# KUL A-CDM TRAINING MATERIAL (TOBT)

KUL
A-CDM

# KUL A-CDM 101

# History of global A-CDM developments

Firstly, implemented in Munich Airport in 2007 to improve the coordination and data sharing between the operational stakeholders relevant for the aircraft turnaround process with the aim to make the turnaround more predictable for all involved stakeholders.

ICAO has selected A-CDM to be a topic for their Global Air Navigation Plan's (GANP) Aviation System Block Upgrades (ASBU) to increase airport capacity at congested airports.

At the moment there are 33 fully implemented A-CDM airports in Europe and many more across the globe.



THE MANUAL

Airport CDM Implementation

Version 5.0
31 March 2017

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA PACIFIC AIRPORT COLLABORATIVE DECISION MAKING (A-CDM) IMPLEMENTATION PLAN

First Edition 2019

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# Why do we need KUL A-CDM?

KUL's main objective in implementing A-CDM is to achieve:

- Operational Efficiency
- Resource Optimisation
- Capacity Optimisation
- Improved Planning

# This is the way we run our project



Kick-off
0 days

Being on the ground of todays operations

Getting ready for take-off

Take-Off
First day of operations

Regular operations

Understanding today and the gap to tomorrow

Defining the future with A-CDM

Changing the way of working and testing it

Ensuring stable operations

Gap Analysis

ConOps & ACIP

Training Operational Trial

Operational Stabilization

# Who are the stakeholders for our KUL A-CDM?



Airport Operations

Air Traffic Flow and Capacity Management (ATFM)

KUL A-CDM

Air Traffic Control (Control Tower)

All Ground Handlers

All Operating Airlines

# What is KUL A-CDM about : The six A-CDM Elements

These six A-CDM elements define the higher-level framework of an A-CDM implementation:



| Airport CDM Information Sharing | The Milestone Approach | Variable Taxi Times | Collaborative Pre-Departure Sequencing | CDM in Adverse Conditions | Collaborative Management of Flight Updates |
|---|---|---|---|---|---|
| Fuse the right data | Flight Progress Information and Tracking | Taxi Time Matrix | Pre-Departure Sequencing or Departure Management | Definition of Adverse Conditions | Integration of Airport and ATFM |
| Produce A-CDM data base line and quality | Alerting and Notification | On the Fly Operational Adoptions | Optimization of Traffic Flows | Management of Adverse Condition | Inbound Message Updates and Integration |
| Enable Situational Awareness | Automation and Efficiency | Option to integrate A-SMGCS SMAN Taxi Times | TSAT and TTOT | Bringing the Stakeholder together | Outbound Message Updates to inform the Regional Network |

The A-CDM process focusses on the extended turnaround of an aircraft from its departure through the arrival and turnaround at KUL until its departure from KUL.

# Information Sharing

Within the Information Sharing element the data needed to run the successful and efficient A-CDM process is defined.

The sources of data are identified and agreements on the system-to-system integration and the data format are made.

Where possible and meaningful automatic data generation and exchanges between systems should be implemented.

In the end all A-CDM Stakeholders improve from this Information Sharing, as the data will be shared back with them for everyone's benefit.
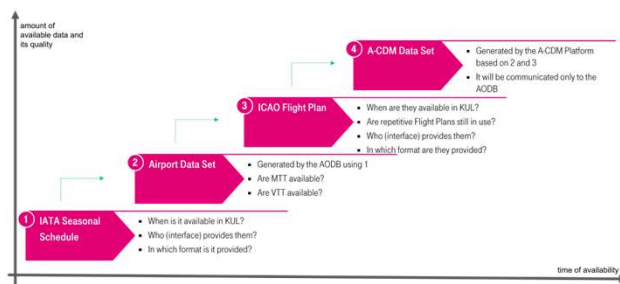
# The Milestone Approach
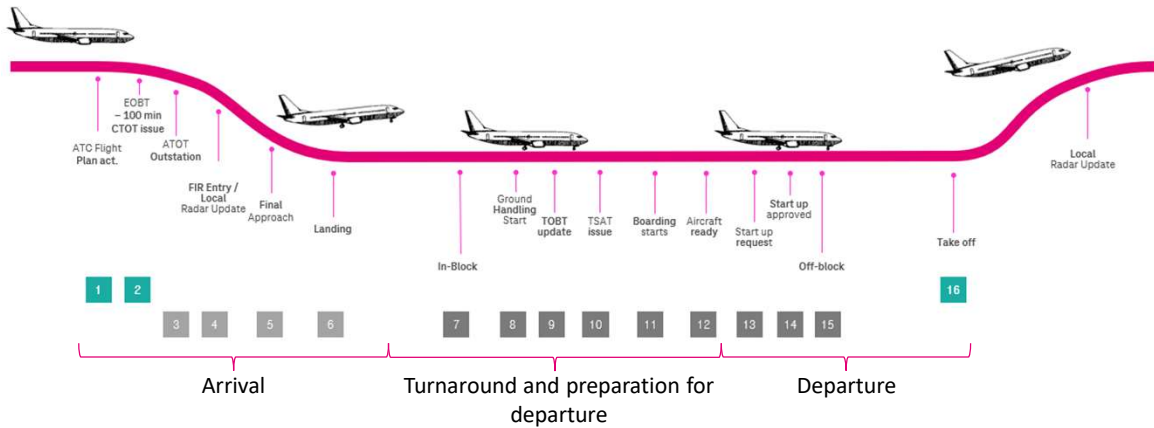


The Milestone Approach defines a standard turn around process for aircrafts operating at KUL and can be followed by every aircraft operator.

Should an aircraft operator decide to implement more milestones, then they should feed into the 16 A-CDM milestones or at least into the TOBT.

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# Variable Taxi Times

With Variable Taxi Times the In-Block Time and Take Off Time predictions can be improved massively for the benefits of Ground Handlers and ATC.

Variable Taxi Times are used as Master Data in ACIP and DMAN for the following automatic calculations:

Actual Landing Time + Estimated Taxi In Time = Estimated In Block Time

Target Off Block Time + Estimated Taxi Out Time = Target Take Off Time

| RWY | Parking Stand | VTT [min] |
|-----|---------------|-----------|
| 33  | K8            | 6         |
| 15  | Q10           | 13        |
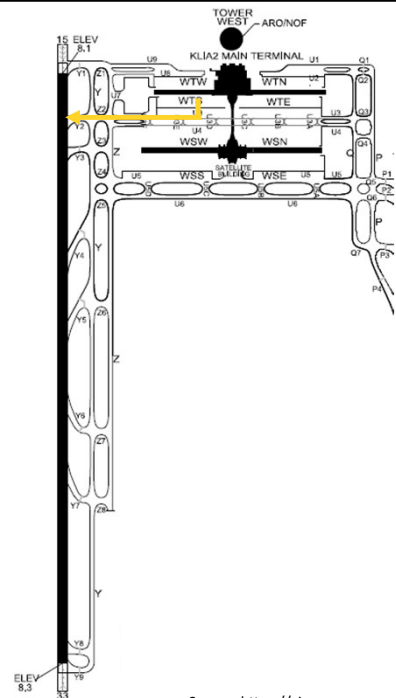
# Collaborative Pre-Departure Sequencing

Transitioning from „First-Come-First-Served" to „Best-Planned-Best-Served", while maintaining the best possible flow.

Reduction of inefficient waiting times at the runways for departing aircrafts (reduction of queuing).

| Input Parameter | Sequence Calculation | Output Parameter |
|---|---|---|

TOBT

Runway Departure Capacity

VTT

ATFCM measures

Runway Demand & Capacity Balancing

TSAT

TTOT

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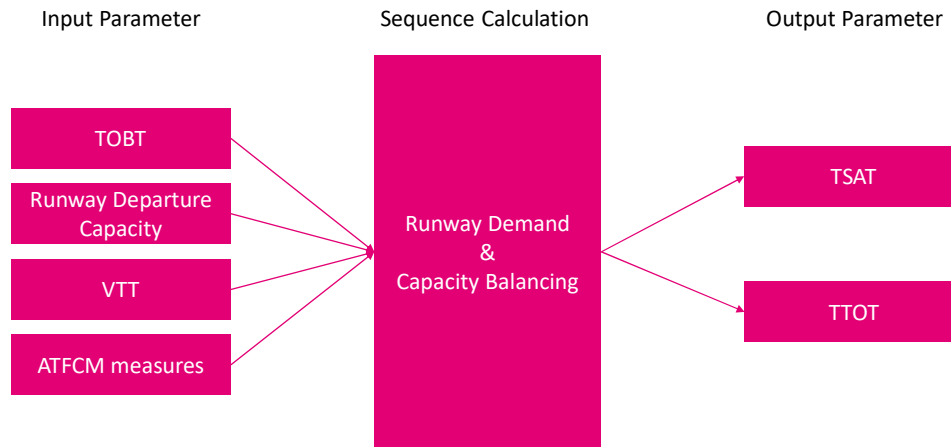
# CDM in Adverse Conditions

The most dominant Adverse Conditions for Kuala Lumpur International Airport have been discussed and defined during the development of the Concept of Operations (ConOps) project phase and are documents in the ConOps Document.

The adverse conditions are defined as the followed:

- Thunderstorm
- Heavy rain
- Haze
- Floods
- Windshear

How and by whom those adverse conditions need to be managed will be explained in the detailed trainings for the respective stakeholders.

# Collaborative Management of Flight Updates

The Collaborative Management of Flight Updates functions as the technical connection between the KUL A-CDM supporting IT system called ACIP and the Air Traffic Flow and Capacity Management (ATFCM) system managing the en-route flights within the Malaysian Airspace System as well as cross border.

The data stream and data sets giving information into ACIP on arrival flights into KUL are called Flight Update Messages.

