A-CDM

Airport Collaborative Decision Making

What is A-CDM?

- „Single European Sky"- project
- Optimising Resources
- Inbound - Turnaround – Outbound seen as a big process
- „Estimated Off Block Time" (EOBT) minus 3 hours before take off
- Austro Control and Vienna Airport

What to improve?

- prediction
- punctuality
- Resources

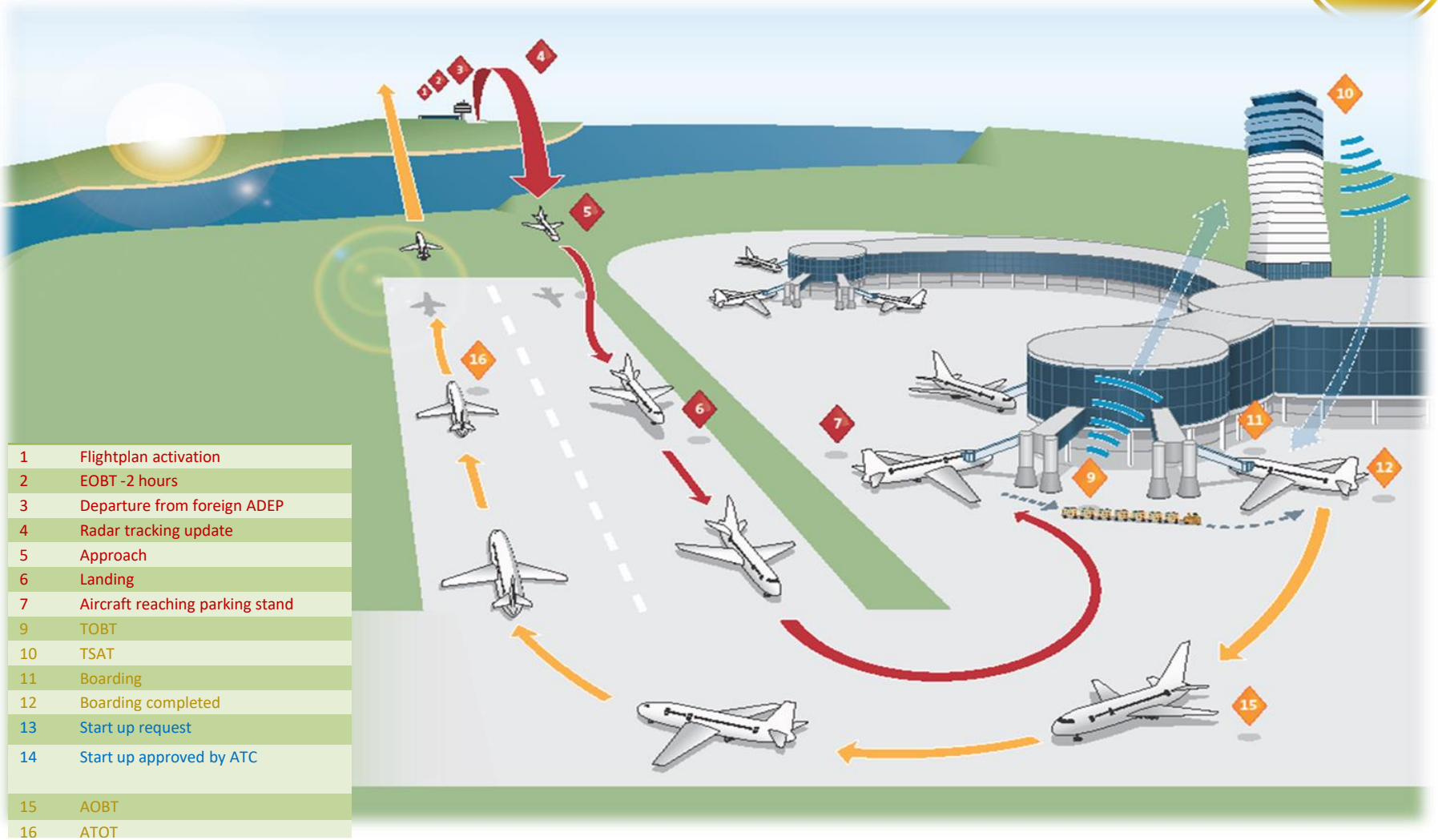
NMOC is connected indirectly (locally implemented) or directly (fully implemented)

NMOC Network Management Operation Center

How does A-CDM work?

