

WeCAP DS – A Decision Support Concept for Weather Dependent Capacity Analysis & Planning

AI-based Prediction for Flow Management Support

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Brief description of the consortium partners



Robimo GmbH

Austrian SME based in Vienna

Specializes in advanced computer science
and algorithmic solutions

- AI/ML
- 3D/VR/AR / serious games

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Austro Control Österreichische Gesellschaft für Zivilluftfahrt mit beschränkter Haftung (ACG)

Austria's national air navigation service provider

Responsible for monitoring and managing air
traffic in Austria's airspace

- MET Development & Innovation

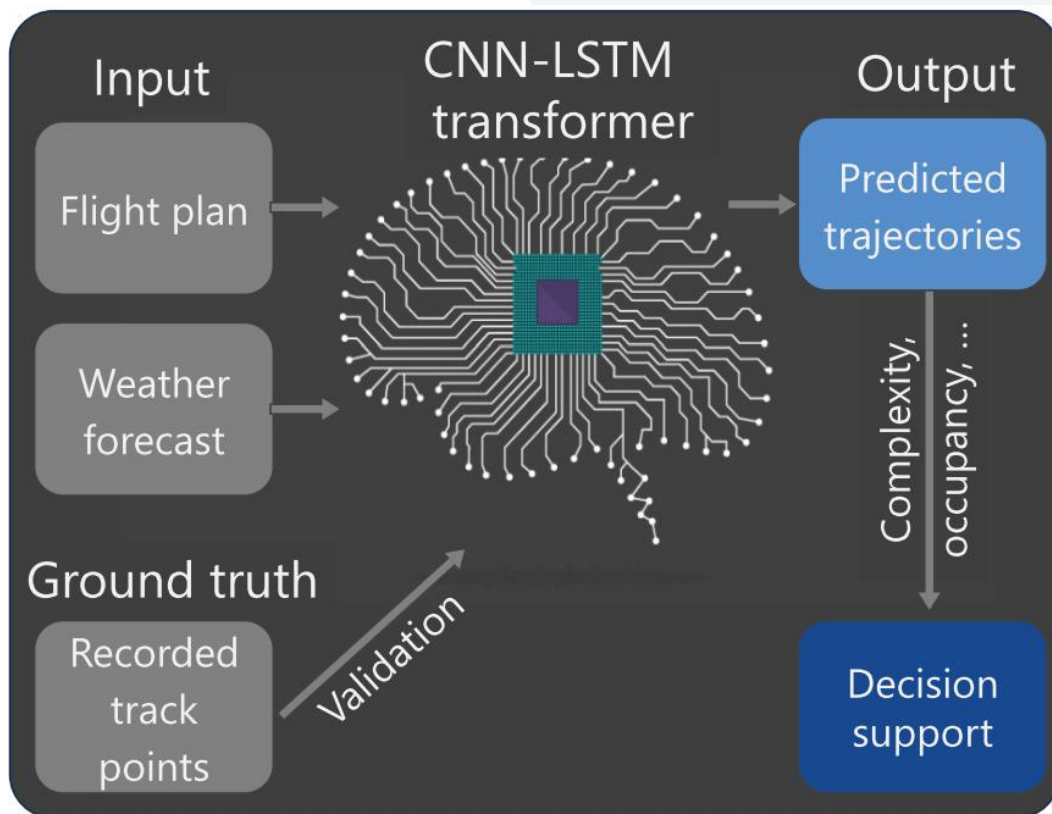
markus.kerschbaum@austrocontrol.at

Aim of the project / Background of the project

- **What?** Improve (spatial) accuracy of flight plans (especially) during severe weather situations
- **Why?** Optimize sectorization and flow management
- **How?**
 - Based on (huge amount of) historical data
 - Using state-of-the-art AI algorithms

