



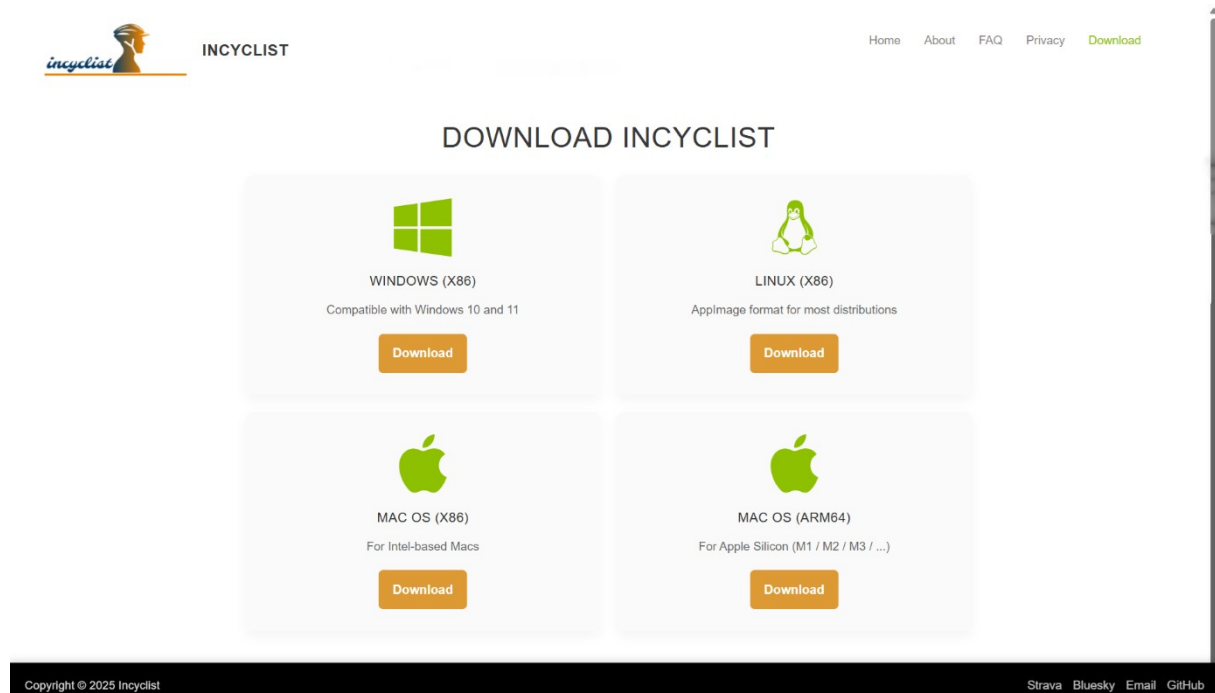
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Installation

Installing on a Windows PC/laptop is straight forward: just download the setup file from <https://incyclist.com> and execute it.



Incyclist is available for Windows, Mac and Linux.

The Mac-build so was unsigned for a long time, which caused warnings during the installation. This warning is now gone. However, there is a new warning now appearing when you launch the App:

'Incyclist wants to access key "Incyclist Safe Storage" in login keychain'. An explanation and a recommended action for dealing with this is to be found on the FAQ page:

<https://incyclist.com/faq/>

For running on Linux you can take a look to the guide – made by Fred van Gestel - for a few Linux flavours: <https://cycling.vangestel.online/indoor/faq/incyclist-on-linux/index.html>

In case you want to use StreetView in simulation mode, a clean install of Incyclist will only support this in the very first session. For subsequent simulation runs you need a so called `google_maps_api_key`. Even if you don't want to use simulation: The usage of your personal key limits the risk for the developer of the software to pay significant license fees to Google once a massive amount of users would start using the app. In the paragraph Setup the creation of a key will be explained.

In the Introduction the link to streetview is used to show you the full potential of the software so you can decide whether or not it's worthwhile to create the link to street view.

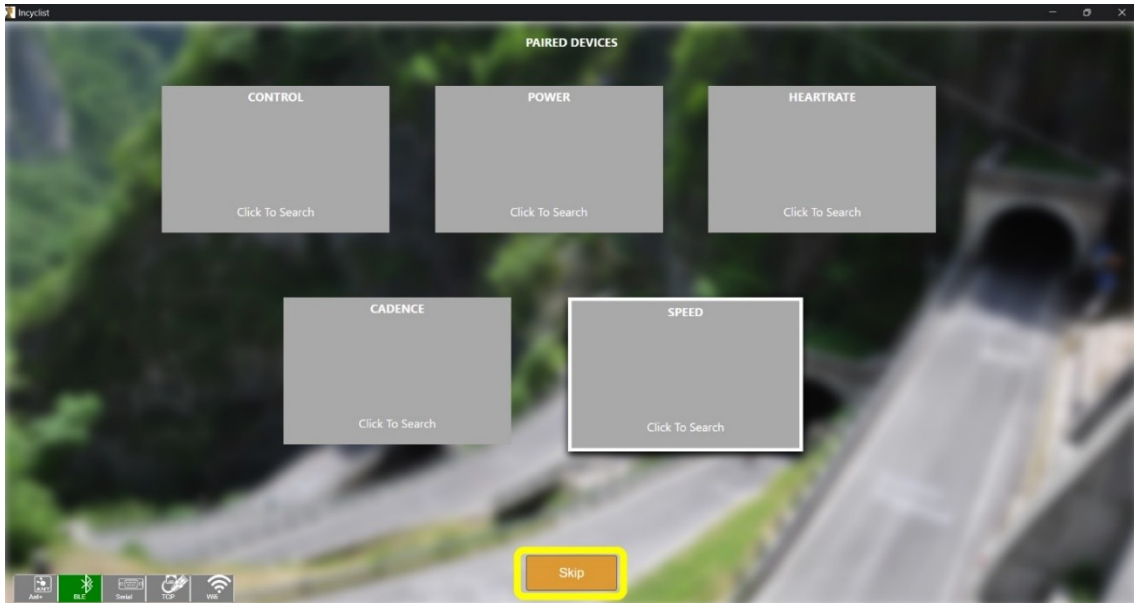
And yes - spoiler - it's worthwhile!

Introduction

With Incyclist you can ride three different types of routes:

- Free ride (ride wherever you want)
- Based on gpx (recorded outside ride)
- Based on video (with or without gpx)

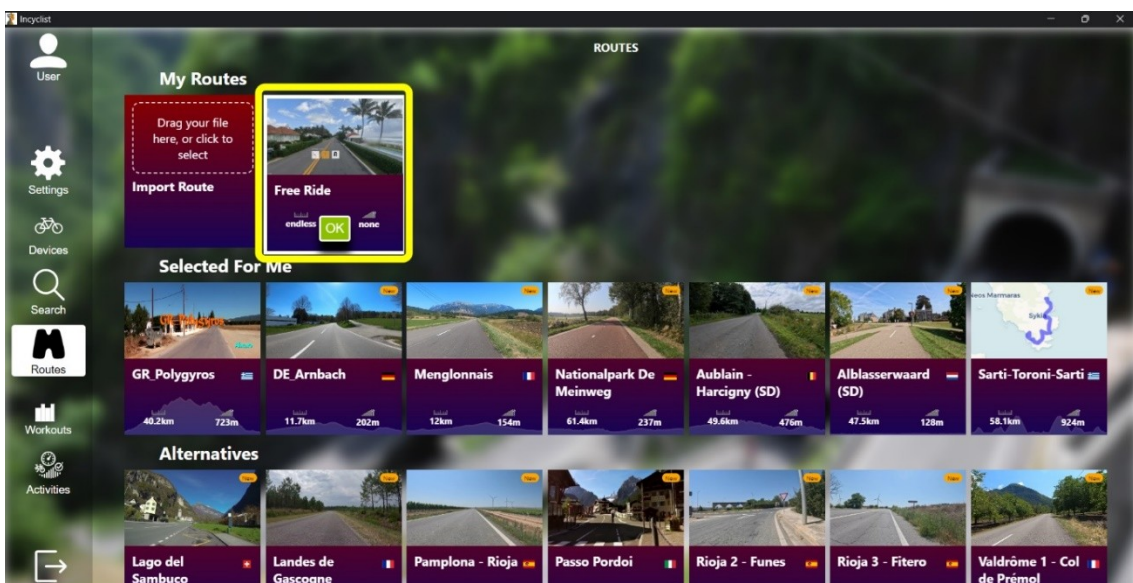
If you start Incyclist, without a trainer connected, the following screen appears.



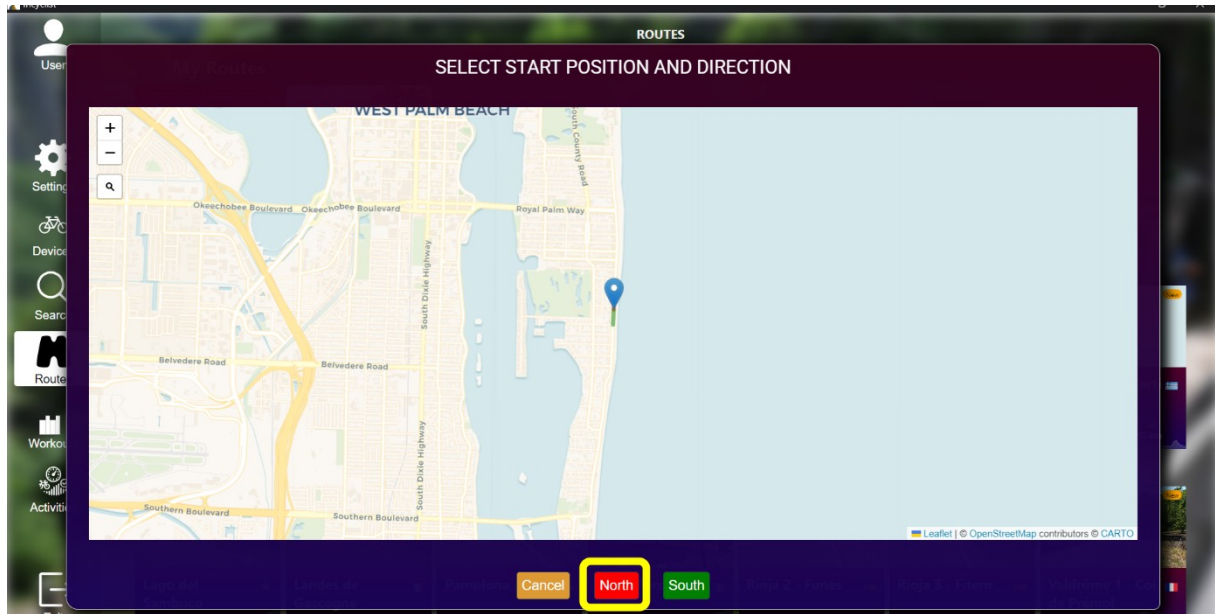
To learn about the application (without pedaling) you may choose to run in simulation-mode.

Enter skip and the screen of routes comes up.

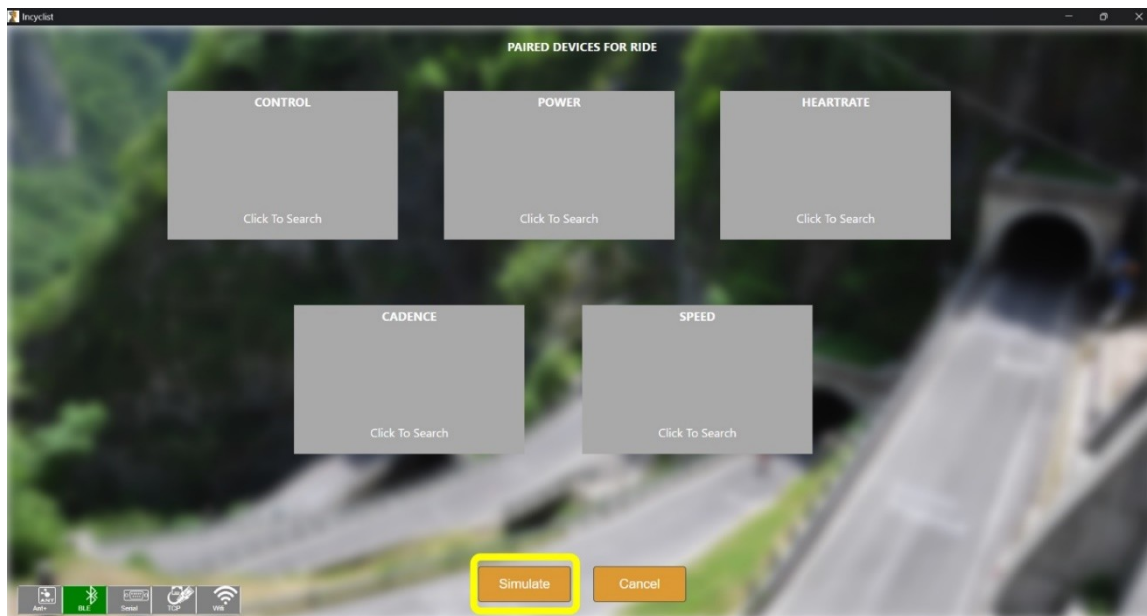
Free ride



Click on the OK-button of Free Ride.



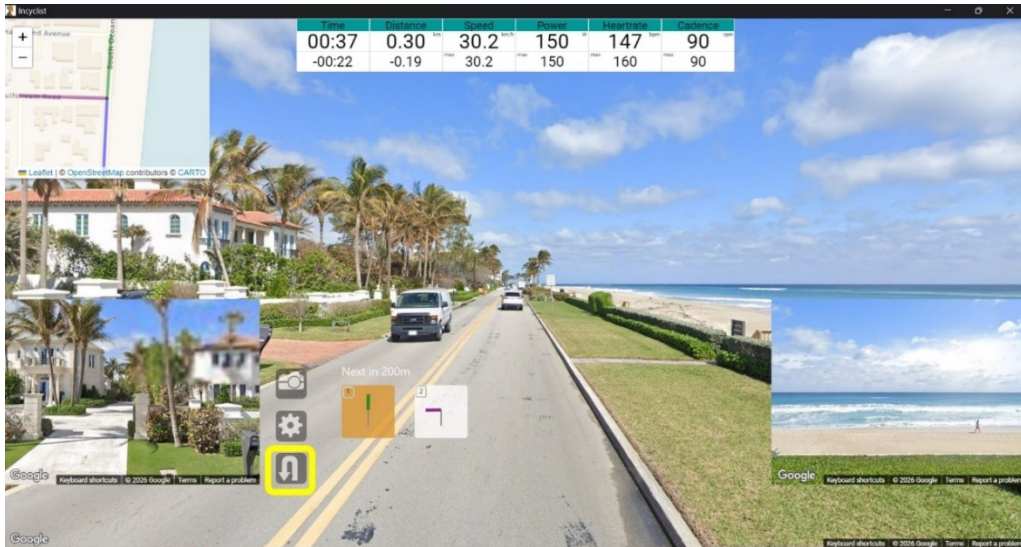
Click on the North (of South) button.



Click on the Simulate button. (Your trainer not connected!)

Free Ride doesn't use elevation profiles, i.e you always simulate 0% slope.

Note: If you want to do a FTP-test you can use Free Ride with a FTP-workout.

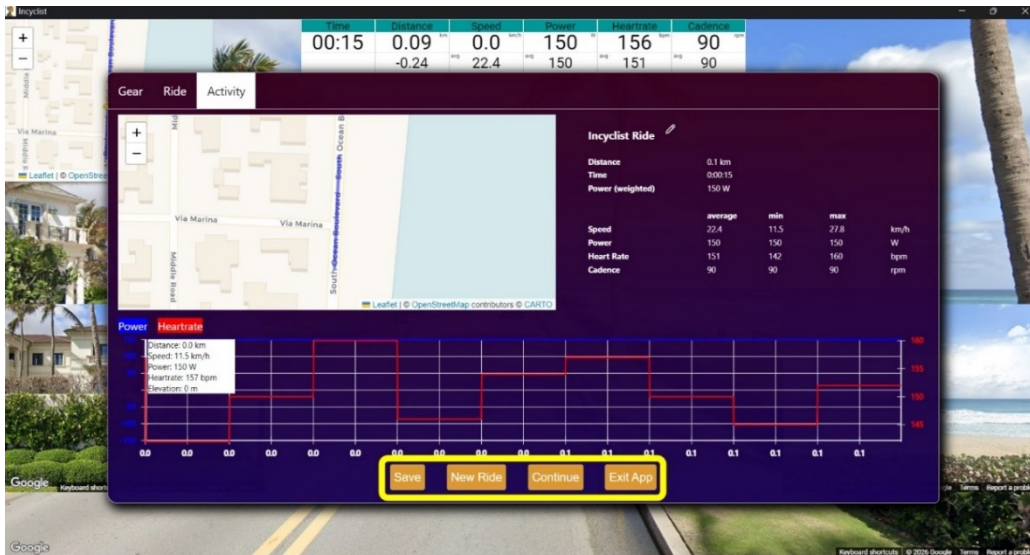


Now you see a lot of information on the screen (while the simulation is running).
 Corner upper left: map with the location of the rider.
 Top: time, distance, speed, power, heart rate and cadence.
 Left: view to the left side.
 Right : view to the right side.
 In the middle: five icons.
 A camera (to take a picture)
 A wheel for settings
 A turn to change from north to south
 Two squares, indicating what's coming in the next meters (straight forward and crossing to left).

Click on Turn and you go in opposite direction!

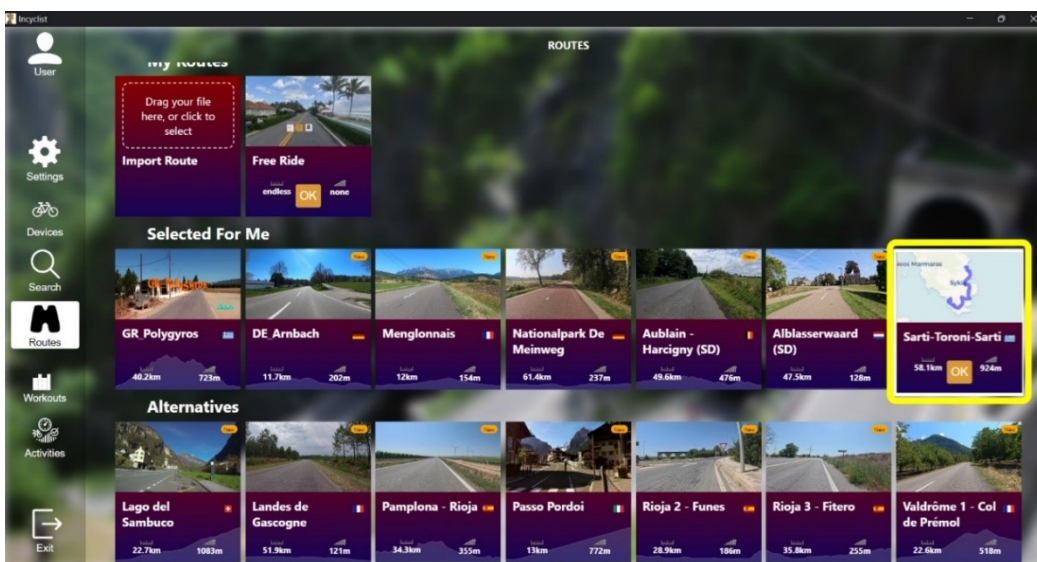


Click on the Settings wheel.



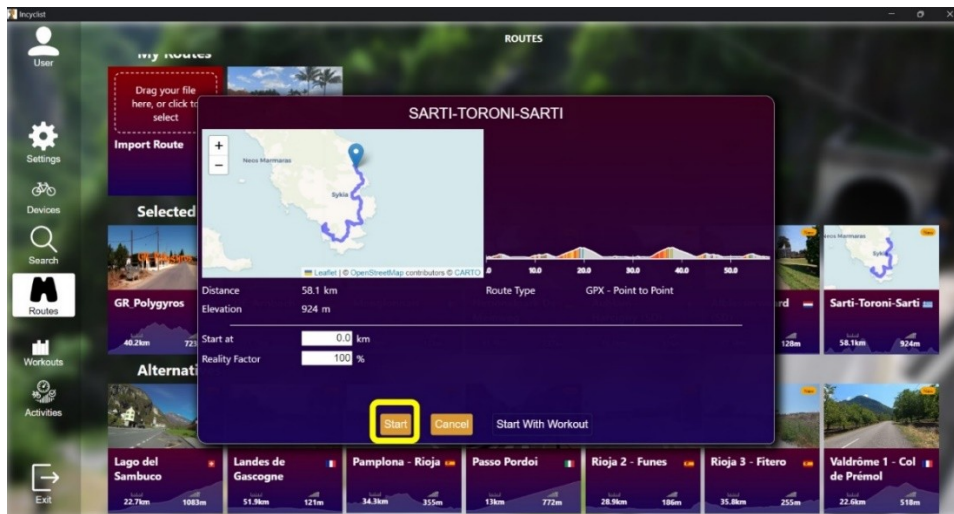
Now you can choose to Save, New Ride, Continue or Exit App.

Select New Ride brings back the screen Routes.



Based on a (built-in) gpx-file

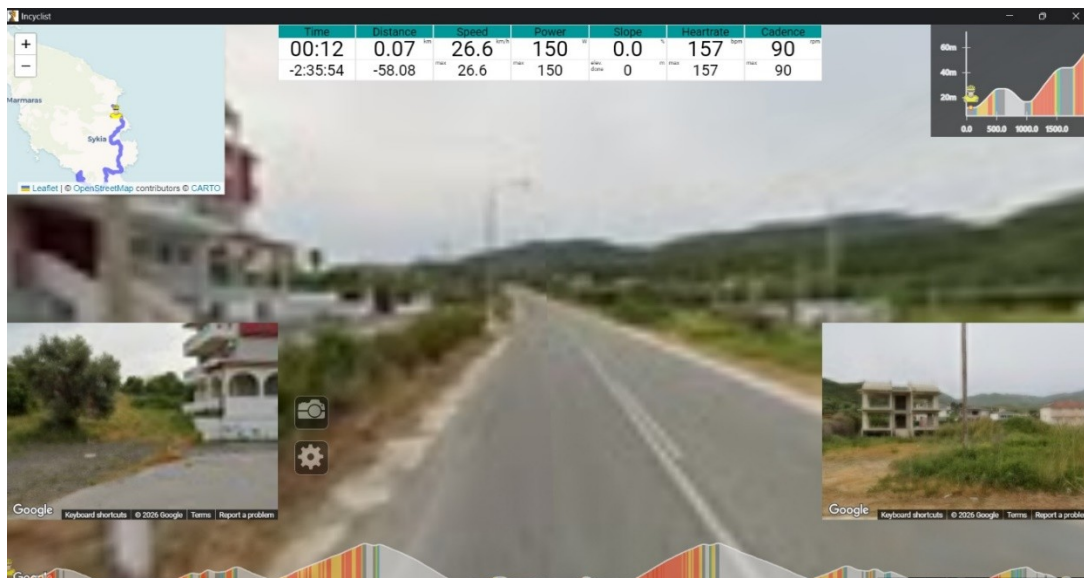
To demonstrate the use of a gpx-file choose Sarti-Toroni-Sarti, a point to point ride.



Now you have some options:

- **Start at:** starting position of the ride
- **Reality Factor:** Adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in the general settings of Incyclist - with SmartTrainer mode selected - a percentage lower than 100% is given

Click on Start.

