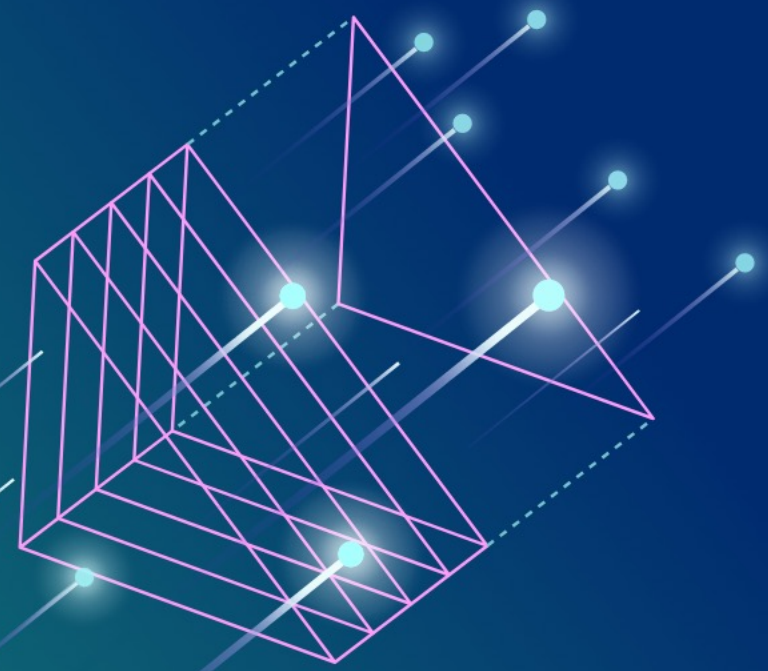
EUROPEAN BIG DATA VALUE FORUM

Mobility

Data sharing in airport operations SESAR 3 – Project FASTNet

(Future dAta Services and applicaTions for airports and Network)



Juan Francisco García Lopez
Strategy and Innovation Manager in Airport Department at Indra

Session: Unlocking a data-driven mobility in Europe
October 26, 2023: 10:15 - 11:45

indra FASTNet

IN COLLABORATION WITH

ITI INVESTIGATE TO INNOVATE

European Commission

INCLIVA | VLC Biomedical Research Institute

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UNDER THE AUSPICES OF

EU23 SPANISH PRESIDENCY COUNCIL OF THE EUROPEAN UNION

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FASTNet Project partners

	Airlines	Airports	Industry	Network	ANSPs
Members	AIRFRANCE, transavia, AEGEAN	ATHENS INTERNATIONAL AIRPORT ELEFTHERIOS VENIZELOS, Fraport Greece, brussels airport the heart of Europe, Copenhagen Airports CPH, GROUPE ADP, Schiphol	indra *	EUROCONTROL	** CIVIL AVIATION AUTHORITY
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* Project coordinator

** New member to be incorporated during the project

FASTNet Project description and Solutions

FASTNet aims to **provide future data services and applications for airports and network**, in order to contribute to the **dynamic reconfiguration of resources**, both at local and network level, and **new capacity-on-demand services** to maintain safe, resilient, smooth and efficient air transport operations while allowing for the optimization of trajectories even at busy periods.

- **Solution 1**: **Enhanced AOPs-NOP Tactical planning**, with the inclusion of an “airport-to-airport(s)" AOP to AOP collaborative planning process and use of artificial intelligence (AI)/ machine learning (ML).

- **Solution 2**: **AOP-NOP Strategic and pre-tactical planning** – extends the AOP DCB to the strategic and pre-tactical phases.