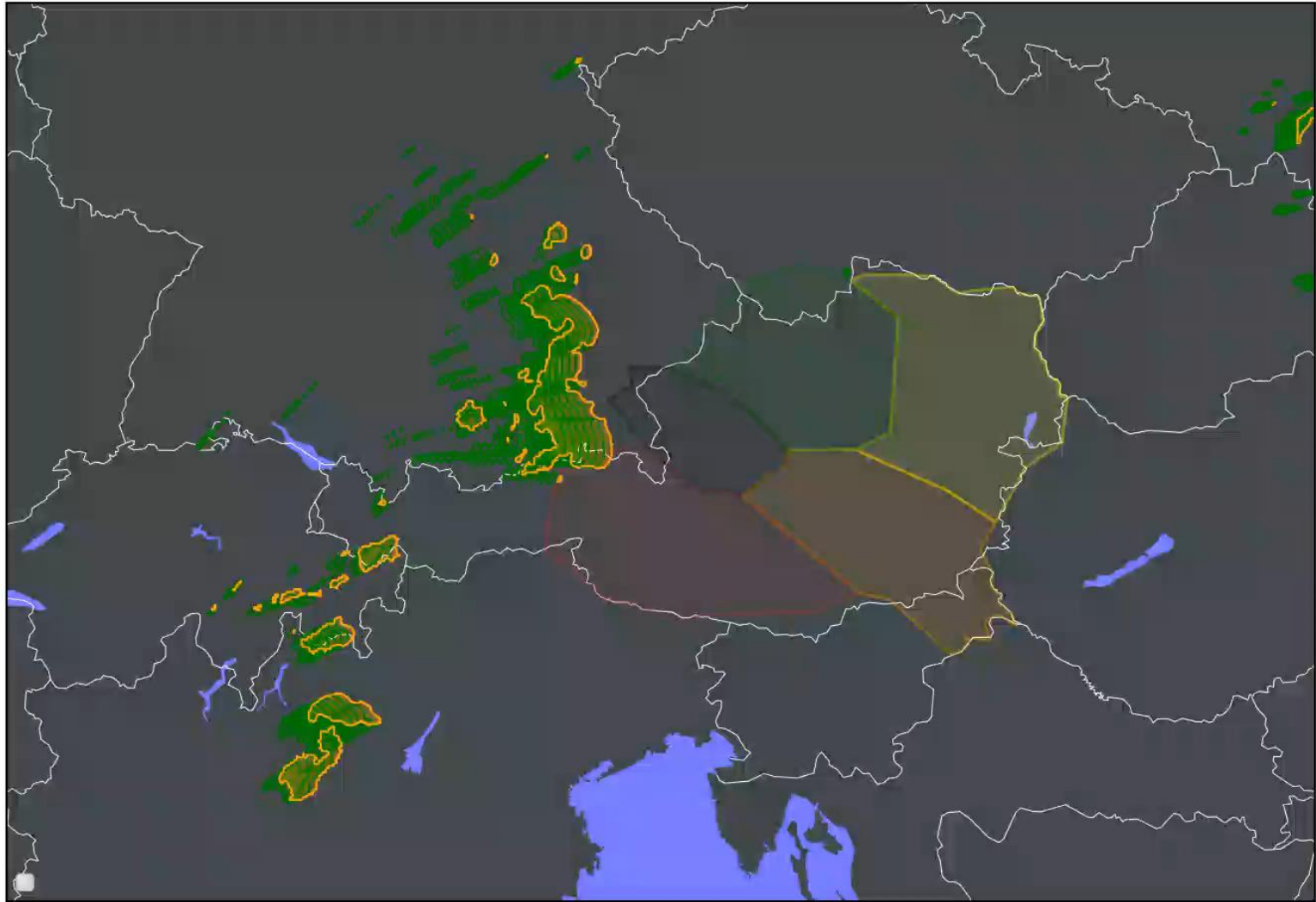
Background

How (in more detail)



Project results

So...

