Airport Technology Lab

Overview of TUD work packages

TU Delft

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Airport Technology Lab at RTHA

The Airport Technology Lab (ATL) is a fieldlab at RTHA focusing on development of innovations for airport technology and processes, and involving multiple businesses & knowledge institutes. In 2019 we have succesfully submitted an EFRO subsidy proposal.

Main activities 2019-2023

1. Development of fieldlab infrastructure to create a unique test & demonstration environment
2. Execution of various innovation projects within 4 physical areas (airside, baggage, terminal & landside) + IT-environment leading to improvements in safety, capacity, efficiency, resilience, passenger comfort, etc. on an airport system level
3. Set-up of a knowledge development & exchange program

Partners

Gemeente Rotterdam
Rotterdam The Hague Airport
TU Delft Delft University of Technology
adecs airinfra
bagchain
Sky ECHO HD weather experts
to70
CIV SMART TECHNOLOGY Slim samenwerken aan Smart Technology
robin radar systems
World Startup Factory
DE HAAGSE HOGESCHOOL

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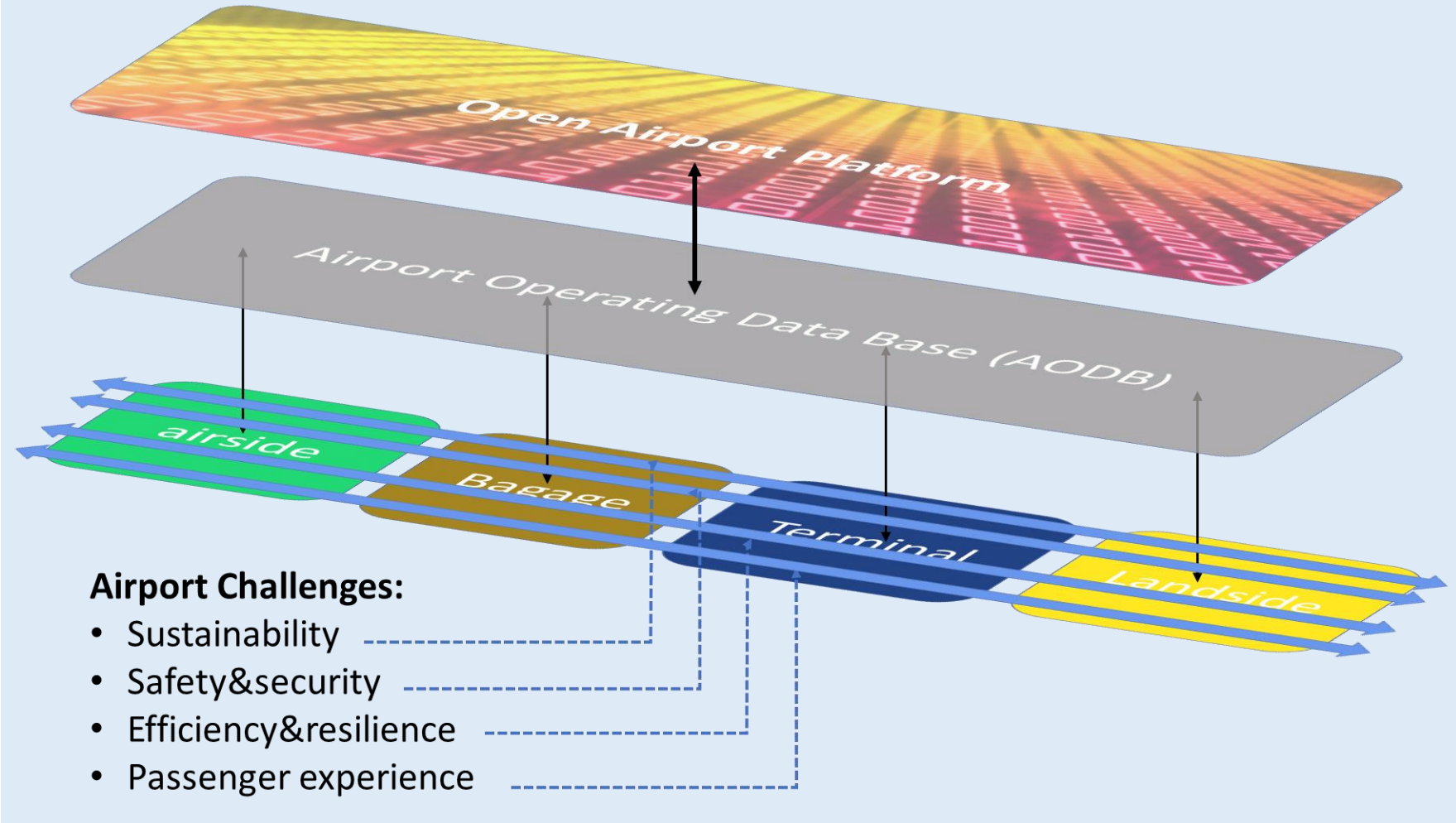
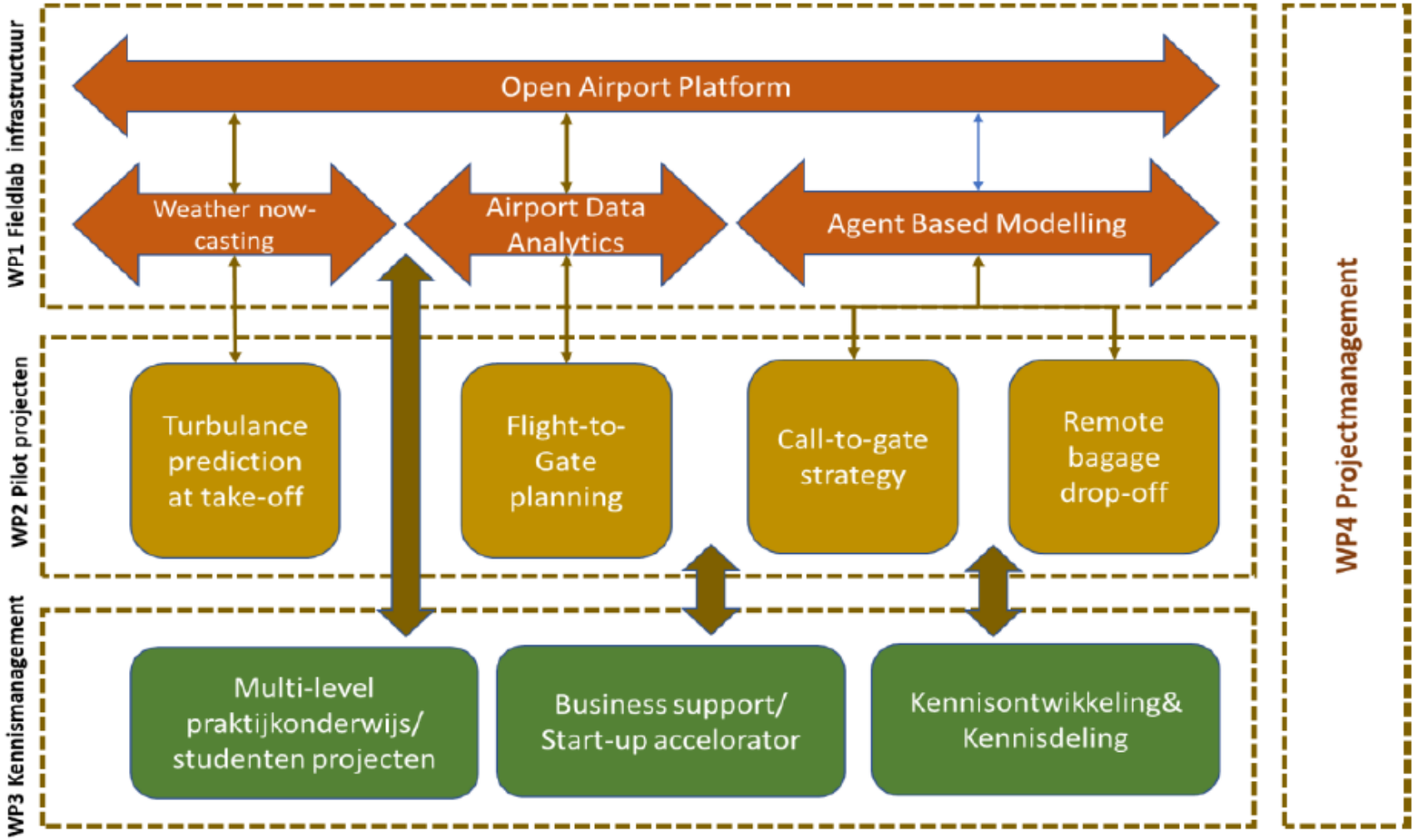
Europees Fonds voor Regionale Ontwikkeling

