



Supporting
European
Aviation



Deciding with Data | Leveraging information to make better data-driven choices.

A-CDM and Linking into a Network

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A-CDM Implementation Manager

Network Concept



Consist of 2 or more Airports, Units, Sectors – not necessarily adjacent.
All have a Network

European Network

41 Member States
+ 2 – comprehensive
agreement
+ 16 – bilateral

1988 - ECAC decision

1996 - CFMU

2011 - Network Manager



Airport Challenges for the Network

- 1 Integrating airports with the Network
- 2 nodes of the Network
- 3 bottlenecks to the Network
- 4 new/expansion very difficult



Airport Challenges for the Network



INFLUENCES



Airports performance **influences** Network performance



IMPACTS



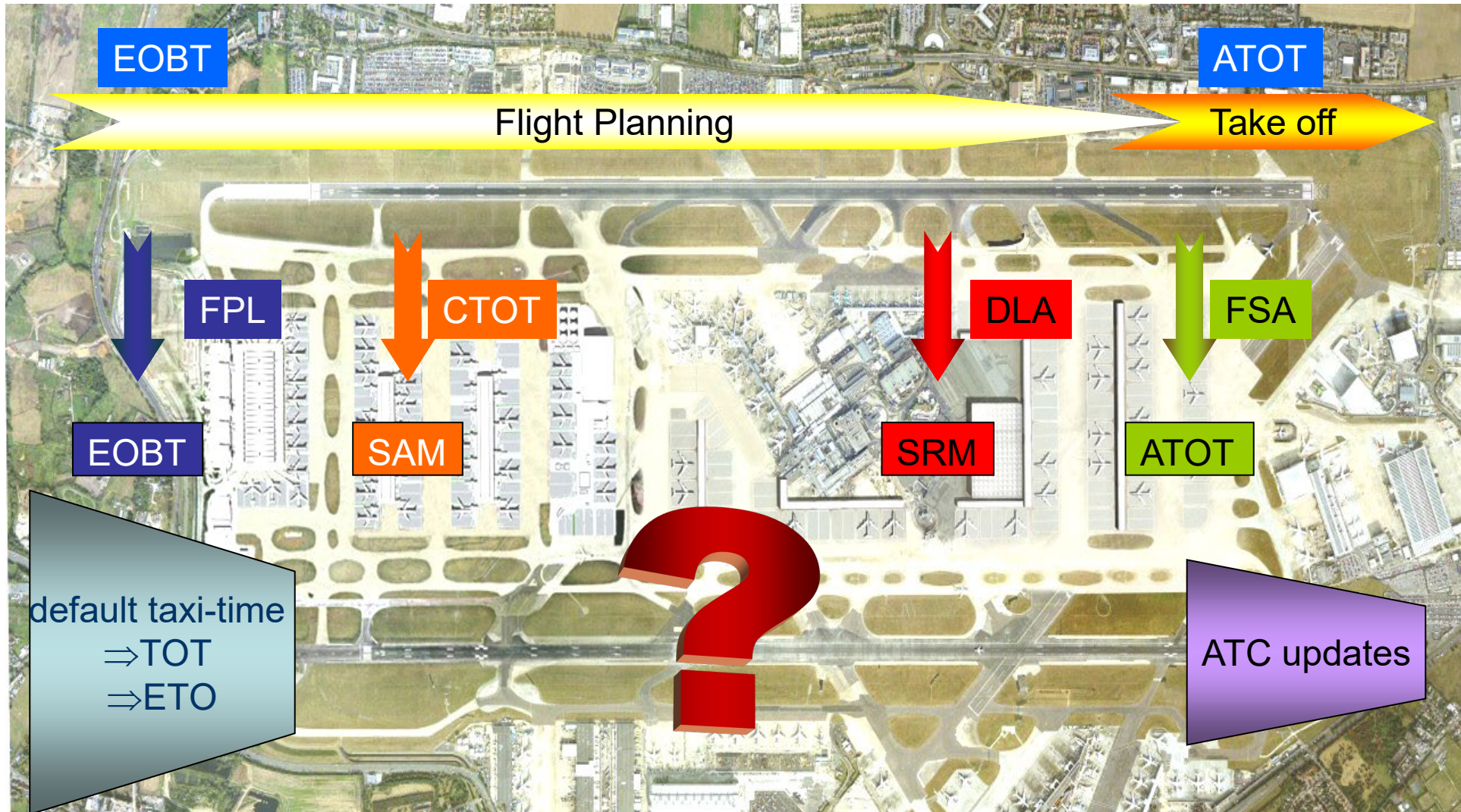
Network performance **impacts** Airport performance

