vACDM

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Installation

Requirements

To load and run the vACDM plugin you need to have the latest Visual C++ Redistributable installed:

https://aka.ms/vs/17/release/vc_redist.x86.exe

If the plugin should be offered within the default Euroscope Package for everyone, the Visual C++ Redistributable update should be recommended after installing Euroscope or before downloading the package.

vACDM Plugin Setup

The vACDM plugin will only work for an airport where the different parameters are predefined at the backend website.

To work with the vACDM Plugin you should have a basic knowledge of the ACDM procedure.

Load List Setup: Right now we offer a predefined **Startup**, **Departure** and **Taxi-Out List** for every FIR Euroscope Package **here**. Within the Langen Package the vACDM plugin is already included. For all other packages you can simply load the provided file for the mentioned lists above via OTHER SET => Settings files setup =>Startup list configuration / Departure List Configuration / Taxi Out List Configuration.

As the vACDM plugin should primary used by Delivery, we recommend to use the Startup List to display the different main items. If the different items are not required all the time they should be disabled by using the Euroscope List filter "F" at the top left corner of every list.

The following setup is recommended and predefined:

Tag Item	left click	right click
EOBT	cornfirm TOBT	set TOBT
TOBT	TOBT menu	set TOBT now
TSAT	set ASAT + Startup State	set Startup Request
ASRT	set Startup Request	set ASAT + Startup State
ASAT	set ASAT	set ASAT + Startup State
AORT	Request Offblock	Ground State menu

Tag Item	left click	right click
AOBT	Request Offblock	Ground state menu
TTOT	--	--
EXOT	modify EXOT	--

ACDM Abbreviations

With ACDM a lot of abbreviations are used. The following table should clarify the one used with the vACDM plugin.

Abbreviation	Time	Meaning
EOBT	Estimated Off-Block Time	Off-Block Time filed within the flightplan (planned in advanced).
TOBT	Target Off-Block Time	Time where the outbound is actually ready and would **like to go offblock.**
TSAT	Target Startup Approval Time	Time where the outbound is **allowed to go offblock** (+/- 5 minutes).
ASRT	Actual Startup Request Time	Time where the outbound is fully ready and requested startup.
ASAT	Actual Startup Approval Time	Time where startup is approved by ATC.
AORT	Actual Off-Block Request Time	Time where the outbound requested offblock (pushback or taxi out).
AOBT	Actual Off-Block Time	Actual Off-Block Time.
EXOT	Estimated Taxi Out Time	Taxitime from the position to the assigned runway, including pushback.
TTOT	Target Take-Off Time	Take-Off time based on the airport capacity. **Outbounds do not have to stick to that time!** Departure before and after is possible without any timeframe.
CTOT	Calculated Take-Off Time	Time window for take-off by Eurocontrol, based on TTOT. **Take-off** is only possible at this time with **-5 to +10** minutes. Consideration of enroute and arrival capacity at destination airport, not at departure airport!

Working with vACDM

The plugin vACDM is designed to use it without diving deep into the ACDM procedure. It can be used if the controller is aware of the basic procedures. Next to that, the pilot does not need to be aware of the topic at all, it will work with all kind of pilots.

> When using vACDM, the **enroute** and **startup clearance** should be issued **seperately**.

Enroute clearance can be issued whenever the pilot requests it. Startup should only be approved when the pilot is able to push and/or start the engines within the next 5 minutes.

vACDM Master

In order to be able to edit times in the plugin list, the ATC has to insert `.vacdm master` inside the Euroscope console. The default setting is always read only.

> Before you set yourself to master be sure to set your runway configuration in Euroscope correctly!

Set TOBT

vACDM works best when the TOBT is up to date and the pilot is completely ready at that time. The filed EOBT is always a good first guess. If there is no valid time available (empty TOBT, time in the past or to far in the future - TOBT orange), ATC should ask the pilot if he has a time where he is fully ready for pushback. That time should be entered as TOBT.

Pilots are able to set their TOBT at vacdm.vatger.de where they can see their TOBT, TSAT, planned runway and SID.

More information here: VDGS

> Confirmed TOBT (by ATC or pilot) is displayed in dark green.

Issue Startup

As soon as the **TSAT** is displayed in **dark green**, **startup** can be issued. If the pilot calls in before that and it is still shown in **light green**, the TOBT can be set to now and the TSAT will be recalculated. That new TSAT will not be later than the previous one, but might be earlier if there is a gap in the sequence. If ATC can assume that there will be no benefit in updating to an earlier TOBT (e.g. due to a high traffic load and a small time difference to the TSAT), the TOBT does not need to be updated as the TSAT might remain the same.