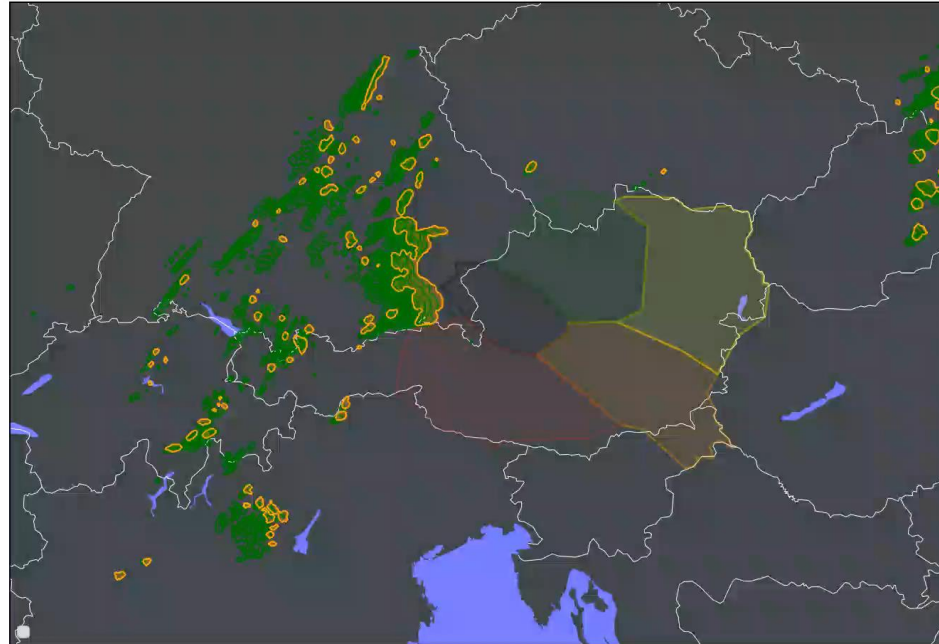
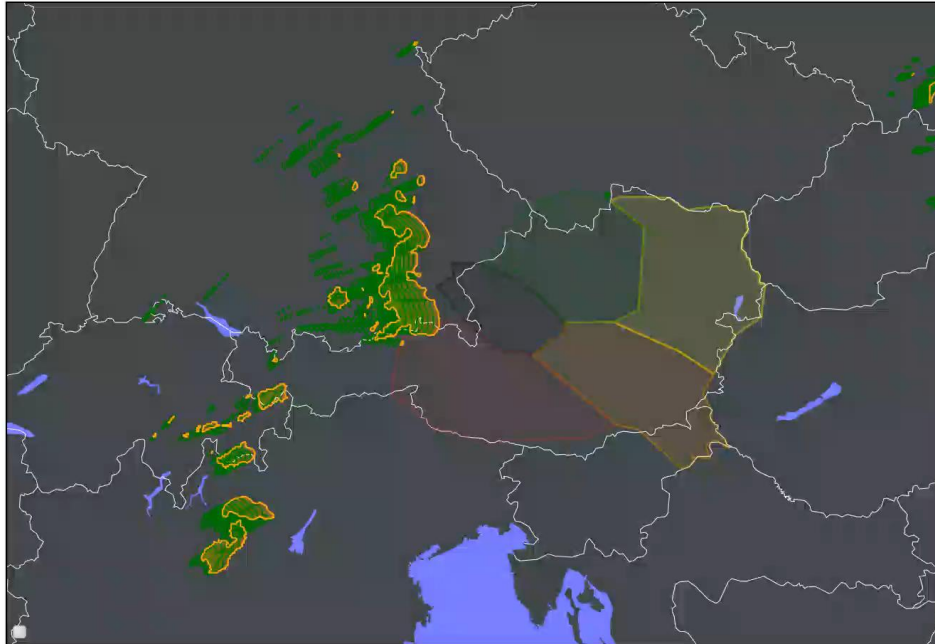