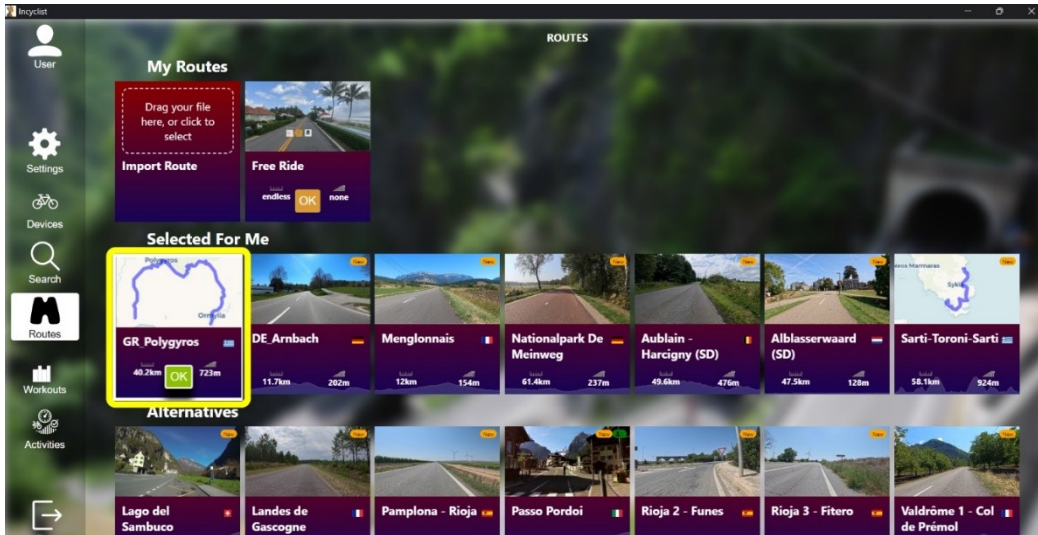


Now you see the same windows (as in Free Ride) except the square and turn button. New is the window top right: the elevation for the next two kilometers.

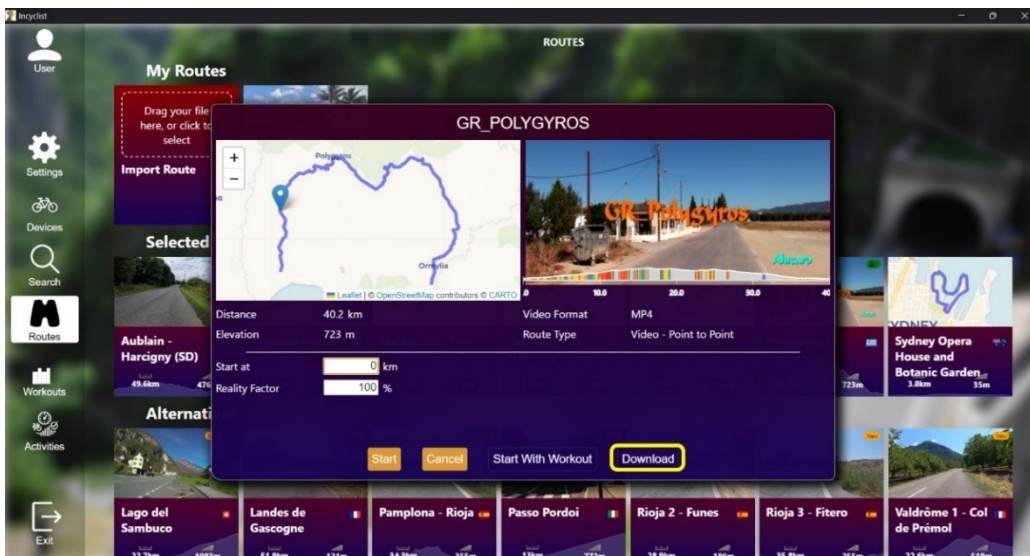
Note: If you use the Streetview option it looks like a slide-show: every three seconds a new image appears.

Based on a (built-in) video

The third option is to use a video. There are a lot of built-in videos.



Now choose a built-in video:GR_Polygyros.

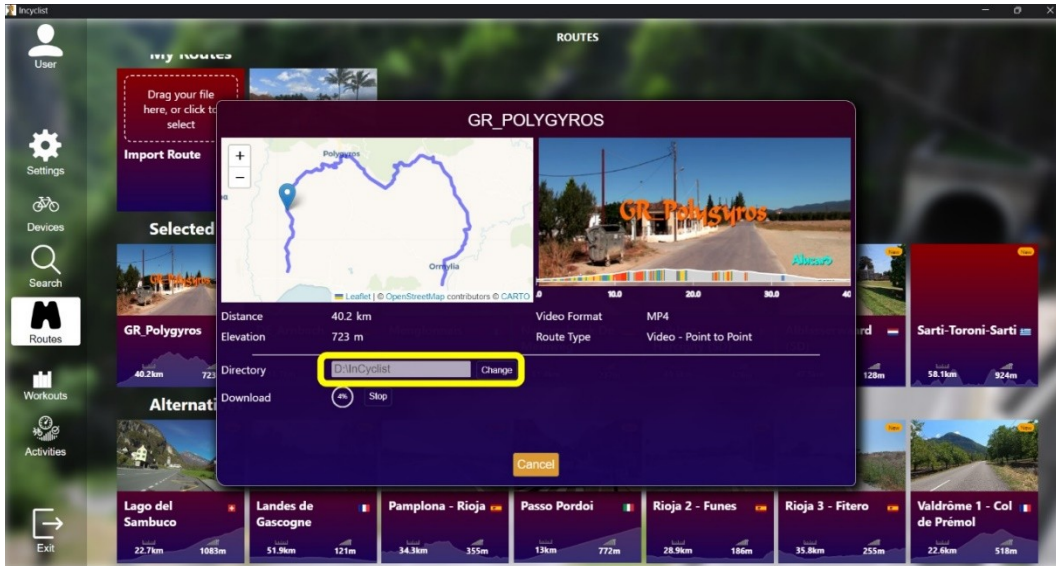


Now you have some options (the same as when using a gpx):

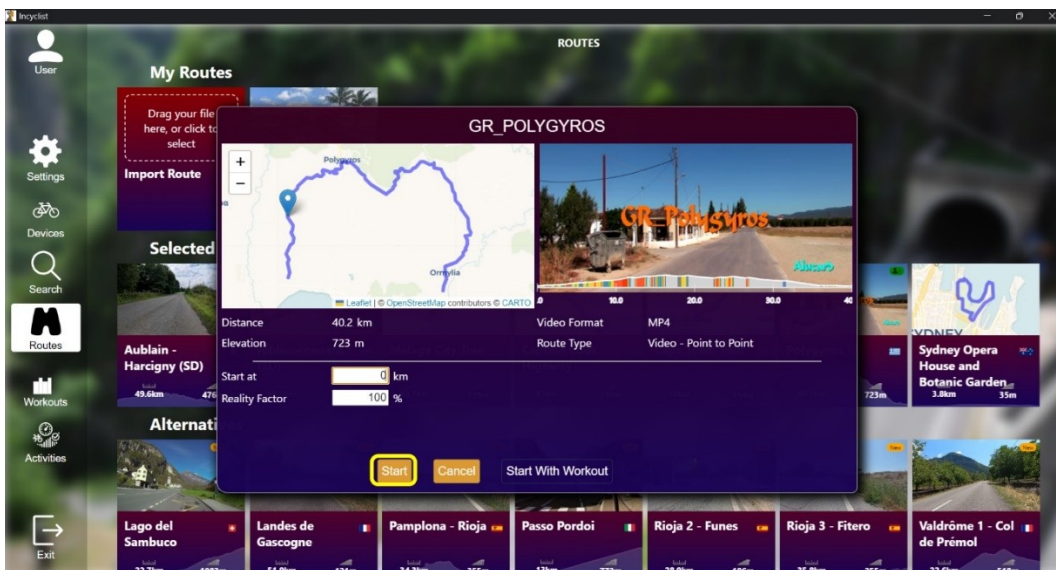
- **Start at:** starting position of the ride
- **Reality Factor:** Adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in in the general settings of Incyclist, with SmartTrainer mode selected, a percentage lower than 100% is given.

Note: Because the server (of Incyclist) has limited bandwidth (~20MB/s), i.e. if too many people are riding a route at the same time, you might face hookups. Therefore it's recommended to download, so you can ride offline.

Click on Download.



You can choose the location (or create it).



After download the button Start appears.

Click on Start.



Note: You can also combine a route with a workout. And you can combine a video with a gpx-file. It will be explained later.
Click on the wheel will stop/pause the ride.

Exercise

To become familiar with the software it can be handy to exercise the navigation during Simulation.



Every windows has in the upper right corner a cross (it appears when moving the mouse over that window).
Click on the little cross: it will let disappear that window.



But if a window is not available you can select - on the same place as the cross by moving the mouse over the window - by clicking on the circle with four dots and an arrow. It will show that window again.

The same is true for the wheel (to end/pause the ride) and the camera.

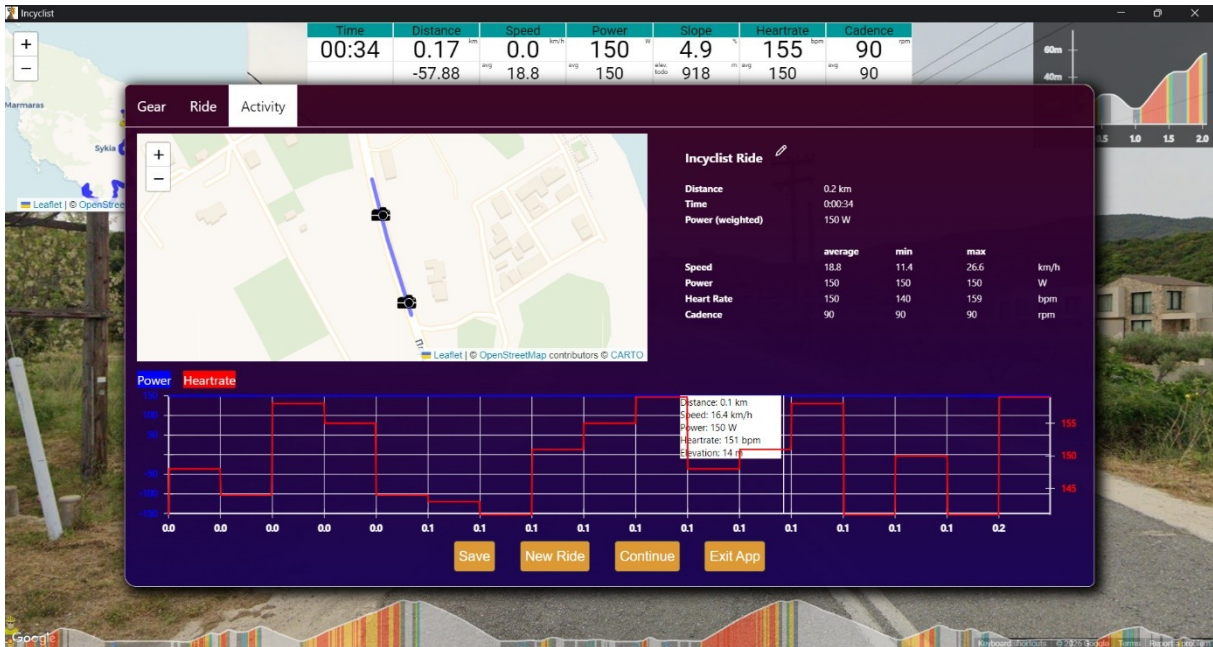
You can take a picture by clicking on the camera.



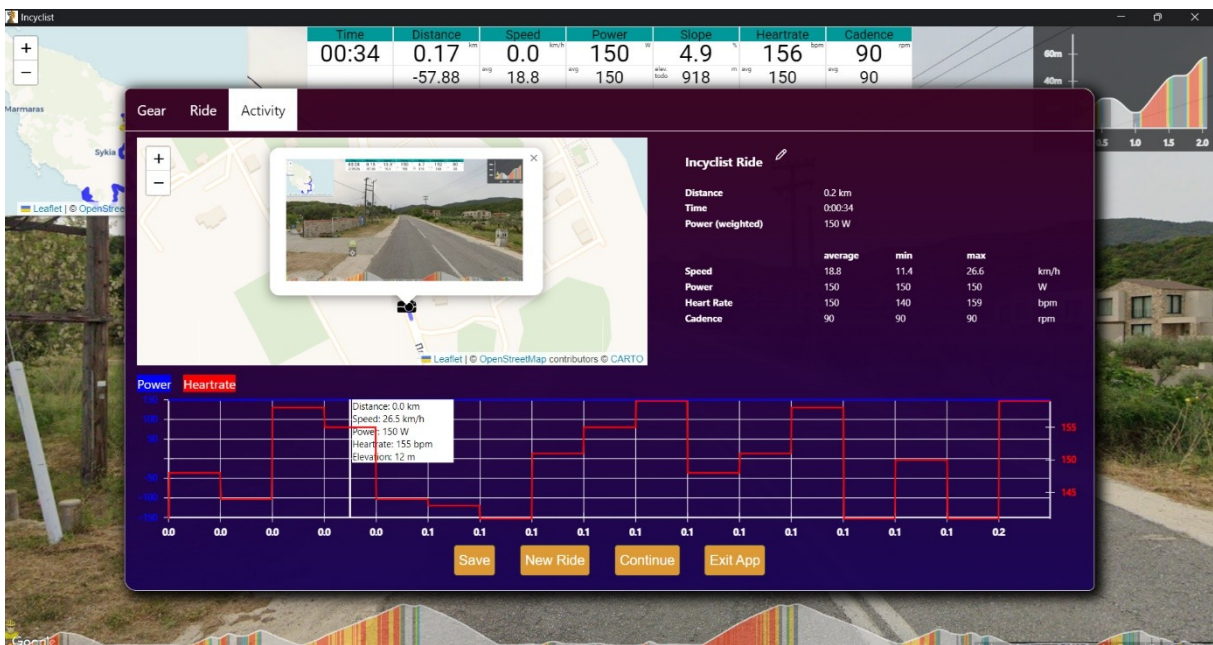
Pictures will be stored in `$(INCYCLIST_HOME)/screenshots`, where `$(INCYCLIST_HOME)` differs per OS:

Windows: `C:\Users\%USER_NAME%\AppData\Roaming\Incyclist`
 Mac: `/Users/%USER_NAME%/Library/Application Support/Incyclist`
 Linux: `/home/%USER_NAME%/config/Incyclist/`

You can also reach pictures directly from the app: in the "Pause" screen (i.e. the screen that you see when you stop a ride), in the map the screenshots have a camera marker, one for each picture.



When you click on the camera marker, you can see the screenshot.



If you click once again on the image, Incyclist will open an Explorer (Mac:Finder, Linux:Files) window that points to the screenshot file

You are prepared to ride with Incyclist !

Setup

Compatibel devices

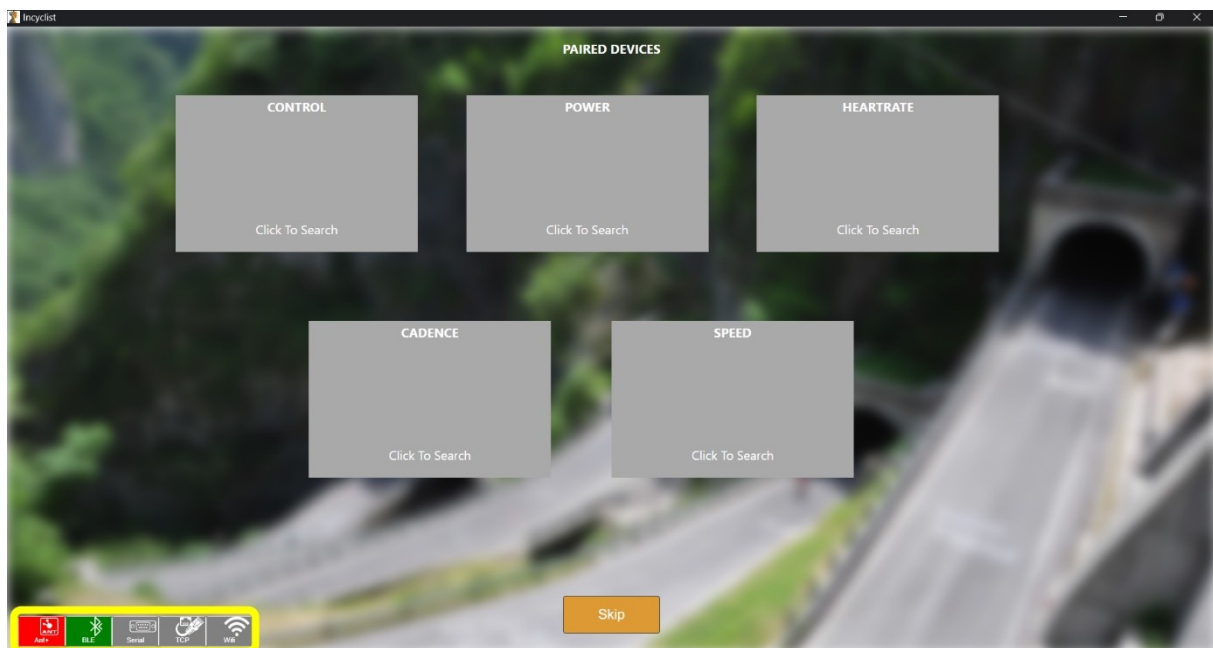
A lot of devices can be used with Incyclist.

- Ant+ Smart Trainer (FE), Power meters, Cadence Sensors and HRMs
- BLE Smart Trainers (FTMS, Wahoo, TACX FEC over BLE), Power Meters and HRMs
- Direct Connect (WiFi) Smart Trainers
- Daum 8008 Ergo Bikes
- Daum 8i Bikes

(more to come)

Ways to connect

There are five protocols available to connect the smarttrainer to the PC.

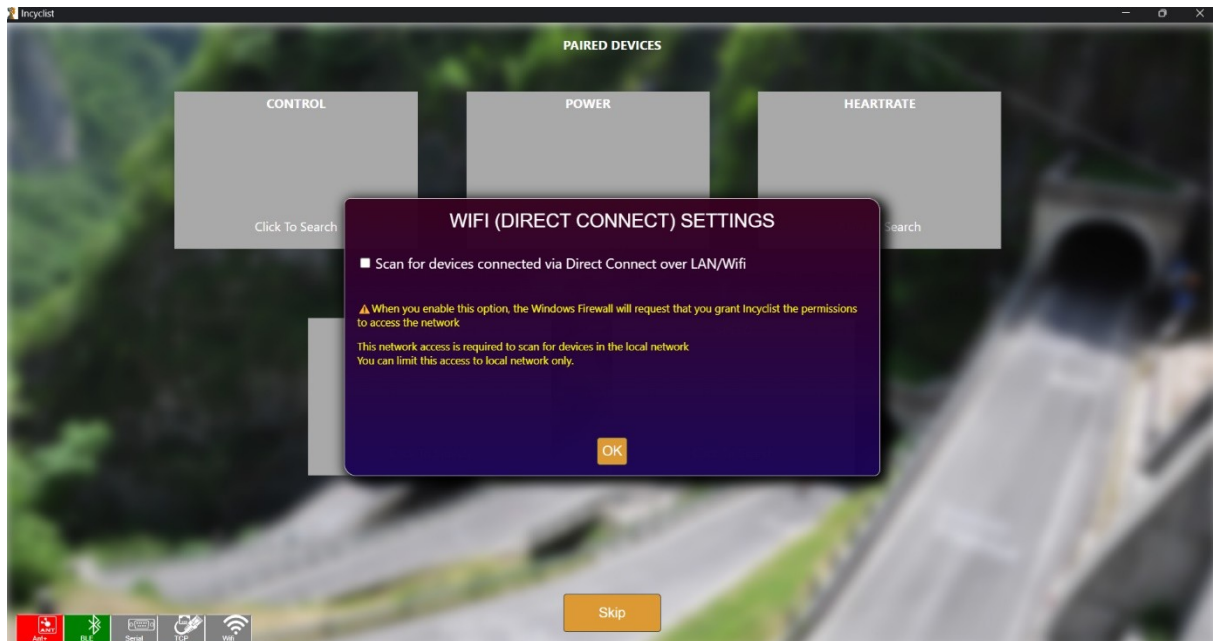


Incyclist can use **BLE** (Bluetooth Light Energy) or **ANT+** to connect with a smarttrainer and a heartrate strap. Also a **Serial** cable and TCP are available, but this is only used for Daum trainers and thus for most people it is not needed.

Direct Connect capable Smart Trainers, to which sometimes in the indoor cycling community is referred to as "**WIFI**"-connected, are also supported. Direct Connect is a protocol developed by Wahoo promises a much higher performance and robustness than ANT+ or BLE and most new smarttrainers support it.

Note: On Windows, you will get a warning from the Firewall, when you activate the interface for the first time. Windows will ask you if you want to allow Incyclist to access

your local network. This is required to scan for Direct Connect capable devices in your local network.



For some smarttrainers you have to select a specific protocol:

- Serial: Daum Classic, Daum Premium, Kettler
- TCP: Daum Classic, Daum Premium

The choice of available modes depends on your smarttrainer and the way you connect to it:

I Communication over ANT+ with FE-C (transferring power, speed and cadence):

II Communication over Bluetooth with FTMS (also transferring power, speed and cadence) offers a more limited set of options: only Smarttrainer and ERG.

III Communication over ANT+ with PWR (power): only Powermeter (just reads the values and calculates speed based on the power delivered).

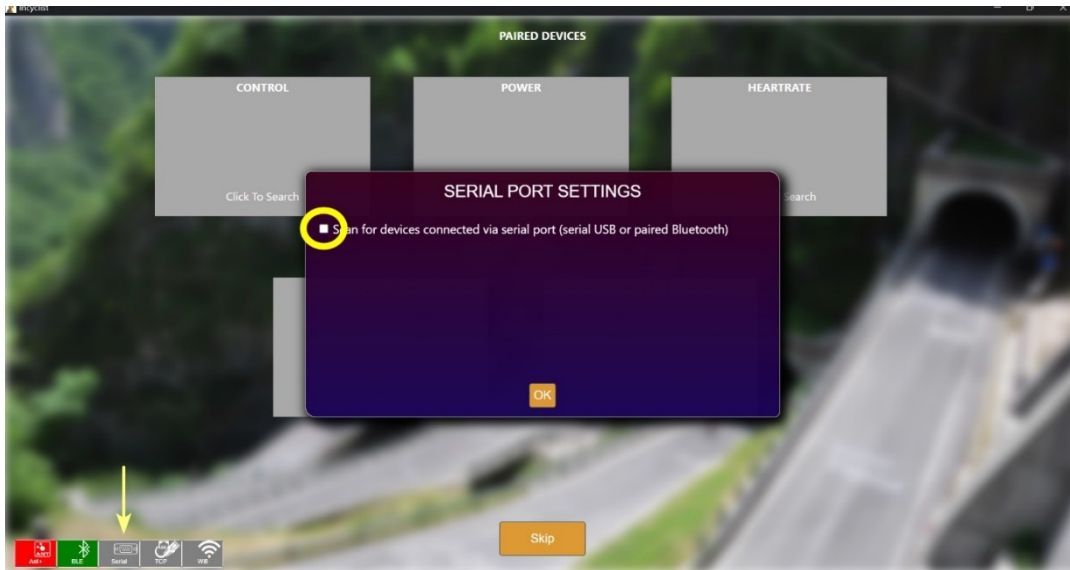
IV Communication over Bluetooth with CP (power): only Powermeter.

V Daum Premium:

- *Daum Classic:* uploads the route at the beginning of the ride to the Daum smarttrainer, the Daum takes full control and Incyclist only displays values that the Daum registers.
- *ERG:* this is similar to the ANT+/Bluetooth ERG mode, but you can adjust power by switching gear or drastically adjust cadence - so power is not enforced.

When opening Incyclist the option to scan for devices through one of these protocols can be switched off or on, by hovering above the button (left-under on the screen) and click the gear icon.