Visualization of ATL* set-up



*source: subsidy EFRO proposal ATL

Work packages of EFRO proposal



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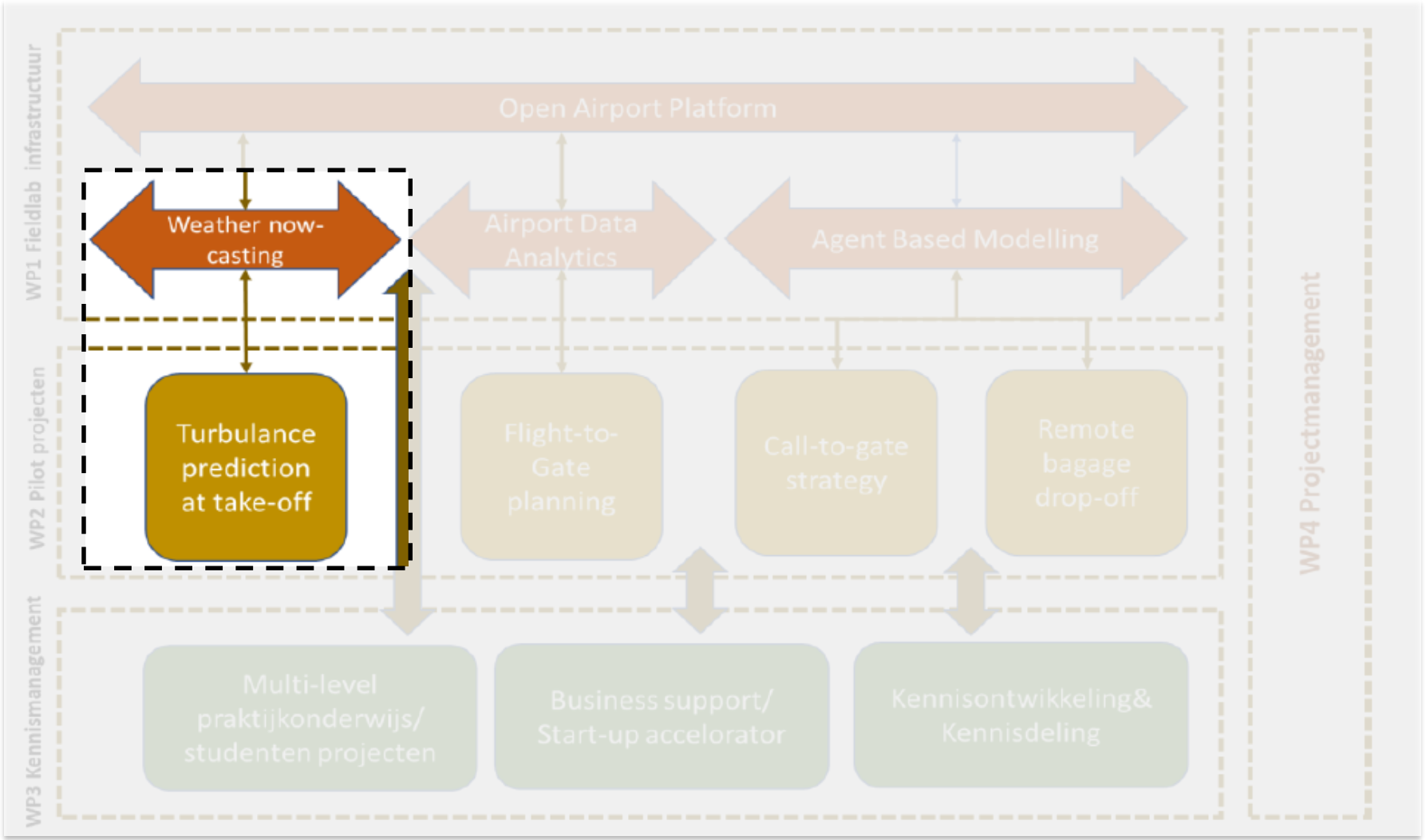