As soon as the outbound is ready and **startup can not be issued** e.g. due to TSAT, the **ASRT** should be set to mark the aircraft requested startup. You will see a "R" next to the TSAT to indicate the outbound is ready.

If the **TSAT** is shown in **orange**, the pilot missed the window for startup and the TOBT has to be set to now to **recalculate** a new TSAT.

TTOT Monitoring

To check if the airport runways are within the capacity limits you could check the TTOTs (within the startup/departure and taxi out list). As long as the TTOT is green, the outbound is still within the calculated timeframe(that might be up to +9 minutes after TTOT). If the TTOT is orange it takes longer as calculated. A few orange TTOTs are still fine for an efficient traffic flow but it shouldn't get too much.

Delay Startup

Depending on the traffic situation it might be necessary to delay startups even if vACDM is used (e.g. Tower does not get the traffic out as expected - many orange TTOTs). Initially you should delay startup within the +/- 5 minutes range according startup.

> " DLH123 expect startup according TSAT + 5

If more delay is required, the runway capacity need to be reduced by an admin.
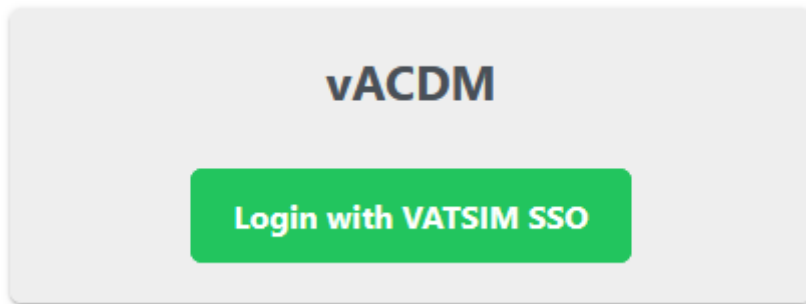
vACDM Colors

vACDM color documentation is available here

VDGS

With the new Version of vACDM the pilots are able to have a Visual Docking Guidance System (VDGS) where he or she is able to see his or her departure information.

To use the VDGS simply head over to the Website https://vacdm.vatsim-germany.org/ and login with your VATSIM credentials.

After logged in successfully the website is trying to find the flight inside the vACDM database.

When the flight is inside the vACDM process the relevant departure information will be displayed like this:

DLH116
TOBT 11:20 UTC
TSAT 11:20 UTC
-13
PLANNED RWY 25C
SID MARUN6F
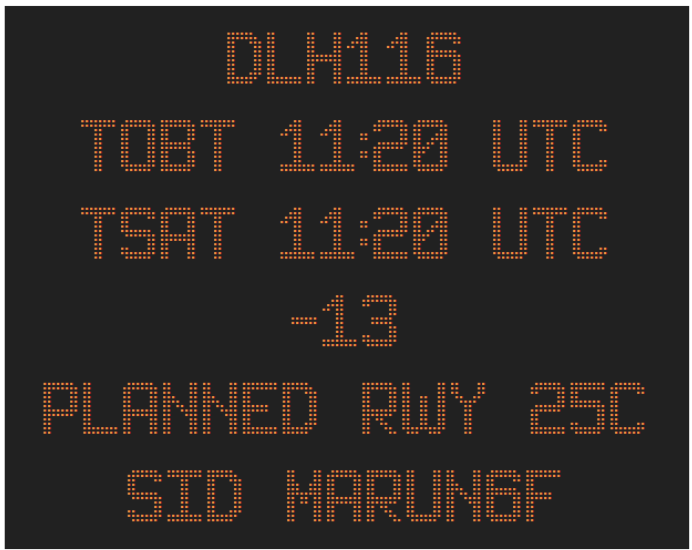
Update TOBT (UTC-Time when ready for Pushback)

HHMM   **Submit TOBT**

On the right hand side the pilot is able to update the TOBT to let ATC know when the flight will be fully ready.

vACDM Pilot Guide

vACDM is short for virtual **Airport Collaborative Decision Making**. It is a concept that ensures minimal delays and optimal efficiency by making operations more predictable for all parties involved. There are over 50 airports that implement ACDM procedures in the real world, with over 30 of them located in Europe.