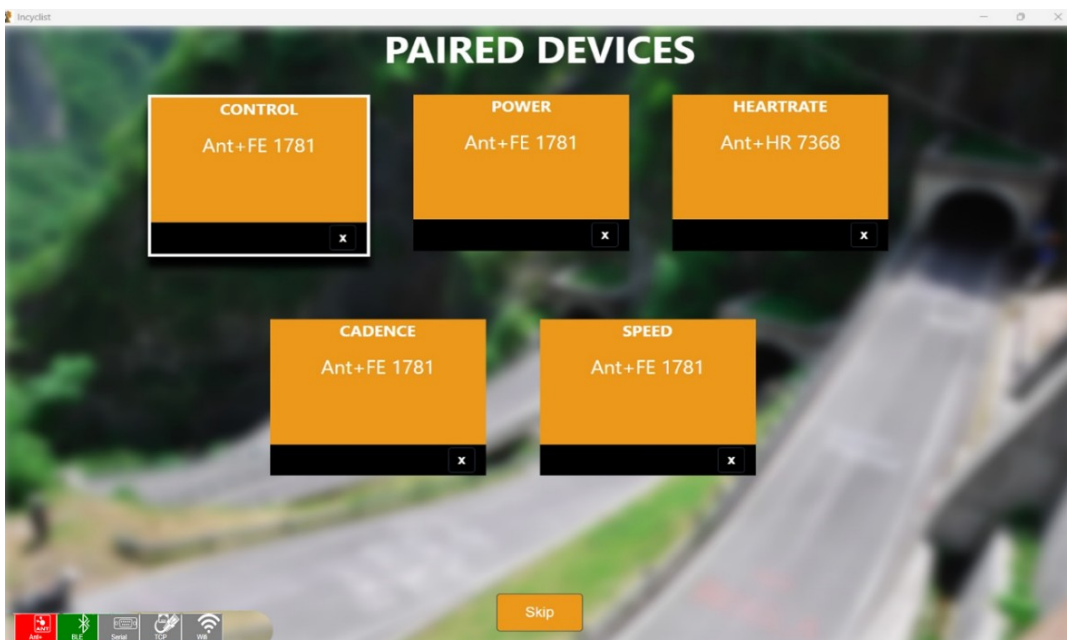
Example given for "serial" :



It is best to disable the interfaces that you know you are not using (for example serial), which probably will make the device scan smoother.

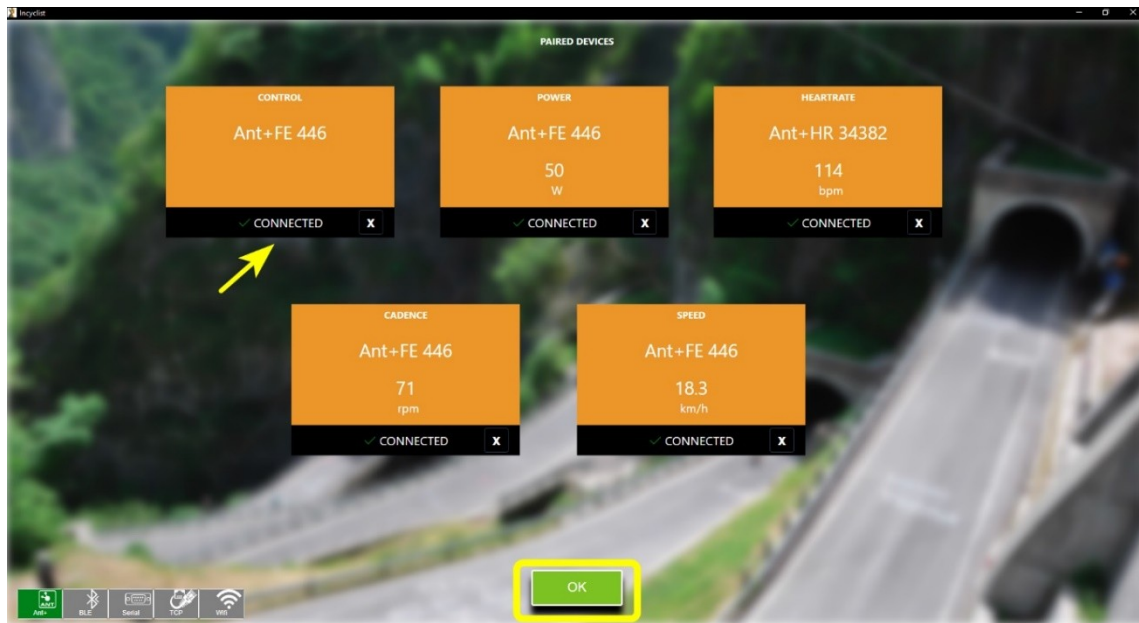
ANT+ is a multipoint-protocol and robust. If your smarttrainer is available to connect through ANT+ and Bluetooth doesn't work well for it, use an ANT+ dongle!

If an ANT+ dongle is recognized the ANT+ button turns green, otherwise it is red. The same is true for Bluetooth and serial cable. If you have been busy with adding video's and other stuff, the opening screen can show devices to pair with, but no sign of connection (or a button to connect):



In this case close Incyclist and restart the PC/laptop/Mac.

This is how the screen shows if the trainer and heart rate monitor are connected.



Click on OK to start a route.

Note:

- After installation Incyclist will try to update itself with newer versions. This normally happens upon launch. However, if downloading of the update takes longer than 3s Incyclist will continue with the current installed version and download the update in the background. The next time you start Incyclist, you should have the new version installed.
- Windows (10 or 11) users that use a Tacx ANT+ antenna to connect to their smarttrainer can download an USB-driver for the ANT+ antenna at the Garmin website, or download and install Garmin Express with the driver for ANT+ included.

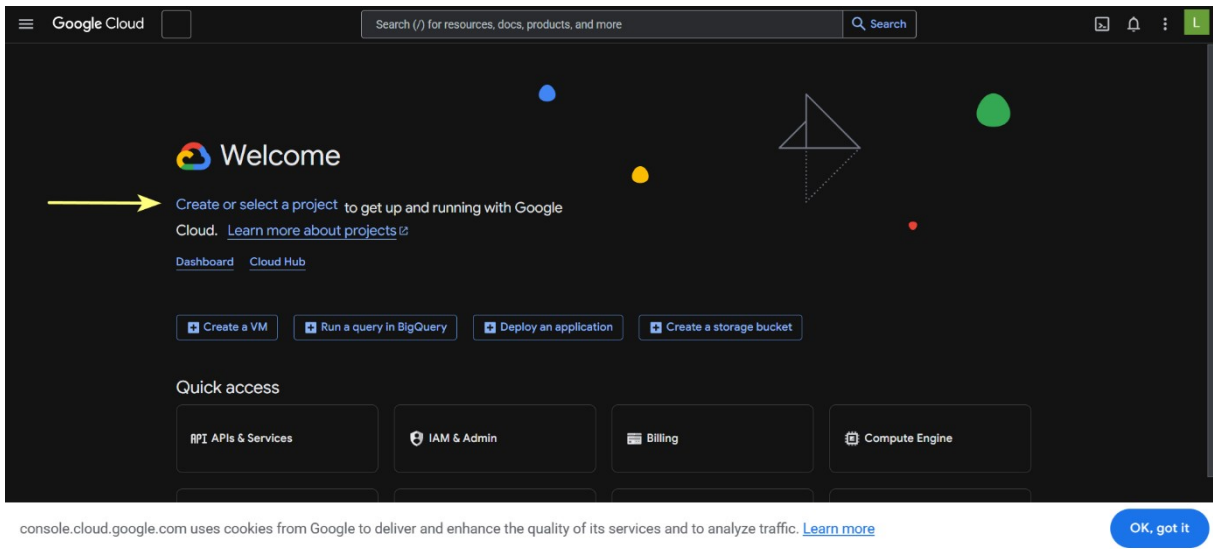
Streetview

If want to simulate rides while using streetview, you need a so called `google_maps_api_key`. And you have to update the file `settings.json`.

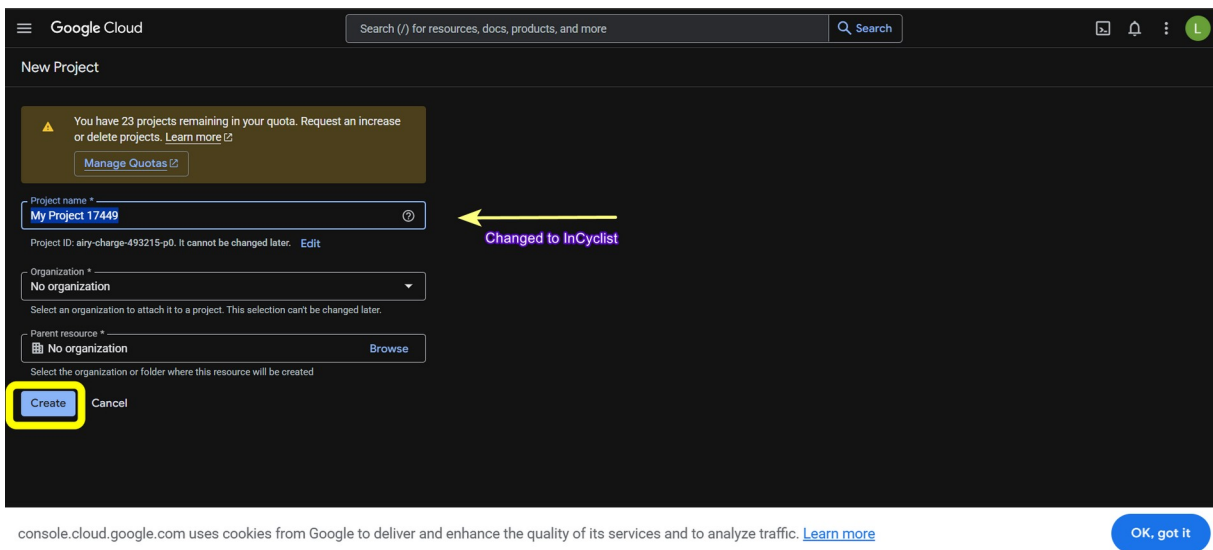
Create a `Google_maps_api_key`

Note: You must have (or create) an account for Google.

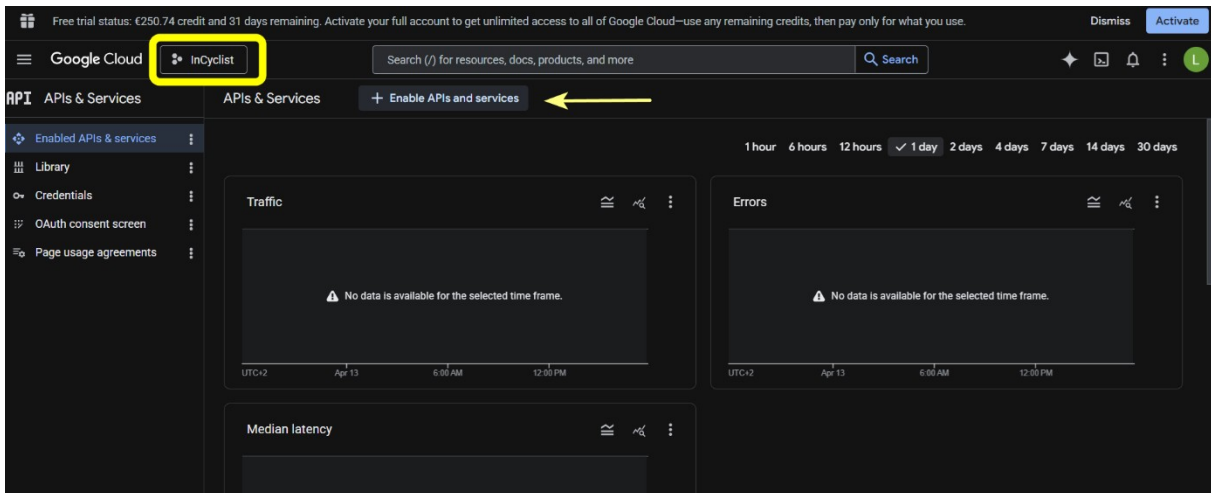
To create a `api_key` go to <https://console.cloud.google.com>



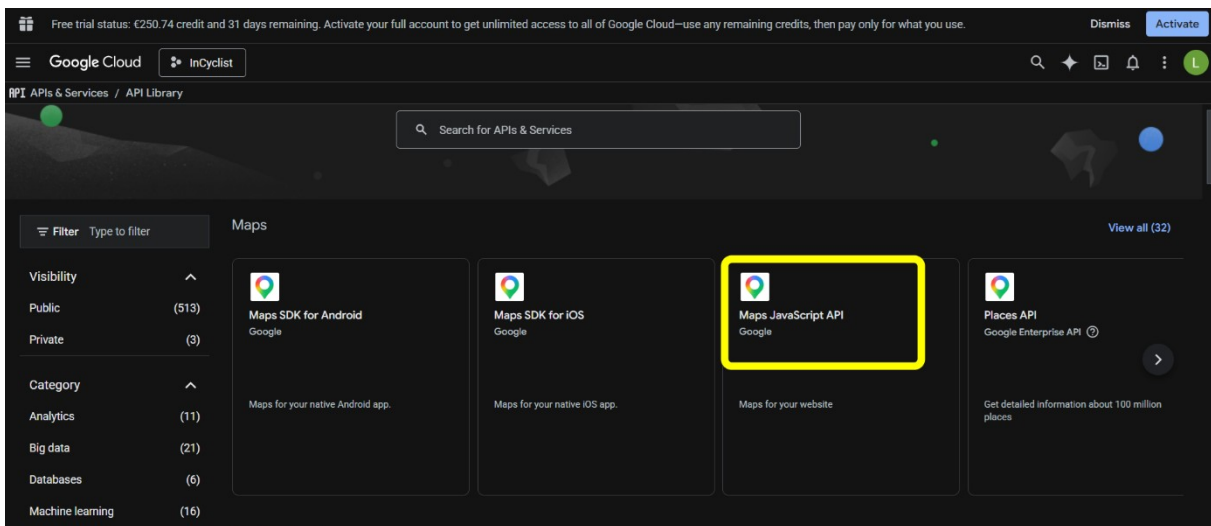
Create a project.



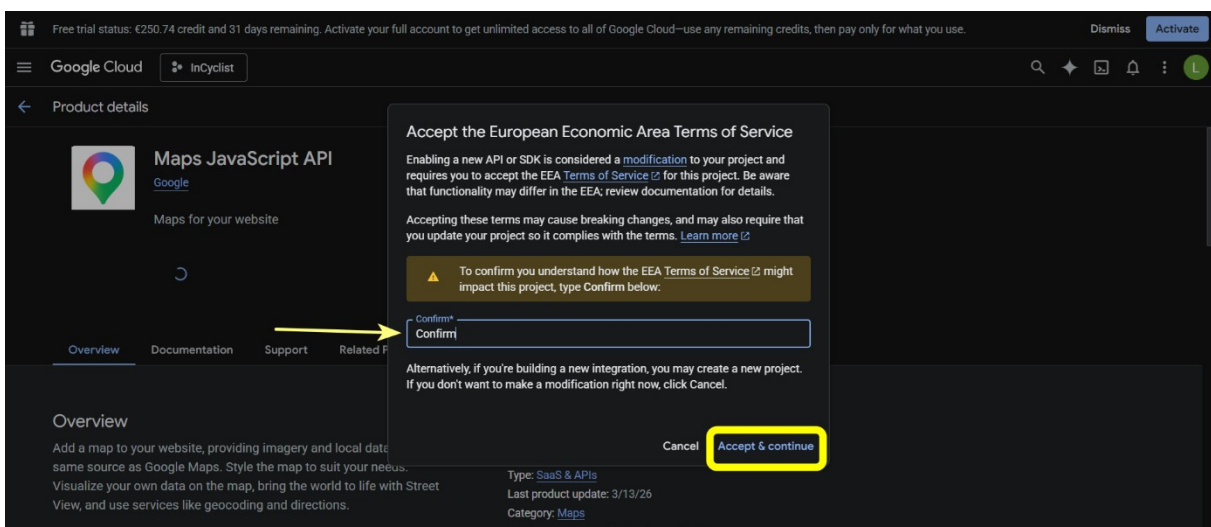
Change the name of the project. Click Create.



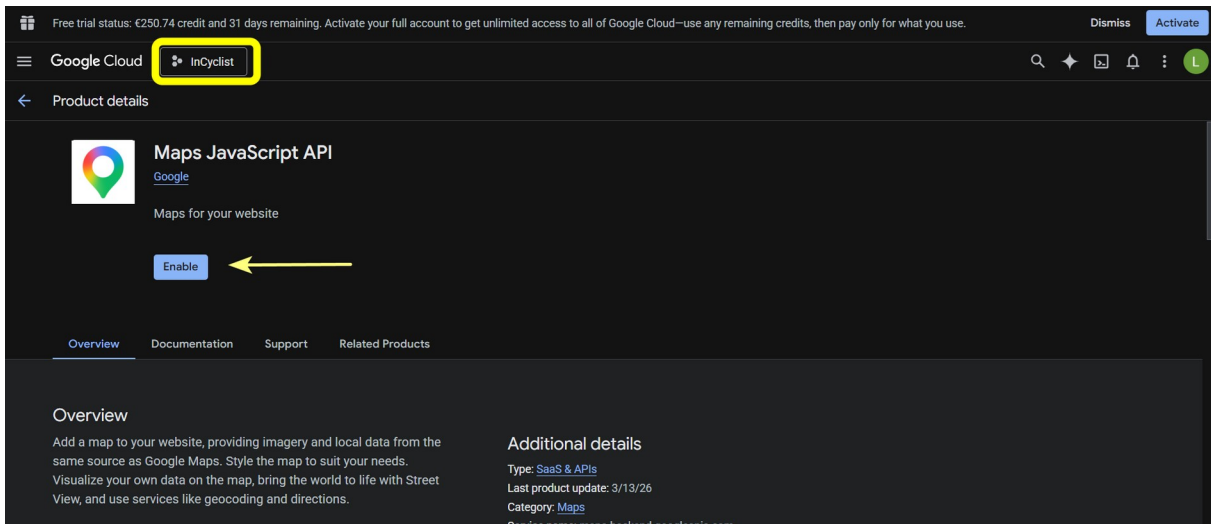
Select Enable APIs and services.



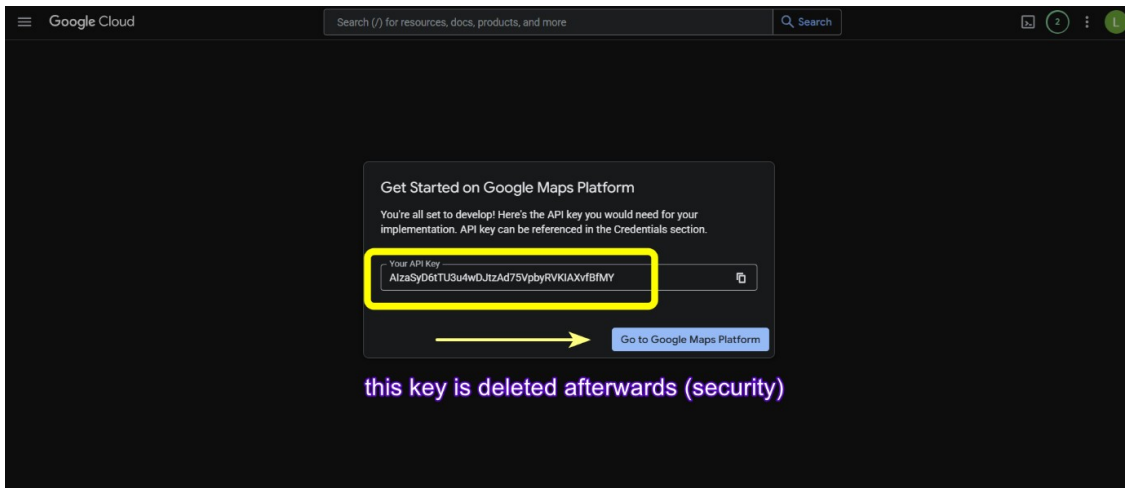
Select Enable Maps JavaScript API.



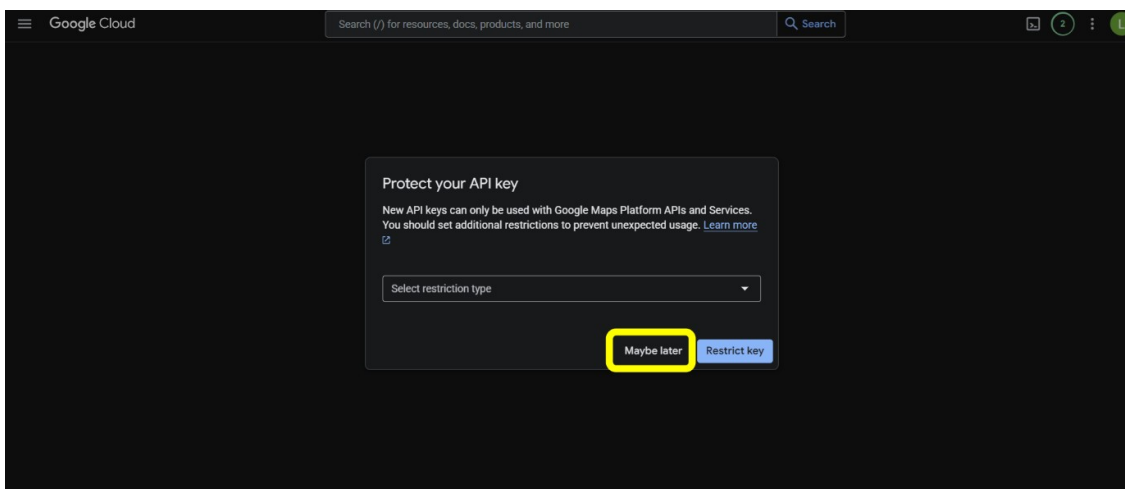
Type in **Confirm** and select **Accept & Continue**.



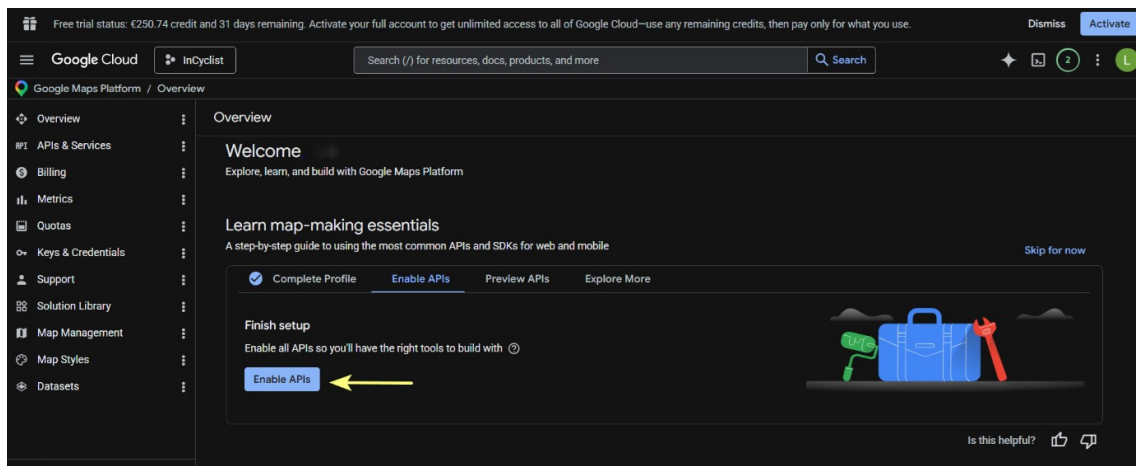
Select Enable.



The key is generated (and deleted for security and privacy reasons). You have to make a copy for later use.



You can protect the use of the key. Select Maybe later.



And click Enable APIs.

If you create a google_maps_api_key you automatically start a trial for 30 days with a credit of 300\$ (251€).

Google counts the number of access to the key and that's only once if you start a ride in Incyclist. 10.000 accesses per month are free. As a result, the use is practically free. If you continue using the key Google asks for account information.

Click on Activate (top right).

Updating the settings.json

Open the settings.json file.

Windows: C:\Users\%USER_NAME%\AppData\Roaming\Incyclist

Mac: /Users/%USER_NAME%/Library/Application Support/Incyclist

Linux: /home/%USER_NAME%/config/Incyclist/

Add (exact) the line "GOOGLE_MAPS_API_KEY" : " here the key ", replacing here the key with your key.

It's not allowed to add it at the end of the file, take the same place as in the following example:

just before "routeSelection" : {

```
"current": 1776764370876,
"prev": 1776764046173
},
},
"GOOGLE_MAPS_API_KEY": "XXXXXXXXXXXXXXXXXXXX",
"routeSelection": {
  "video": {
    "prevSetting": {
      "20ef79b5-6ce0-4140-9d3e-3aa9ad728f36": {
        "startPos": 602.2174449873236,
        "realityFactor": 100,
        "showPrev": false
      },
      "e0917134-dd7e-4837-ae8a-6b0e239a2682": {
        "startPos": 0,
        "realityFactor": 100,
        "type": "Route",
        "showPrev": false
      },
      "110a7b34e64e4a3981c0cdf5919362db": {
        "startPos": 0,
```

Don't forget to save the file.