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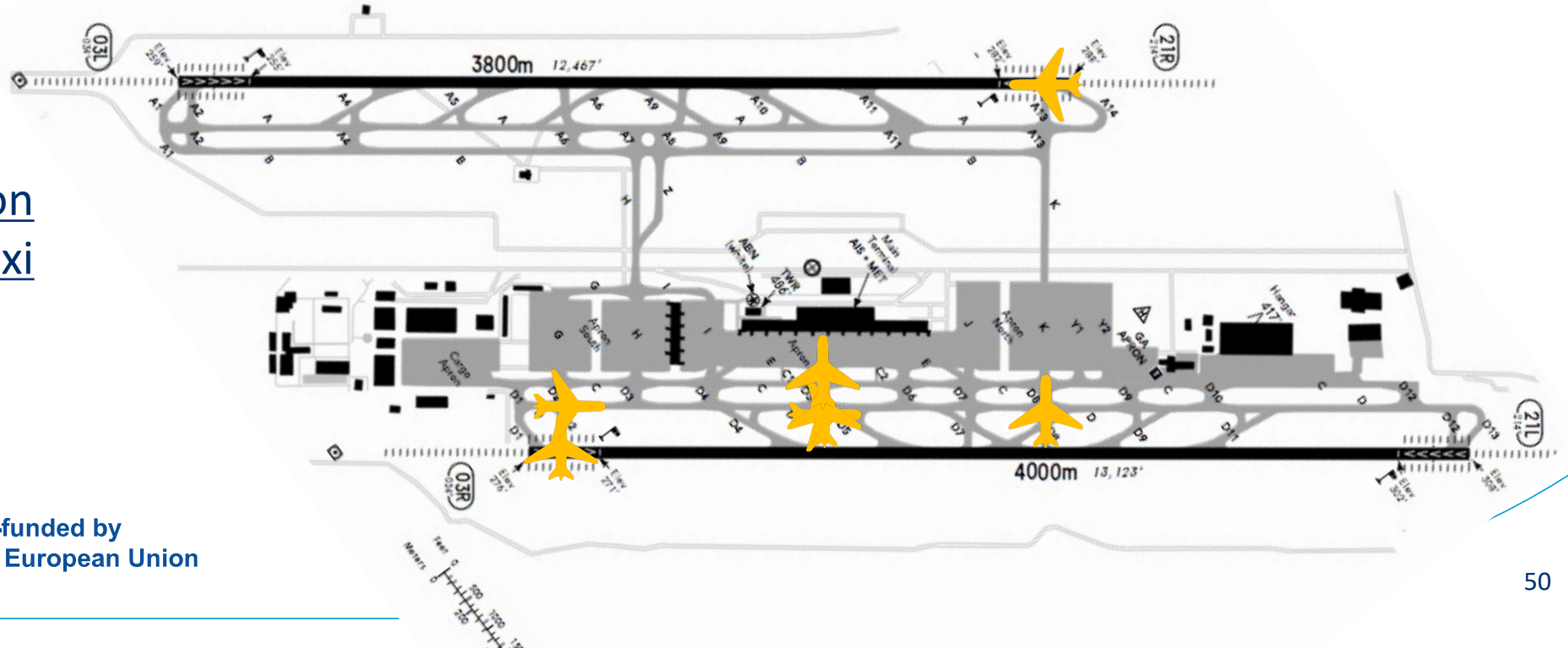
Use of AI in Solution 1

Taxi-in and Taxi-out prediction models:

- Improve the accuracy of the time of arrival for every aircraft to parking positions to optimize the use of ground handling resources
- Improve the use of the runway

Meteo information also impacts on taxi times

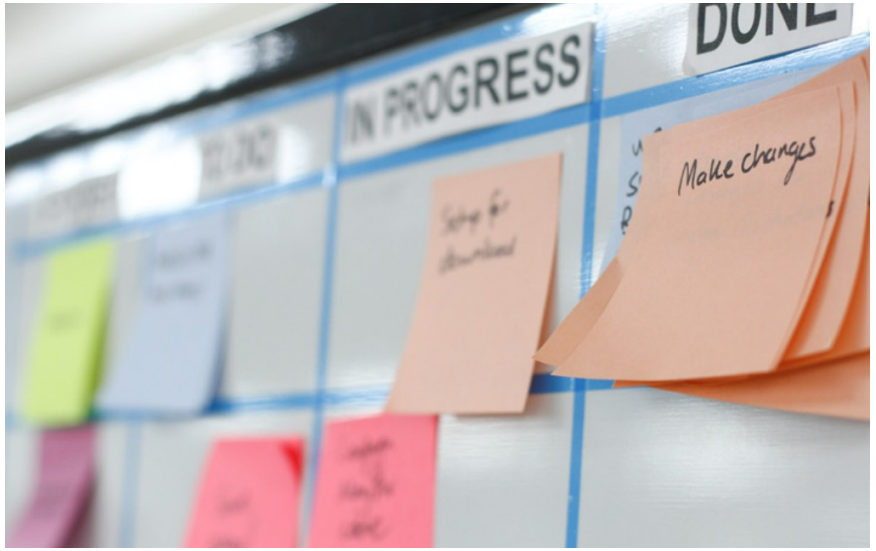


Use of AI in Solution 2

Prediction models in strategic and pre-tactical phases:

The development of AI/ML models is envisaged at different time horizons - typically D-1, D-7, D-20, D-45, M-2, Y-1 depending on the needs

	Initial Expectations (Predictions)
passengers	Planned number of passengers per flight Presentation of passengers at check-in, security control, border control Planned number of PRMs (passengers with reduced mobility) Presentation of PRMs (passengers with reduced mobility) Forecasted number of passengers in a boarding area
baggages	Planned number of checked baggage per flight Presentation of checked baggage at BHS (Baggage Handling System) Presentation of baggage at baggage reclaim belts.
delays regulations	Anticipated ATFM regulations (from Network) Anticipated flight delays (D-1 for D-day)



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Results from previous projects

Security Zone	Accumulated Num. Pax	Standard Deviation
North	737.806	140
South	745.503	136
Inter-islands	41.402	17

Acceptance threshold < 350 (standard deviation)

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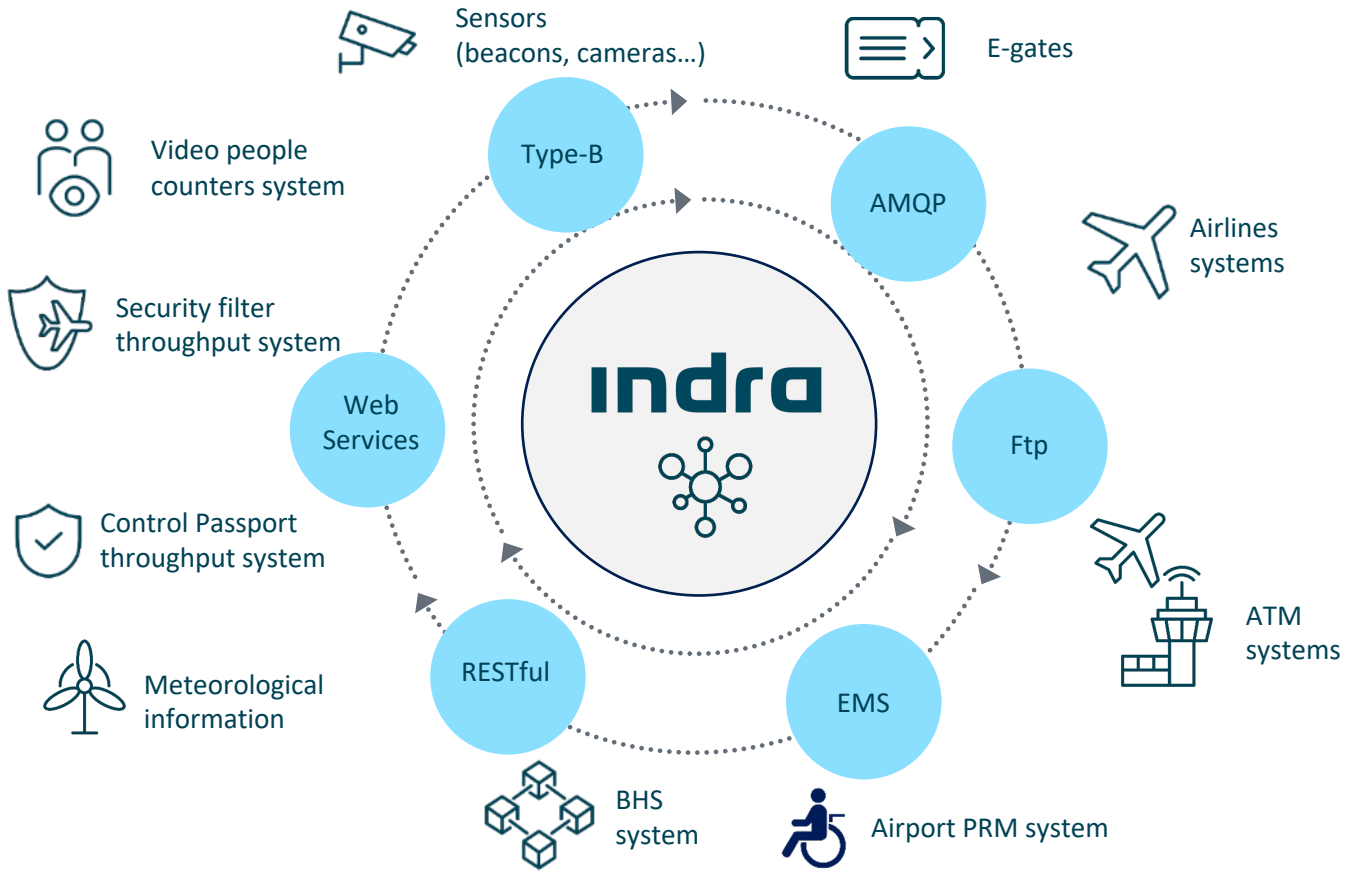
FASTNet Technical Architecture