The data stream and data sets giving information into ATFCM on departing flights from KUL are called Flight Update Messages.

| CAAM's<br><br>Air Traffic Flow and Capacity Management (ATFCM) | | CAAM's<br><br>Air Traffic Flow and Capacity Management (ATFCM) |
|---|---|---|

Flight Update Messages (FUM) for arrival Flights

**Kuala Lumpur International Airport**

**KUL A-CDM - ACIP**

Departure Planning Information (DPI) for departure Flights
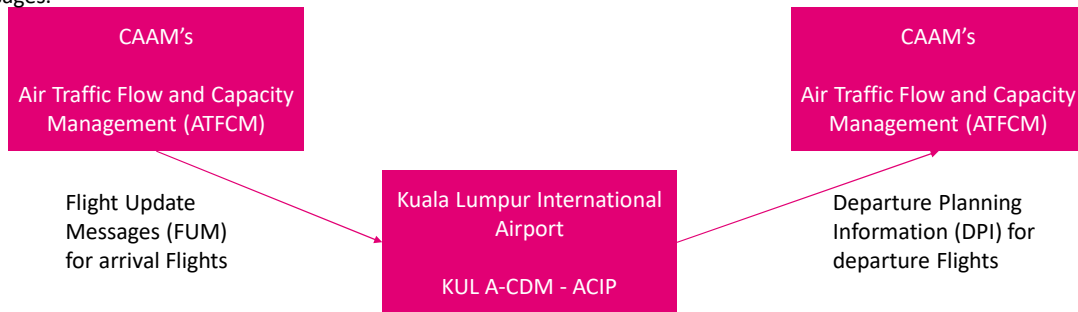
11

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# Main actions of the operational stakeholders

Airlines

- Maintain Flight Plans (ICAO and IATA) up-to-date
- Manage the TOBT for every of their flights, if not delegated to Ground Handling

Ground Handling

- Manage the TOBT on behalf of the airlines, if delegated to them

Airport Operations

- Manage the Flight Plan Matching
- Supervise the KUL A-CDM Process

Local Air Traffic Control

- Manage Start Up Process based on TSAT
- Manage Runway utilization by use of Departure Manager System

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# Main actions of the administrative stakeholders

Airport ITD

- Administrate User Accesses
- Administrate the ACIP

# KUL A-CDM Process for TOBT Responsible Persons

# Rational behind the A-CDM Timestamps

| First Letter | Letter two and three | Last Letter |
|---|---|---|
| **S**cheduled<br>Source: Airlines IATA schedules via airport<br>Up to 6-month-old<br><br>**E**stimated<br>Source: Airlines ICAO Flight Plans via CAAM<br>Up to 6-days-old<br>**T**arget<br>Source:  Airlines/Ground Handling<br>Up to 90 minutes old<br><br>**C**alculated<br>Source: ATC<br>Up to 100 minutes old<br><br>**A**ctual<br>Source: Various<br>100% quality | • **LD** = **L**an**D**ed<br>• **XI =** Ta**X**i **I**n<br>• **IB** = **I**n-**B**lock<br>• **OB** = **O**ff-**B**lock<br>• **RD =** **R**ea**D**y<br>• **SR** = **S**tart-up **R**equest<br>• **SA** = **S**tart-up **A**pproval<br>• **XO** = Ta**X**i **O**ut<br>• **TO** = **T**ake-**O**ff | Just **T** for **T**ime |

Examples:

ALDT = Actual LanDing Time
EIBT = Estimated In Block Time
TOBT = Target Off Block Time
TTOT = Target Take Off Time

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# The most important timestamp for your KUL A-CDM



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# Colors of Malaysian flag

The colors used in the Malaysian flag represent:

Red — Persistence, willingness, valiance, and boldness.

White — Honesty and nobility.

Blue — Unity through peace and obedience.

Yellow — Loyalty to the country and the king.

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The colors used of TOBT represent:

Red — Persistence, willingness to follow milestone approach

White — Honesty and nobility on Target Time.

Blue — Unity through information sharing with all stakeholders.

Yellow — Loyalty to the A-CDM process Stakeholders.

**TOBT** is the commitment by the TOBT responsible person,
that the **aircraft will be ready** at that time....

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# Why is the TOBT so important?



ELDT **+** EXIT **=** EIBT **+** MTTT **=** TOBT

In-Block

Off-Block

TSAT **+** EXOT **=** TTOT
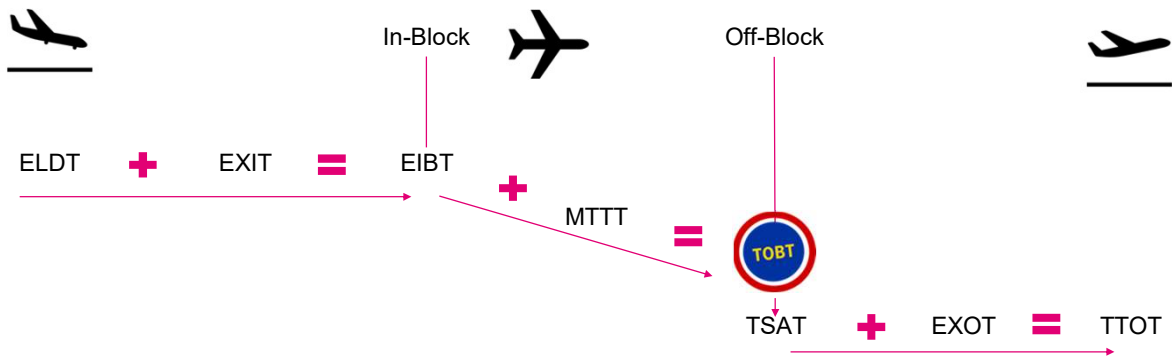
1. Continuous connection between arrival and connected departure flight allow early forecast on departure times
2. Forecasted departure times will be used to optimize the use of the runway capacity

# Definition of the TOBT responsible person

## 2.2.5    TOBT Responsible Person

The TOBT is considered to be an integral part of the A-CDM flight plan for flights being operated from an A-CDM airport. The ownership of flight operations and therefore also flight plans solely lies with aircraft operator.

Therefore, the responsibility of keeping TOBT for a flight always up to date lies with the airline or air transport service provider. However due to today's decentralized operations some airline or air transport service providers might not have a local operations presence anymore. Being on site and knowing the details of every turnaround is the key for a good TOBT quality, it has become best practice, that airlines or air transport service provides, who cannot ensure their local presence and therefore TOBT quality source their TOBT management to a locally present company like their ground handling service provide.

Source: KUL A-CDM ConOps

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# TOBT Rules prior to TSAT

1. First TOBT is automatically generated by ACIP at EOBT-90 min for all flights. This TOBT needs only to be updated incase of operational disruptions. No confirmation or acceptance of the first TOBT is needed.

2. When a TOBT needs a manual update the following needs to be respected:

Prior TSAT has been published EOBT-40:

- As many TOBT updates are possible as operationally needed. The new TOBT shall always be old TOBT plus at least 5 minutes.

- Keep in mind to not just change a TOBT for the sake of a change. Only do changes based on meaningful assumptions.
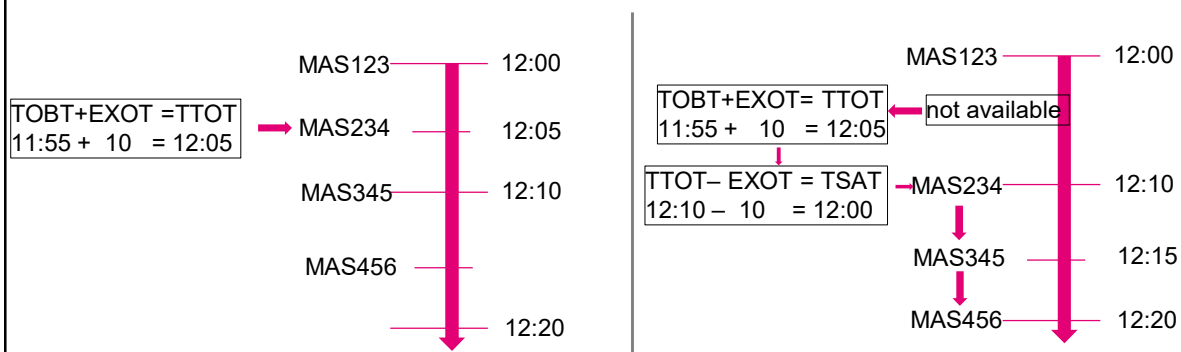
# Rules once TSAT has been published

| No. | Rule | Responsible |
|-----|------|-------------|
| 1. | TOBT shall be updated whenever operational changes result into a change of more than +/- 5 minutes from the previous TOBT. | TOBT responsible person |
| 2. | TOBT cannot be changed when AOBT has been set. | TOBT responsible person |
| 3. | Prior to TSAT issue as many TOBT updates as required are possible. | TOBT responsible person |
| 4. | A TOBT can be updated up to 3 times after TSAT has been published by the ACIP. | TOBT responsible person |
| 5. | If a TOBT needs to be updated more than 3 times, the TOBT must be deleted first before entering a new TOBT. | TOBT responsible person |
| 6. | An updated TOBT must be at least 5 minutes later than the current time. | TOBT responsible person |
| 7. | TOBT responsible person will coordinate directly with the Airline Flight Dispatcher being responsible for that flight in the case that TOBT differs more than 15 minutes from EOBT, so that Airline Flight Dispatcher will update the EOBT by a delay message (DLA) or the PIC will provide the new EOBT to Lumpur Ground/Lumpur Delivery, which will notify AIS. | TOBT responsible person<br><br>Airline Flight Dispatcher |
| 8. | If the EOBT is not updated within EOBT + 30 minutes, the flight plan is automatically canceled by ATC. | ATC |

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# What TOBT is used for in Pre-Departure Sequencing

TOBT is the commitment by the TOBT responsible person, that the aircraft will be ready at that time.

Based on that commitment CAAM's Departure Manager (DMAN) calculates TSAT and TTOT with the aim to enable aircrafts to taxi without further delay to the runways and take off.

Left diagram:

MAS123 — 12:00

TOBT+EXOT =TTOT
11:55 + 10 = 12:05 → MAS234 — 12:05

MAS345 — 12:10

MAS456 —

12:20

Right diagram:

MAS123 — 12:00

TOBT+EXOT= TTOT
11:55 + 10 = 12:05 ← not available

TTOT– EXOT = TSAT
12:10 – 10 = 12:00 → MAS234 — 12:10

MAS345 — 12:15

MAS456 — 12:20

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# KUL A-CDM: going into the details

# What do you need to do to manage a Happy Flight?

Definition of a Happy Flight:

1. is a flight, which planning data is 100% matching throughout the whole operational process

2. Is a flight, that is not impacted by any operational disruptions (e.g., a delay in fueling)

3. The initial (first) TOBT will be generated automatically by ACIP as EOBT = TOBT to reduce unneeded workload

If you have a perfectly smooth-running turnaround you need to do nothing on top of what you do today!

# But Happy Flights are more exempt than usual

To support the KUL A-CDM stakeholders in their day-to-day operations ACIP will inform and alert if process variation based on the available data occur and inform on the steps to be taken to resolve the issue.