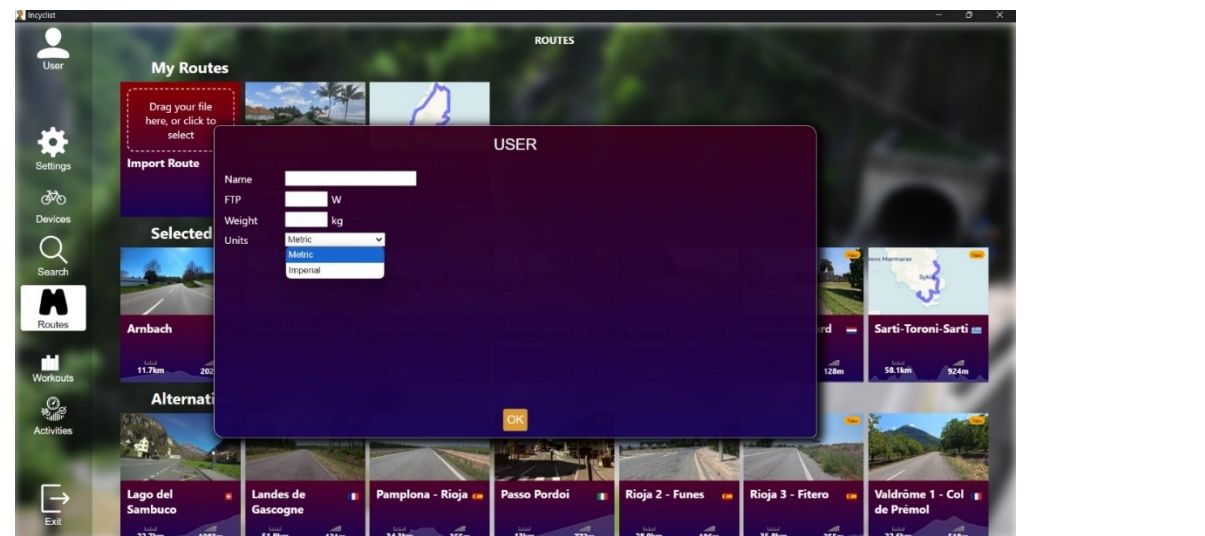
Riding with Incyclist

In this chapter information will be given in the order of the icons on the left side of the screen.

I.e. User, Settings, Devices, Search, Routes, Workouts and Activities. Clicking on Exit will close the application.

User

On the screen, choose settings and fill in your name and weight. If you know your functional threshold power (FTP), add that as well. Select units (metric/imperial).



The FTP will become relevant if you plan to use Workouts. Otherwise, you can ignore it.

To determine your FTP you have to do a test. The most frequently used is a 20-minutes test, where you ride 20min all-out and then use 95% of your average power during these 20mins as FTP. But here are also alternative ways to test your FTP (e.g. Zwift Ramp Test, or the [DIY FTP Test](#)) You may use Free Ride with a workout (because Free Ride doesn't use elevation profiles, i.e you always simulate 0% slope).

In case you don't want to perform a FTP test, an estimation for your FTP can be found in this table:

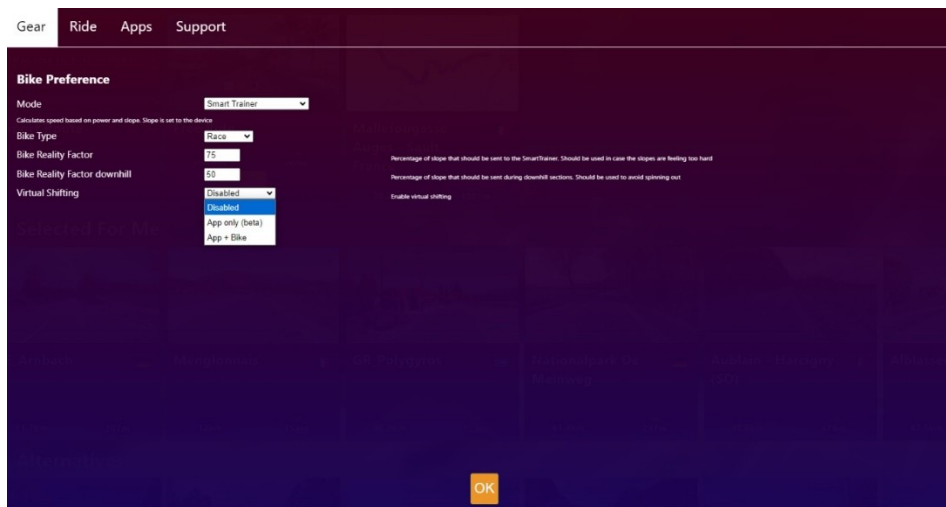
| Nivo | Men | Women |
|-------------------------|---------|---------|
| Recreationist | <2.5 | <2.2 |
| Amateur | 2.5-3.5 | 2.2-3,2 |
| Amateur road racer | 3.5-4.5 | 3.2-4.1 |
| Elite road racer | 4.5-5.5 | 4.1-4.9 |
| Professional road racer | 5.5-6 | 4.9-5.4 |
| Round winner | >6 | >5.4 |

FTP=Weight*value e.g. man, weight 60, amateur : $150 < \text{FTP} < 210$

Settings

Under the tab Settings you will find Gear, Ride, Apps and Support

Gear



For **Mode** you can choose:

- Smarttrainer: resistance based on the Route or Workout that is chosen
- ERG: constant resistance, regardless a certain cadence
- Advanced smart trainer (will probably disappear as an option in the future): it is the same as SmartTrainer-option, but offers the option to cap the maximum power. This means that when you are above the maximum configured power output (from the ride settings), it automatically switches to ERG mode and keeps the resistance on the predefined maximum power-setting
- Daum Devices will show DaumClassic or ERG. On Daum 8i devices, you will only see the elevation profile on your device screen, when you select DaumClassic

The available **Bike Types** (race, mountain and triathlon) currently only have impact on the ride physics, which is determined by the underlying model that Incyclist is using. This concerns things like the speed that is calculated based in ERG- and SmartTrainer-mode. Bike type also influences how Incyclist calculates the resistance, based on wind resistance and rolling resistance.

Virtual Shifting: For ANT+/BLE and Wifi SmartTrainers, Incyclist offer Virtual Shifting in SmartTrainer mode. Depending on the capabilities of the Smarttrainer, it will offer up to three modes

App+Bike: You can still shift with your shifters on the bike, Incyclist adds a delta (+/- xx gears). Technically it will add a delta to the slope

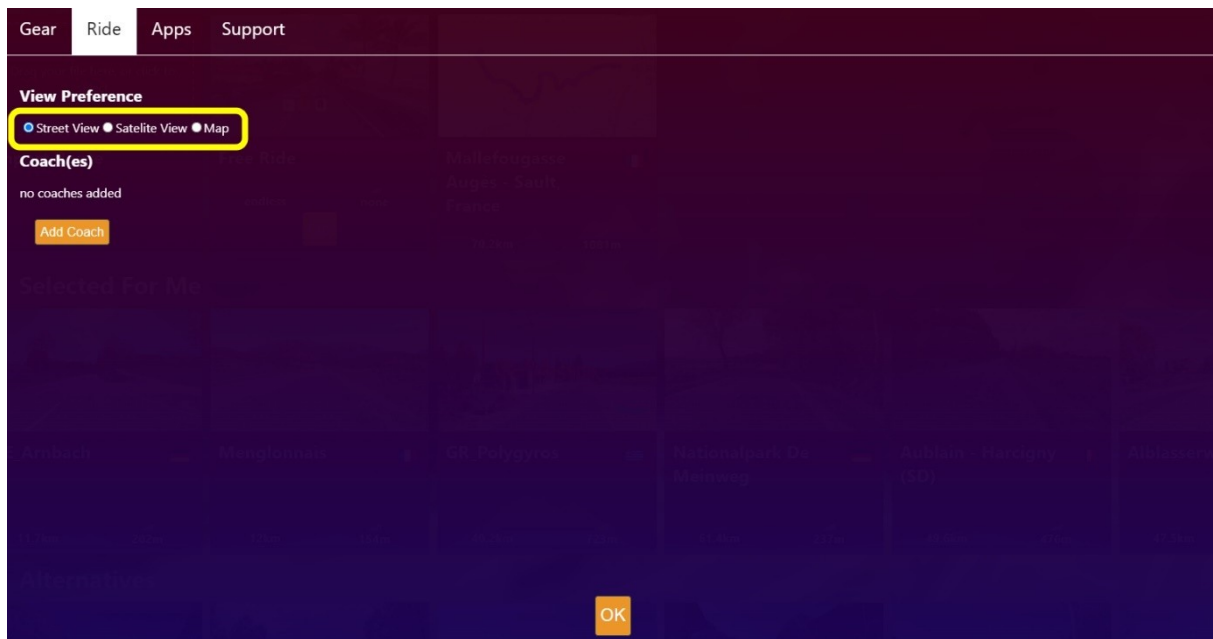
App only(beta): Incyclist will fully control the resistance based on the selected gear, your cadence and the current slope. Towards the Trainer it will switch to ERG mode, i.e. physical shifting on your bike would not have any impact anymore.

SmartTrainer(beta): If the Smarttrainer support the Zwift Virtual Shifting protocol, than this is also offered. In this mode, the Smarttrainer adjusts resistance based on the gear selected in the app. Incyclist only sends the selected gear to the trainer

How to shift:

- In the current version you can use the (Shift+) ArrowUp/ArrowDown keys. If you press the Shift key together with the Arrow key, you will be shifting by 5 gears (up or down)
- Alternatively you will see buttons below the dashboard, which will also auto-hide, unless you click on the Pin Button
- (beta users only: please approach Guido if you want to test): You can use Zwift Click v1, Zwift Ride handle bar and in the future other devices (currently working on Zwift Play) to change gears

Ride



You can choose for Streetview, Satelite View and Map View.

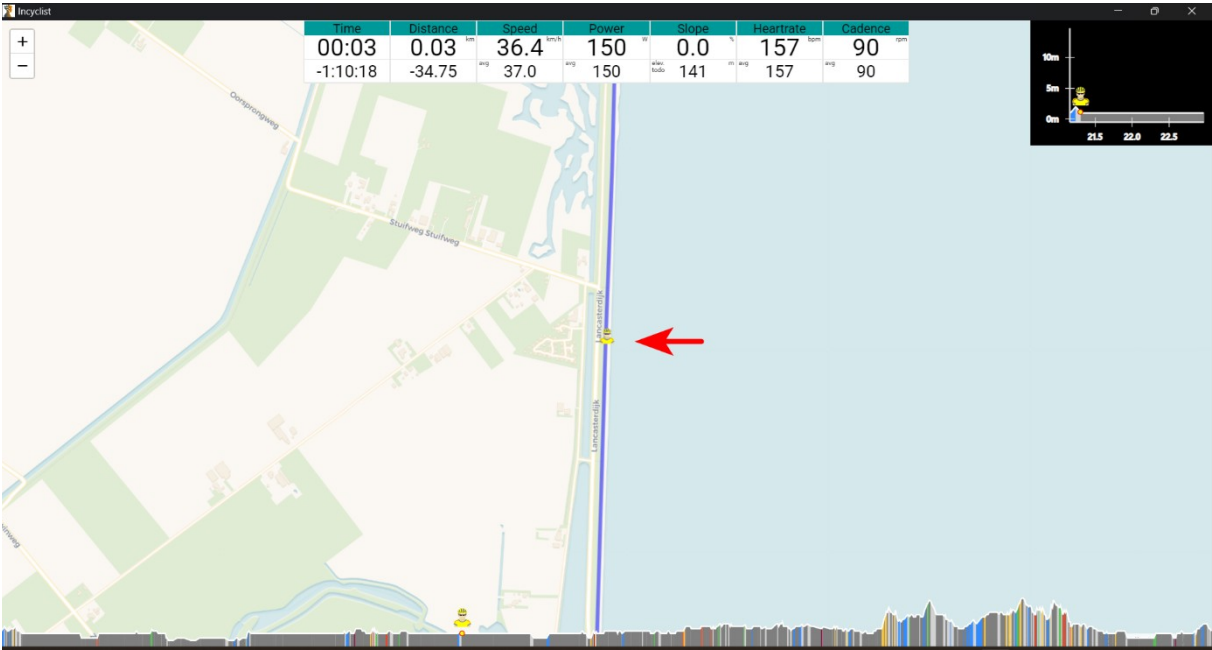
Streetview:



Satellite View:



Map View:



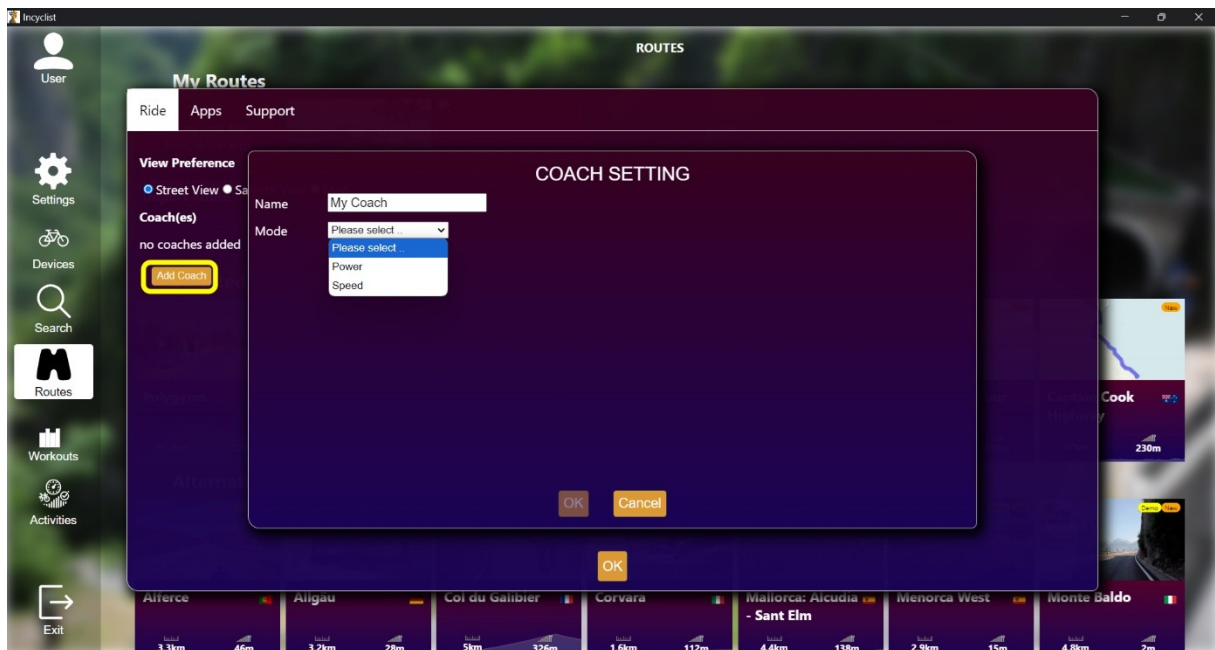
Under the tab Ride you can also add Coaches.

A coach represents an avatar, which rides with constant power or speed and allows you to control your pacing.

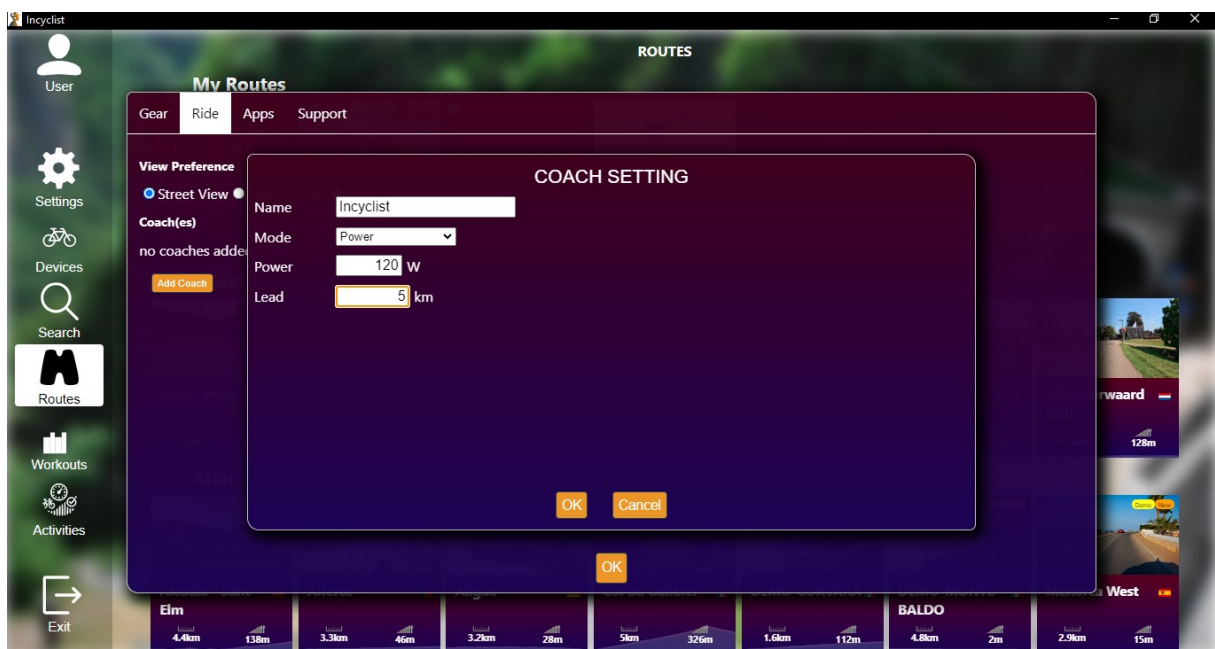
You can create one or more coaches. Click on Add coach.

Note: Before you go for a ride you need to decide if you want a coach/coaches. If so, create the coach(es).

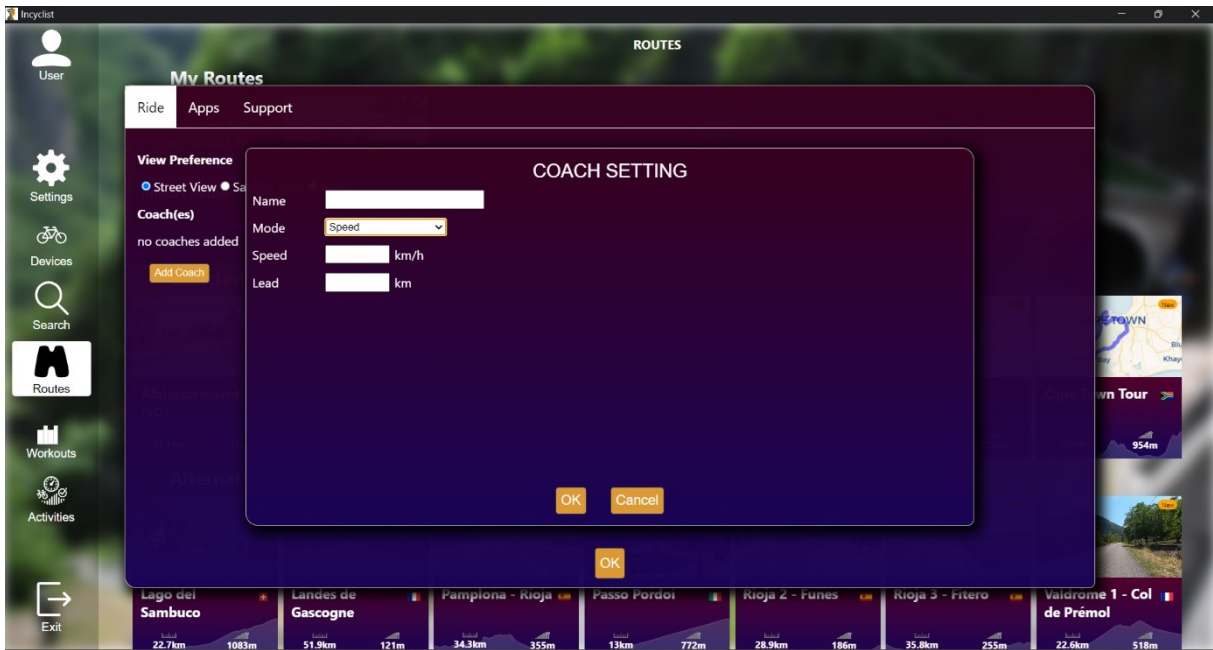
If you exit the app the coaches will be lost.



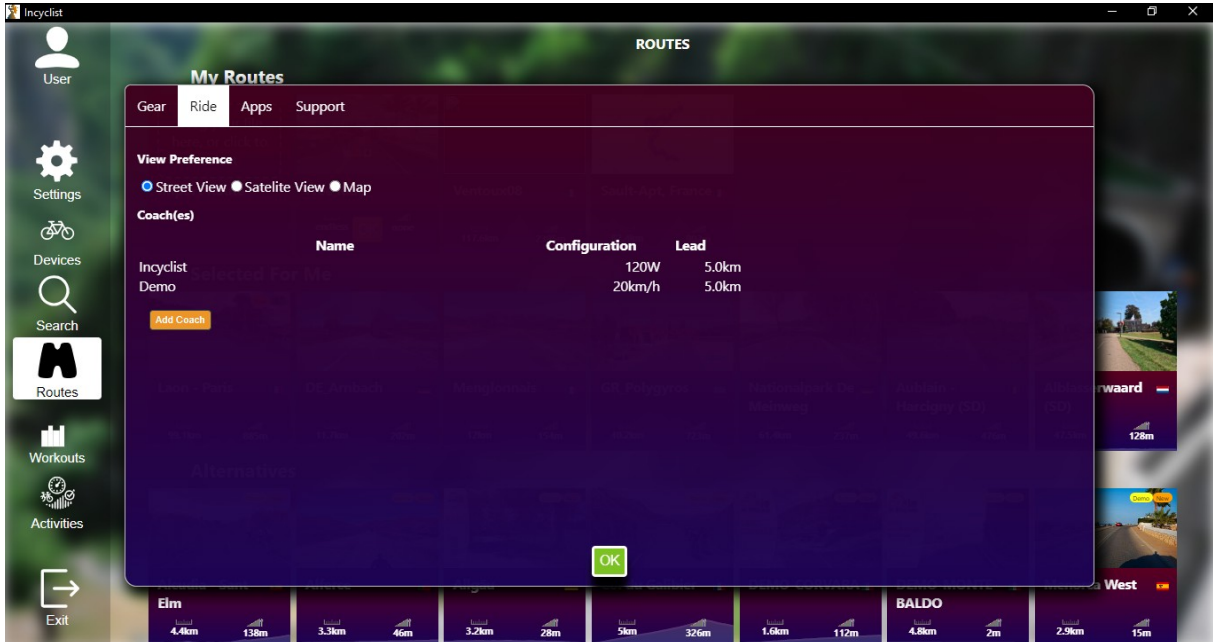
There are two types: one for power and one for speed.



Insert the data and click OK.



Each time you Click OK the app will show you the available coaches.



Click OK, go to Routes.

If you start a ride the coach will appear on the screen.