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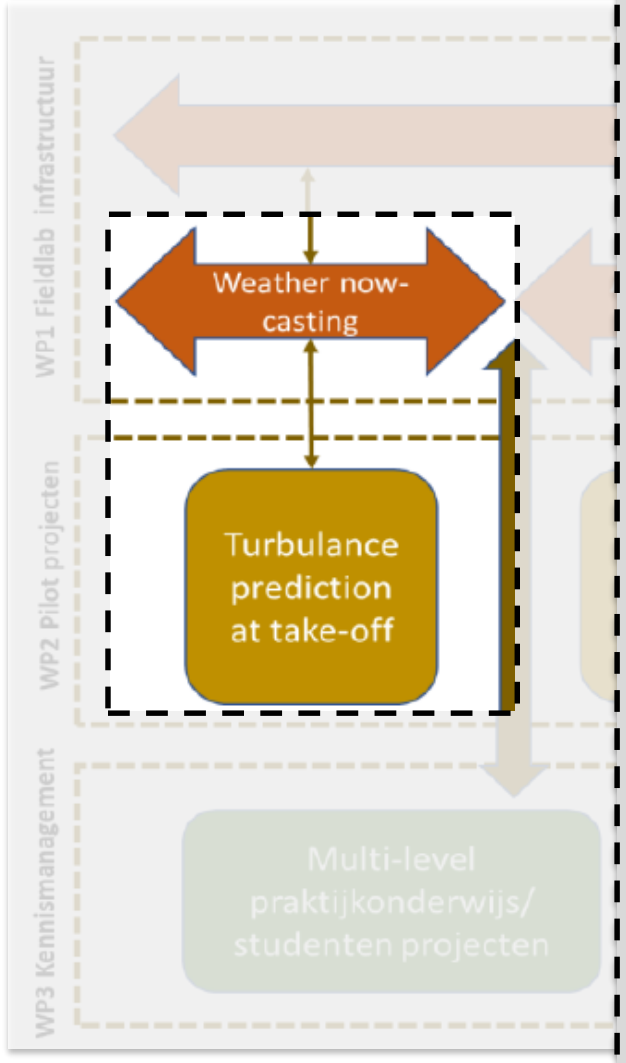

WP1 – Fieldlab infrastructure

- Weather now-casting model

WP2 – Pilot Project

- Turbulence prediction at take-off

Expected result

Extension of the applicability of the Radar System. An accurate weather now-casting model will be developed, which gives ATC more insight into current weather conditions. By using this now-casting model it is possible to predict the turbulence between aircraft under varying weather conditions. This will ultimately lead to safer and more efficient take-off and landing procedures.

New staff?

A postdoc and PhD position are (partly) funded

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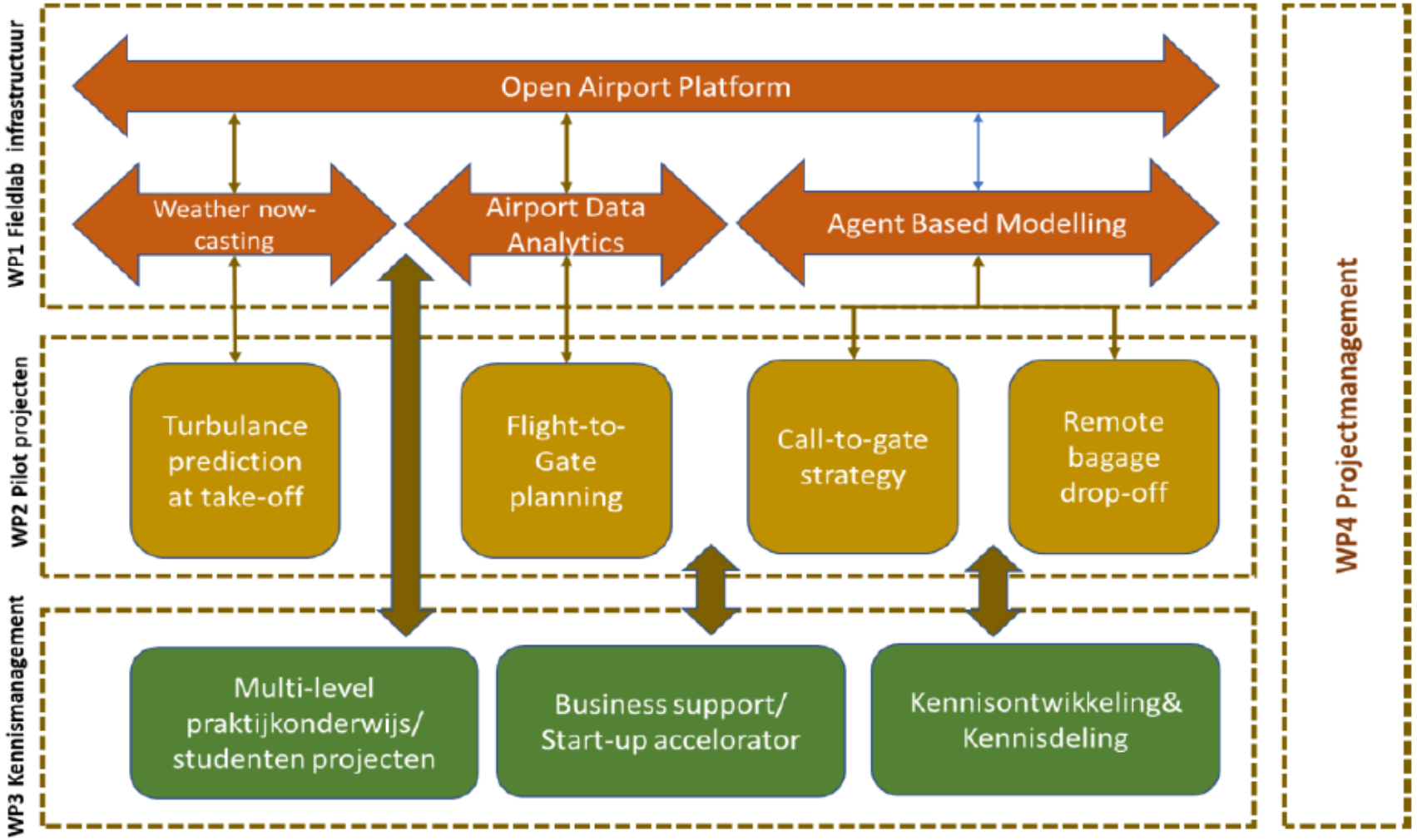