Challenges for Airports Today

- No complete & common picture on the flight progress
- Partners are dealing with the flight independently from each other
- Conflicting decisions



Non - CDM airport - Departure Planning

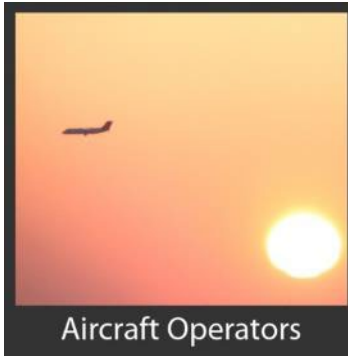


A-CDM - Link to ATFM (NMOC)

- The link between Airport Operations and Network Operations
- Provides a two-way exchange of information
- Recognised as a way to integrate airports with the ATFM Network with benefits for both



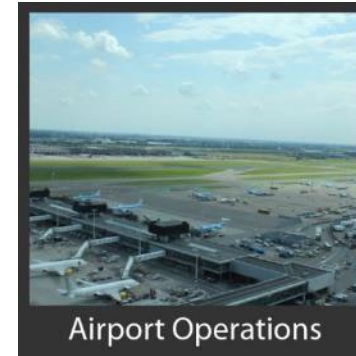
A-CDM – Main Partners



Aircraft Operators



Network Operations



Airport Operations



Air Traffic Control



Ground Handling

Information Sharing - Principle

Foundation for Airport CDM



The **right** information



To the **right** people



At the **right** time

A-CDM - Elements



Collaborative Management of Flight Updates

**Variable Taxi
Time
Calculation**

**Collaborative
Pre-Departure
Sequencing**

**CDM in
Adverse
Conditions**

Milestone Approach

Airport CDM Information Sharing

A-CDM –Information Sharing

Airport Operator

- Airport slot data
- Stand & gate allocation
- Special events
- Reduction in airport capacity

ATC

- Real-time updates of landing
- Taxi times & SIDs
- Runway operational capacity
- A-SMGCS data/radar information



Network Operations

- Flight plan data
- ATFM departure slots
- Arrival information (Flight Status/ELDT)

AO/GH

- Flight plans
- Turn-round times
- Priority of flights
- Aircraft registration
- Aircraft movement data

Other service providers

- De-icing companies (de-icing times)
- Met office (met info)