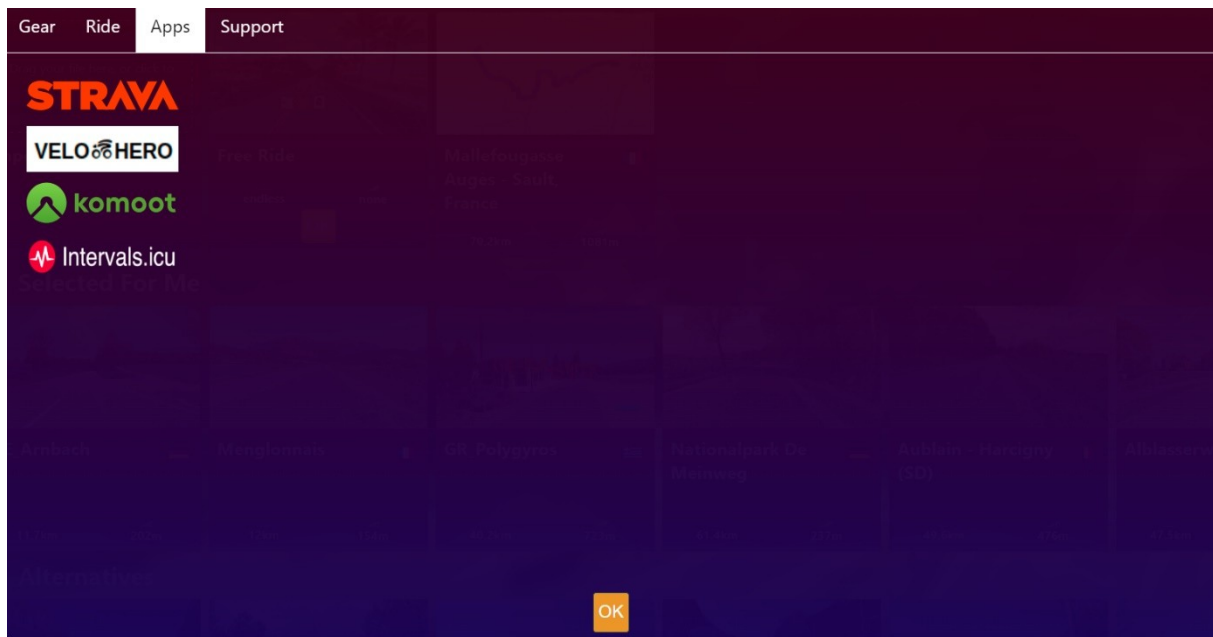
It's even possible to make a ride with a workout and a coach/coaches.



Clicking on the icon (here indicated with a yellow square) you can see your self and the coach.

The idea behind the coaches is that you have a virtual pacing partner. You can see your difference (distance&time) to the coach(es). Based on this, you can adjust your pace (i.e. ride faster/slower) but you need to adjust yourself, the app just gives you the info.

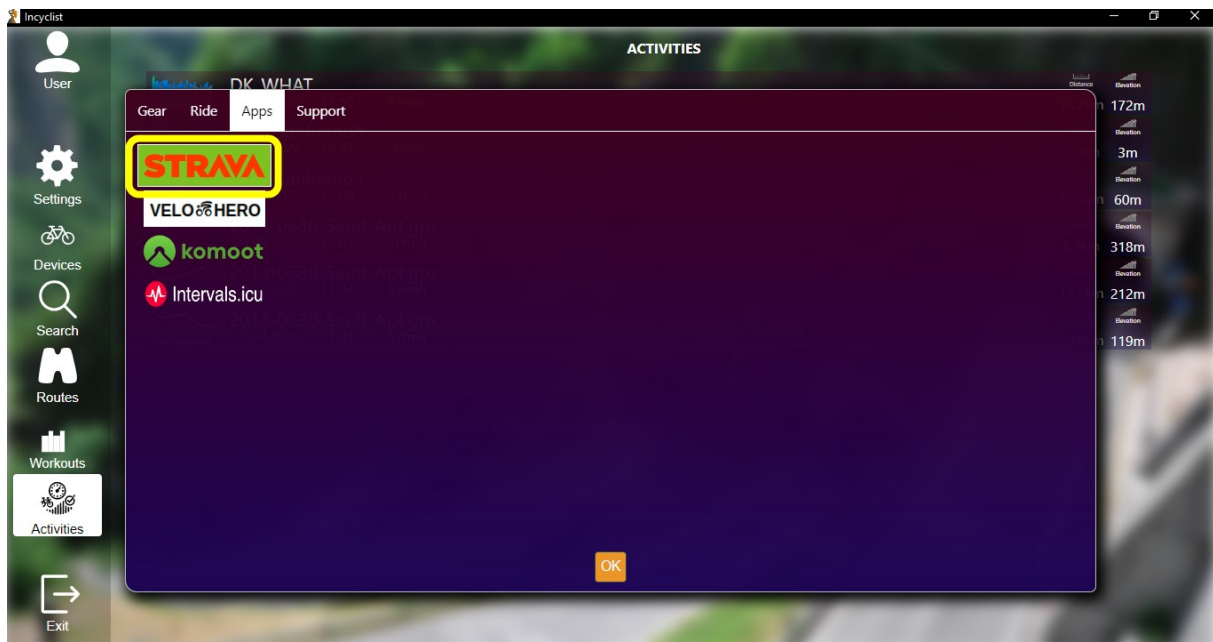
Apps



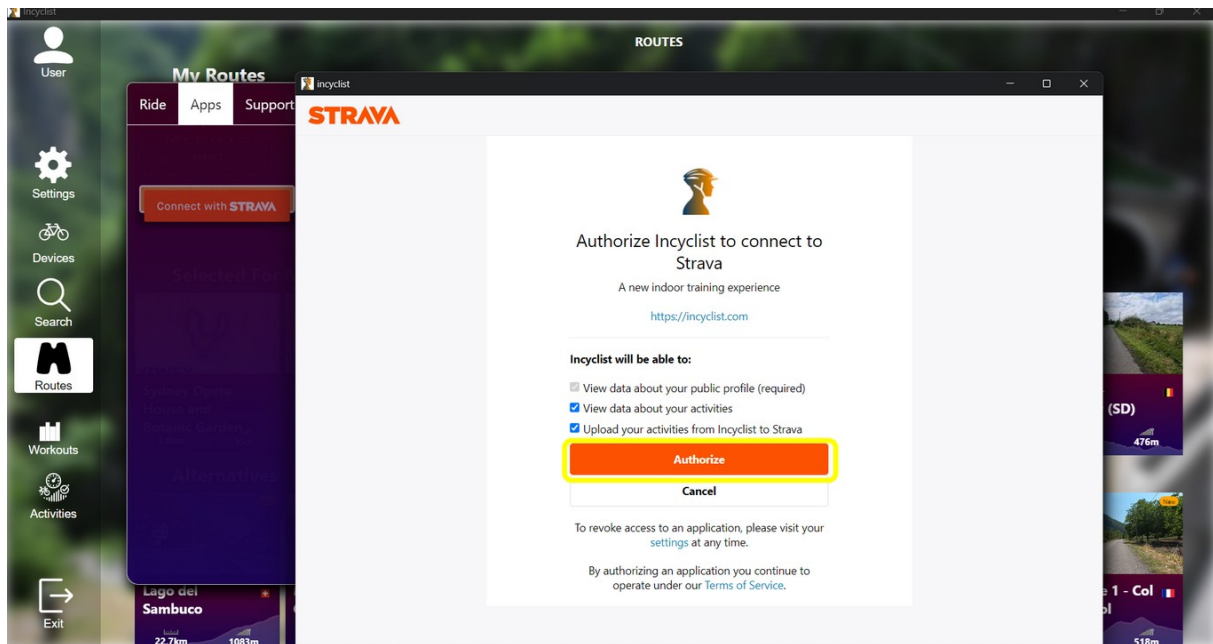
At this moment you can connect to external apps: Strava, Velo Hero, Komoot and Intervals.icu.

After clicking on the icon of your choice a new page appears with a button to connect to the site. Click on it and you will be rerouted to the login page of the site.

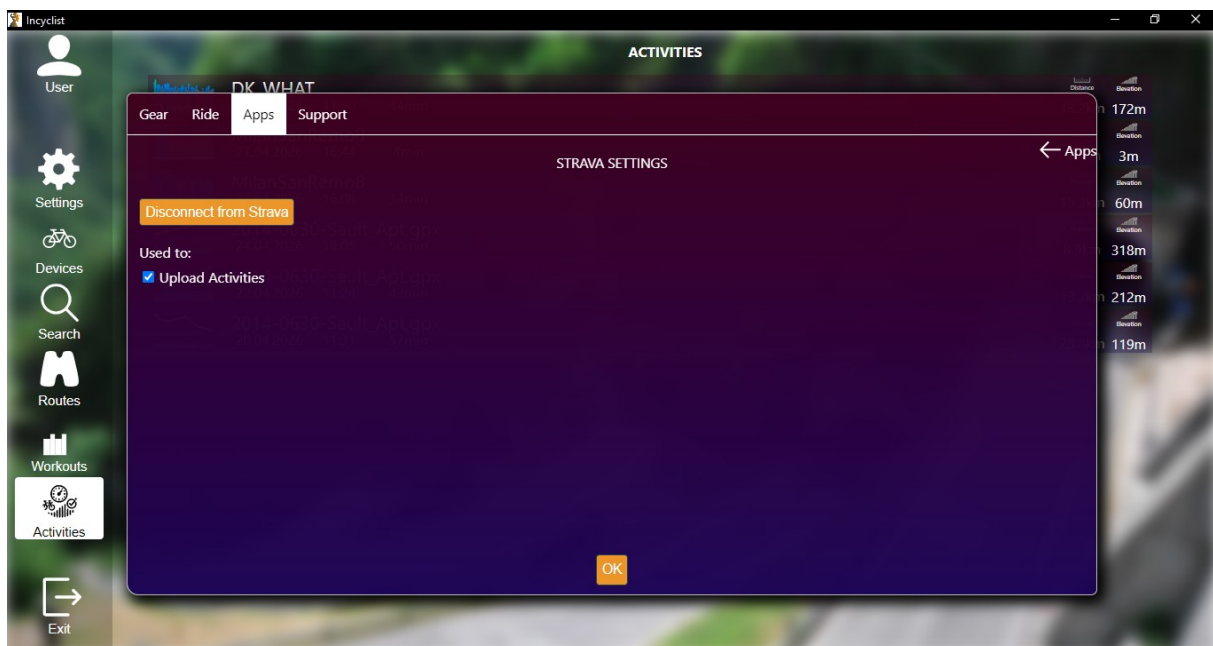
Example : Strava



Click Strava



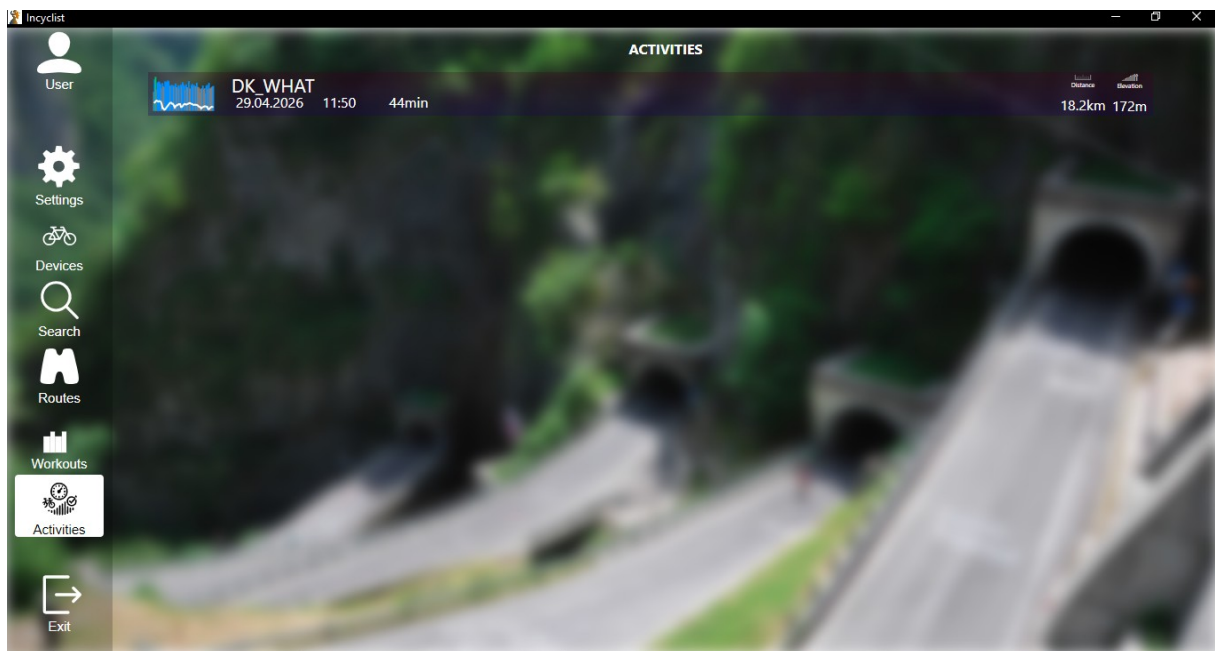
Login and the screen to Authorize comes up.
Change settings (if you want) and click Authorize.
You will return to Apps.



Click OK

Note: Here you can Disconnect from Strava by clicking on the button.

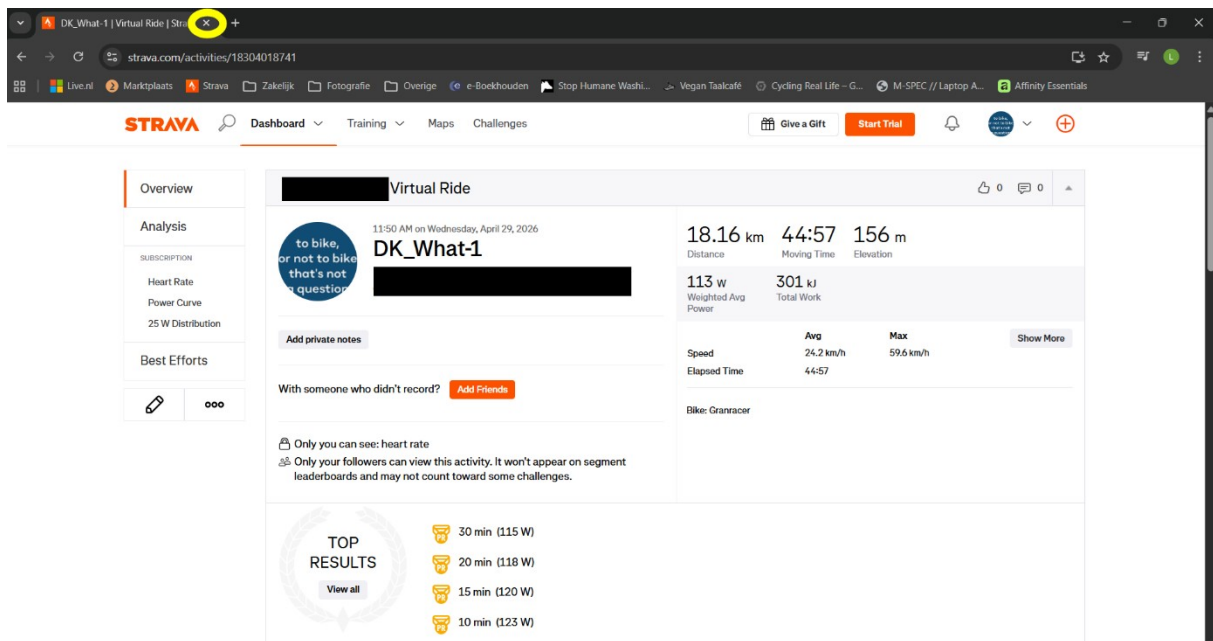
Go to Activities.



Click (choose) the ride you want to upload.



Click on the button Strava and a roll-out menu with Synchronize will appear. Click on Synchronize.



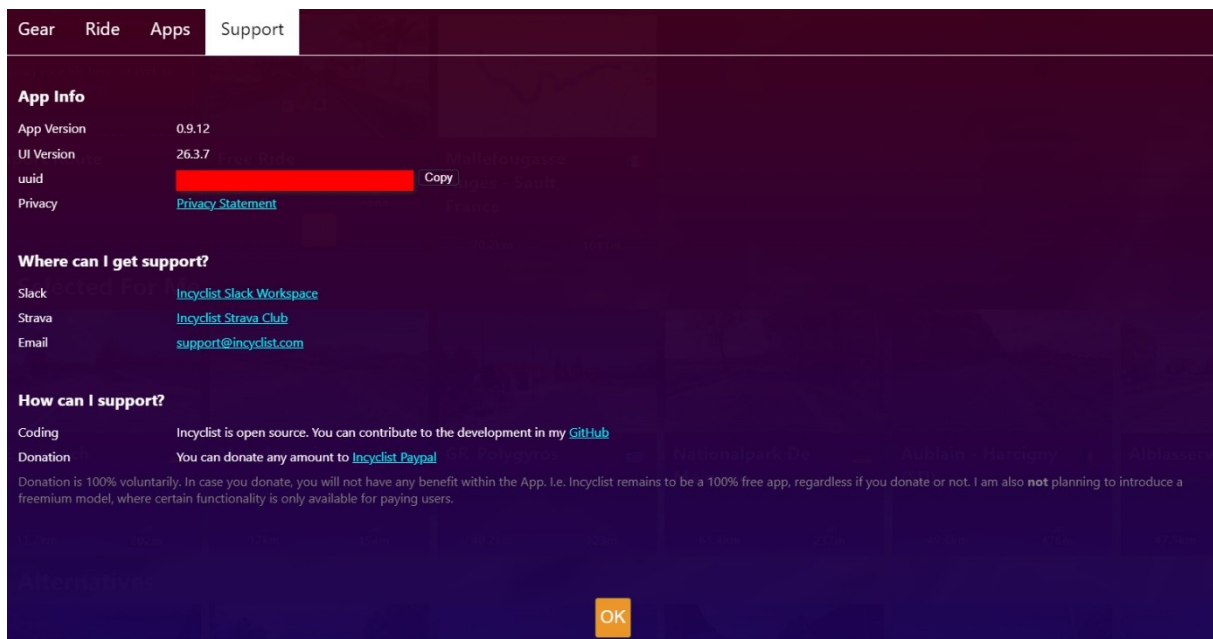
The name of the activity will be Incyclist Activity. Change it (it's done here) so you can find it later on.

If you click on the cross at the upper right of the tab you will return to Incyclist.



If you now click on Strava you may choose Open or Show.

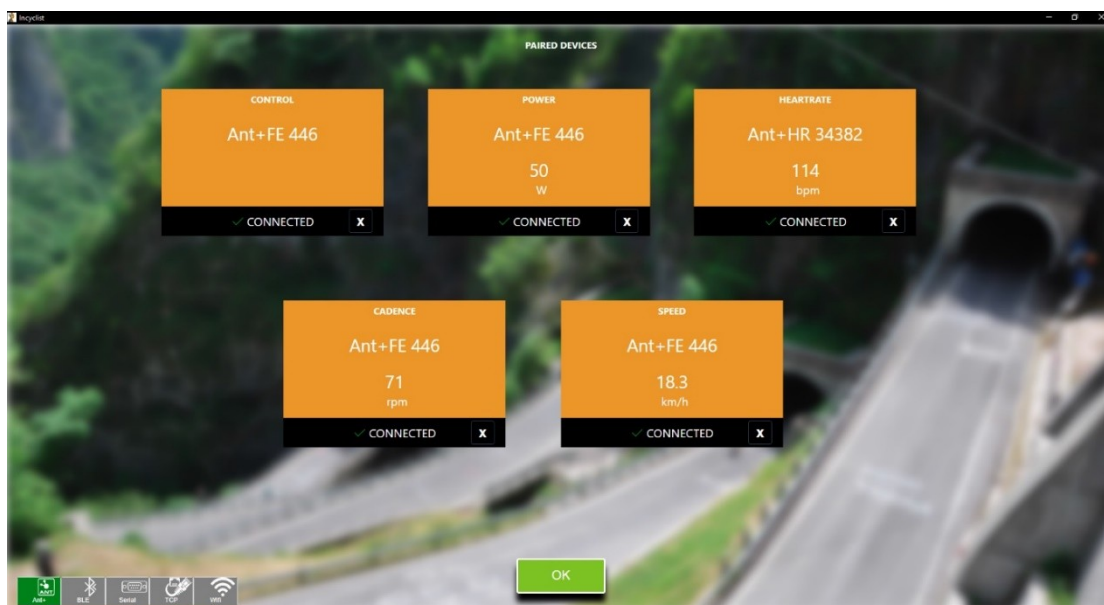
Support



Under support you will find some technical information (uuid whiped out), take a look to the privacy statement and information about where to get support and how you can support the developer of Incyclist.

Devices

Under devices you can take a look to the connections that are made and how.

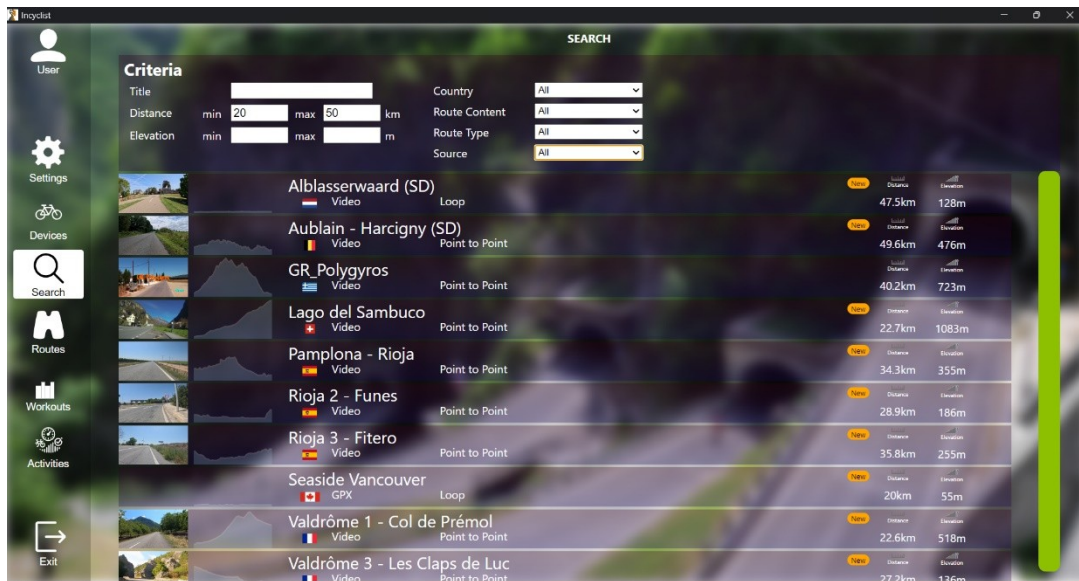


In this example the connection are made to ant+, both for the smart trainer as well as the heart rate monitor. The ant+ square at the bottom left is turned green.

Search

In the Search screen all the available routes are shown. Both built-in routes as imported routes.

And with the Criteria you can make a selection.

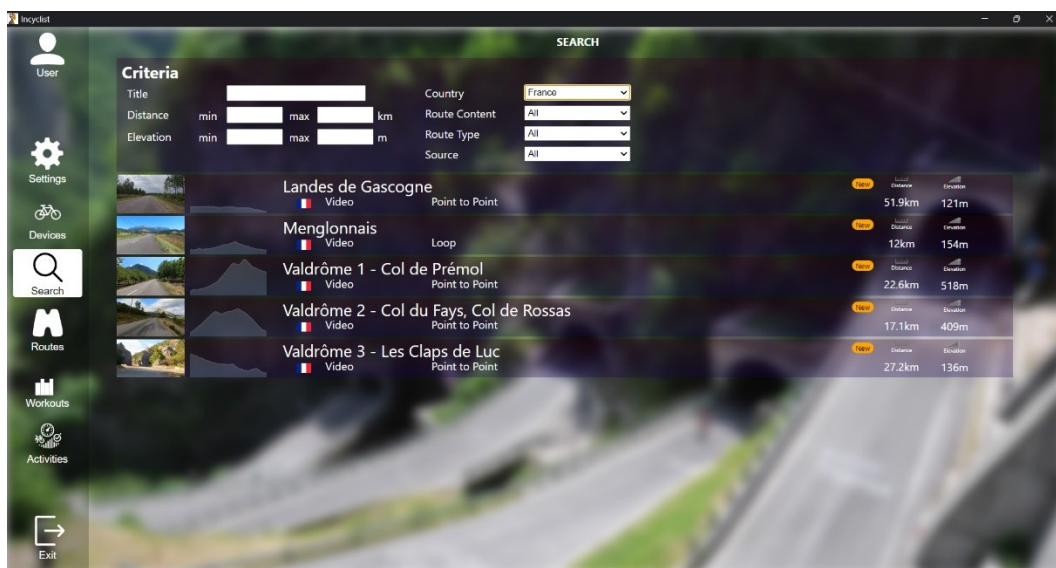


Route content: all/gpx/video

Route type : all/point to point/loop

Source : all/local/incyclist

Here are the routes for France selected:



Note: In case you imported your own routes, sometimes information might be missing (e.g. Country)

In the following section (Routes) another way to select a route will be demonstrated: by scrolling horizontally or vertically.