It works by allotting departure times to all departing aircraft, taking the airport's current capacity into account, which are calculated backwards to times for pushback and startup approvals. Since it would be impossible to plan everything down to the minute, there are always timeframes around the exact times you are given in the ACDM procedures during which the time is valid. We will go into this a bit further below.

How does vACDM work?

The system behind ACDM is very complex and it is not necessary for you as the pilot to understand it in every detail. Due to some simulator and network limitations, vACDM also can't simulate every aspect of its real world counterpart, mainly prohibiting network-wide flow management.
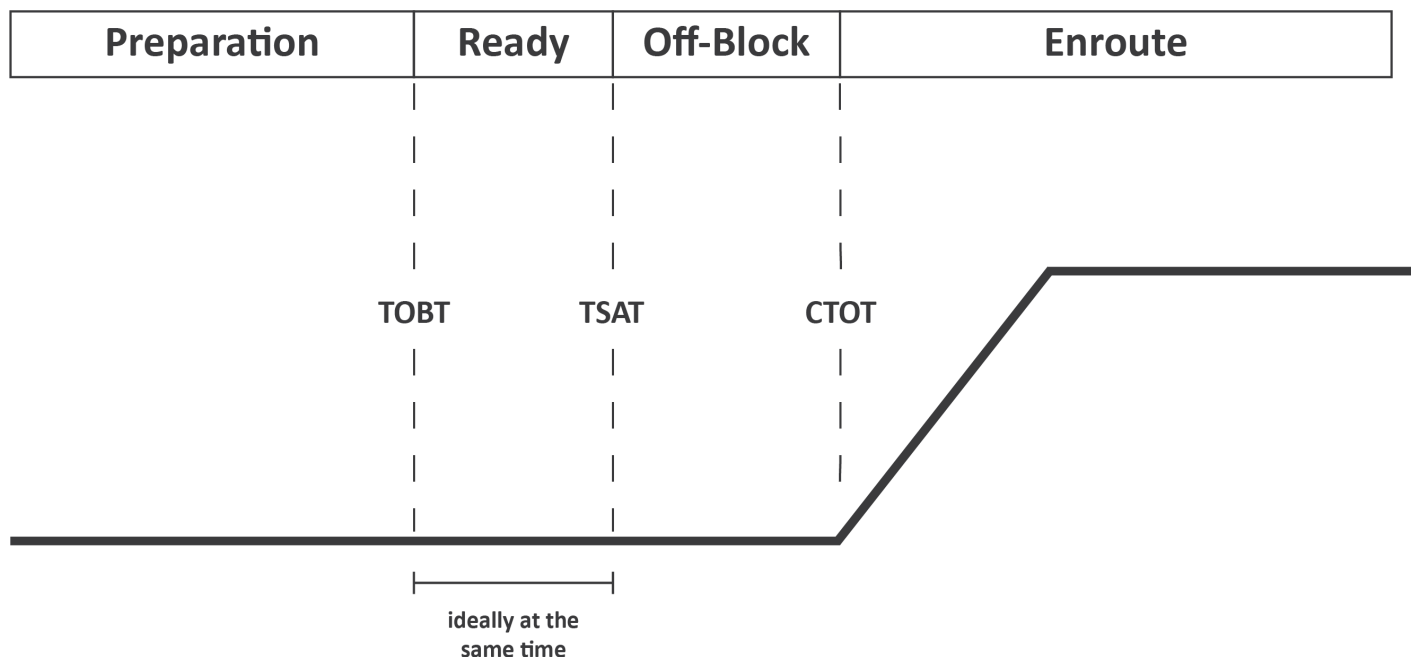
ACDM times

There are many different times used in ACDM procedures. However, we will only list the ones that are relevant for you as the pilot here. Keep in mind that **all times are given in UTC**.

Time	Name	Time Frame
EOBT	estimated off-block time	±5 minutes

TOBT	target off-block time	±5 minutes
TSAT	target startup approval time	±5 minutes
CTOT	calculated takeoff time	-5 minutes / +10 minutes

EOBT (Estimated Off-Block Time)

This is the time **when you estimate to be ready for pushback during the creation of your flight plan**. ATC will use it as an initial, but unconfirmed indication of when you are going to be ready.

> When prefiling from SimBrief, an EOBT will automatically be added to your flight plan. This time will be calculated based on when you start creating your SimBrief flight plan + 30 minutes. If you plan to depart earlier or later, it is recommended to change this time.