- CDM is a procedural and cultural change
- CDM is highly transparent
- CDM means a lot of data is exchanged and used in realtime

CDM – Milestone Process



1	Flightplan activation
2	EOBT -2 hours
3	Departure from foreign ADEP
4	Radar tracking update
5	Approach
6	Landing
7	Aircraft reaching parking stand
9	TOBT
10	TSAT
11	Boarding
12	Boarding completed
13	Start up request
14	Start up approved by ATC
15	AOBT
16	ATOT

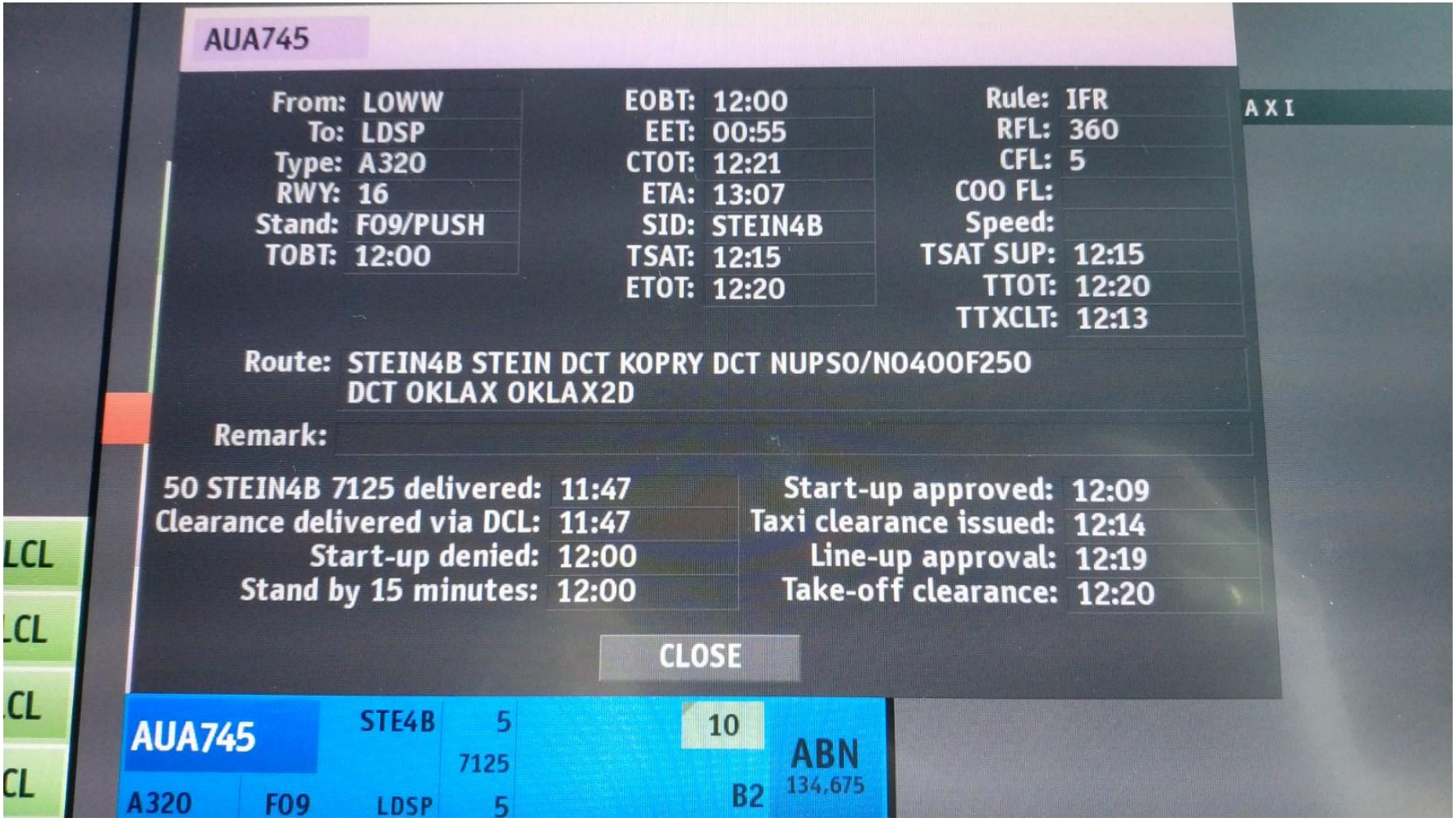
TOBT – Target Off Block Time

- The time when the aircraft operator expects to be ready for startup and pushback
- TOBT can be set 2 hours before the EOBT, until 30 minutes prior to EOBT
- Changes in the TOBT of more than five minutes have to be communicated by updating the TOBT