Project results

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FCST-WX

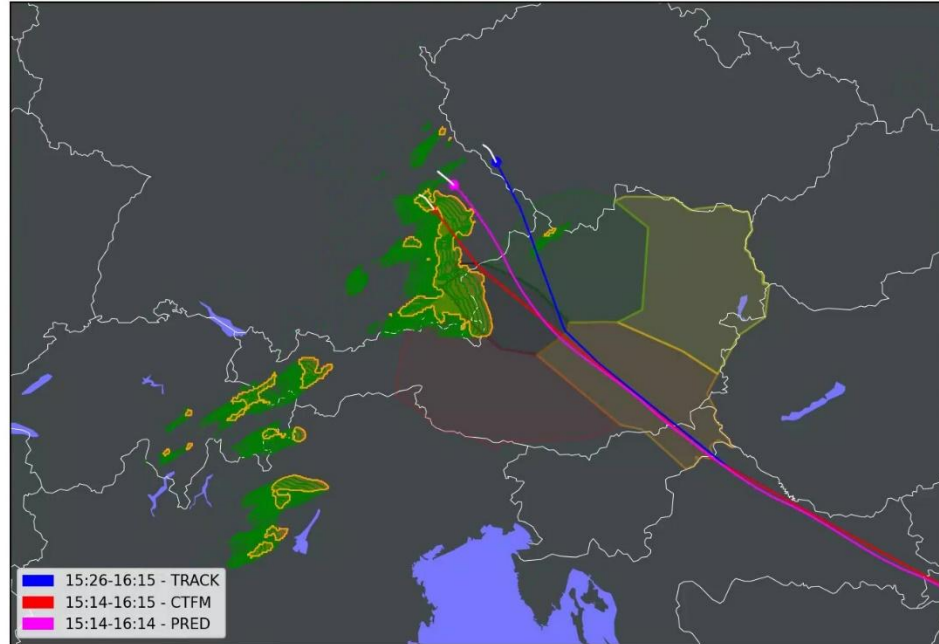
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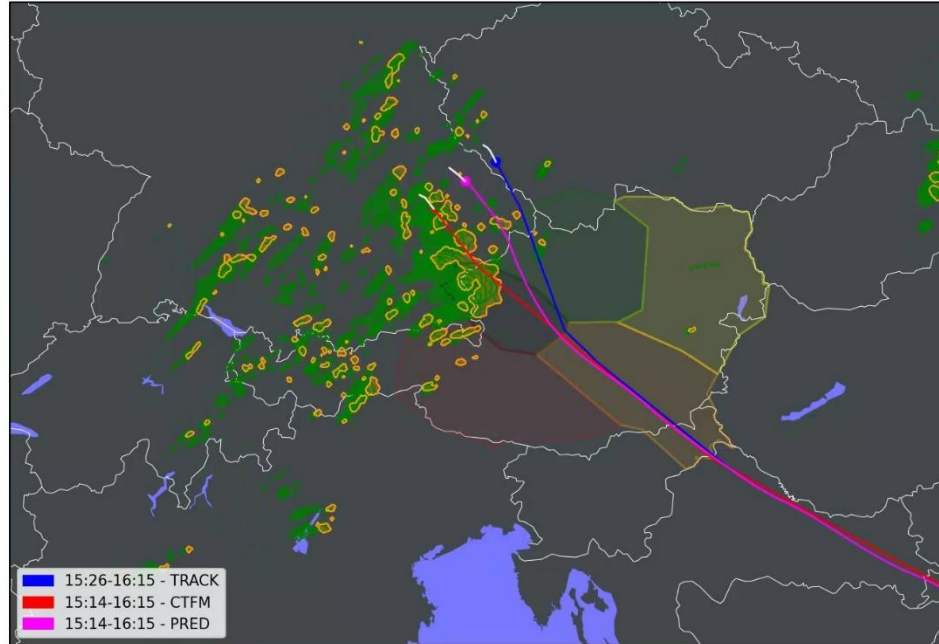
Project results