Routes

There are different ways to use Incyclist.

Explained in this chapter:

- Riding a Free ride
- Riding a built in gpx-ride
- Riding a built in video-ride
- Riding a sequence of video's

Explained in External Sources:

- Riding an imported gpx-file
- Riding an imported video

Explained in Workouts

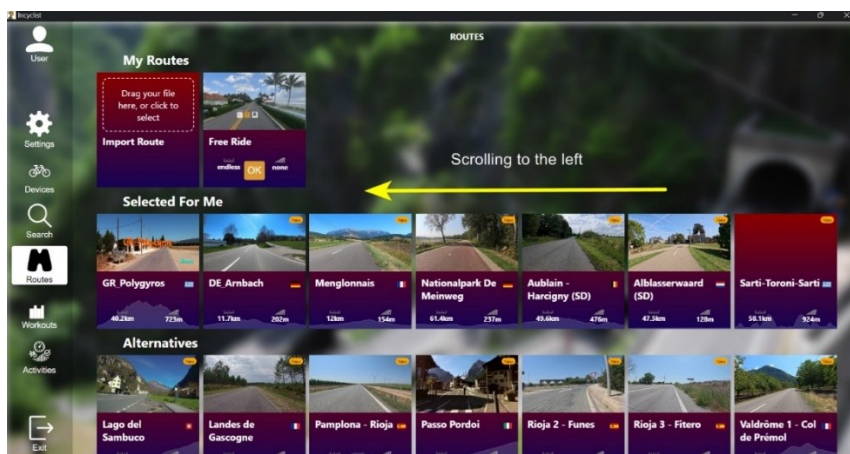
- Riding a workout

Navigation

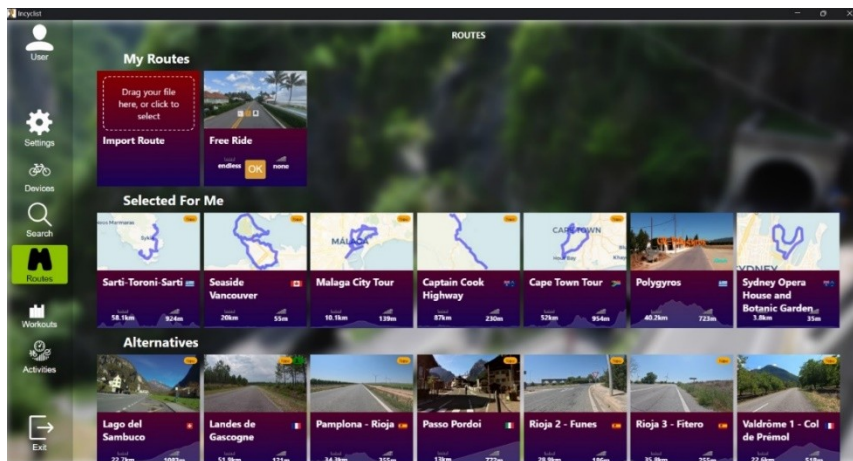
First some information for all these situations: handling different items on the screen.

Navigation for selecting a route

If you start Incyclist the screen with Routes comes up.

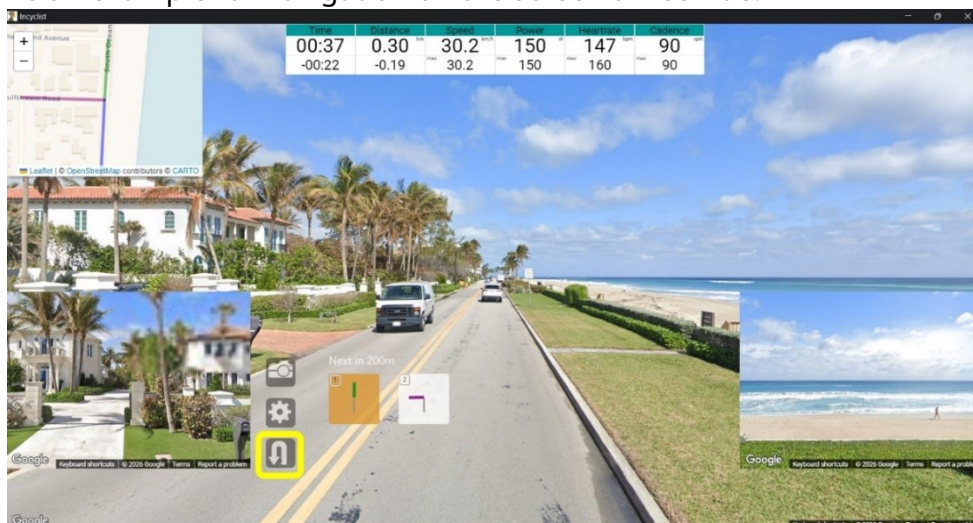


You can scroll horizontally or vertically



Navigation on the screen (during the ride)

As an example for navigation on the screen a free ride.



Now you may see a lot of information:

- Corner upper left: map with the location of the rider.
- Top: time, distance, speed, power, heart rate and cadence.
- Corner upper right: elevation profile for the next two kilometers (not for Free ride)
- Left: view to the left side.
- Right: view to the right side.
- In the middle: five icons (free ride) or two icons (gpx and rlv-ride).
 - o A camera (to take a picture)
 - o A wheel for settings
 - o A turn to change from north to south
 - o Two squares, indicating what's coming in the next meters (straight forward and crossing to left).

For the first five windows you can toggle on and off by hovering the mouse until you see a cross in the top right corner of the window.



If a windows isn't shown you can hover the mouse until you see an icon with four dots and an arrow. Click on it and the windows appears.



Navigation with hotkeys (during the ride)

You may also use hotkeys, available during a ride:

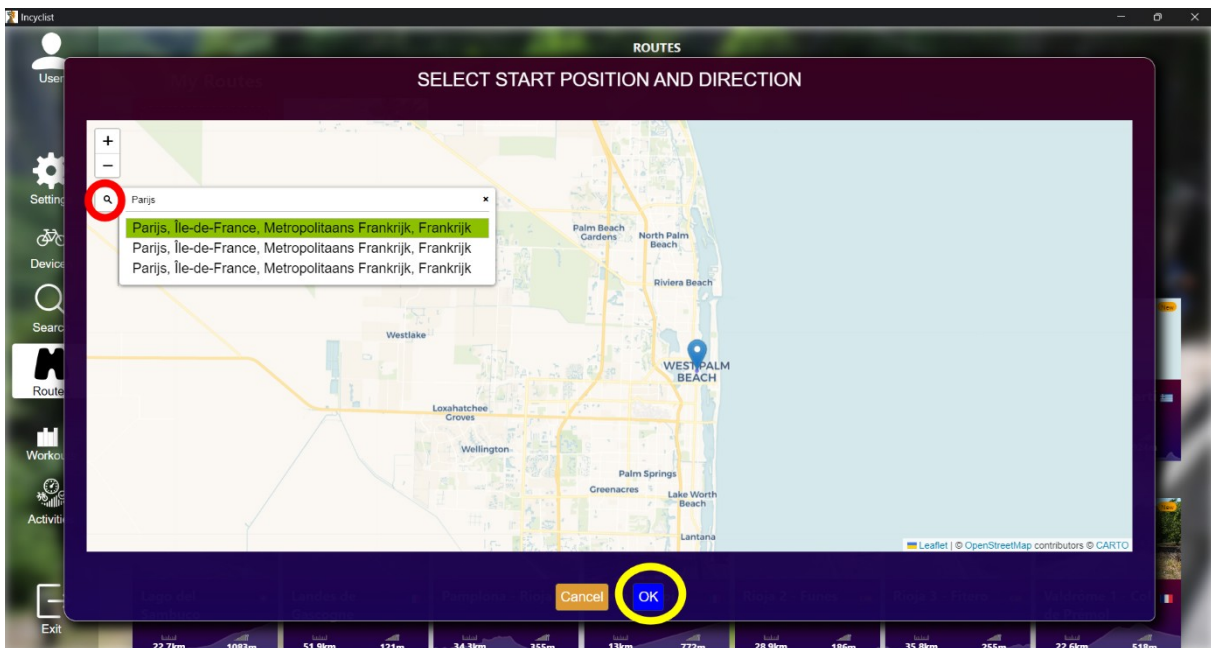
- P: Pause activity (so that you can stop&save or resume)
- S: Toggle Slope Preview (Top Right) on/off
- E: Toggle Route Profile View (Bottom) on/off
- M: Toggle Map on/off
- C: Toggle between Smart Trainer and ERG Mode (only if initial mode was [Advanced])

SmartTrainer)

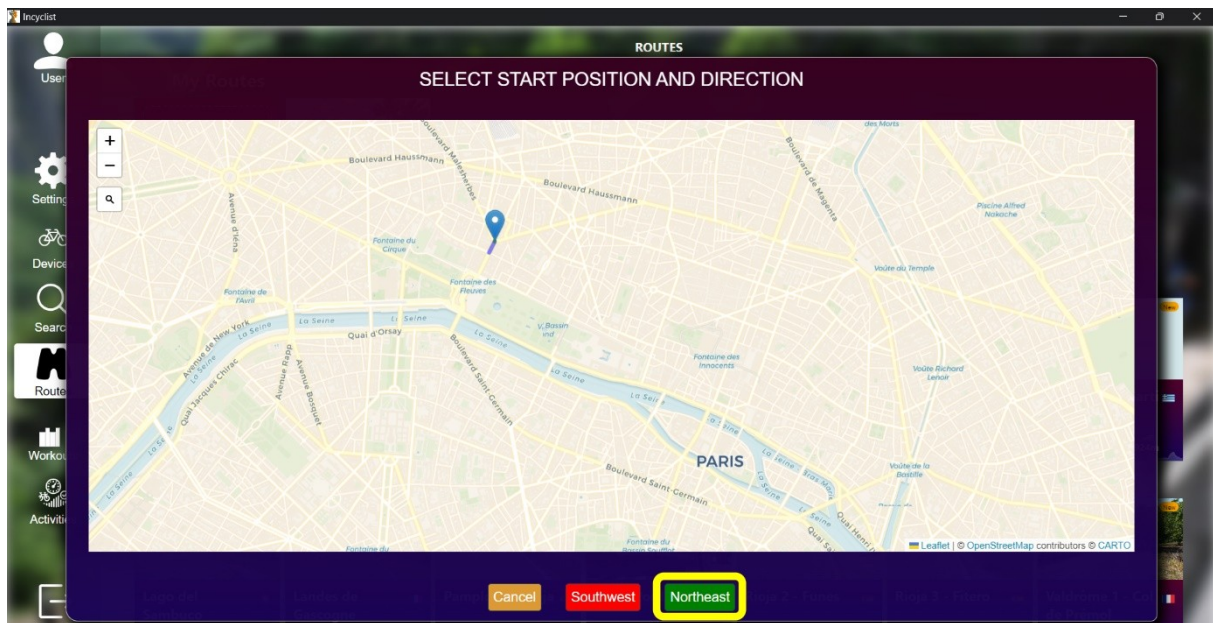
- H: Toggle all overlays on/off (view only video/gpx)
- F: Toggle full screen mode
- F10: Takes a screenshot
- L: Toggle Left Side View on/off (gpx only)
- R: Toggle Right Side View on/off (gpx only)

Free ride

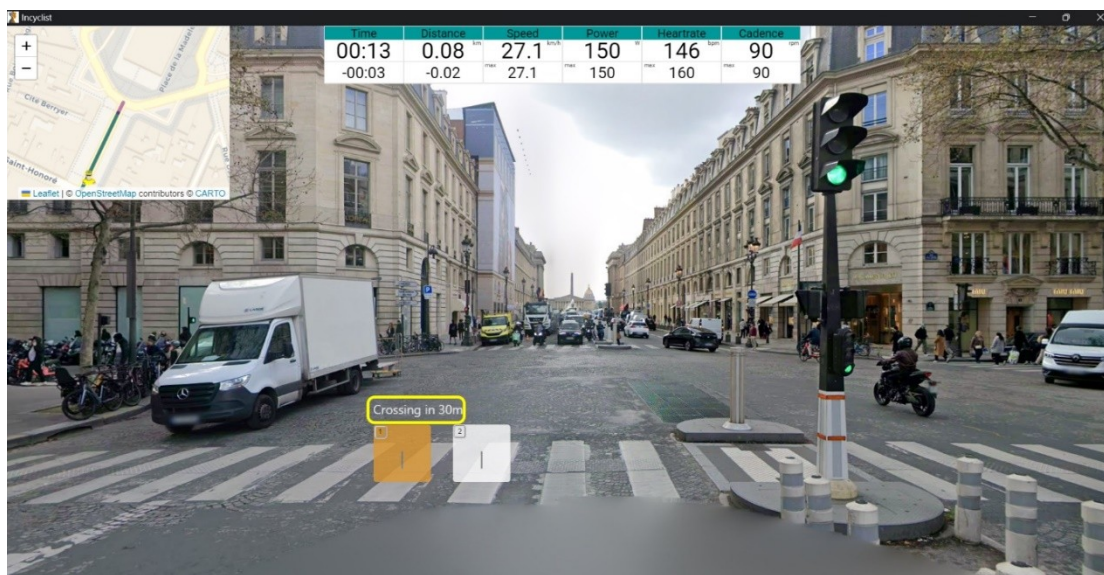
Because the free ride is already explained in the Introduction: a feature that's also available.



Click on the magnifying glass and start entering an address. Choose the address you want and click OK.



Choose a direction and click OK and the ride will start.



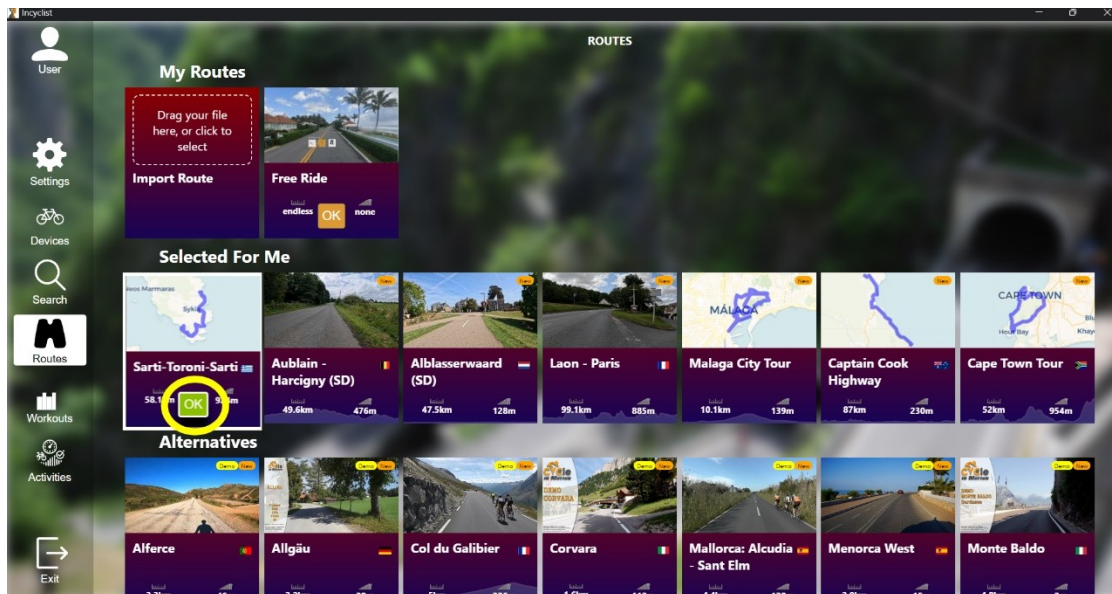
Enjoy your ride in Paris!

GPX-ride

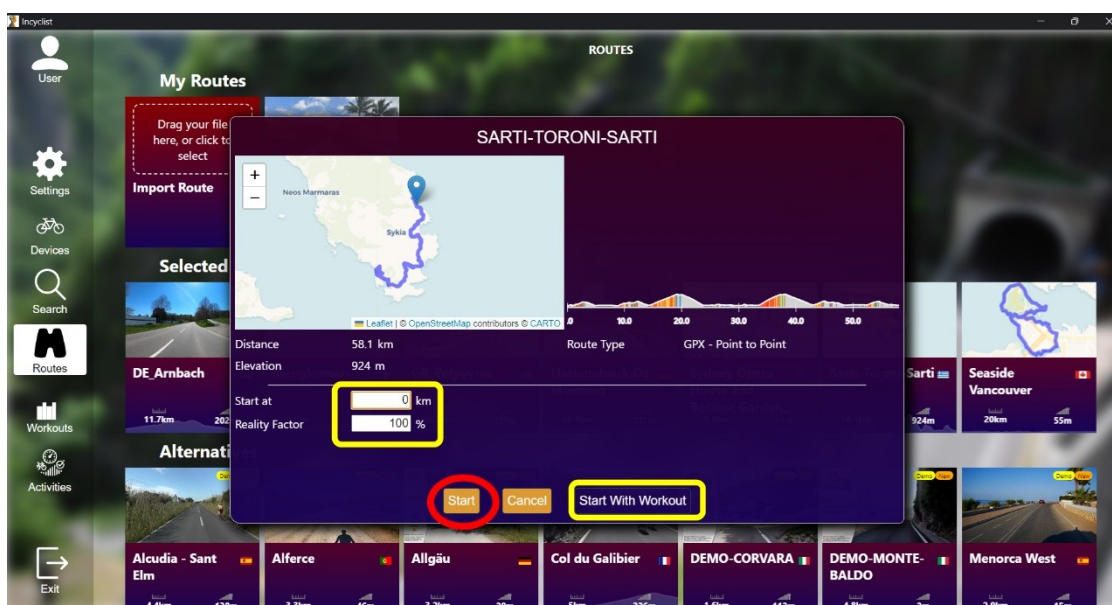
You can choose a gpx-ride by scrolling horizontally or vertically on the screen with all the routes.

A gpx-ride doesn't show a picture but a map.

Note: your screen may look different, with other routes or routes in a different order.



Choose a ride.



Now you can change

- **Start at:** starting point,
- **Reality Factor:** adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in the general settings of Incyclist, with SmartTrainer mode selected, a percentage lower than 100% is given.

Choose whether or not to use a workout (shows only if you have workout available). Riding with a workout will be explained under Workouts.

Click Start.



If you click on the wheel you can change your preferred view.



Click on Ride (upper left corner).



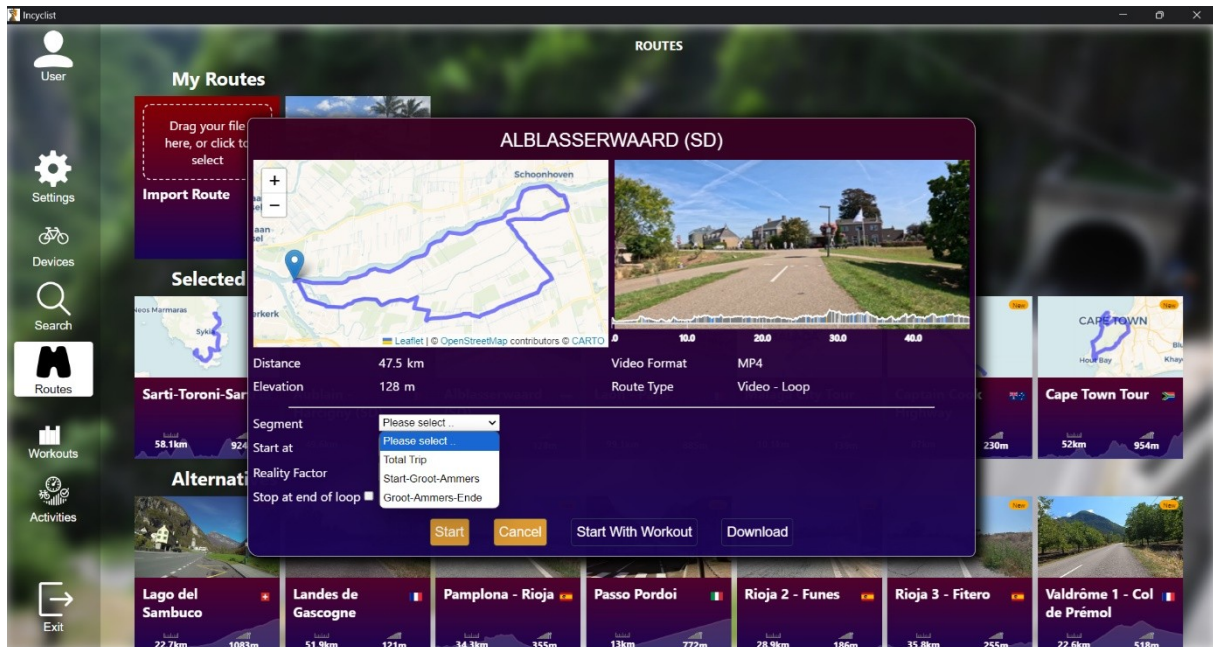
Change the view and click Continue.



RLV-ride

There are two types of built-in RLV's: Single RLVs and RLV in a chain. You can't see the difference before selecting a RLV.

Select a RLV (shows a picture), not in a chain.



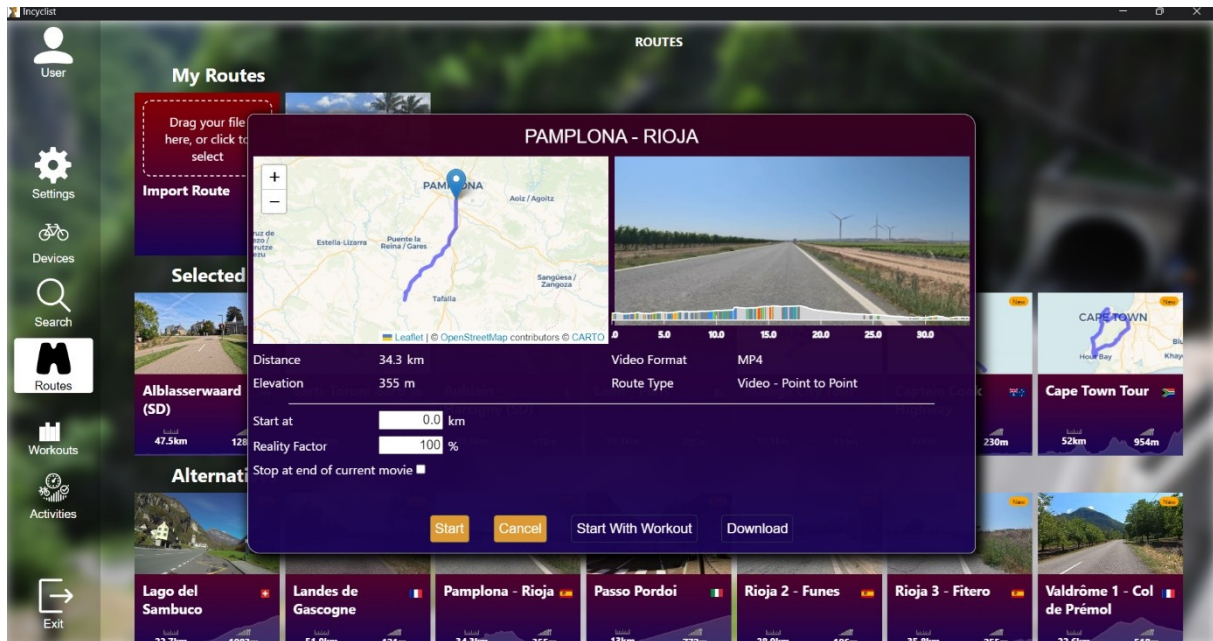
Options that are available:

- **Segment** (works only if the video offers segments that defined that start and end position)
- **Start at** : starting position of the ride (works only with mp4-videos : preset to the previous position ridden)
- **Reality Factor**: Adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in in the general settings of Incyclist, with SmartTrainer mode selected, a percentage lower than 100% is given
- **Stop at end of loop**. If a video is a loop and you want to only ride a single lap, you can select the ride to stop at the end of the first loop. If not selected, the route will continue endlessly, adding a new lap every time you reach the end of the route.