In the following slides the operational cases will be explained which impact KUL A-CDM operations. The cause of the disruption will be explained together with the reaction of ACIP.

In the end the solution to solve the topic will be given and explained.

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# Aircraft diverts to alternative airport

Cause:

The arriving aircraft diverts to an alternative airport.
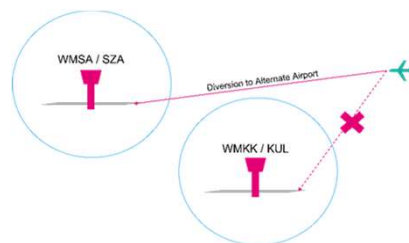


Reaction by ACIP:

Information, that the aircraft has diverted will be available in ACIP.

Once the diverted aircraft is directed towards KUL, you will find the information as a usual arrival flight.

Solution:

There are no actions with regards to this process, but you will find information on this flight in the

# Aircraft performs a missed approach

Cause:

The arriving aircraft has to perform a missed approach procedure.

Reaction by ACIP:

New ELDT's should be calculated and shared by the CAAM system and be shared with ACIP. In ACIP the new ELDT and its derived EIBT will be published.

Solution:

1. If the flight has a tight turnaround, which does not allow to compensate the delay caused by the missed approach it is required to update the TOBT.

# Aircraft must fly holding patterns 1/2

Cause:

The arriving aircraft has to fly holding pattern(s) while in inbound sequence into KUL.

Reaction by ACIP:

New ELDT's should be calculated and shared by the CAAM system and be shared with ACIP. In ACIP the new ELDT and its derived EIBT will be published. If TOBT of the connected departure flight cannot be achieved anymore (EIBT + MTTT > EOBT) an alert CDM07 will be raised by ACIP to the Airline responsible person and/or TOBT responsible person with the request to update the flights EOBT.

Solution:

1. If the flight has a tight turnaround, which does not allow to compensate the delay caused by the late arrival it is required to update the EOBT. This update can only be done by the airline via their systems and not via ACIP.

ELDT — EXIT — EIBT — MTTT — EOBT — No delay

ELDT — EXIT — EIBT — MTTT — EOBT — Raise CDM07 — Send Alert to Airline responsible person
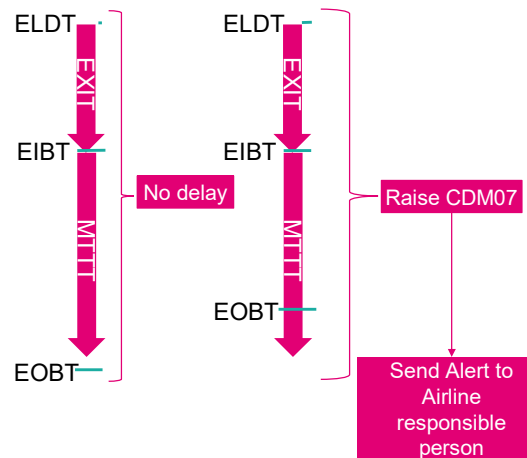
# Aircraft must fly holding patterns 2/2

Cause:

The arriving aircraft has to fly holding pattern(s) while in inbound sequence into KUL.

Reaction by ACIP:

New ELDT's should be calculated and shared by the CAAM system and be shared with ACIP. In ACIP the new ELDT and its derived EIBT will be published. If TOBT of the connected departure flight cannot be achieved anymore (EIBT + MTTT > TOBT) an alert CDM07a will be raised by ACIP to the TOBT responsible person with the request to update the flights TOBT.

Solution:

1. If the flight has a tight turnaround, which does not allow to compensate the delay caused by the late arrival it is required to update the TOBT in ACIP.

# Aircraft cannot go in-block as planned

Cause:

Upon arrival of the inbound aircraft at it's designated parking stand, the parking stand is still occupied with the previous departure flight.

Reaction by ACIP:

Based on the detection, that TOBT is not considered meaningful anymore ACIP will raise Alert CDM07a to the TOBT responsible person as a request to update the TOBT.

Solution:

1. If the aircraft goes in-block late and the MTTT does not allow to compensate the late in-block, the TOBT needs to be updated by the TOBT responsible person.
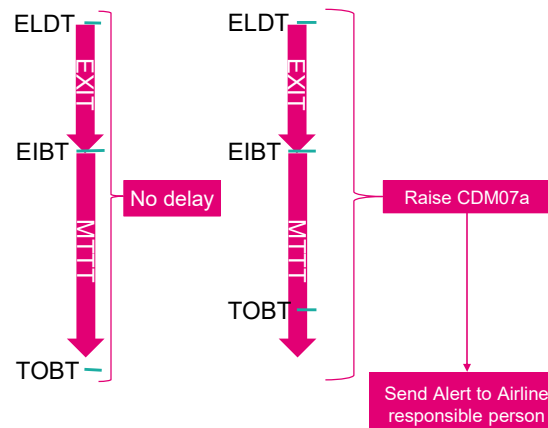
# Delay in the Turnaround Process

Cause:

One or multiple sub-processes, e.g. catering, fueling, de-boarding, of the turnaround cannot be finished on time and no buffer time to compensate the delay is left

Reaction by ACIP:

The ACIP can only react to the delay once the TOBT is outdated, which is to late. Therefore, every TOBT-responsible person needs to monitor the turnaround closely and update the TOBT when ever needed

Solution:

1. TOBT responsible person to use the preferred software function (AOE mobile or native apps) to update the TOBT respecting the TOBT Rules.

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# No automatically generated TOBT

ACIP automatically generates a TOBT at EOBT – 90 minutes for every flight.

If EIBT + MTTT <= EOBT or AIBT + MTTT <= EOBT then the automatically generated TOBT = EOBT

**Issue**

If an automatic TOBT generation is not possible

**How will ACIP notify you**

CDM14 Alert is automatically generated

**Solution / Action**

1. This Alert is sent to the TOBT responsible person, and he has to update a reasonable TOBT into ACIP.

2. As soon as an intervention of the TOBT have to be done, the ACIP will set the TOBT Update Prior to TSAT milestone.

3. And the TOBT is distributed to the Ramp Display System (RDS)

EIBT — 90 mins → EOBT / TOBT

EIBT — < 90 mins → EOBT / ~~TOBT~~ → CDM14

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# Outdated TOBT or not meaningful TOBT

Cause:

ACIP detects, that TOBT is not considered to be meaningful anymore. E.g., an aircrafts needs to perform a missed approach procedure and therefore will arrive 10 minutes later than planned. If the Minimum Turnaround Time (MTTT) is limited to minimum service to turn the aircraft and no buffer is available, the system will detect (EIBT+ MTTT > TOBT) that the given TOBT is not achievable anymore.

Reaction by ACIP:

Based on the detection, that TOBT is not considered meaningful anymore ACIP will raise Alert CDM07a to the TOBT responsible person to update the TOBT.

Solution:

1. TOBT responsible person to use the preferred software function (AOE mobile or native apps) to update the TOBT respecting the TOBT Rules.

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# Boarding has not been started on time

Cause:

Ideally this should never happen, as the TOBT responsible persons are well trained and do their best to always provide a meaningful TOBT to prevent this situation. But sometimes something goes wrong in the last minute and the boarding cannot start as needed. ACIP will detect that the boarding has not started and raise a CDM alert.

Reaction by ACIP:

ACIP will raise Alert CDM09 – Boarding not started' to the TOBT responsible person to alert on this topic

Solution:

1. As soon as the TOBT responsible person gets aware of this situation, even very short notice, update the TOBT via the preferred software functions (AOE mobile or native app) to inform the stakeholders about this change.

Please keep in mind: A very short notice update is always much better than having no update!

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# TOBT rejected or deleted

Cause:

A TOBT can be rejected by ACIP, if it is not following the in this presentation given TOBT rules. Other reasons for a rejection do not exist for KUL A-CDM.

A TOBT responsible person can decide to delete a TOBT, even though not recommended, in cases where no new TOBT can be estimated, like a physical damage to the airframe due to a collision with a catering truck.

Reaction by ACIP:

ACIP will raise Alert CDM10 – TOBT rejected or deleted' to the TOBT responsible person to alert on this topic

Solution:

1. As soon as the TOBT responsible person gets aware of this situation, even very short notice, update the TOBT via the preferred software functions (AOE mobile or native app) to inform the stakeholders about this change.

Please keep in mind: A very short notice update is always much better than having no update!

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# TOBT rejected or deleted

Cause:

A TOBT cannot be achieved anymore, e.g. due to a late arrival of the aircraft.

Reaction by ACIP:

ACIP will raise Alert CDM11 – Flight not compliant with TOBT' to the TOBT responsible person to alert on this topic

Solution:

1. As soon as the TOBT responsible person gets aware of this situation, even very short notice, update the TOBT via the preferred software functions (AOE mobile or native app) to inform the stakeholders about this change.

Please keep in mind: A very short notice update is always much better than having no update!

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# Pilot missed to Call for start up

Cause:

The turnaround process went as expected and the TOBT has been achieved successfully, but for some reason, like issue during the pilots pre-flight check, the startup cannot be requested by the pilot in command within the TSAT window (TSAT +/- 5 mins). ATC will reject startup approvals outside of the TSAT window. Especially, if the request comes after the TSAT window. ATC will reject the request and inform the pilot in command to request a new TOBT from the TOBT responsible person.

Side note: if a pilot in command requests TSAT before the TSAT window, ATC will inform the pilot in command to request again during the TSAT window.

Reaction by ACIP:

ACIP will raise Alert CDM12a –missed TSAT' to the TOBT responsible person to alert on this topic

Solution:

1. As soon as the TOBT responsible person gets aware of this situation engage with the pilot in command to obtain information on when he will be ready and enter this time as new TOBT into ACIP via the preferred software functions (AOE mobile or native app) to inform the stakeholders about this change.

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# Aircraft ready but not allowed to go off-block

Cause:

1. TOBT and TSAT discrepancy is displayed on the ramp display, which is standard operations.
2. TOBT and TSAT are equal, but aircraft didn't get a start-up approval from Lumpur delivery. This is standard procedure. Aircraft will start-up once approval is given and blocks off.

Reaction by ACIP:

No reaction by ACIP as both are standard operational procedures.