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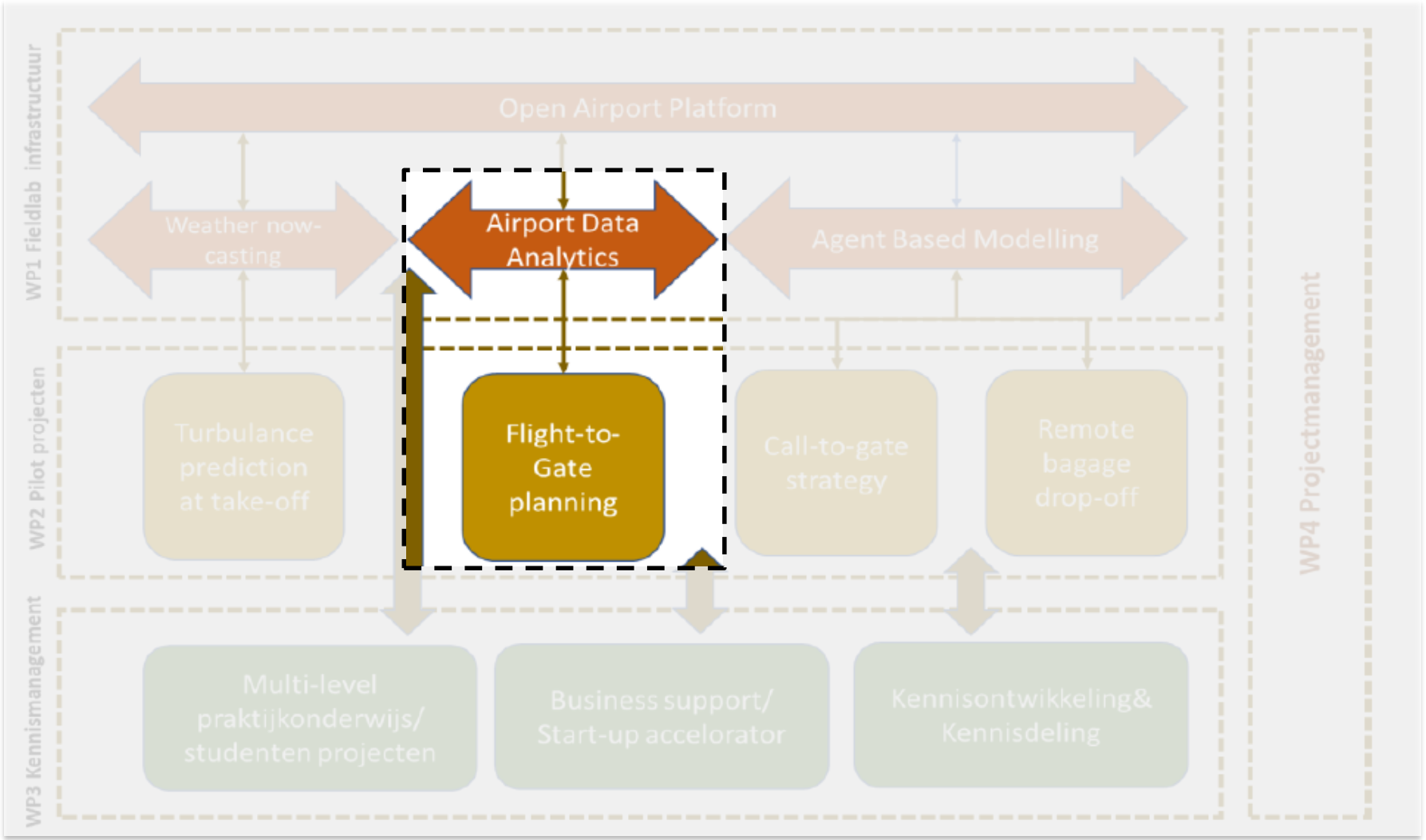