You can start with (if available) or without a workout.

The server of Incyclist has limited bandwidth (~20MB/s), i.e. if too many people are riding a route at the same time, you might face hookups. Therefore it's recommended to download, so you can ride offline.

Select a RLV as part of a chain.



Now another option is available:

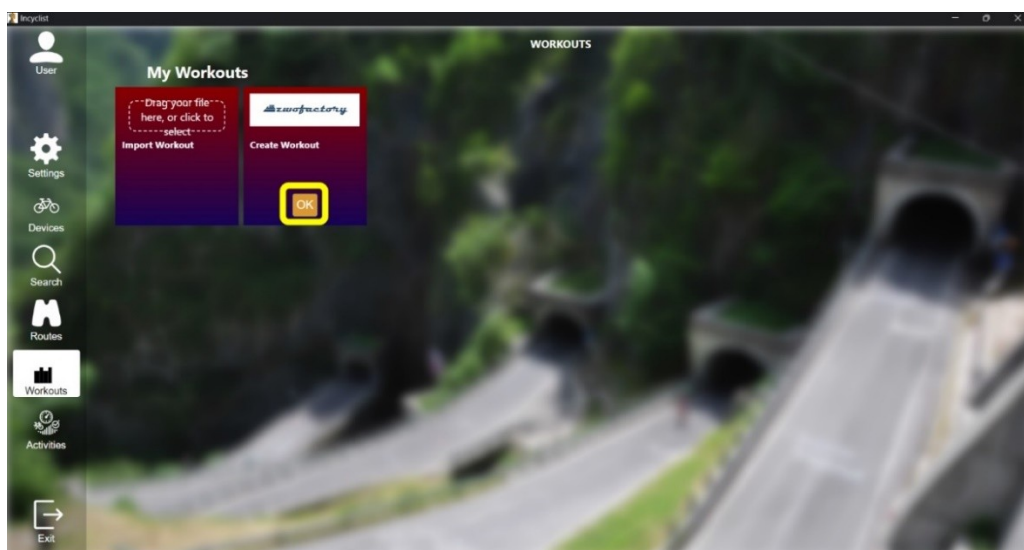
- **Stop at end of current movie.** This option is only available for movies that can be ridden in sequence, for example Pamplona Rioja, Rioja 2, Rioja 3. If selected, the ride will stop at the end of the video. If not selected, the ride will be automatically continue with the next video in the sequence and resulting in a near seamless longer "journey".

Stop at end of current movie : only for videos in a chain.

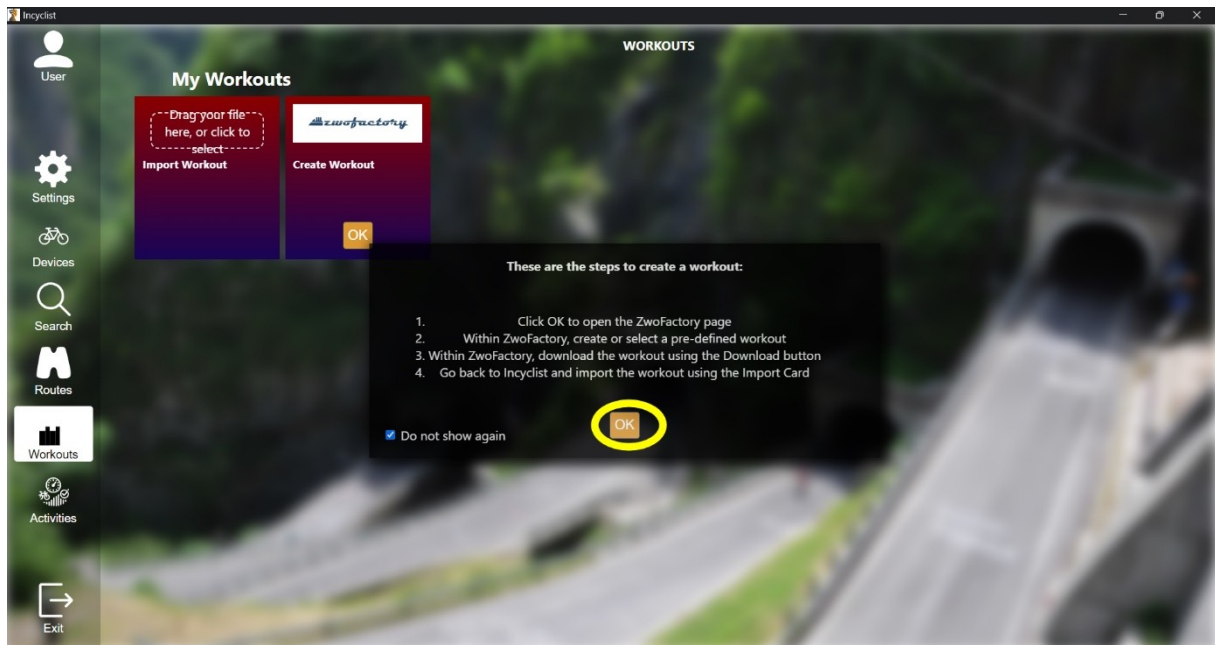
Workouts

For workouts you have to create them, and know how to use them.

Create a workout



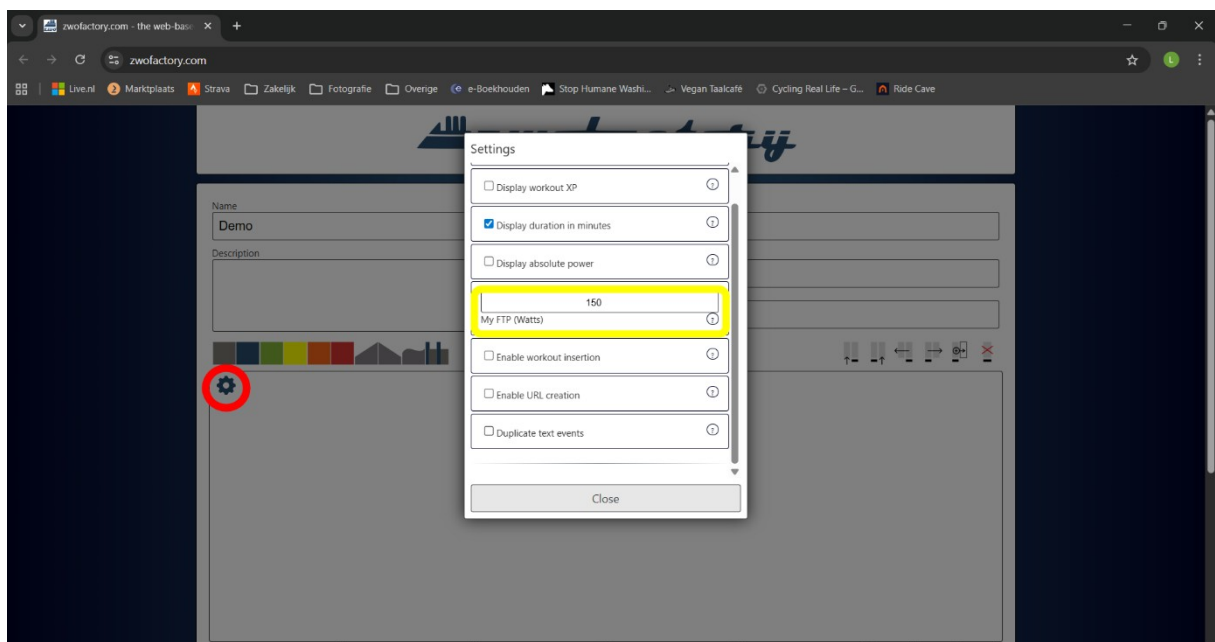
Click OK



You will see a short explanation.

Click OK.

By clicking on the wheel you can update some settings.



Click Close.

You create the workout by selecting an icon, and changing the Duration.
 If you are ready you may Save to my workouts (what now is done) or Download it as a zwo-file.


You can also select a workout from the templates that are available in ZWO factory.

Click Workout Templates.

In this example we choose FTP Tests.

Group: **FTP Tests**


FTP Test
1:13:00
-



The standard FTP test starts off with a long easy warmup, a few ramps, and a 5 minute effort to get the legs pumping. After that it's time to give it your all - and go as hard as you can for 20 solid minutes. Pace yourself and try to go as hard as you can sustain for the entire 20 minutes - you will be scored on the final 20 minute segment. Upon saving your ride, you will be notified if your FTP improved.

Clone Download


FTP Test (shorter)
0:45:00
-



The short variation of the standard FTP test starts off with a short warmup, a quick leg opening ramp, and a 5 minute hard effort to get the legs pumping. After a brief rest it's time to give it your all and go as hard as you can for 20 solid minutes. Pace yourself and try to go as hard as you can sustain for the entire 20 minutes - you will be scored on the final 20 minute segment. Upon saving your ride, you will be notified if your FTP improved.

Clone Download

In My Workouts you will find the workout Incyclist.



My Workouts

| | |
|---------------------------|---------|
| Incyclist | 1:00:00 |
|---------------------------|---------|

Export / Import

To download a file containing all "My Workouts" saved to this browser, click the "Export My Workouts" button.
To import workouts from an exported json file or from one or more zwo files, click the "Import Workouts File" button.
Warning: this will overwrite current workouts saved with the same name.

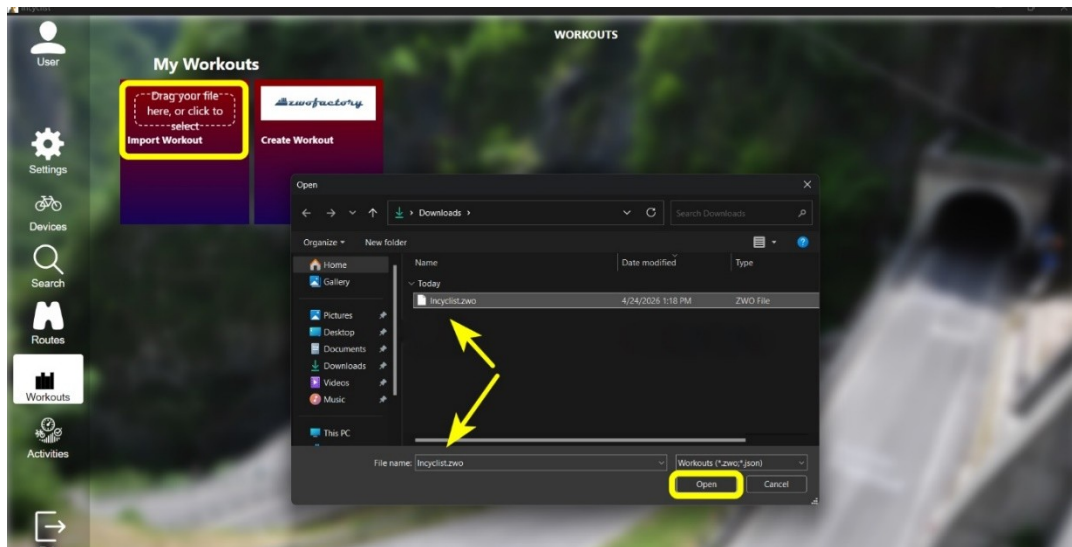
Export All My Workouts Import Workouts File

[zwofactory.com](#) [My Workouts](#) [Info](#) [Settings](#) [Workout Templates](#)

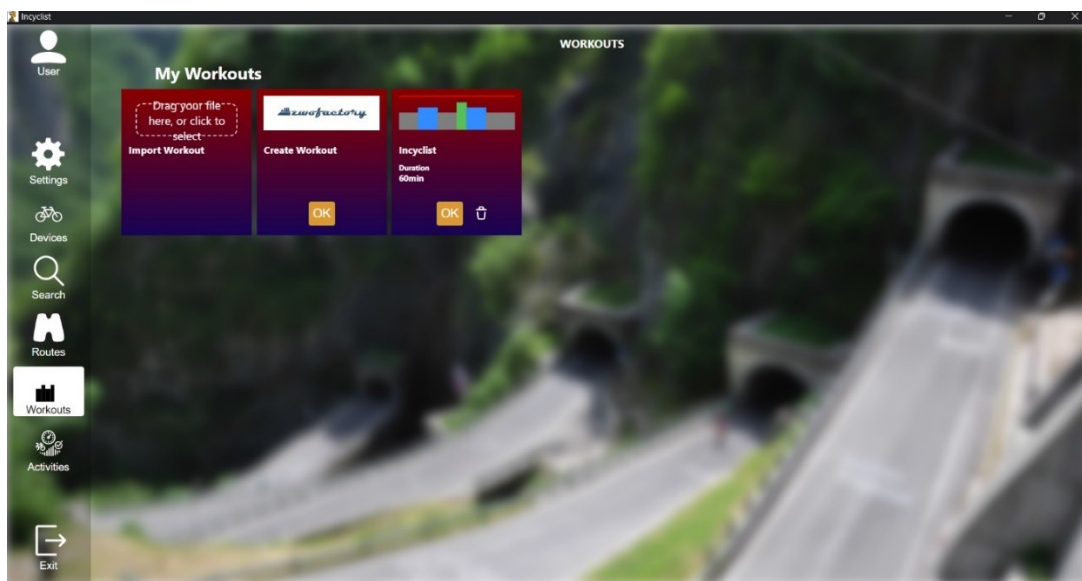
© 2023 Matt McNeil
Contact: zwofactory@gmail.com

Click on Export All My Workouts. Close the windows of ZWO-factory.
You will return to My Workouts in Incyclist.

Click on Import workout (probably located in the folder Downloads) and select Incyclist.zwo.



Click Open.



Click OK.

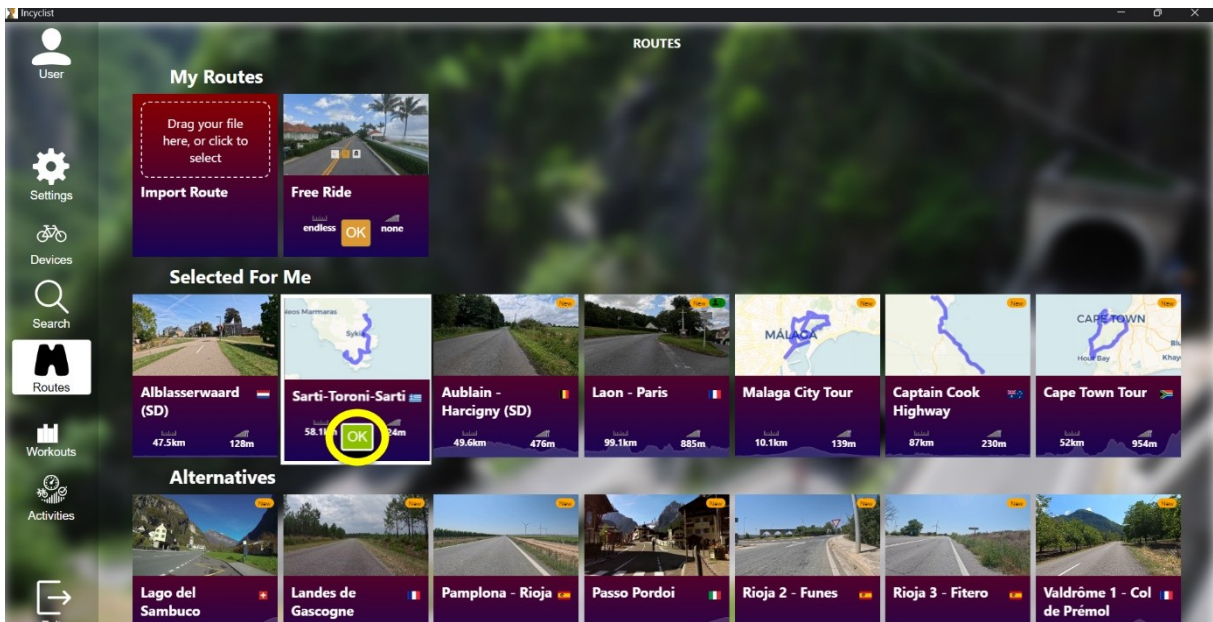
Now you can use the workout.

Note: You can:

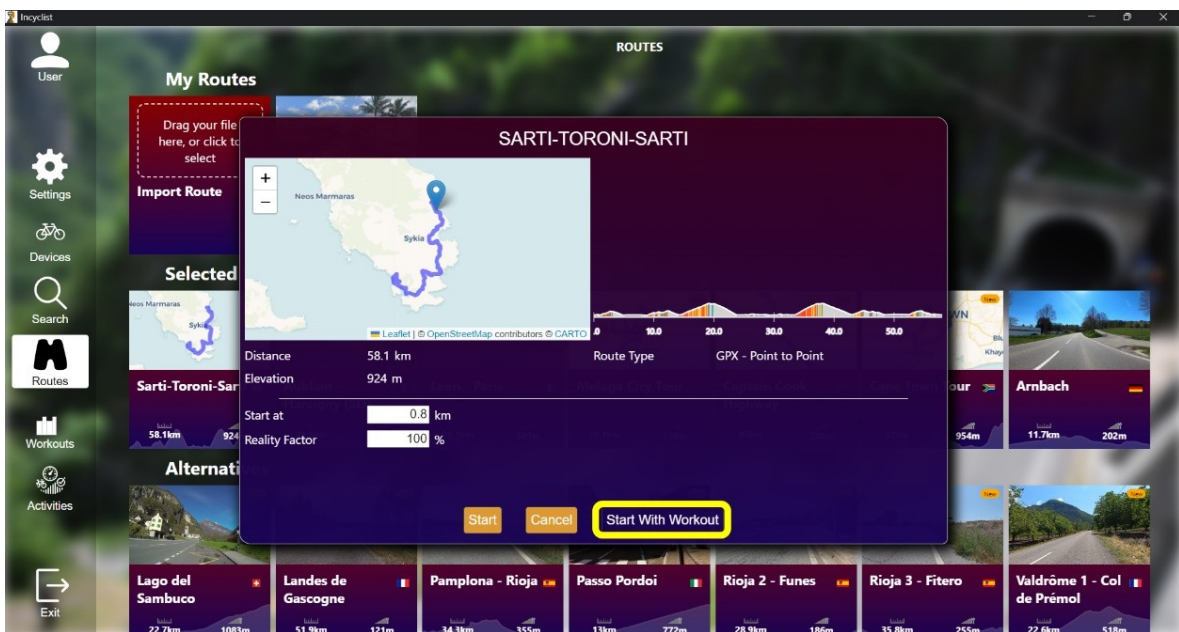
- Convert workouts from other formats (or even a gpx-file) to the .zwo-format at <https://whatsonzwift.com/convert>
- Download a workout from TrainerRoad in zwo-format

Use a workout

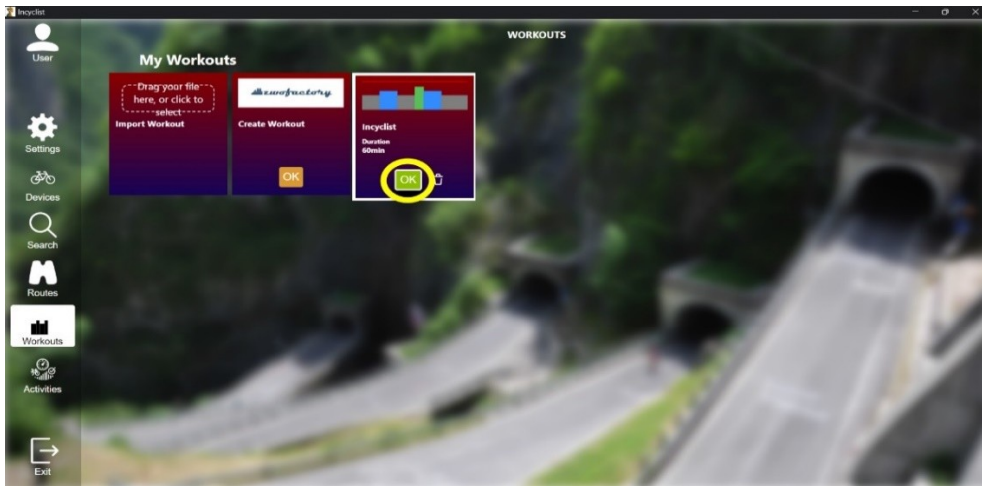
To use a workout go to Routes and select a route.



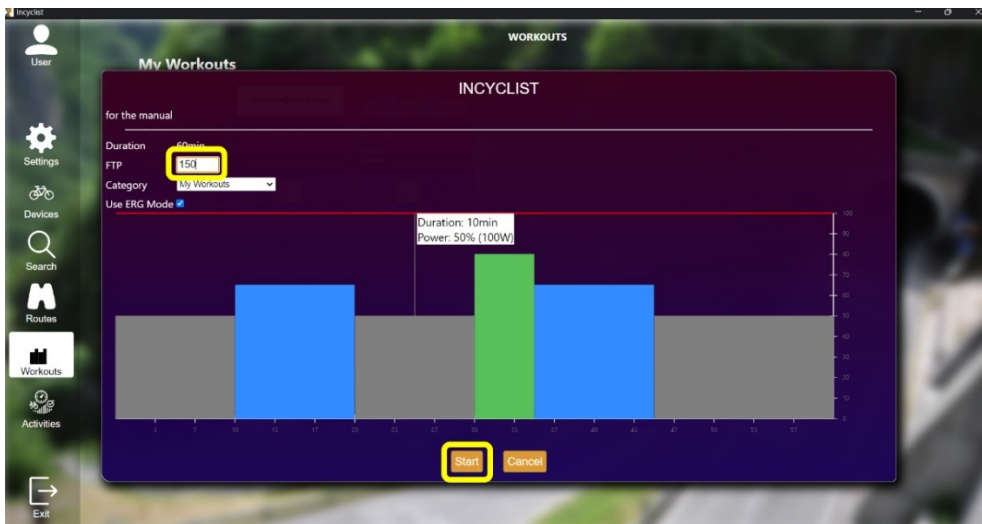
Click OK.



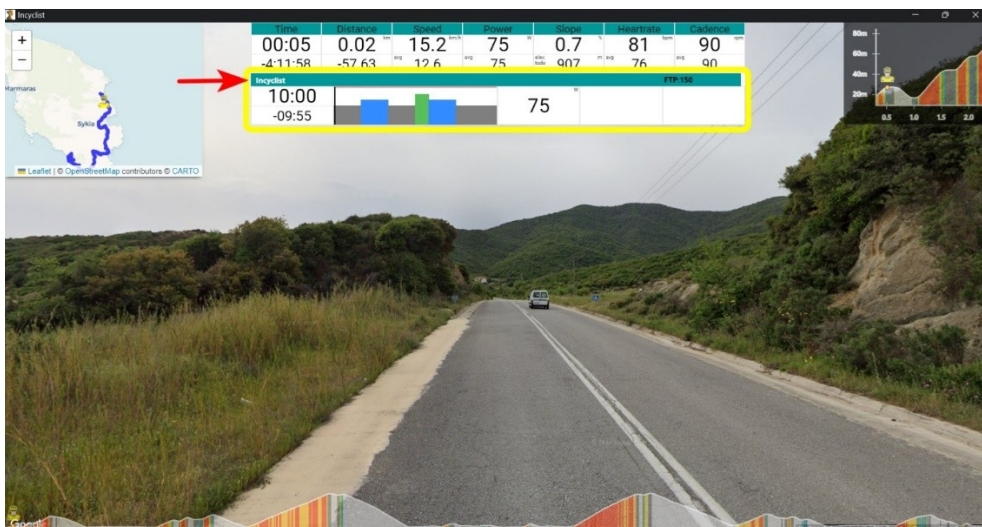
Click Start With Workout.