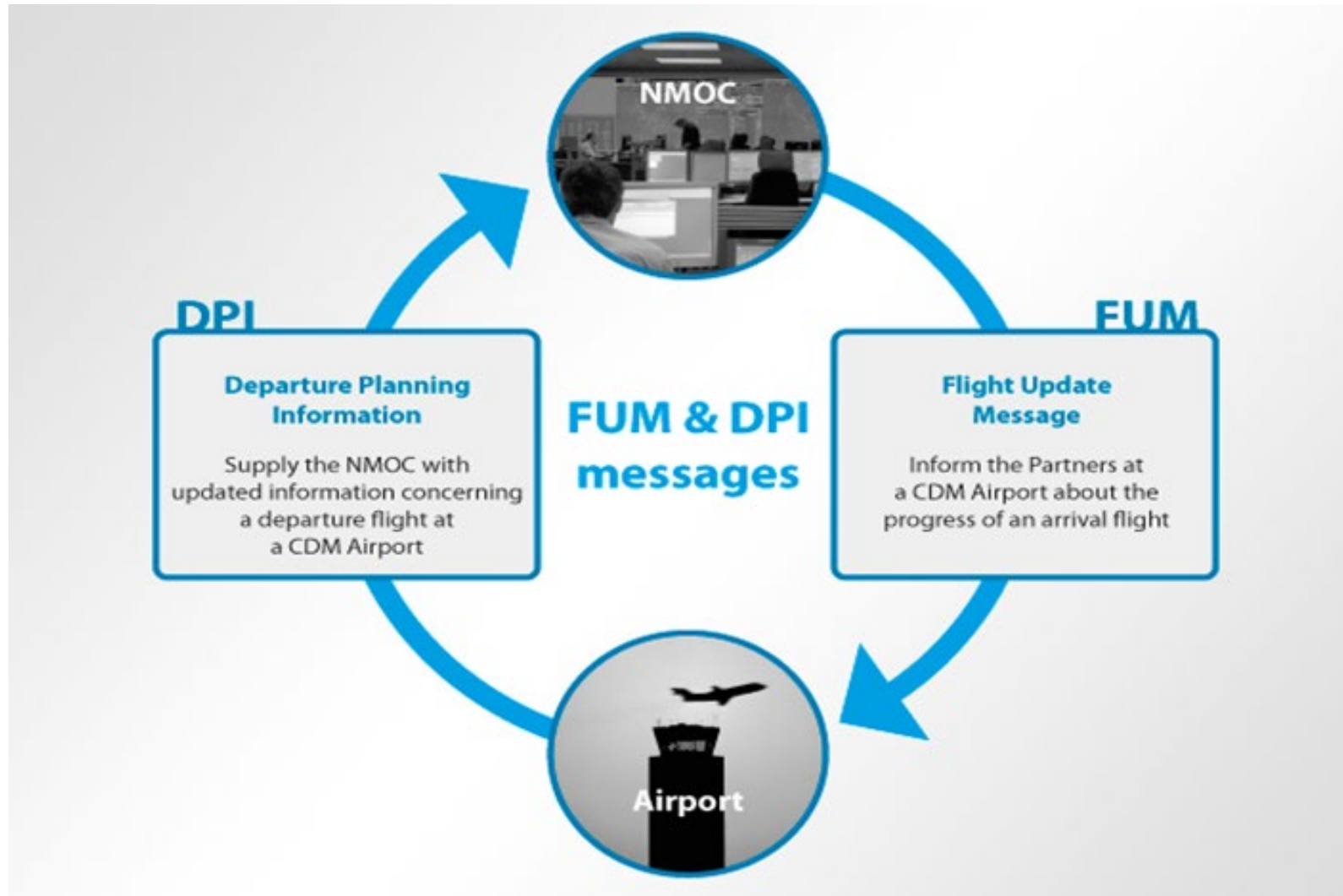
Linking Airports with a Network – Non A-CDM

- Non optimal traffic demand picture
 - *(EOBT+ Default Taxi Time)*
- Results in unnecessary restrictions applied
- Wasted ATFM slots
- Overload and traffic bunching

A-CDM - Linking Airports with a Network

- **Objective**
 - To share dynamic Airport CDM Information with the ATM Network
- **Network – Airport – Network**
 - Flight Update Message (FUM)
 - *Flight Status, Time over & landing times*
 - Departure Planning Information (DPI) Message
 - *Off-Blocks & Estimated Take-Off Times*
 - *Aircraft type, Taxi times & SID*
- **Benefits**
 - Airports - Arrival estimates
 - Network - Take-Off estimates (improve en-route sector planning)

A-CDM in the European Network



Flight Update Message

- The main purpose of the FUM is to provide an airport of destination with the Estimated LanDing Time (ELDT) of a flight.
- The FUM also contains the Estimated Time Over (ETO) the last point en-route or of the Initial Approach Fix (IAF).
- Sent via AFTN or NM B2B web services

FUM - example

```
-TITLE FUM  
-BEGIN ADDR  
  -FAC EBBUZQZX  
-END ADDR  
-IFPLID AA19600528  
-ARCID AMC101  
-ARCTYP B763  
-REG DABXW  
-ADEP EGLL  
-ADES LMML  
-EOBD 051003  
-EOBT 1055  
-ELDT 1335  
-ESTDATA -PTID MLQ-FL190-ETO 021003111500  
-FLTSTATE TA
```

Departure Planning Information (DPI)

- The purpose of DPI is to provide ETFMS with the most up to date flight data currently available which cannot be sent via IFPS.
 - DPI messages can be triggered by ATC (TWR) systems, by sequencing tools (e.g. DMAN) or by Collaborative Decision Making (CDM) systems at airports.
 - Sent via AFTN or NM B2B web services
-
- The main data to be received via the DPI message are:
 - An accurate estimation of the **take-off time** (TTOT)
 - The individual **taxi-time** (EXOT)
 - The **SID**

DPI types

DPI type	DPI status	Filing time frame
P-DPI (Predicted DPI)	DPISTATUS-Predicted	EOBT -20h until EOBT -3h
E-DPI (Early DPI)	DPISTATUS-Early	3h till 2h before EOBT
T-DPI_t (Confirmed)	DPISTATUS- Target	2h till 40min before EOBT
T-DPI_s (Sequenced)	DPISTATUS- SEQ	40min till AOBT
A-DPI (ATC DPI)	DPISTATUS- ATC	30min before EOBT till take-off
C-DPI (Cancel DPI)	DPISTATUS- CNL	Anytime