Solution:

No action needed from the TOBT responsible person

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# Alerts 1/2

| Bubble | Alert | Description | Responsibility |
|---|---|---|---|
| 🔴 | CDM01 | No **Airport Slot** available, or Slot already correlated | MAHB |
| 🟠 | CDM02 | **SOBT vs. EOBT** discrepancy | MAHB |
| 🟠 | CDM03 | Aircraft **Type** (ICAO) discrepancy | MAHB |
| 🟠 | CDM04 | Aircraft **Registration** discrepancy | MAHB |
| 🟠 | CDM05 | First **Destination** (ICAO) discrepancy | MAHB |
| 🟡 | CDM06 | Flight **not Departed** from outstation | MAHB |
| 🟡 | CDM07 | EIBT + MTTT discrepancy with **EOBT** | TOBT responsible Person |
| 🟡 | CDM07a | EIBT + MTTT discrepancy with **TOBT** | TOBT responsible Person |
| 🟠 | CDM08 | **EOBT** Compliance Alert (TOBT) | MAHB |
| 🔴 | CDM09 | **Boarding** Not Started | TOBT responsible Person / GH |
| 🟠 | CDM10 | **TOBT** Rejected or Deleted | TOBT responsible Person |
| | CDM11 | Flight not compliant with **TOBT / TSAT** | TOBT responsible Person |

# Alerts 2/2

| Bubble | Alert | Description | Responsibility |
|---|---|---|---|
| 🔴 | CDM12a | No ASAT inited after TSAT + x minutes | Lumpur Ground/ TOBT / PIC |
| 🔴 | CDM13 | No **ATC Flight Plan** Available | MAHB |
| 🟡 | CDM14 | **Automatic TOBT** Generation not possible | TOBT responsible Person / MAHB |
| 🟡 | CDM21 | No **ELDT** at EOBT – 30 Minutes | MAHB |
| 🟡 | CDM22 | Missing **ALDT** after ELDT | MAHB |
| 🟡 | CDM32 | Missing **Stand** on Final | MAHB (Ground Planner) |
| | CDM33 | Missing **AIBT** after ALDT | MAHB |

# KUL A-CDM Abbreviations 1/2

| Abbreviation | Meaning |
|---|---|
| ACGT | Actual Commence of Ground Handling Time |
| AEGT | Actual End of Gate Time |
| AIBT | Actual In-Block Time |
| ALDT | Actual Landing Time |
| AOBT | Actual Off-Block Time |
| ARDT | Actual Ready Time |
| ASAT | Actual Start Up Approval Time |
| ASBT | Actual Start Boarding Time |
| ASRT | Actual Start Up Request Time Air Traffic Control |
| ATOT | Actual Take Off Time |

# KUL A-CDM Abbreviations 2/2

| Abbreviation | Meaning |
|---|---|
| CTOT | Calculated Take Off Time |
| EIBT | Estimated In-Block Time |
| ELDT | Estimated Landing Time |
| EOBT | Estimated Off-Block Time |
| ETOT | Estimated Take Off Time |
| EXIT | Estimated Taxi-In Time |
| EXOT | Estimated Taxi-Out Time |
| SIBT | Scheduled In-Block Time |
| SOBT | Scheduled Off-Block Time |
| TOBT | Target Off-Block Time |
| TSAT | Target Start Up Approval Time |
| TTOT | Target Take Off Time |

# A-CDM
# Native APP training

# Agenda

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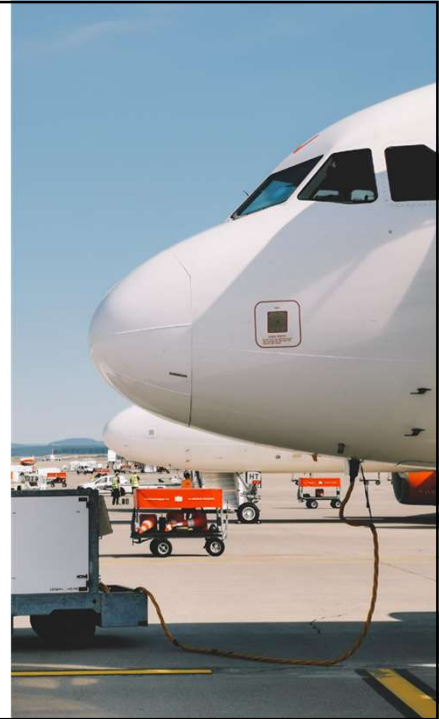
## Section 1 How to distribute the KUL ACIP
## Install the KUL ACIP for Android
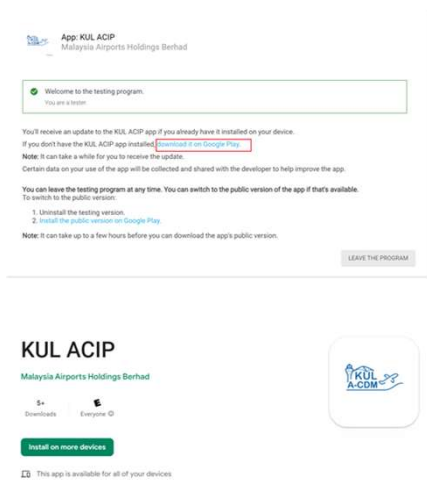
1. Click the register Link via your Android Device or PC
2. You need to log in to the Google Play
3. Click the install button, and choose a device you use to
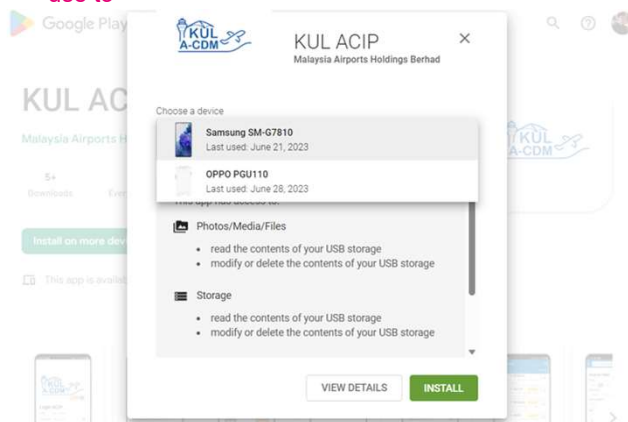
## Section 1 How to distribute the KUL ACIP
## Install the KUL ACIP for IOS

1. Click the download  link via your iPhone
2. You need to log in to the App Store
3. Click the redeem button then the download process will start automatically.



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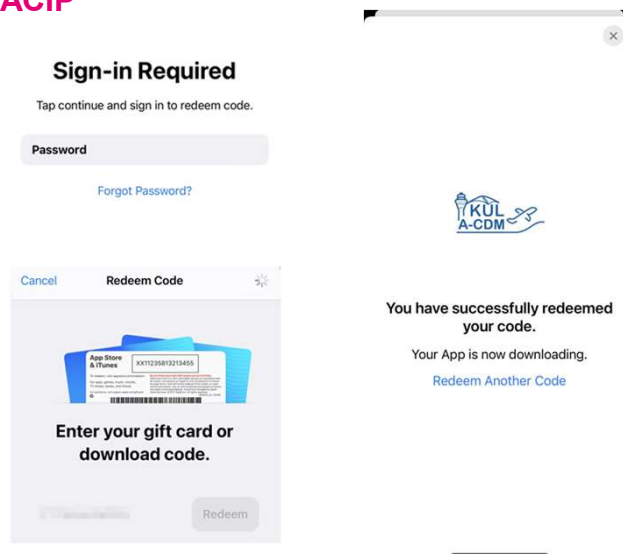
## Section 1 How to distribute the KUL ACIP
## Summary

1. KUL ACIP mobile application will be distributed privately via Google Play and App Store.

1. The app update is controlled by Google Play and App Store automatically.

3.    IOS versions need to use redeem to download at the  first time, then can find in the Apple store purchased.

4.    Android versions distribute by Google Play white allowlist. Once you have the right to download the app, you always can search via google play.

5.    The whole distribution process will  be supervised by MAHB ITD.

# Agenda

---
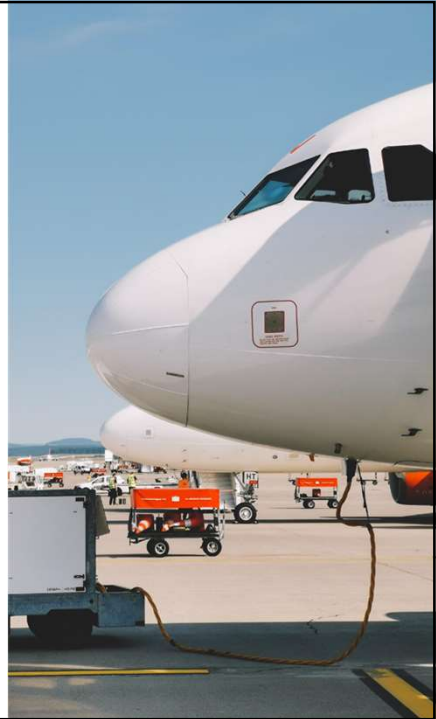
## Section 2 Login initialize

Tap this icon to open the app

Workflow

- Login with your ACDM account and password

Exception

- Username & Password error - retry

- Password overdue – reconfigure password
- Server error – try again and ask for support

## Section 2 Login initialize

Workflow

- Password overdue – reconfigure password

Each new account need initializes its password at the first login

MAHB Password Policy:

Every 45 days need reconfigure the password
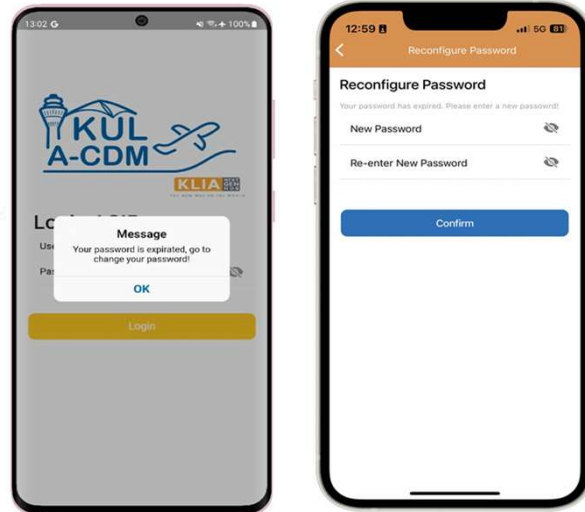
---

# Agenda

01    How to distribute the app
      Android and IOS Version

02    Initialize your account

03    What is the KUL ACIP
      Main Purpose

04    How to use
      Flight Card
      Departure Flight List
      Arrival Flight List
      Pin List
      Flight Information List
      Search
      Setting