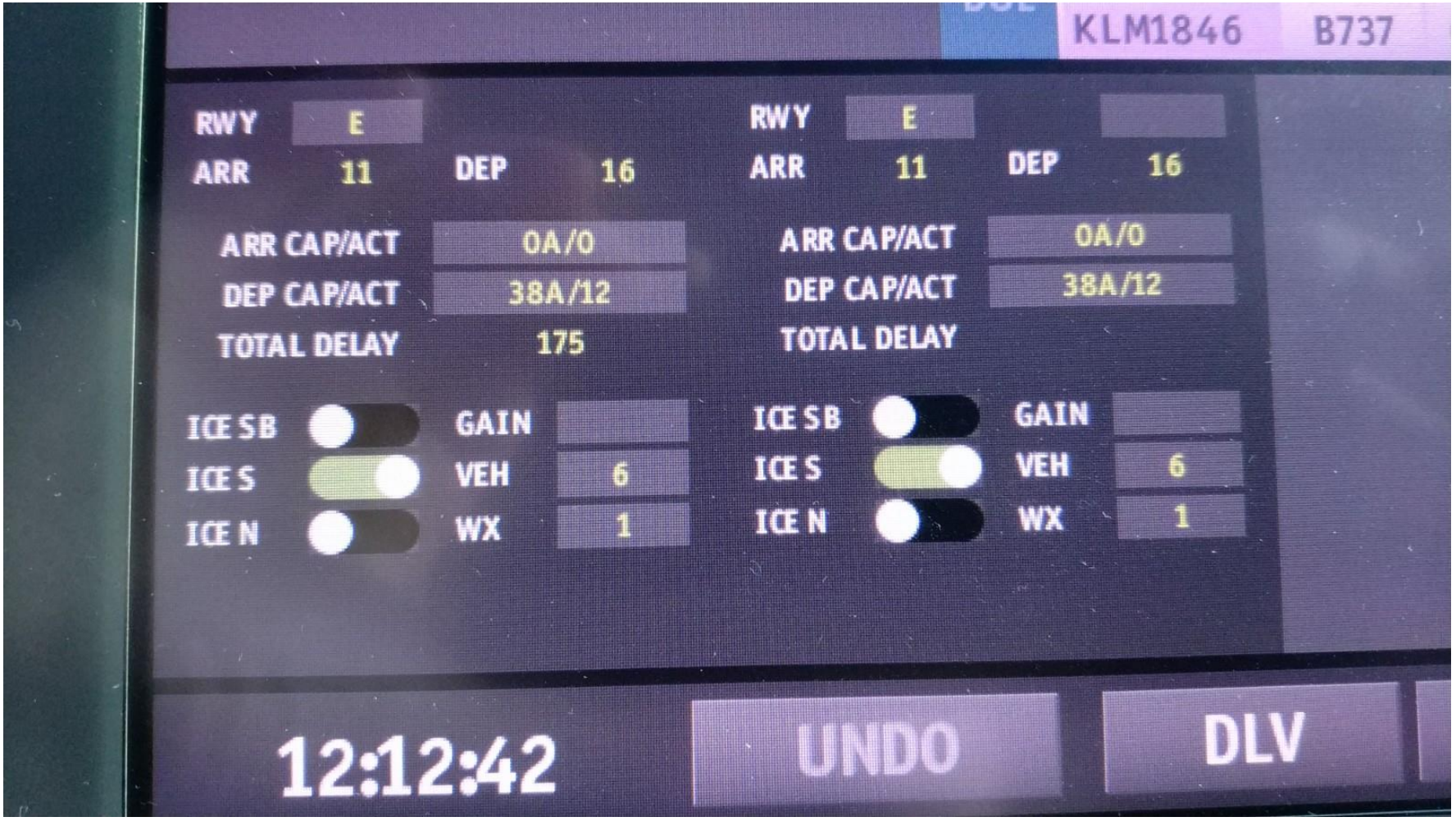
TSAT – Target Startup Approval Time

- TSAT is calculated by ATC based on the TOBT, the available capacity, the demand and possible NMOC regulations
- At TSAT, the aircraft can expect startup and pushback approval
- Calculation of TSAT starts as soon as a TOBT is available
- Startup will be approved at TSAT +/ - 5 minutes