Integration platform, gathering information from airport and airline systems

Indra solution is able to integrate all airport processes and provide an airport overall view, evaluating how every process can impact on airport operations



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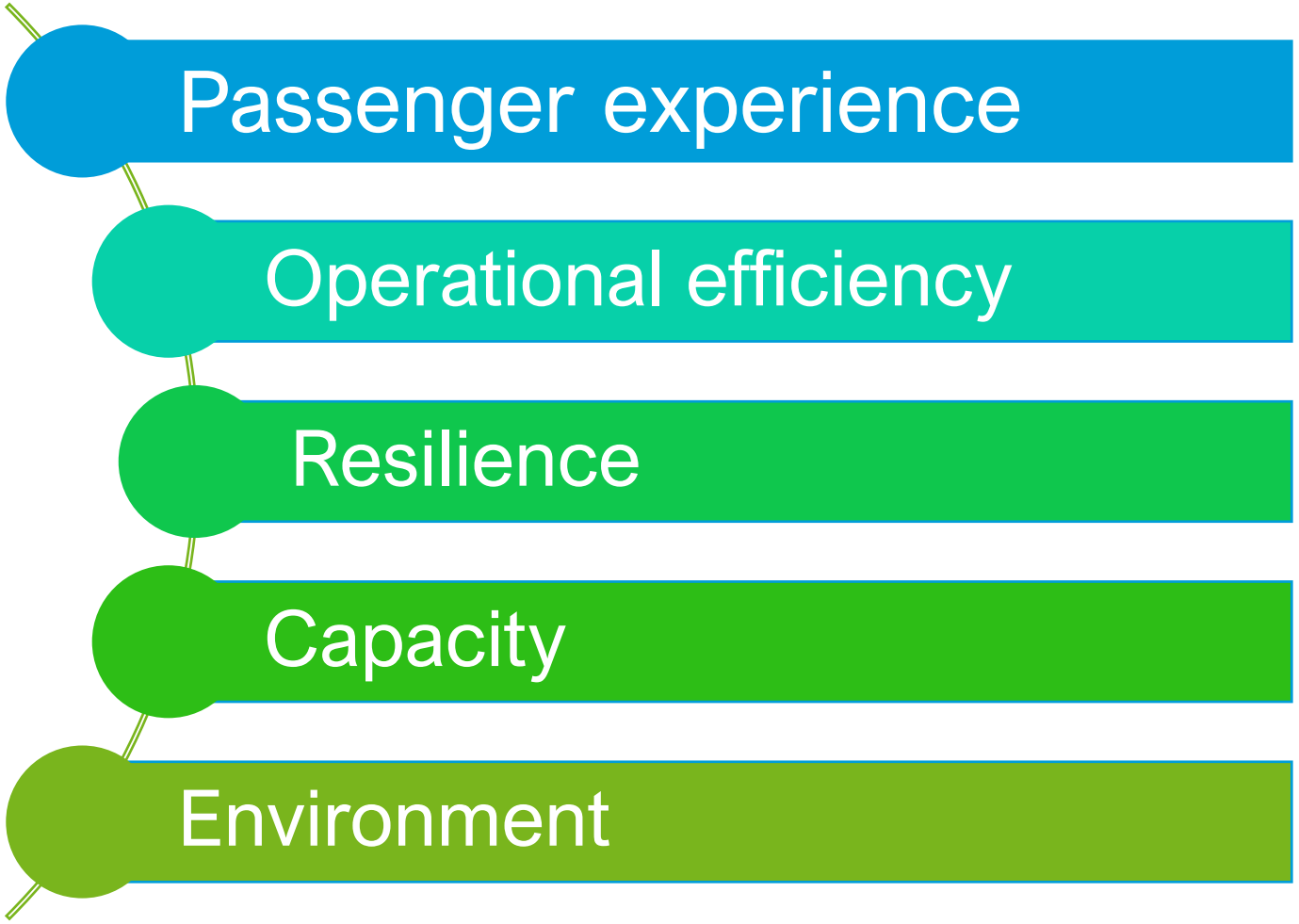
Expected Benefits



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THANK YOU FOR YOUR ATTENTION

FASTNet Project

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