05    TOBT Update
      How to manage flight TOBT via Native APP
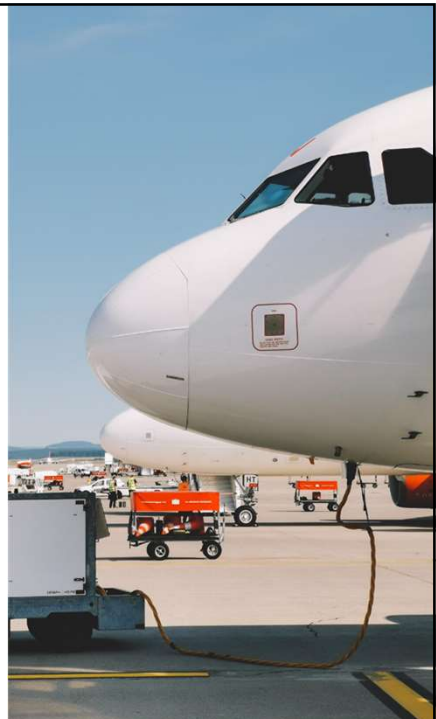
**Section 3 What is Native App
Main Purpose**

Main
Purpose
   • Manage Flight TOBT
     Time
Target users

   • Ground Handler or Airline
     Stakeholder
User Authentication

   • ACDM  unified management

Access Method

   • Via Internet

Support Device

   • Android & IOS Platform
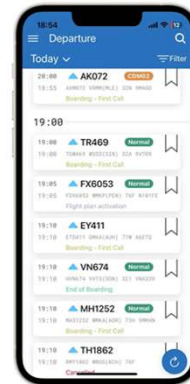
# Agenda
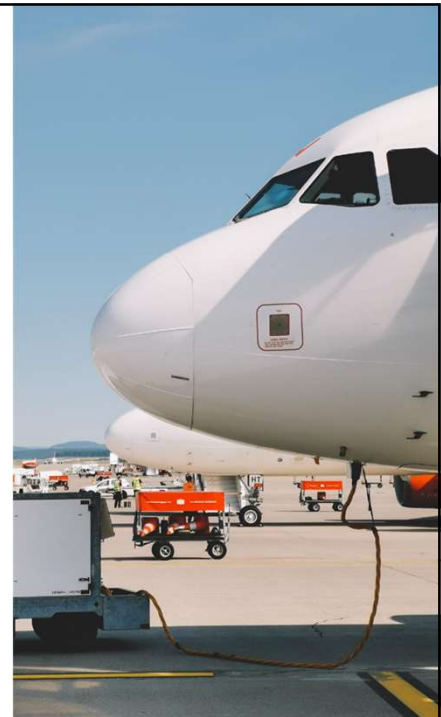
## Section 4 How to use
## Departure Flight List

- Default D0 only shows flights
  that have been activated by ATC FPL
- Default view of flights for the current time
  period
- View Departure flights for D-1,D0,D+1

- Flight can be filtered via the filter

- Tap on the flight card to get the flight details

- Flight can be pinned in the list
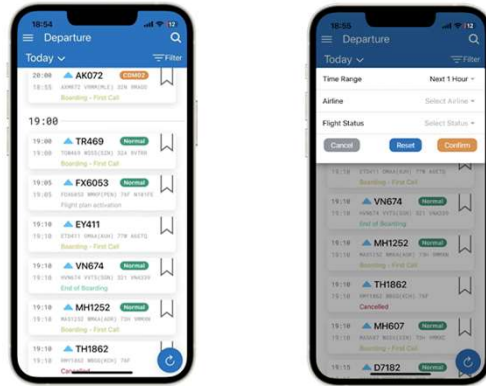
## Section 4 How to use
## Element - Flight Card

- Departure Flight Card

  - Departure Time in the list (black
    label):
        SOBT -> EOBTatc -> AOBT



- Arrival Flight Card

  - Arrival Time in the list(black label)
        SIBT -> EIBT -> AIBT

## Section 4 How to use
## Element – CDM Alarm status

**Normal**  Everything is Good

**CDM07a**  Notice

**CDM11**  Focus On

**CDM14**  Tack Action



ACDM Alarm

```
09:17  ▲ MH1234   CDM13
09:17    MAS1234 WSSS(SIN) 773 B72123
         Estimated
```
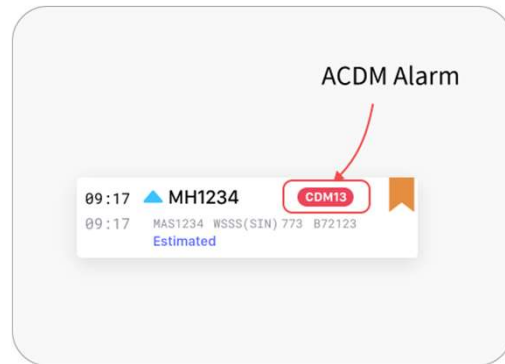
## Section 4 How to use
## Arrival Flight List

• Default D0 only shows flights
  that have been activated by ATC FPL

• Default view of flights for the current time
  period

• View Arrival flights for D-1,D0,D+1

• Flight can be filtered via the filter

• Tap on the flight card to get the flight details

• Flight can be pinned in the list
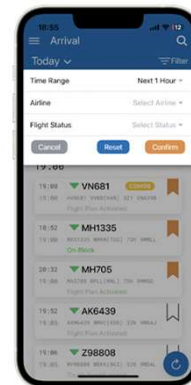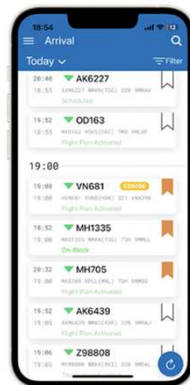
## Section 4 How to use
## Pin List

• Pined flight will be shown in the list

• Flights that have been labeled completed
  will be displayed in the Archive segment

• Flights will be automatically deleted after 48 hours.
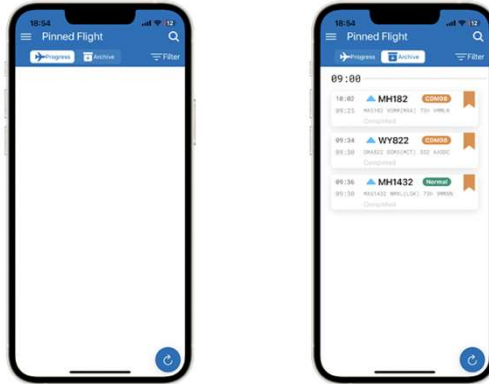
## Section 4 How to use
## Flight Detailed Information

• View details information of arrival/departure flights

• Jump to the linked flight

• Pin flight

• Manage the TOBT
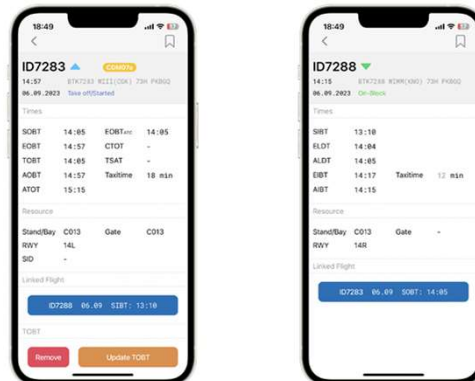
## Section 4 How to use
## Flight Detailed Information II – Alarm

🔔 No Alarm

🔔[1] Alarm with a number count

- Current and Active
  - Current: Displays the most current alarm
  - Active: Not resolved Alarm

---
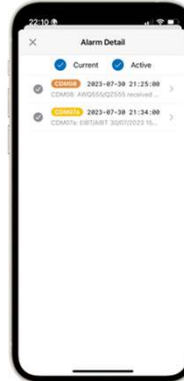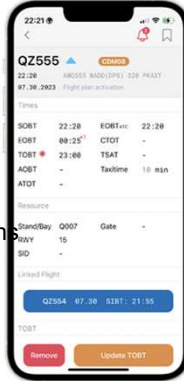
## Section 4 How to use
## TOBT and TSAT Color

- TOBT and TSAT color
  - TOBT marked red:
    Current time > TOBT + APP_TOBTHighlightThreshold and AOBT empty
  - TSAT marked green:
    Current time between TSAT – TSAT_LowerLimit and TSAT + TSAT_UperLimit
  - TSAT marked red:
    Current time > TSAT + TSAT_UperLimit and ASAT is empty

- TOBT mark red:
If AOBT is empty, the current time exceeds TOBT plus 10 minutes (APP_TOBTHighlightThreshold). The TOBT timestamp will mark red in KUL ACIP mobile application.

- TSAT mark red:
If the current time exceeds TSAT plus 10 minutes (TSAT_UpperLimit) and ASAT is empty. The TSAT timestamp will mark red in KUL ACIP mobile application.
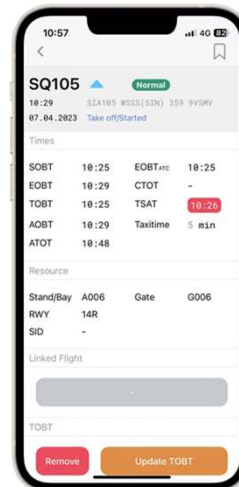
**Section 4 How to use Setting**

• Show all time in UTC

• Use Dark Theme

• Only ACDM Flight In progress(Arr)

• Only ACDM Flight In progress(Dep)

• Arrival List Offset

• Departure List Offset

• Change Password
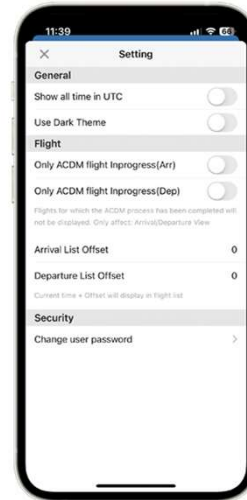
# Agenda

01      How to distribute the app
           Android and IOS Version

02      Initialize your account

03      What is KUL ACIP
           Main Purpose

04      How to use
           Flight Card
           Departure Flight List
           Arrival Flight List
           Pin List
           Flight Information List
           Search
           Setting

05      TOBT Update
           How to manage flight TOBT via Native APP

## Section 5 TOBT Update
## How to manage flight TOBT via Native APP

- **Update TOBT via Native App**
  - TOBT can only be set to a future time
  - When TSAT is set, TOBT can only be set several times (Default: 3)
  - Manual TOBT input of TOBT is allowed 120 min before EOBTATC
  - Manual TOBT Deviation of 5 minutes
  - Manual TOBT must not be more than 15 min before EOBTATC

- **Delete TOBT via Native App**
  - TSAT will delete
  - TOBT status is "D"

---

## Section 5 TOBT Update
## How to manage flight TOBT via Native APP

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- **Delete TOBT via Native App**
  - TSAT will delete
  - TOBT status is "D"

- **TOBT Indicator**
  - Remind the user needs to update TOBT
  - CDM07a,CDM09,CDM10,CDM11,CDM12a,CDM14
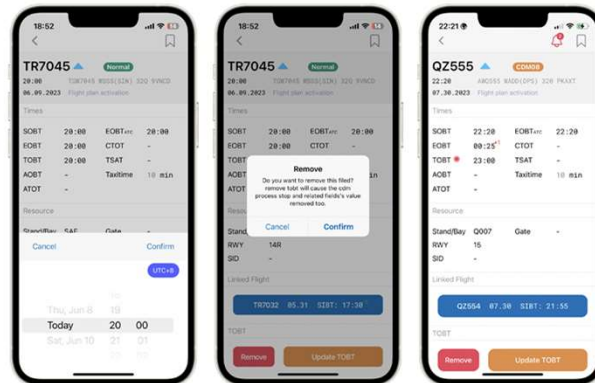
# AOE Mobile User Training

## ACIP Web Application

AOE Mobile User Training
## Accessing the System

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## AOE-Mobile – User Training
### Accessing the System – Login using Desktop Browser

- AOE Mobile: Airport Operational Extranet Mobile Client

- Users can log in with their user account configured in the ACIP.