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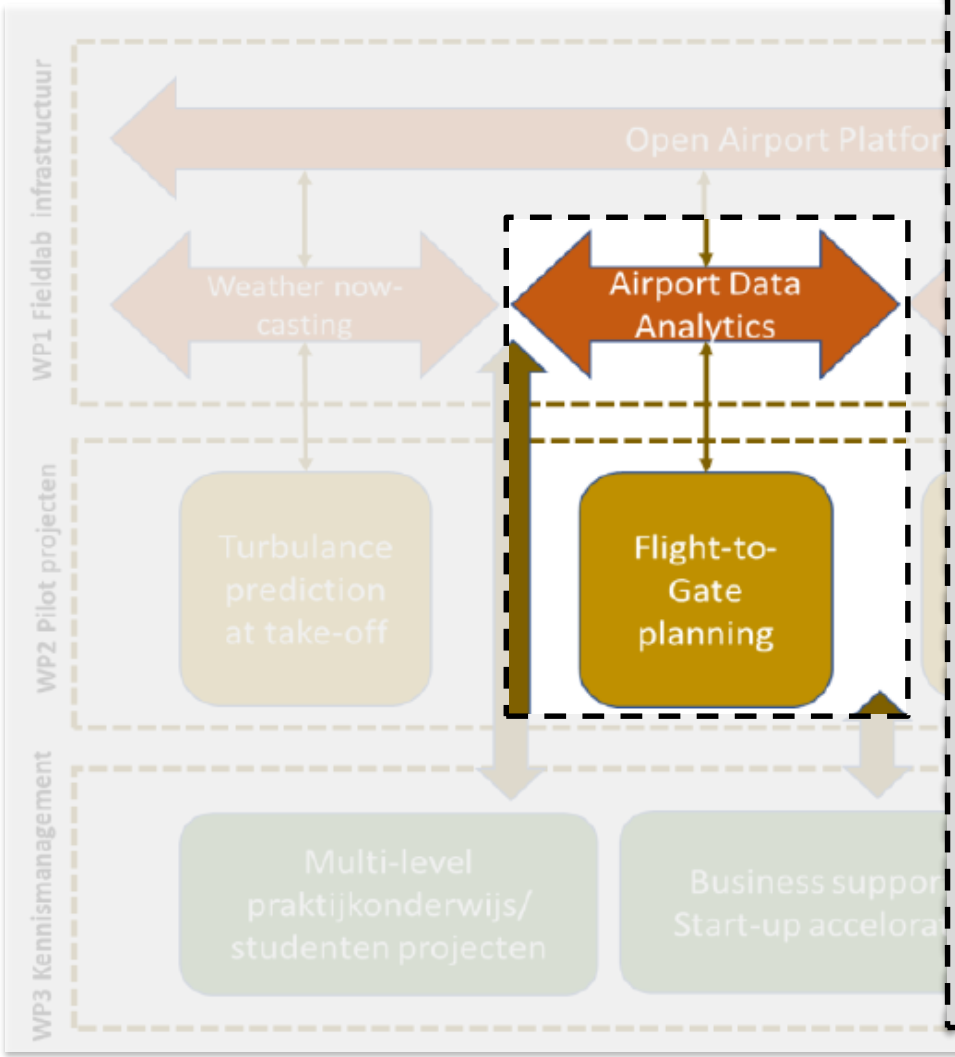

Rotterdam The Hague Airport

adecs airinfra

WP1 – Fieldlab infrastructure

- Airport Data Analytics

WP2 – Pilot Project

- Flight-to-Gate planning

Expected result

A tool capable of predicting airside disruptions by using machine learning techniques. This information will aid airport planners in tactical and operational decision making, and leads to more efficient procedures. Within the pilot project the flight-to-gate planning module is tested.

New Staff?

A postdoc position is funded

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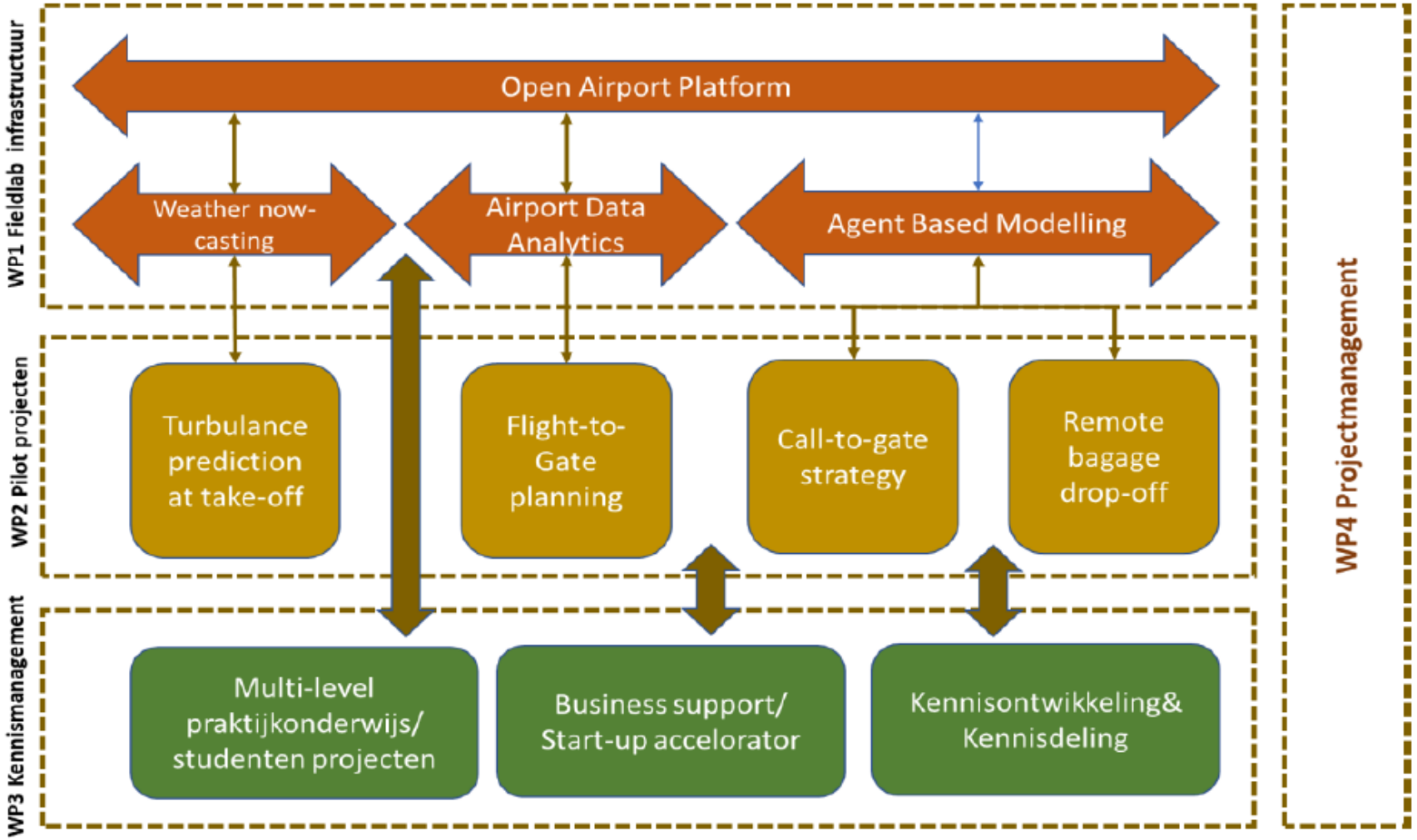