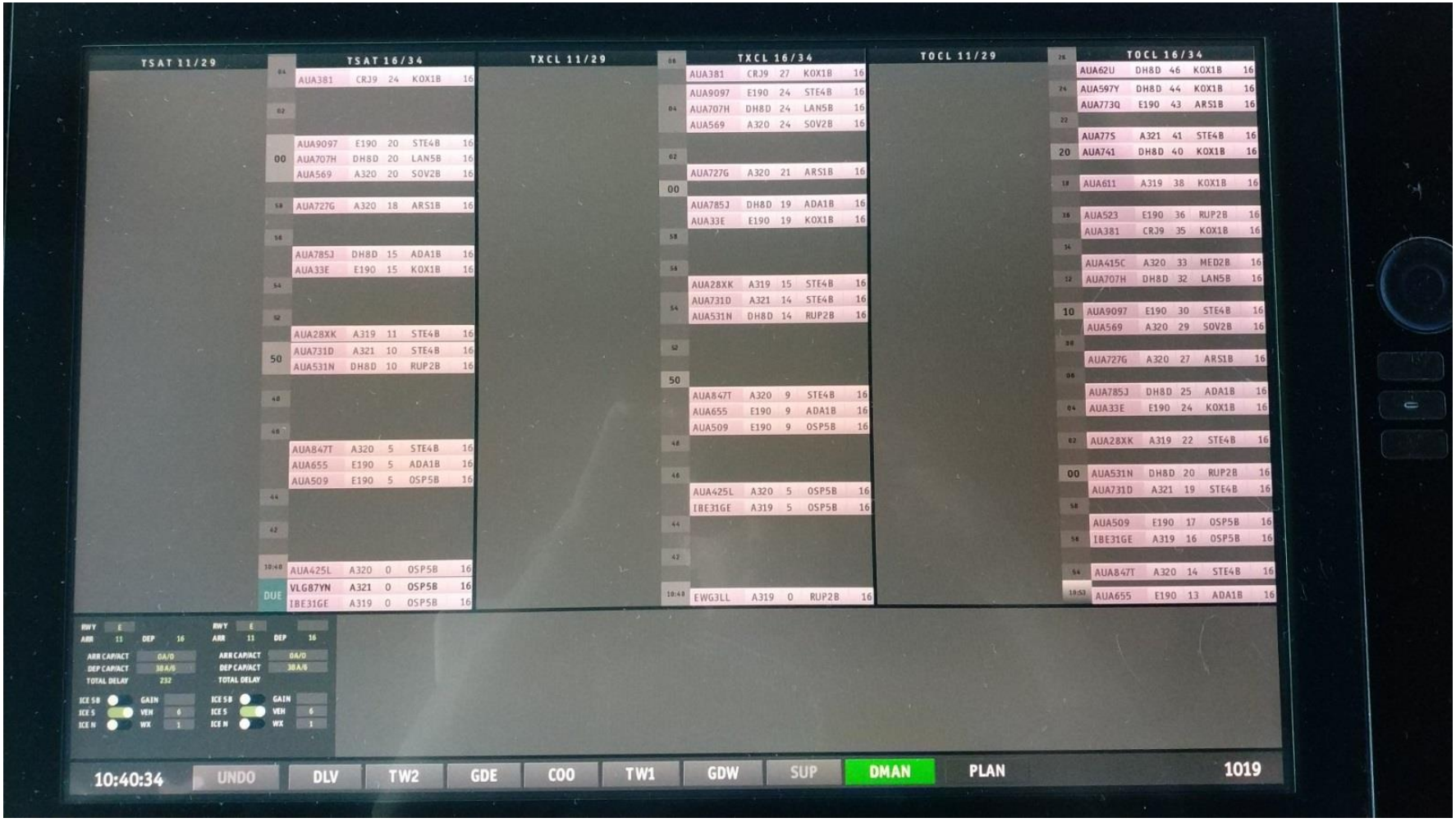
Time- Stamps



Runway/ Deicing Capacity



Departure MANager



Benefitting Stakeholders

Airport

Passengers

ATC

Airlines

Environment

Ground Handling

Advantages of CDM

- **For the airport**
  - Optimised parking stand allocation
  - Better use of infrastructure (loading, boarding, cleaning, …)

- **For ATC**
  - Better predictability of traffic peaks