- Application can be accessed from any modern browser

- directly enter the URL in the browser:

https://webapplication.kul-acdm.com/webapp-aoemobile/

- Install via browser as a web application; then, you can click via the shortcut on the desktop.
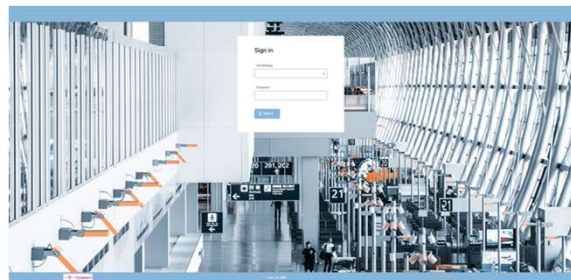
# AOE Mobile – User Training
## Start-Up – Welcome Page (1)

**Homepage Menu**:
A list of all the flight grids that have been assigned to this specific user.

**Status**:
Displays the current connection Status

**Time Zone**:
UTC/Local

**User Menu**:
Use to apply specific functions such as logout, password change…

- After successful login, the user will be able to see the Welcome Page of the application
- Pre-Assigned grid views can be seen on the welcome page
- The number of grids and the information within the grid can be configured
- Can also use " ☰ " symbol, which is available on the left side of the screen, to go to desired view/page

Status: **OK** ✓   Timezone: **LOCAL**   ⓘ   👤 jay ⌄

### Welcome to AOE Mobile Application

KPI Table      KUL Arrivals      KUL Departures

**Grids**:
All of the grids that have been assigned to the specific user.

**Help**:
User Manual Document for AOE.

**T··Systems·** Let's power higher performance

AOE Mobile      3

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# AOE Mobile – User Training
## Start-Up – Welcome Page (2)

**Homepage Menu**:
A list of all the flight grids that have been assigned to this specific user.

**Status**:
Displays the current connection Status

**Time Zone**:
UTC/Local

**User Menu**:
Use to apply specific functions such as logout, password change…

- Status displays the connection to the data source.
- Time zone reflects the current setting, which can be configured.
- Help to access the user manual
- User Menu contains more detailed system settings and user settings.

Status: **OK** ✓   Timezone: **LOCAL**   ⓘ   👤 jay ⌄

### Welcome to AOE Mobile Application

KPI Table      KUL Arrivals      KUL Departures

**Grids**:
All of the grids that have been assigned to the specific user.

**Help**:
User Manual Document for AOE.

**T··Systems·** Let's power higher performance
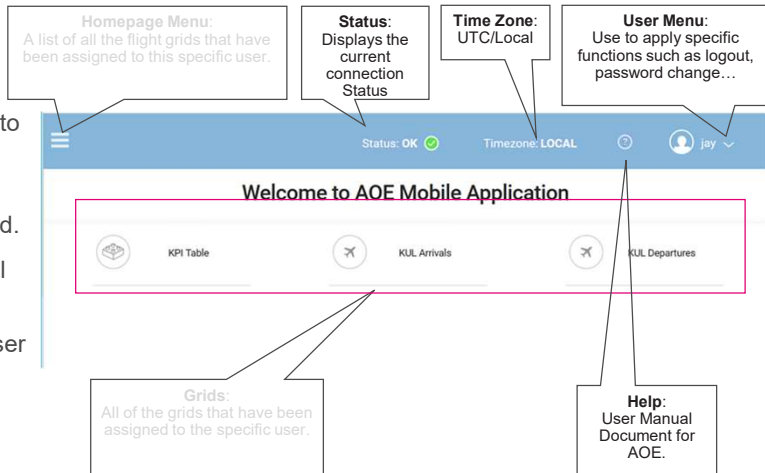
AOE Mobile      4

# AOE Mobile – User Training
## Start-Up – menu items

- The menu items are used to quickly switch among different flight grids, or jump back to homepage.

---
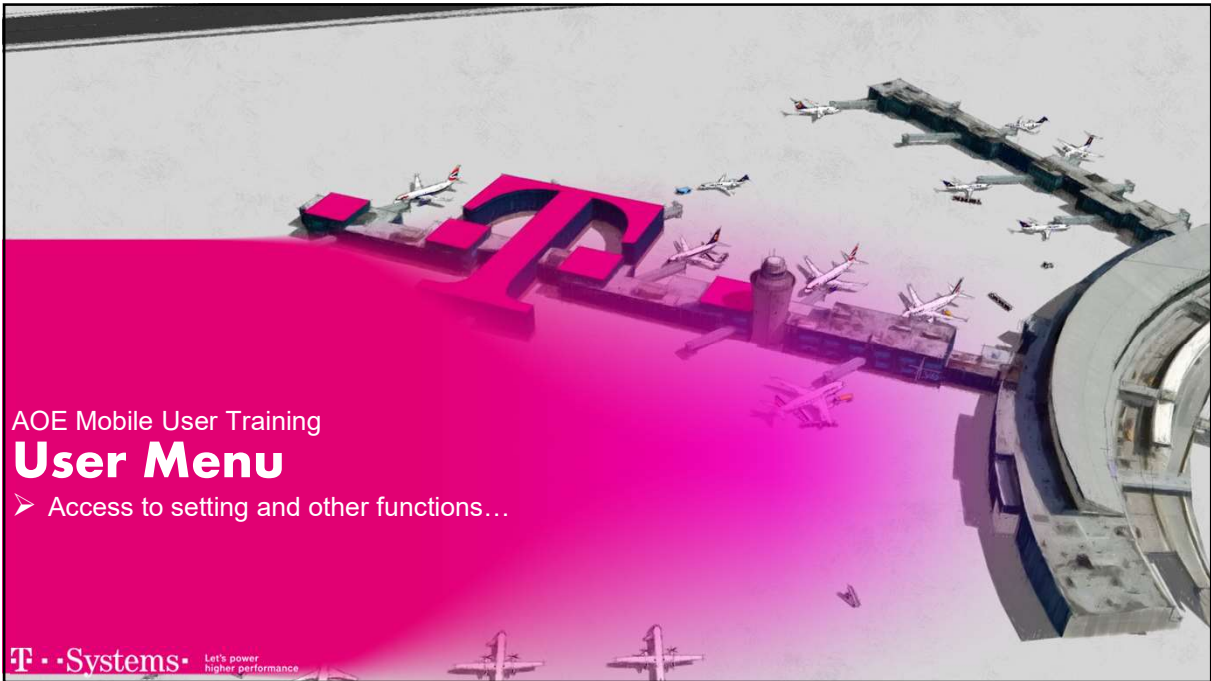
# AOE Mobile – User Training
## Start-Up – Help

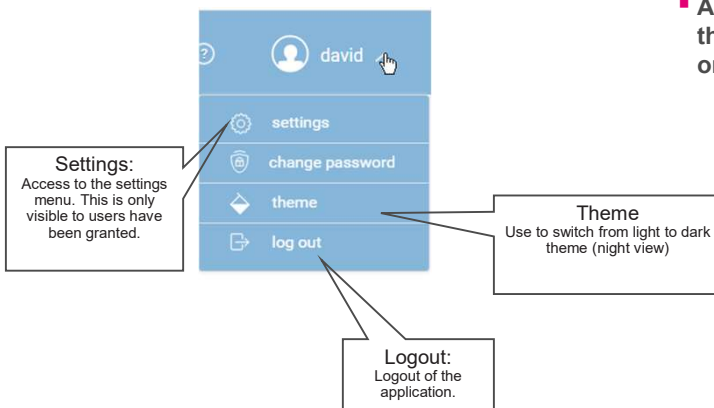- The highlighted portion in the below screenshot helps the user to open the AOE User manual)

AOE Mobile User Training
# User Menu
➢ Access to setting and other functions…

T··Systems· Let's power higher performance

---
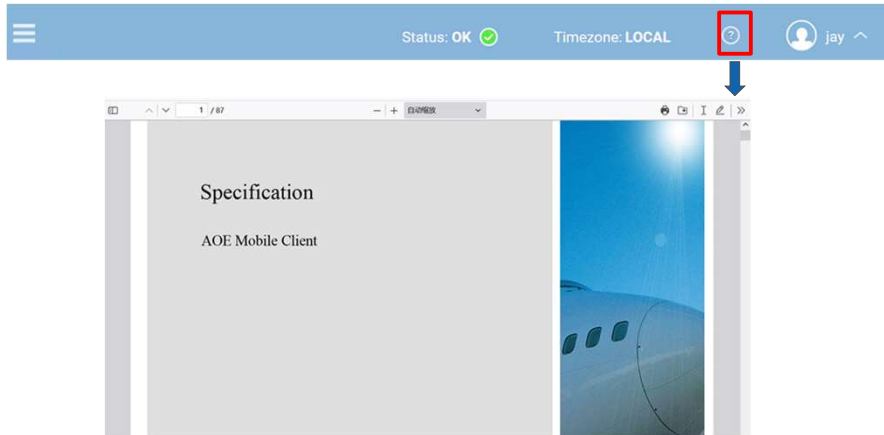
# AOE Mobile – User Training
## User Menu – Overview



▪ **Access functions such as changing the password, changing the time zone or changing the theme, etc.**

Settings:
Access to the settings menu. This is only visible to users have been granted.