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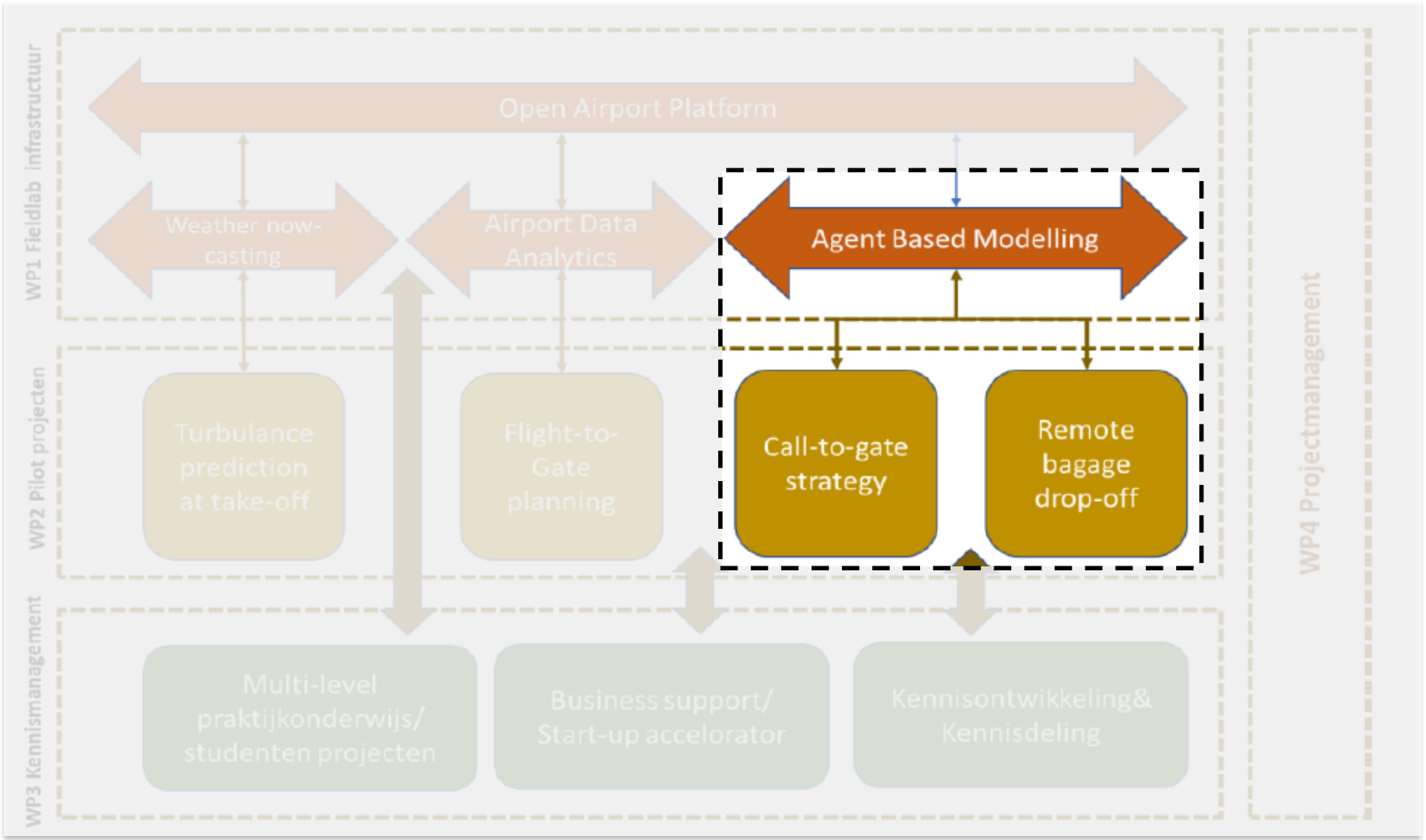