TOBT (Target Off-Block Time)

During the preparation of the aircraft, you might realize that you will be ready earlier or later than your original estimate. Keeping your TOBT up to date will help ATC to reduce delays and ensure a smooth operation. When you set a TOBT, ATC will treat it as a confirmed time and calculate your TSAT based on it. If you realize during any part of your preparation that a **new estimate will differ more than 5 minutes from the previous one**, you should set a new TOBT.

> To set your TOBT, **we recommend using the [vACDM pilot interface](#), which allows you to set it on your own**. If you did not set a TOBT yourself already, ATC will have to ask you to report your TOBT, which will lead to unnecessary frequency congestion.

> It is generally good practice to **set your initial TOBT 20-30 minutes in advance** and **request enroute clearance 10-15 minutes before your TOBT** to ensure the information is available for ATC planning and that the controller can inform you of any potential delays or slot restrictions ahead of time.

> If you do not set a TOBT, ATC might not be able to approve your startup right away when you are ready. Especially during periods of high traffic, **not setting a TOBT ahead of time can result in delays for you**.

TSAT (Target Startup Approval Time)

This is the time when ATC is planning to approve your startup. Keep in mind that it is ultimately **your responsibility as the pilot to request startup within the TSAT window; don't rely on the controller to call you for your startup**. You can always find your current TSAT on the virtual VDGS in the

[vACDM pilot interface](#).

In an optimal situation, your TOBT and TSAT will be at the same time. However, if there are more aircraft wanting to depart than the airport can currently accommodate, startups will be delayed and your TSAT will be at a later time than your TOBT.

> If you **miss your TSAT window (TSAT ± 5 minutes)**, the gap for departure is lost and a new TSAT has to be generated. Be aware that your **TSAT can improve** (and occasionally also worsen) depending on the general traffic situation and other aircraft's TOBTs.

> Pushback needs to be **requested within 5 minutes of your startup approval**. At taxi-out positions you have **10 minutes to call for taxi**. After that time the startup approval is invalid and you will be told to recontact Delivery, who has to generate a new TSAT.

CTOT (Calculated Take-Off Time)

This is the actual slot. On VATSIM, you will usually not be issued a CTOT, so it is not a big deal to depart a little bit later or earlier than what ATC had originally planned. However, **during some busy events with slot bookings or if there are flow measures in place for your route, you will be given a compulsory CTOT** and have to depart in this CTOT window (CTOT - 5/+10 minutes). When you are given a CTOT, it is very important to meet it as another slot might not be available for over an hour.

How do I use the vACDM pilot interface?

To access the [vACDM pilot interface](#), you need to log in using your VATSIM account. The system will then search for your flight in the vACDM database.

Setting your TOBT

Next to the virtual VDGS, you can update your TOBT based on your current estimates. It has to be entered in UTC.

Set TOBT (UTC-Time when ready for pushback)

| HHMM | **Submit TOBT** |

Your TOBT (Target Off-Block Time) is the time you are fully ready for pushback. The initial TOBT you see here is the one extracted from your fight plan on VATSIM. Once you "confirm" or "update" your TOBT in the field above, ATC is able to better plan a departure sequence.

Once you have set your TOBT, it will show as confirmed. We ask pilots to **confirm their TOBT at least once** and **update it every time it changes by more than 5 minutes**.

Your TOBT is confirmed!

Set TOBT (UTC-Time when ready for pushback)

| HHMM | **Submit TOBT** |

Your TOBT (Target Off-Block Time) is the time you are fully ready for pushback. The initial TOBT you see here is the one extracted from your fight plan on VATSIM. Once you "confirm" or "update" your TOBT in the field above, ATC is able to better plan a departure sequence.

Virtual VDGS

Once your flight is logged in the vACDM process, you will see the virtual VDGS with your flight's current departure information.

DLH123 —— **YOUR CALLSIGN**

TOBT 1456 UTC —— **CURRENT TOBT**

TSAT 1456 UTC —— **CURRENT TSAT**

-27 —— time to go to (-) or elapsed since (+) your TSAT

PLANNED RWY 18 —— **DEPARTURE RUNWAY**

SID ANEKI1L —— **PLANNED SID**

Keep in mind that the departure information on the virtual VDGS will only be correct **once you have set a TOBT and have received your enroute clearance**.

Where is vACDM used?

vACDM is **currently in beta testing**, so it will only be available at a limited number of airports.

Keep in mind that not all controllers might be using this system yet. If you are unsure whether a controller is working with vACDM, **don't be afraid to ask them** - when the system is in use, it will usually be **announced in the ATIS**.