Theme
Use to switch from light to dark theme (night view)

Logout:
Logout of the application.

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# Slide 1

## AOE Mobile – User Training
### User Menu – Settings

- Access to the settings menu can be given to individual users.

- Changes are stored locally on the device which allows users to customize the application according to their needs.

**Time zone:**
Lets the user switch between LOCAL and UTC time zones.

This adjusts the timestamps visible in the flight grids accordingly.

Timezone:
- ○ Local Time
- ○ UTC Time

Alerts storage size:
100

Period start:
120

Period end:
720

⊘ Save

Status: **OK** ✓    Timezone: **UTC**

Timezone:
- ○ Local Time
- ◉ UTC Time

**Period:**
This is an indicator in **minutes** which is used to calculate the time range to use when selecting flights for flight grid.

"Now – Start"
TO
"Now + End"
flights are always selected.

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AOE Mobile    9

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# Slide 2

## AOE Mobile – User Training
### User Menu – Settings

Timezone:
- ◉ Local Time
- ○ UTC Time

Timezone: **LOCAL**

| Day Dep | Callsign Dep | Reg Dep | ACT Dep | SOBT ↑ | EOBT | TOBT | TOBT# | TSAT | ASRT | ASAT | AOBT | ATOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⊕ 11:55 | TGW453 | 9VNCB | 32Q | 11:55 | 11:55 | 12:07 | 0 | | 12:01 | 12:01 | 12:01 | 12:15 |
| ⊕ 11:55 | MAS1438 | 9MMLK | 73H | 11:55 | 11:55 | 11:55 | 0 | | 11:54 | 11:54 | 11:54 | 12:12 |
| ⊕ 12:00 | MMA502 | XYALJ | 322 | 12:00 | 12:00 | 12:00 | 0 | | 12:09 | 12:09 | 12:09 | 12:19 |
| ⊕ 12:00 | MMA504 | | 320 | 12:00 | | | 0 | | | | | |
| ⊕ 12:00 | MXD540 | 9MLNV | 73H | 12:00 | 12:55 | 12:00 | 0 | | 12:31 | 12:31 | 12:31 | 12:41 |
| ⊕ 12:00 | MXD225 | | 7M8 | 12:00 | | | 0 | | | | | |
| ⊕ 12:05 | MXD302 | | 7M8 | 12:05 | | | 0 | | | | | |
| ⊕ 12:05 | AXM6436 | 9MAGG | 32N | 12:05 | 13:30 | 13:49 | 0 | | | | | |
| ⊕ 12:10 | MAS788 | 9MMXH | 73H | 12:10 | 12:10 | 12:10 | 0 | | 12:16 | 12:16 | 12:16 | 12:28 |
| ⊕ 12:10 | RBA872 | V8RBA | 32N | 12:10 | 12:10 | 12:10 | 0 | | 12:15 | 12:15 | 12:15 | 12:27 |
| ⊕ 12:15 | AXM5140 | 9MAQB | 320 | 12:15 | 12:42 | 12:15 | 0 | | 12:13 | 12:13 | 12:13 | 12:31 |

Timezone:
- ○ Local Time
- ◉ UTC Time

Timezone: **UTC**

| Day Dep | Callsign Dep | Reg Dep | ACT Dep | SOBT ↑ | EOBT | TOBT | TOBT# | TSAT | ASRT | ASAT | AOBT | ATOT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⊕ 04:00 | MMA504 | | 320 | 04:00 | | | 0 | | | | | |
| ⊕ 04:00 | MMA502 | XYALJ | 322 | 04:00 | 04:00 | 04:00 | 0 | | 04:09 | 04:09 | 04:09 | 04:19 |
| ⊕ 04:00 | MXD540 | 9MLNV | 73H | 04:00 | 04:55 | 04:00 | 0 | | 04:31 | 04:31 | 04:31 | 04:41 |
| ⊕ 04:00 | MXD225 | | 7M8 | 04:00 | | | 0 | | | | | |
| ⊕ 04:05 | MXD302 | | 7M8 | 04:05 | | | 0 | | | | | |
| ⊕ 04:05 | AXM6436 | 9MAGG | 32N | 04:05 | 05:30 | 05:49 | 0 | | | | | |
| ⊕ 04:10 | MAS788 | 9MMXH | 73H | 04:10 | 04:10 | 04:10 | 0 | | 04:16 | 04:16 | 04:16 | 04:28 |
| ⊕ 04:10 | RBA872 | V8RBA | 32N | 04:10 | 04:10 | 04:10 | 0 | | 04:15 | 04:15 | 04:15 | 04:27 |
| ⊕ 04:15 | AXM5140 | 9MAQB | 320 | 04:15 | 04:42 | 04:15 | 0 | | 04:13 | 04:13 | 04:13 | 04:31 |

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ACIP – User Training
User Menu – Theme

Use the Theme menu option to switch to the night view (Dark theme)
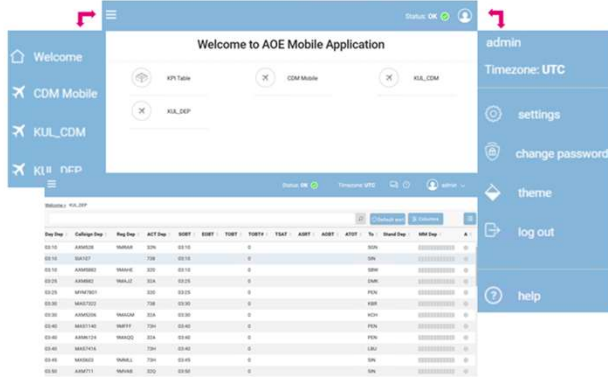


AOE Mobile User Training
**Flight Grids**
➢ Access to operational flights…

# AOE Mobile – User Training
## Flight Grid – Overview

- **All Flight Grids and functions assigned to individual users are shown in the main menu.**

- **Number of grids and content within the Grid is configurable per user or user group.**

- **Flight grids in vertical or landscape mode**

- **Columns are in or excluded depending on the size of the screen**

- **Flight updates are automatically pushed to the client.**



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AOE Mobile 13

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# AOE Mobile – User Training
## Flight Grid – Layout



Filtering

Go back to the default order

Select the column to be displayed

Tab Folder

Change position of the detail area

Hide/Display Detail

Detail Area

List of Flight Records

Indicator for next day

Go to next page

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## AOE Mobile – User Training
### Flight Grid – Multiple rows per Flight

| Day Dep | Flight Dep | Callsign Dep | Reg Dep | ACT Dep | Flight Status Dep | SOBT | EOBT | AOBT | ATOT | Stand Dep |
|---------|-----------|--------------|---------|---------|-------------------|------|------|------|------|-----------|
| 11:00 | GA430 | GIA430 | | 738 | DEP | 11:00 | 10:55 | 10:55 | 11:15 | HOLD |
| 11:00 | QG964 | CTV964 | | 320 | DEP | 11:00 | 10:50 | 11:00 | 11:17 | HOLD |

To IATA Destination IATA Service Type Code... NIT Dep Total Pax (D) Code Shares Dep F/C Comments(D) CTOT Ramp Handling Age...

| | | | | | | | | | | |
|---------|-----------|--------------|---------|---------|-------------------|------|------|------|------|-----------|
| DJB | DJB | J | | 0 | | | | | | |
| 11:00 | GA600 | GIA600 | | 738 | DEP | 11:00 | 11:01 | 11:01 | 11:16 | HOLD |
| 11:00 | IU742 | SJV742 | | 320 | DEP | 11:00 | 11:01 | 11:01 | 11:24 | HOLD |
| 11:00 | AK389 | AXM389 | | 320 | DEP | 11:00 | 11:01 | 11:01 | 11:19 | HOLD |
| 11:10 | IU842 | SJV842 | | 320 | DEP | 11:10 | 11:07 | 11:10 | 11:23 | HOLD |
| 11:10 | MH710 | MAS710 | | 738 | DEP | 11:10 | 11:00 | 11:10 | 11:33 | HOLD |

Welcome > Mob Departures

- the second row will be used in case not all configured columns can be displayed in one row.
- Use the icons  ⊕  to open / close the second row  ⊖

Multiple rows belonging to one record

**T··Systems·**  Let's power higher performance

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## AOE Mobile – User Training
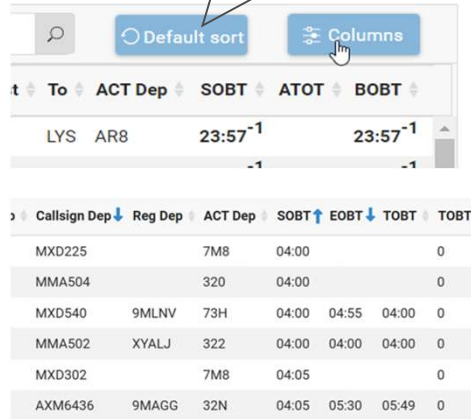### Flight Grid – Remove/Select Columns

- **Click on the "Columns" button to open a list of buttons where each button represents a configured flight grid column.**

- **By clicking on a button, you can remove (hide) or add columns you clicked on.**

| Day Dep | EOBTA | ASAT | Stand Dep |
|---------|-------|------|-----------|
| Callsign Dep | TOBT | AOBT | MM Dep |
| Reg Dep | TOBT# | ATOT | A |
| ACT Dep | TSAT | Runway Dep | CDM Alarm (D) |
| SOBT | ASRT | To | Standard |

**T··Systems·**  Let's power higher performance
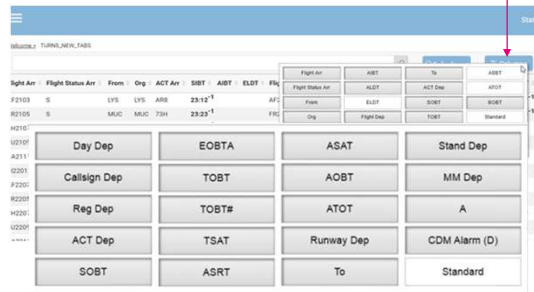
# AOE Mobile – User Training
## Flight Grid –Sort / Default Sort