  - No frequency overload
  - Better coordination between different ground positions (delay allocation..)
  - Optimised RWY configuration change
  - No congestion on the taxiways

- **Environmental benefits**
  - Reduction of CO^2
  - Noice abatement

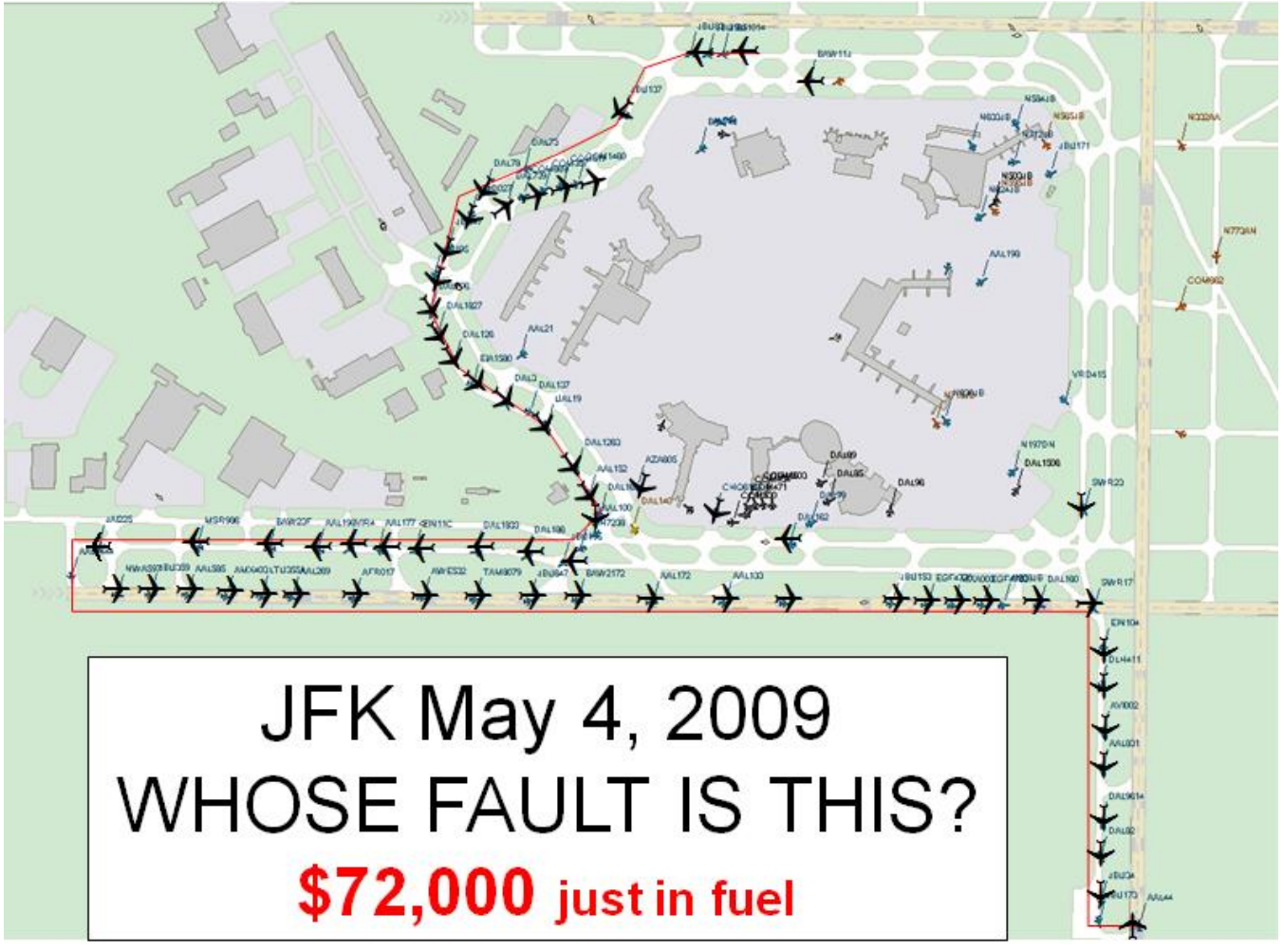
- **Für den Passagier & Kunden**
  - Better prediction of departure and arrival times
  - Optimised connection flights

