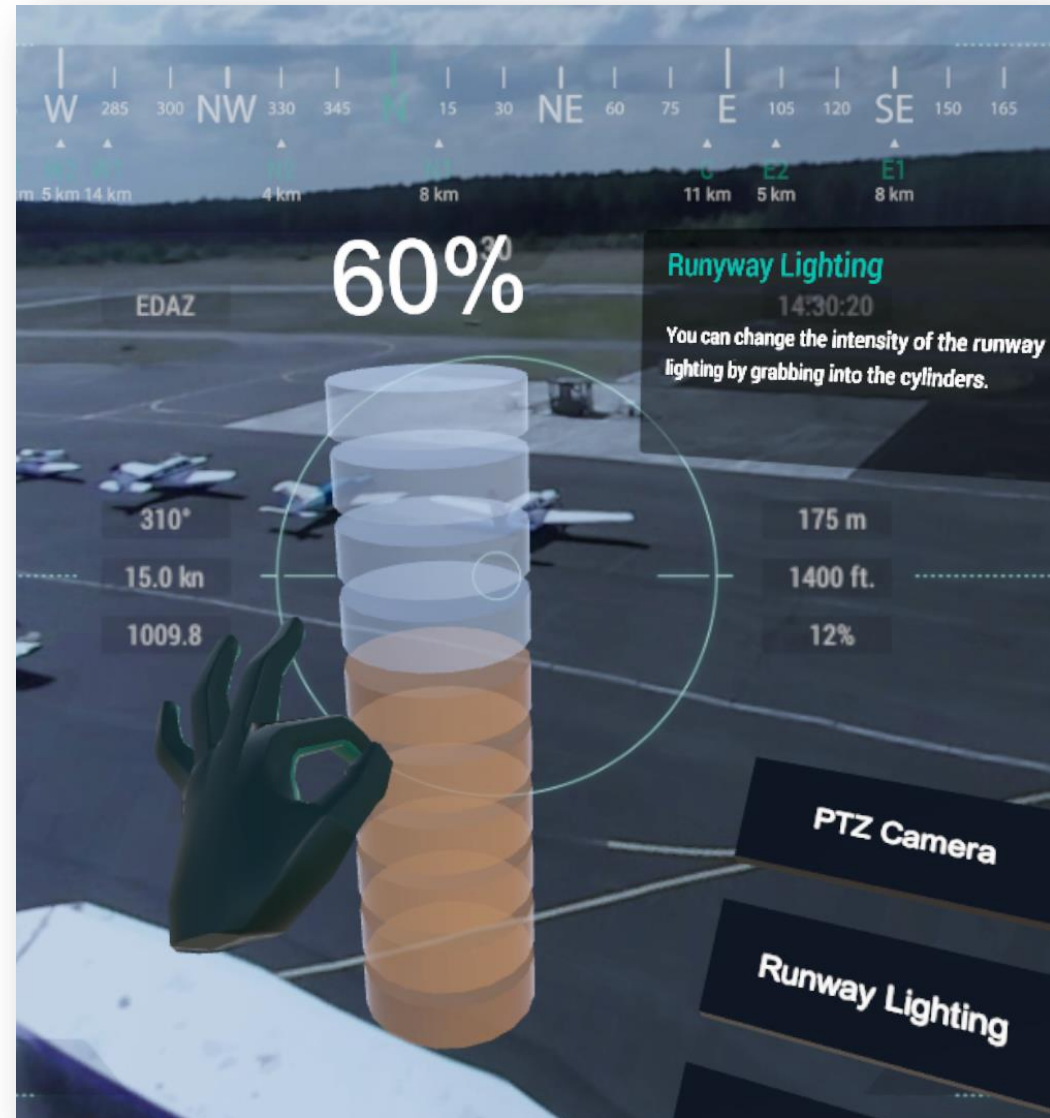






Concept

- Basic panorama &
 - PTZ cameras
 - virtual reality headset
 - integrated HMI
 - head tracked PTZ
 - Plug&Play [wifi?]
= location independent
- ➔ Affordable
due to off the shelf
standard products

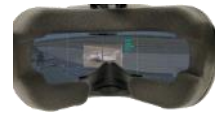




Operational Use Cases

- Share AFIS/UNICOM effort with other airports to
 - reduce working hours
 - to extend airport opening hours
- Open a CTR or AFIS at non-ATS airports on pilot request or
- Provide your service from different locations on your airport





Benefits

- Reduced effort/expenditure to generate the same revenue
- Increased revenue due to an increased service level with same effort/expenditure
- Possibly safety gains





Prototyping & Validation

- DLR & students from RWTH Aachen und HS Osnabrück prototyped and tested such a concept
- The VR headset were fed with live data from Braunschweig Airport provided by low cost optical sensors
- The trials were performed at DLR Braunschweig with 9 German ATCOs & AFISOs
- ATCOs & AFISOs liked the concept and admitted that this concept has its potentials, particularly for AFIS use cases





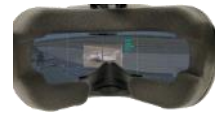
Registration

Please send a registration email to [julia.hoeven\(at\)dlr.de](mailto:julia.hoeven(at)dlr.de) keeping me in cc [joern.jakobi\(at\)dlr.de](mailto:joern.jakobi(at)dlr.de)

by providing the following data:

- Name:
 - Company:
 - Profession/Position:
 - Nationality:
 - Email:
 - Phone:
-
- Please await that your registration is confirmed by us before making any travel arrangements since we are limited in group size capacity.
 - First comes first served principle – in other words: when full then full

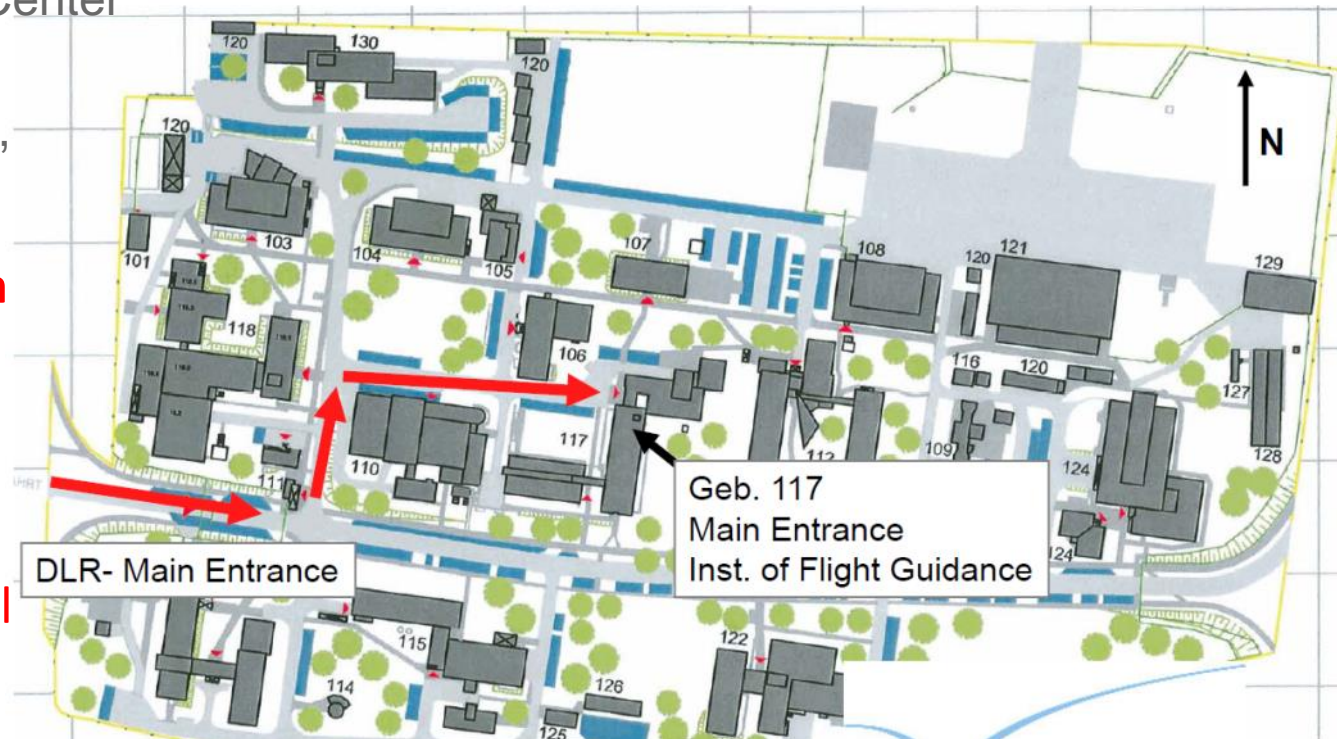




Meeting Venue

Deutsches Zentrum für Luft- und Raumfahrt (DLR)
German Aerospace Center
Lilienthalplatz 7
38108 Braunschweig,
Germany

Register at **DLR main entrance** and when you got entry permission proceed to main entrance of building 117. You will be received there.





How to reach

Arrival by train and bus

- Please take the bus route 436 from the central railway station in the direction 'Flughafen' until bus stop 'DLR'.

Arrival by car

- From the A2 Highway, take the exit 'Braunschweig-Flughafen' and follow the signs to DLR.

Arrival by air

- The nearest major airport is Hanover. From Hanover airport it takes approximately 35 minutes by car to get to DLR Braunschweig or about two hours by public transport.
- A taxi from there to DLR takes around 35 minutes (70-90 Euro).
- See also this [map](#) for further Information.



Remote Tower for Airports

[News](#)[Project PJ05](#)[Project PJ05-W2](#)[Events](#)[Video](#)

Home

www.remote-tower.eu

The modernisation of air traffic management is one of the main challenges of current aeronautics research. The [Single European Sky ATM Research](#) (SESAR) project defines, develops and deploys what is needed to increase ATM performance and build Europe's intelligent air transport system.

The current programme is [SESAR 2020](#), running from 2016 to 2024 with a budget of 1.6 billion Euro, supports projects to deliver solutions in four key areas, namely airport operations, network operations, air traffic services and technology enablers.

Part of [SESAR 2020](#) are the projects **PJ05 "Remote Tower for Multiple Airports"** and **PJ05-W2 "Digital technologies for Tower"**, which focus on the safe and efficient airport of the future. By bringing the concept of remotely controlling multiple airports to a higher maturity level, the [SESAR](#) project aims at providing small and medium sized airports with more cost-efficient and service tailored air traffic services.

Recent News



Invitation for a Public
Day to see a Remote-
AFIS prototype
18. December 2019



Close-out Event in
Stockholm – "PJ05
Remote Tower" Project presents its
final results and conclusions