Click to return to the default sorting of the flight grid columns

⟳ Default sort   ⚏ Columns

| | To | ACT Dep | SOBT | ATOT | BOBT |
|---|---|---|---|---|---|
| | LYS AR8 | | 23:57$^{-1}$ | | 23:57$^{-1}$ |

- **You can sort a column by double clicking on the column header.**
- **To return to the Default sort click on the "Default sort" button.**
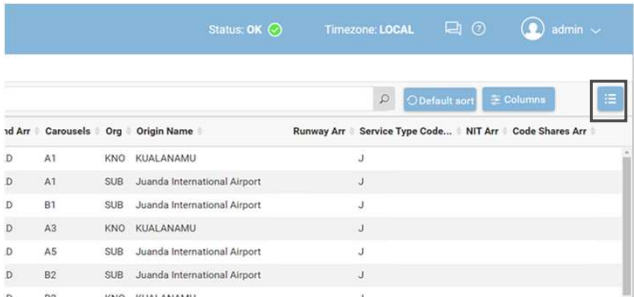- **double click sort:**  ↓ → ↑ → ◆

| | Callsign Dep ↓ | Reg Dep | ACT Dep | SOBT ↑ | EOBT ↓ | TOBT | TOBT |
|---|---|---|---|---|---|---|---|
| | MXD225 | | 7M8 | 04:00 | | | 0 |
| | MMA504 | | 320 | 04:00 | | | 0 |
| | MXD540 | 9MLNV | 73H | 04:00 | 04:55 | 04:00 | 0 |
| | MMA502 | XYALJ | 322 | 04:00 | 04:00 | 04:00 | 0 |
| | MXD302 | | 7M8 | 04:05 | | | 0 |
| | AXM6436 | 9MAGG | 32N | 04:05 | 05:30 | 05:49 | 0 |

**T··Systems·** Let's power higher performance

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AOE Mobile User Training
# Flight Grid - Details

➢ Access to further information related to the flight…

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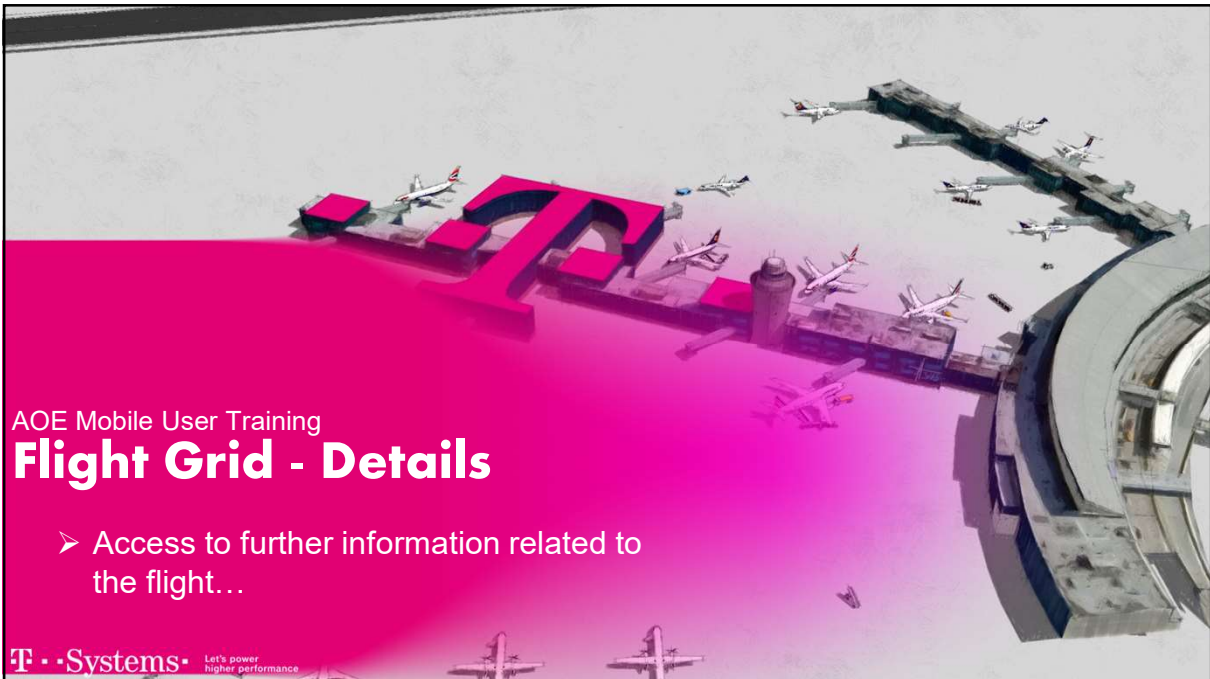
## AOE Mobile – User Training
### Tab Folders – Show / Hide Details



- Switch between flight grids with or without the Detail Panel
- Use [icon] to display the detail tabs
- Use [icon] to hide the detail tabs

---
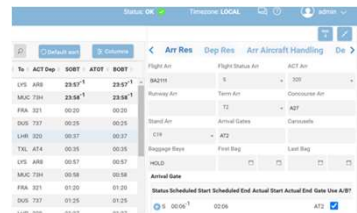
## AOE Mobile – User Training
### Tab Folders – Positioning of the Details



Details positioned horizontally

Details positioned vertically
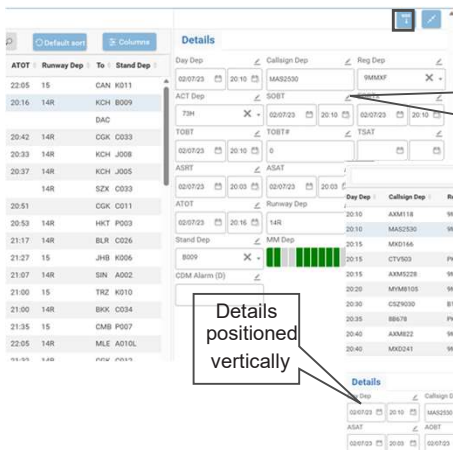
- Use to switch between the position of detail tabs vertically (right-hand side of flight grid) or horizontally (below flight grid).
- Use [icon] to switch between the two positions.

# AOE Mobile – User Training
## CDM TOBT update

- **The operator can update TOBT in AOE predefined flight grid. (Same to ACIP logic.)**

- **The Detail tab contain more information of the alarm.**



TOBT
TOBT update

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# AOE Mobile – User Training
## Tab Folders – Updating TOBT Times

- Use Filter e.g. input Flight Number to search for a flight



- Go to Detail Tab (Example: User for updating TOBT Timestamp)
- Click on TOBT field to update data manually. First select the date using date picker and then set the time from the time picker



Date Picker          Time Picker

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# AOE Mobile – User Training
## CDM milestones

MS3      : ATOTout
MS4      : FIR Entry/60nm - FIRT
MS5      : Final Approach - FNLT
MS6      : Landing - ALDT
MS7      : AIBT
MS8      : ACGT (not displayed)

Arrival flight

MS1: FPL activation
          : Auto TOBT
MS9: TOBT update
MS10: TSAT issue
MS11: Boarding start - ASBT
MS12: Aircraft Ready - ARDT
MS13: Startup request - ASRT
MS14: Startup approval - ASAT
MS15: Pushback approval - AOBT
MS16    : ATOT

Departure flight

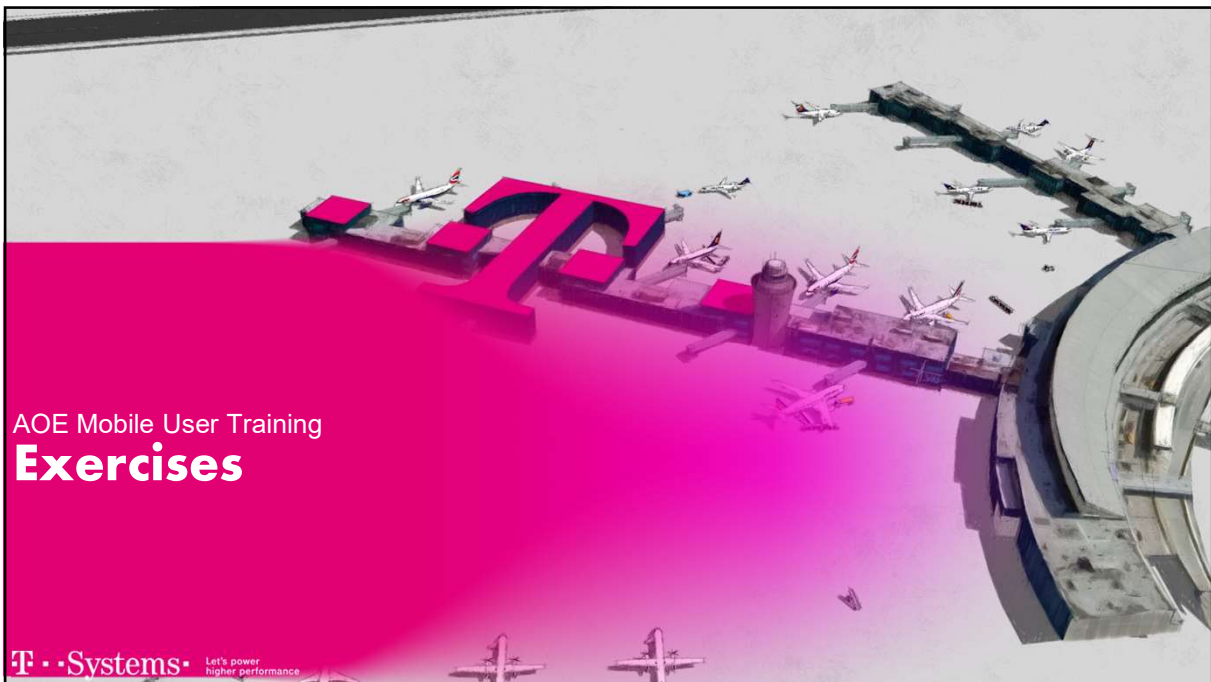**T··Systems·** Let's power higher performance

KUL A-CDM

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# AOE Mobile – User Training
## CDM milestones and Alarm

- **The operator can locate the current CDM milestone approval from the field.**
- **The CDM alarm will be displayed in the icon.**



Details positioned horizontally

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AOE Mobile User Training
**Exercises**

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# AOE Mobile – User Training
## Exercises

- Open the Home menu and select a predefined view
- Switch between UTC & Local time zone
- Change the Theme of the GUI
- Sort the flight grid as required （SOBT， Flight Number）then go back to the default sorting
- Hide/Select unwanted field
- Open/View the detail tabs
- Locate the detail tabs in different places
- Try to update the TOBT