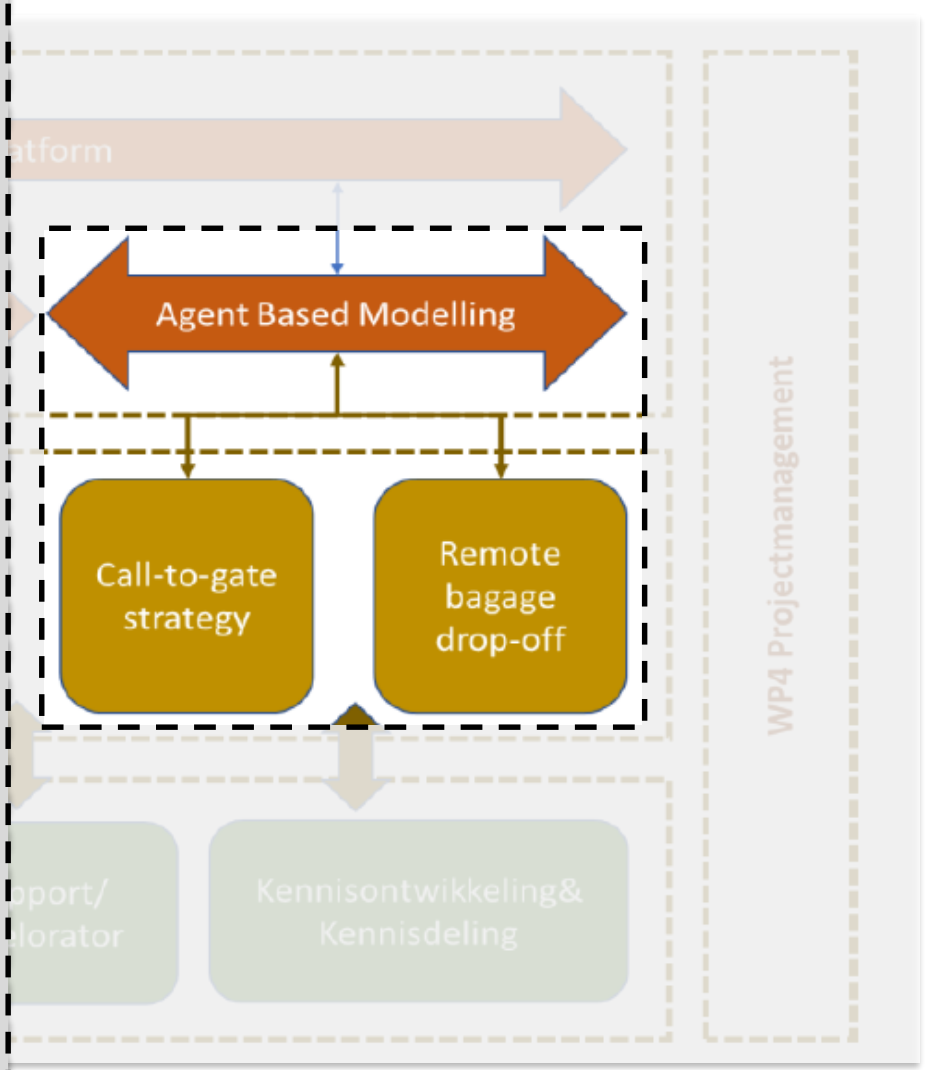
Work packages of EFRO proposal

WP1 – Fieldlab infrastructure
- Terminal simulation & monitoring platform

WP2 – Pilot Projects
- Call-to-gate strategy
- Remote check-in of baggage

Expected result
A simulation tool capable of simulating the efficiency, security and resilience of airport terminal processes. By using this tool it is amongst others possible to develop a ‘call-to-gate strategy’ application (optimize passenger flows while maximizing revenue), and to assess the impact of remote baggage drop-off points on the passenger flow (efficiency, capacity) through the terminal.

New staff?
A postdoc position is funded



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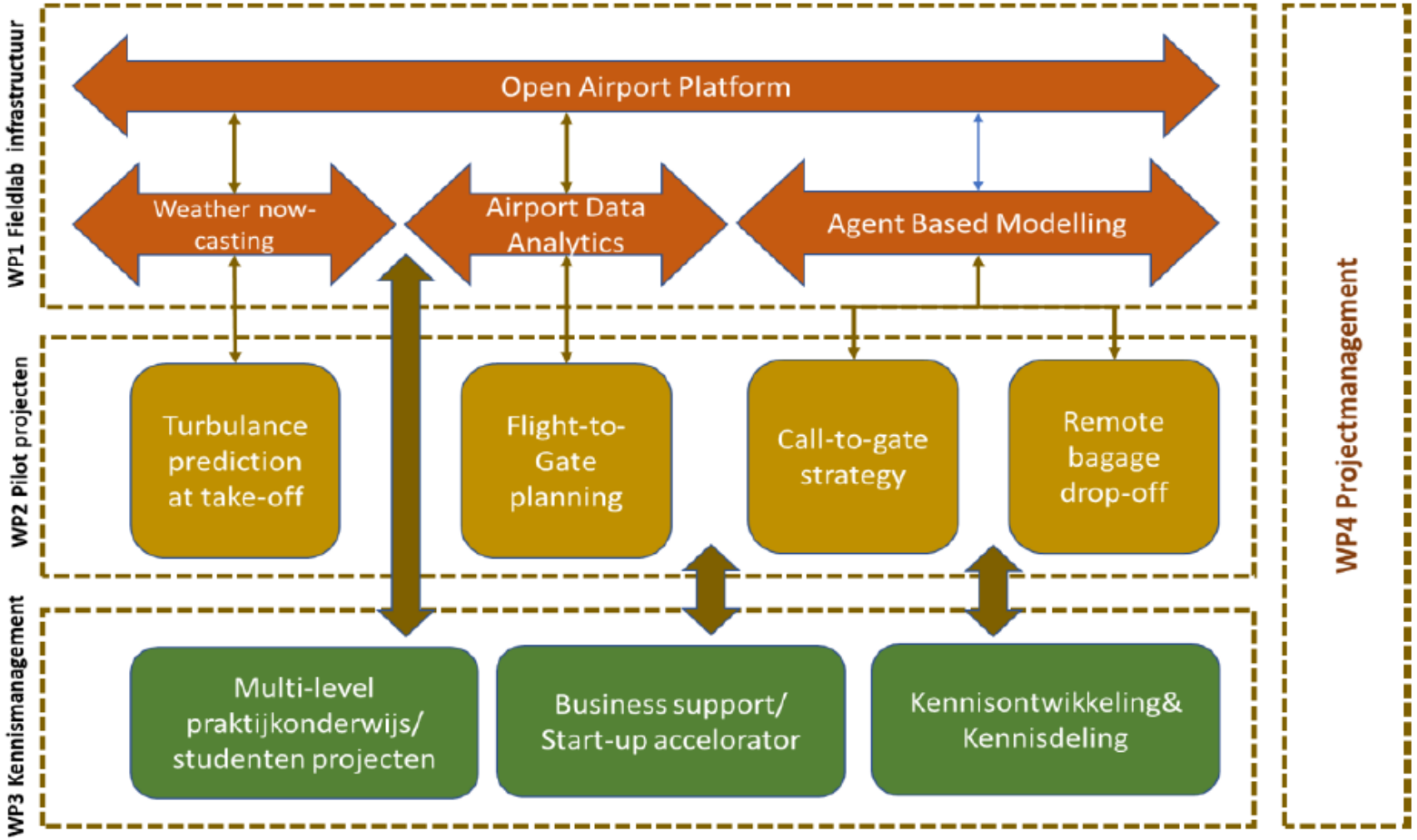