T-DPI_s - example

03-14:07 DLH464 2 Incoming Message - Dpi

EDDFYDYX

@AFTN

Message :

Received from: EDDFYDYX @AFTN. Est. Xmit at: 18/11/03 14:07:00. Message
description:-TITLE DPI

-DPISTATUS SEQ

-ARCID DLH464

-ADEP EDDF

-ADES KMCO

-EOBT 1350

-EOBD 181103

-TOBT 1410

-TSAT 1410

-TAXITIME 0016

-TTOT 1428

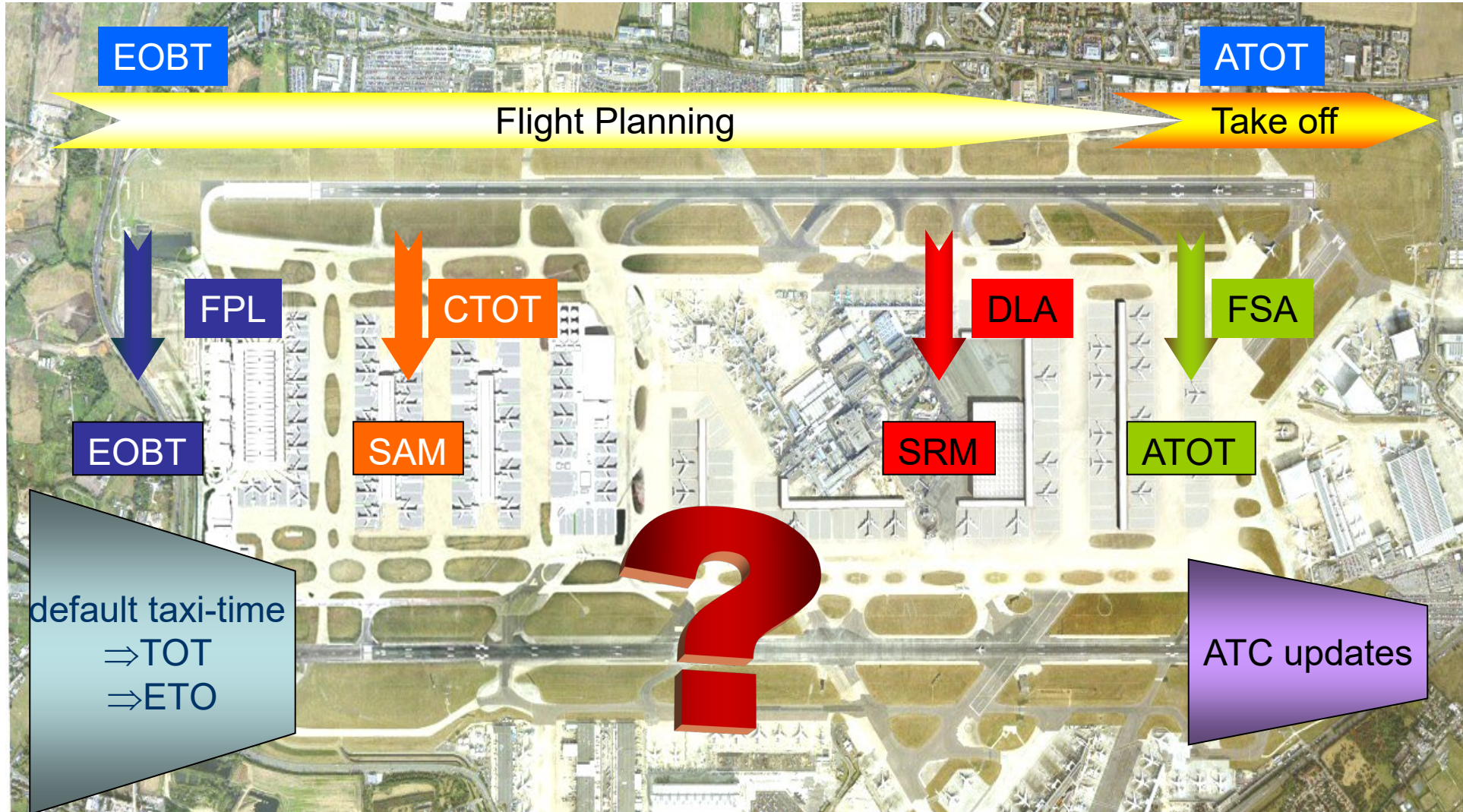
-SID SOBRA1L

-ARCTYP B744

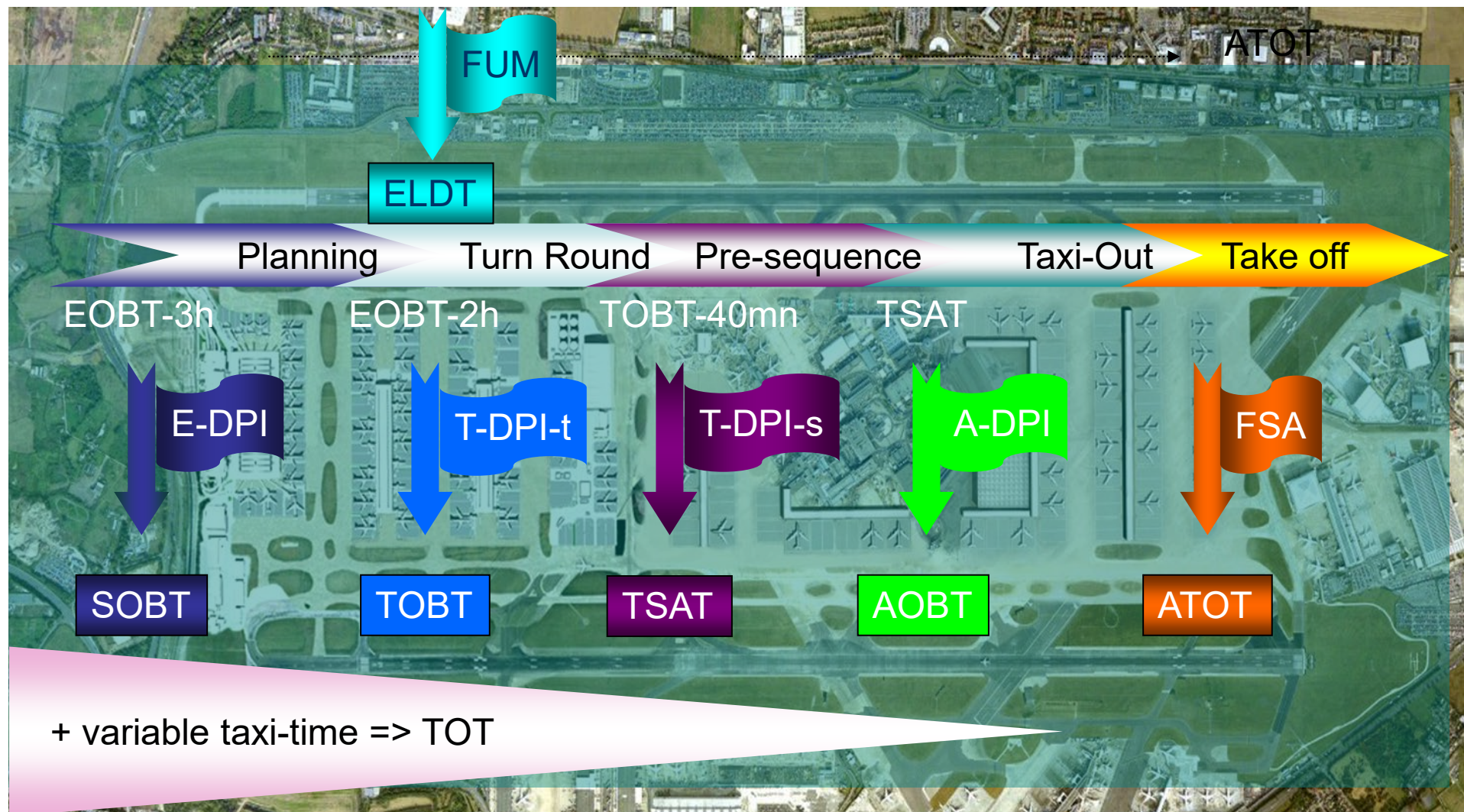
-REG DABTL

-IFPLID AA07669834

Non - CDM airport - Departure Planning



CDM Airport - Departure Planning Information (DPI)



SUPPORTING EUROPEAN AVIATION



Thank you
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