Advantages of CDM

- **For the airline**
  - Exact status of handling process
  - Exact sequence information
  - Exact arrival time
  - Efficient fleet management and internal priorisation
  - Cost reduction through reduced taxi times
  - Higher predictability
  - Reduced waiting times at the holding point
  - Optimised turnaround

- **For the Ground Handling**
  - Efficient use of resources due to accurate turnaround times
  - Better prioritisation
  - Early identification of discrepancies
  - Environmental friendly

New York – taxitime without CDM

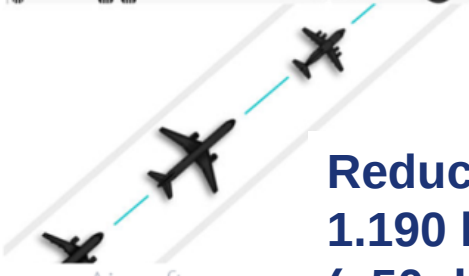


CDM Facts

Cuts in jet fuel consumption
2.500.000

CO^2 reduction
6.300.000kg

System availability
99,9%



Reduced taxitime
1.190 hours
(~50 days)

Cost cuts in jet fuel
€ 2.375.000

(Analysedaten: 07/2014-12/2016)

✈ **Status FULLY IMPLEMENTED**

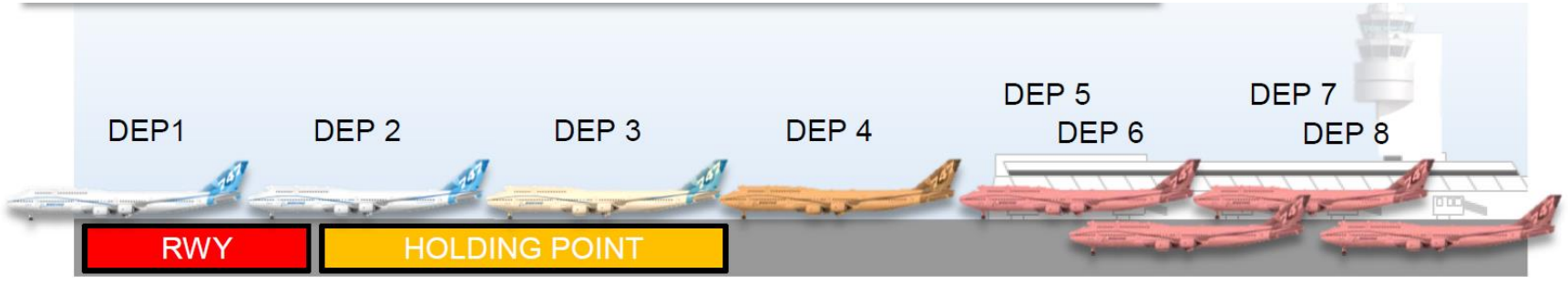
NMOC- fully connected. CTOTs based on TTOTs

Advantages

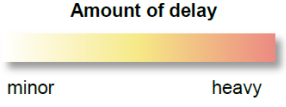
- Exchange of airport and en- route slots
- Optimised calculation of CTOTs

With or without A-CDM

- First come | first served (without A-CDM)



- Best planned | best served (with A-CDM)



Thank you!