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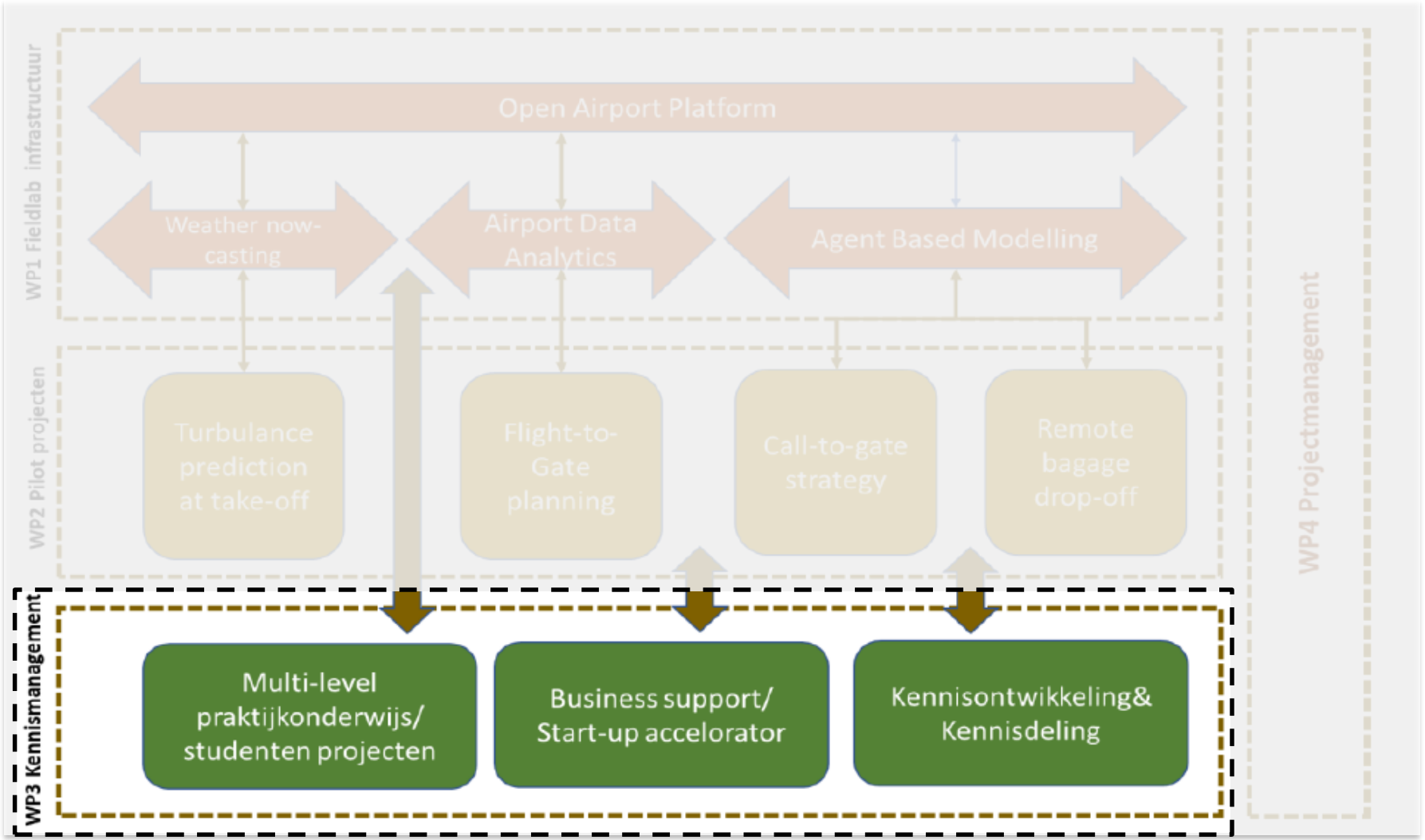

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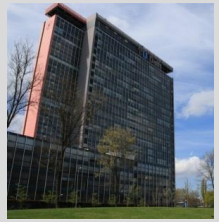

WP3 - knowledge development & exchange program

- IDE: Linking multiple courses and student projects to EFRO and airport industry challenges
- AE/VC: Involvement in the start-up/accelerator program
- All: Sharing knowledge and dissemination of project results