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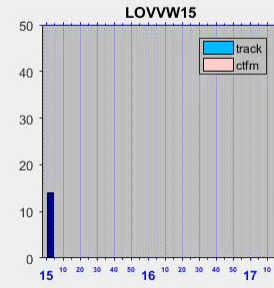
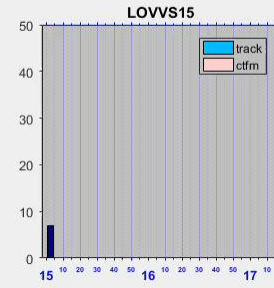
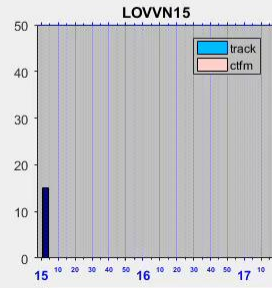
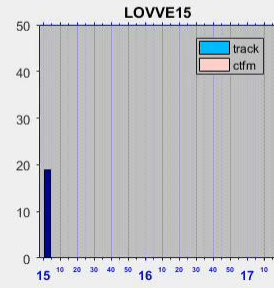
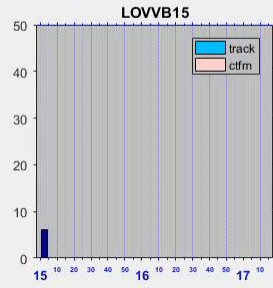


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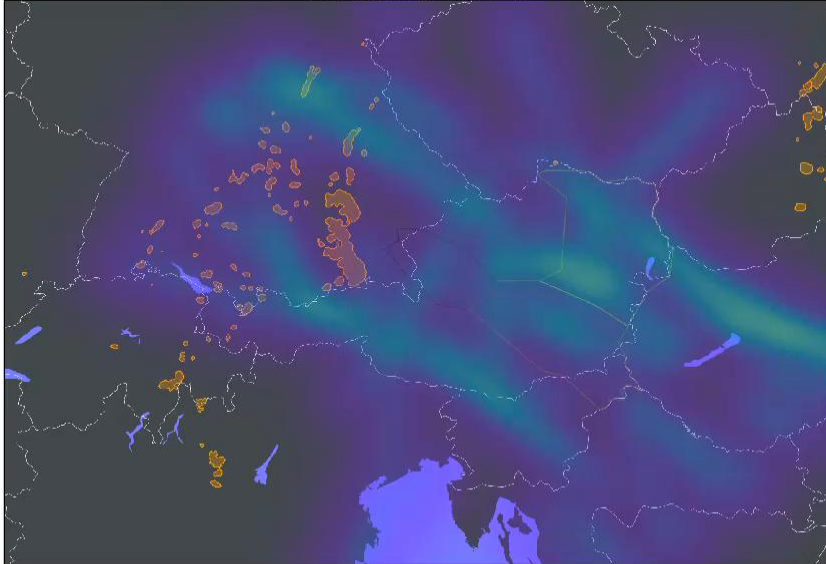
Project results

The big picture



15:00

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Utilization of the project

- ACG internal applications
 - Real-time evaluation of live-CTFM-data via API
 - Optimization of internal ACG complexity tools
- Basis for further projects, particularly for TMA (see next slide)

Further steps/(potential) follow-up projects

- WeCAP TMA (2024-2025)
 - Weather Dependent Capacity Analysis and Planning for Terminal Manoeuvring Area
 - Take Off Call 2023 – Sondierungsprojekt (Exploratory project)
- Examination of the feasibility of using **Reinforcement Learning (RL)**
- ...to generate **realistic approach trajectories**
- ...that **comply with the rules and procedures** applied by Approach Vienna.

Szenario 1

WeCAP DS

Q&A