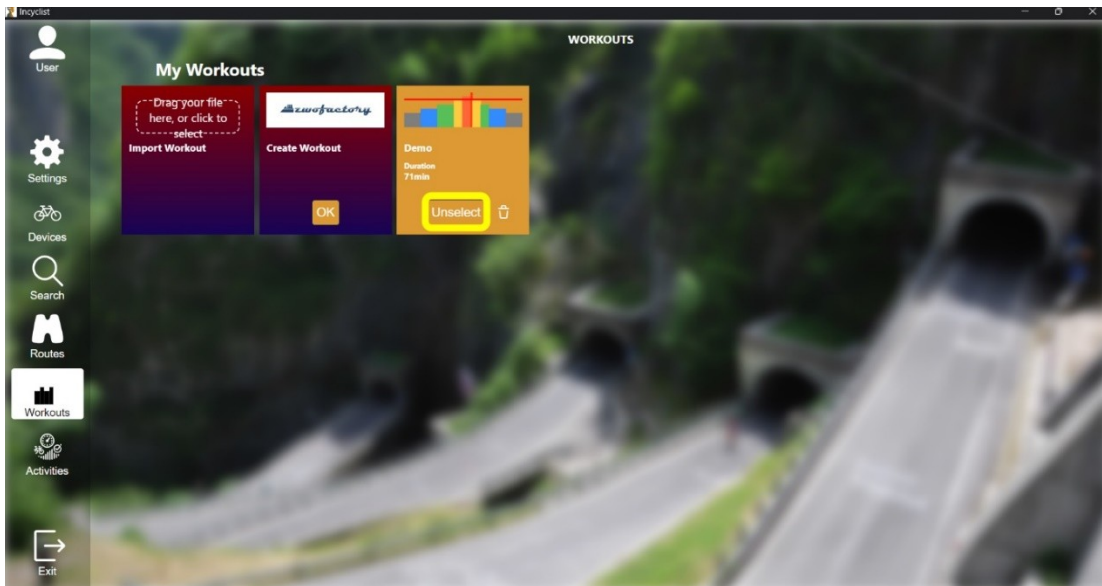
Click OK for the workout of your choice.



You may change your FTP, and/or toggle the ERG-mode. Select Start.



The workout is a new window under the window with the performance-indicators.
Note: If necessary you can Unselect a workout. Goto Workouts and Click Unselect for the workout you want to uncheck.

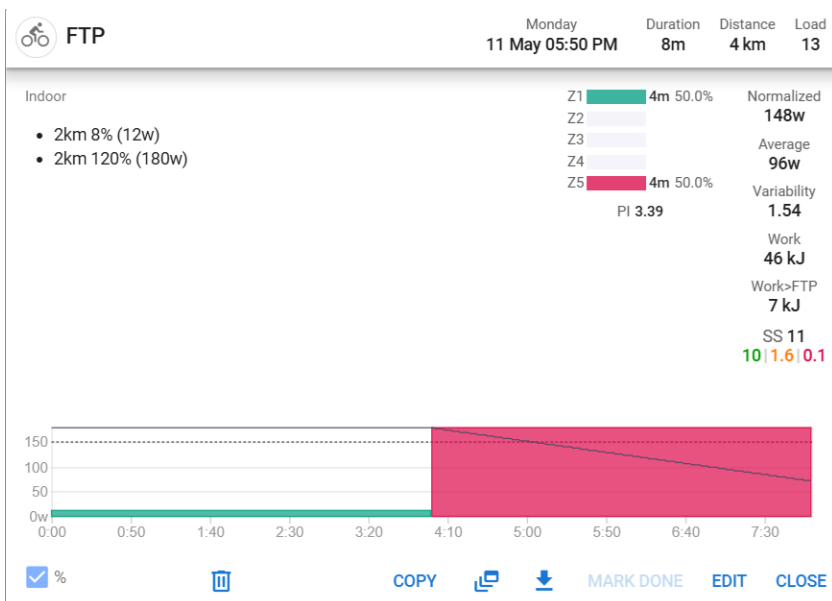


Workout of a training plan on Intervals.ICU

In this paragraph two new options are introduced:

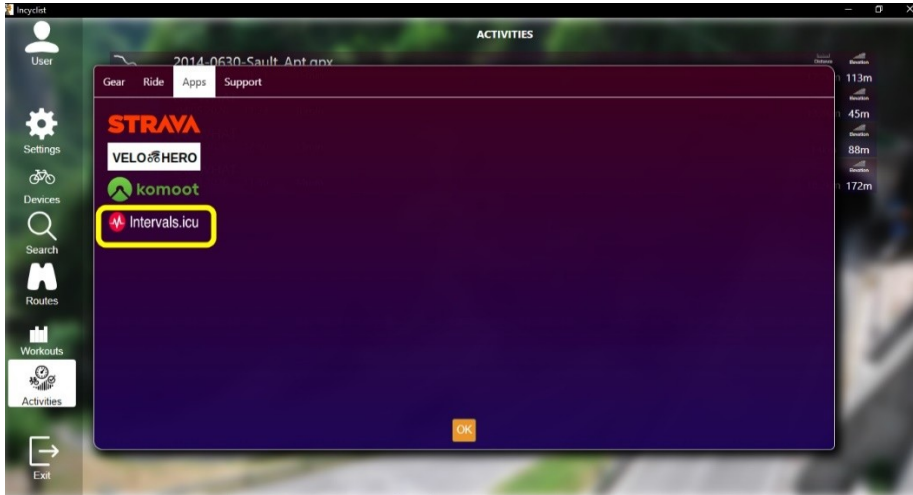
- using workout of a training plan in intervals.icu and
- starting without a route (i.e. only workout).

First we have to create a training plan with workout in intervals.icu.

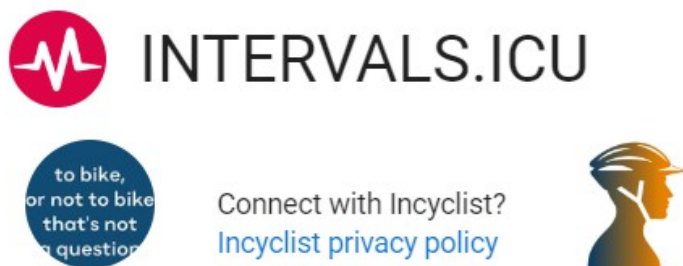


Unfortunately a mistake: 8% has to be 80%.

Start Incyclist and go to Settings.



In the Settings under the tab Apps you select intervals.icu



Incyclist is requesting the following permissions:

- Calendar**
Your planned workouts, notes, races etc. Read Update
- Activities**
Your rides, runs and other activities Read Update
- Library**
Your workout library and plans Read Update

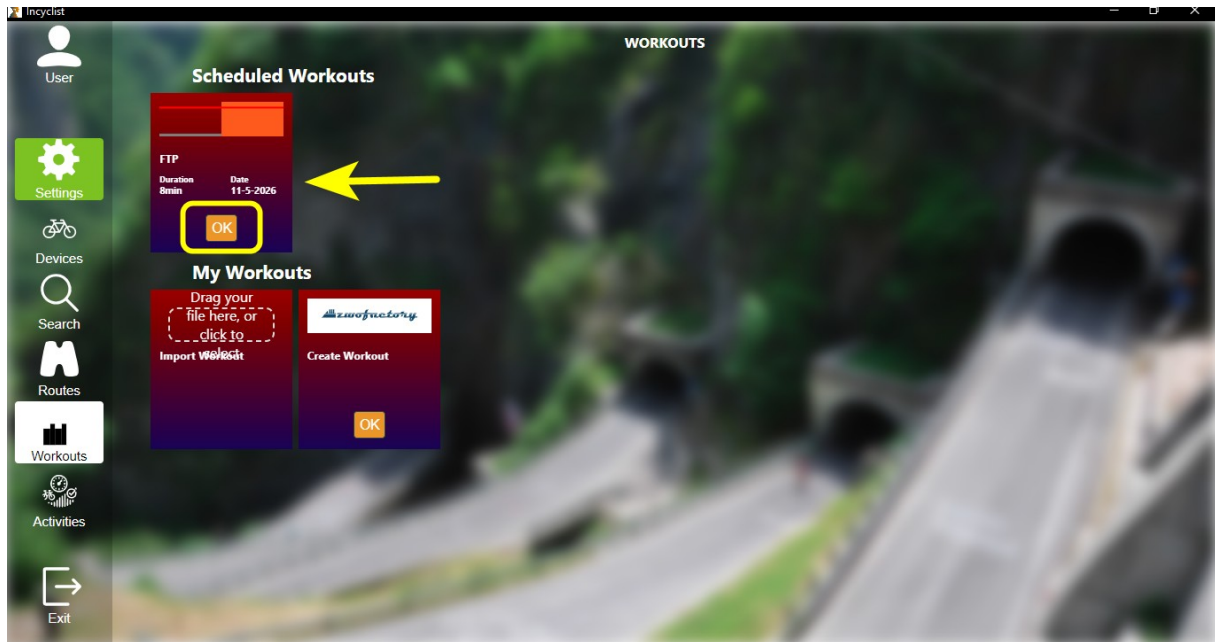
By connecting with Incyclist you agree to grant access to your Intervals.icu account to Incyclist

[LOGOUT](#) [CANCEL](#) [OK](#)

After login you can choose some options.

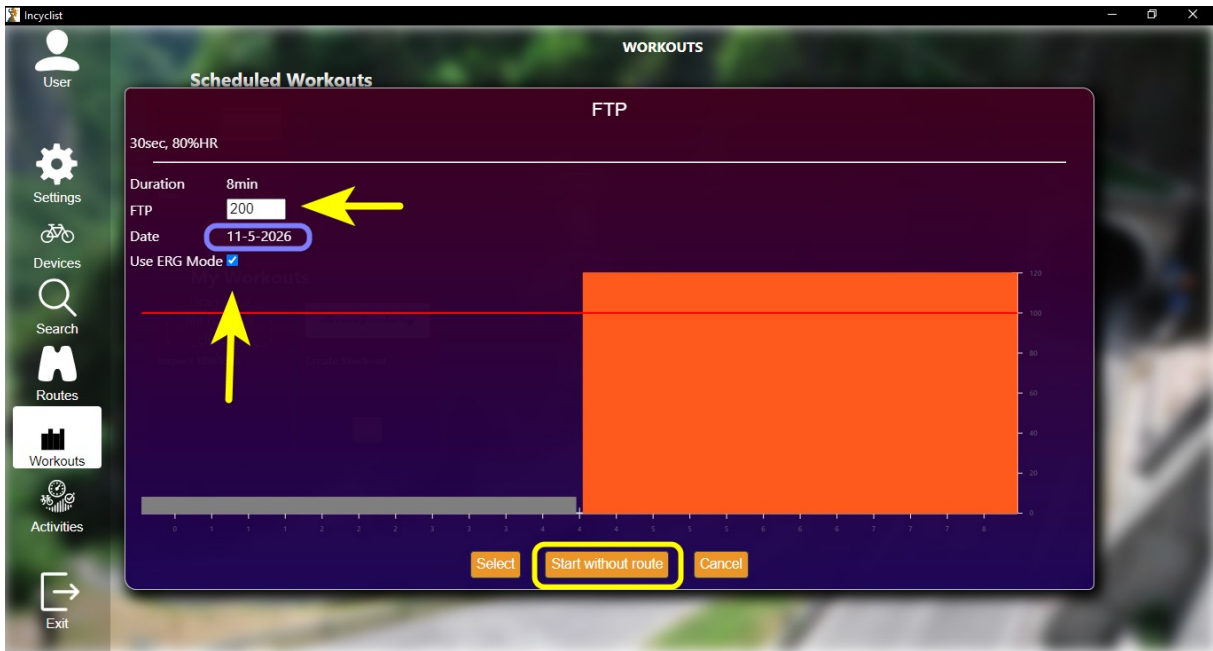
Click OK.

You return to Incyclist. Choose workouts.



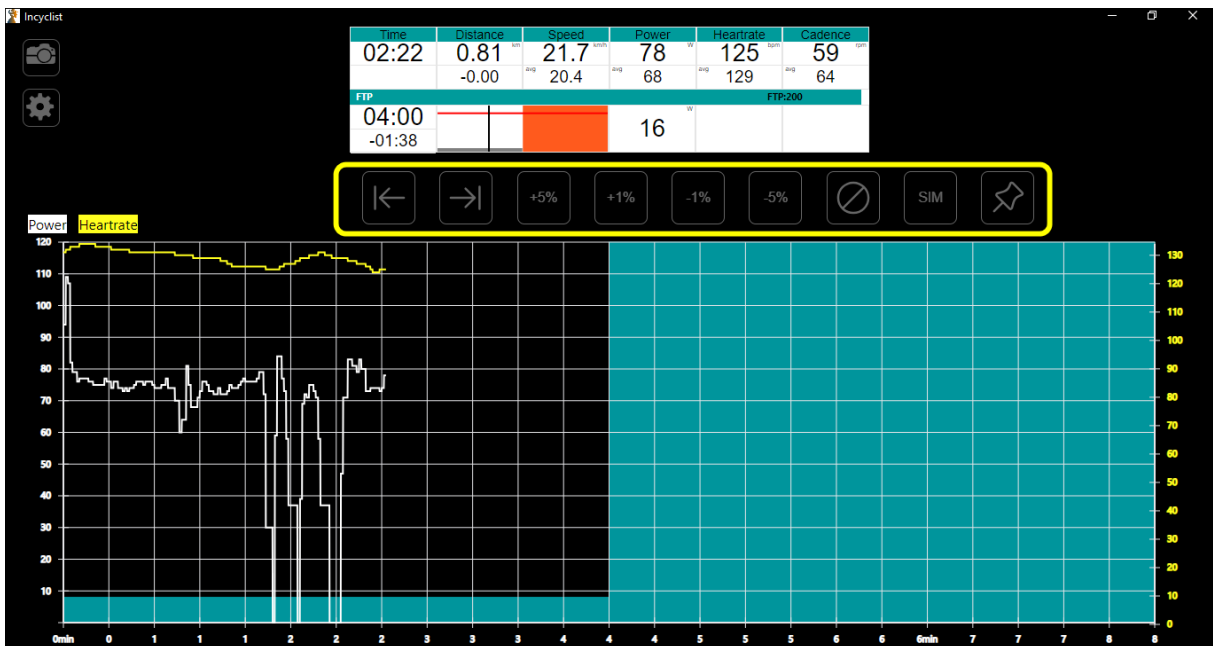
In Workouts you will find the workout of intervals.icu, in this example the workout for may,11.

Click OK.



You can change FTP and toggle ERG mode.

Click Start without route.

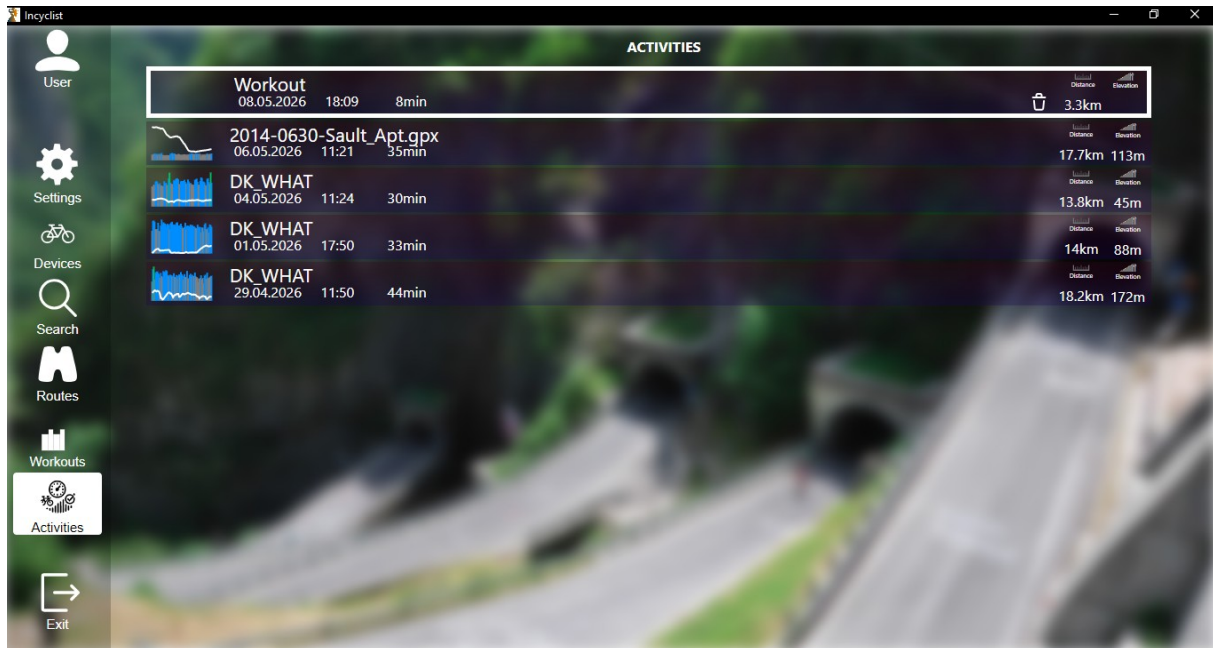


Now you can move a step forward, a step backward, adjust the FTP for this session, toggle to SIM/ERG-mode and stop workout.



If you have finished the workout you can save it.
Click Save.

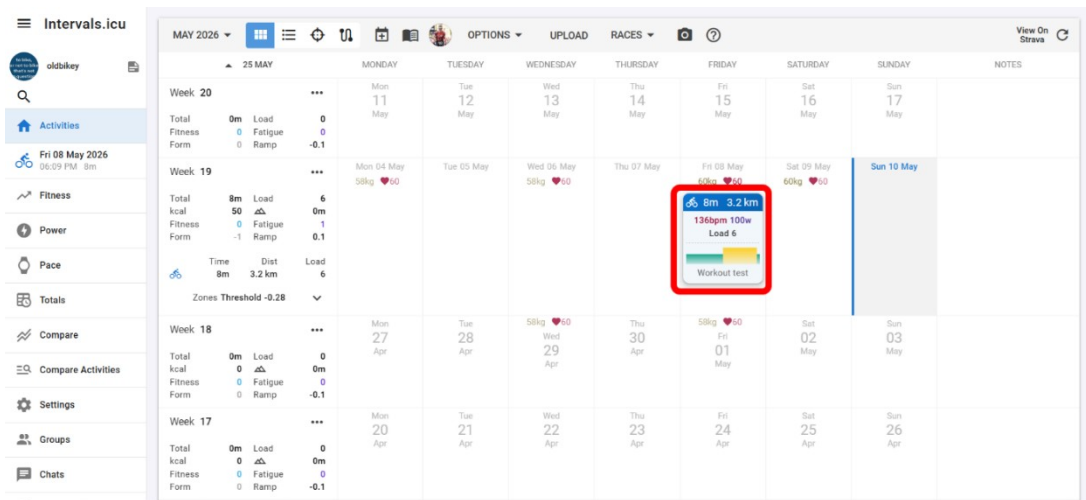
Click New Ride.



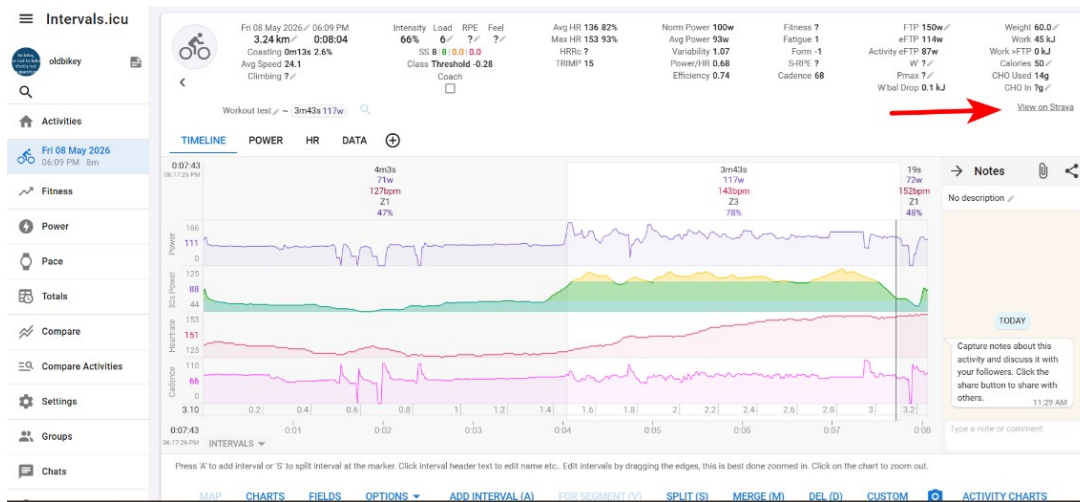
Go to Activities and choose Workout.



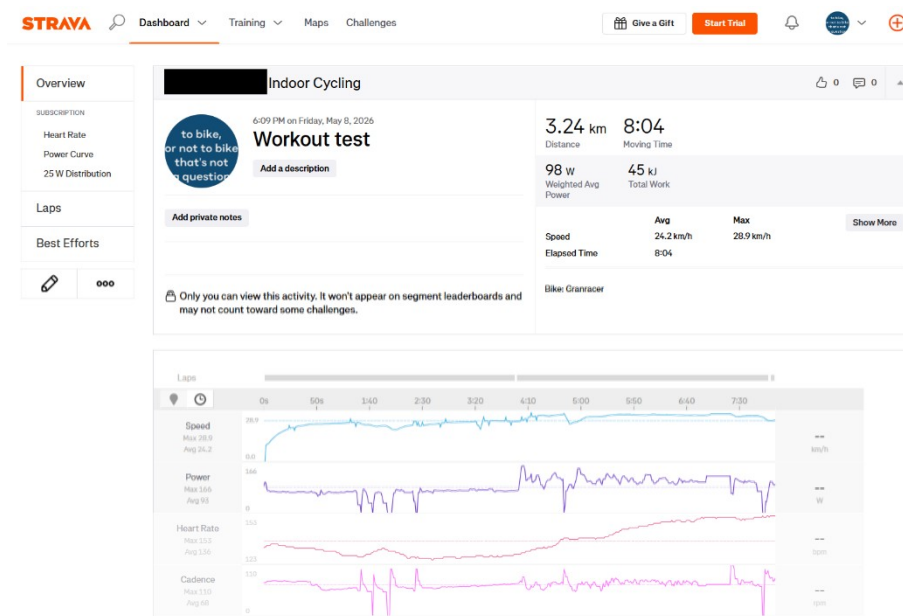
Click on Intervals.icu/Open.



Click on the workout (for details).

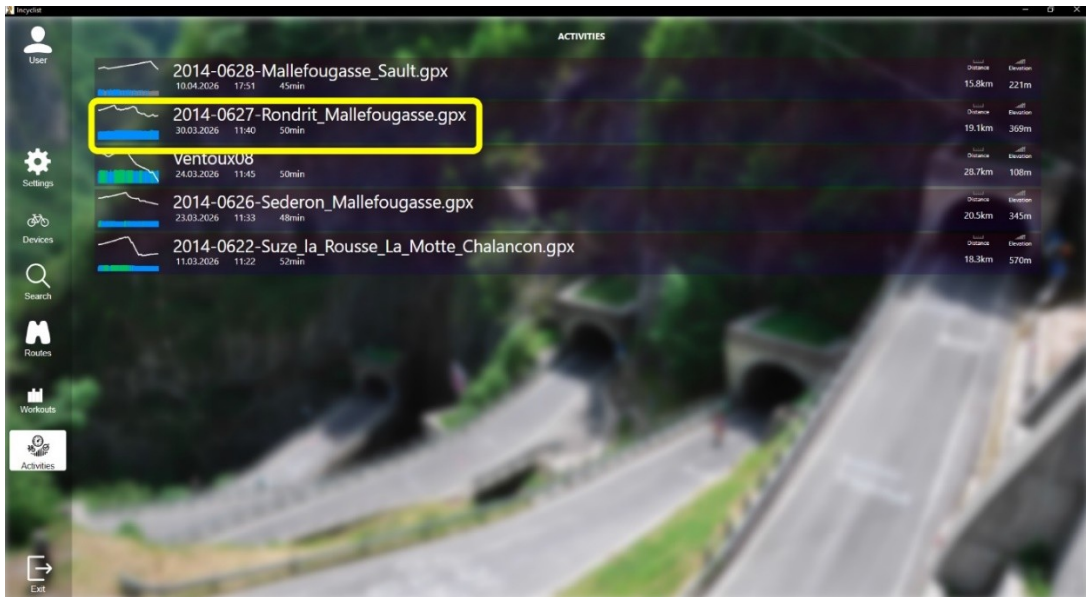


Now you can Connect to Strava.

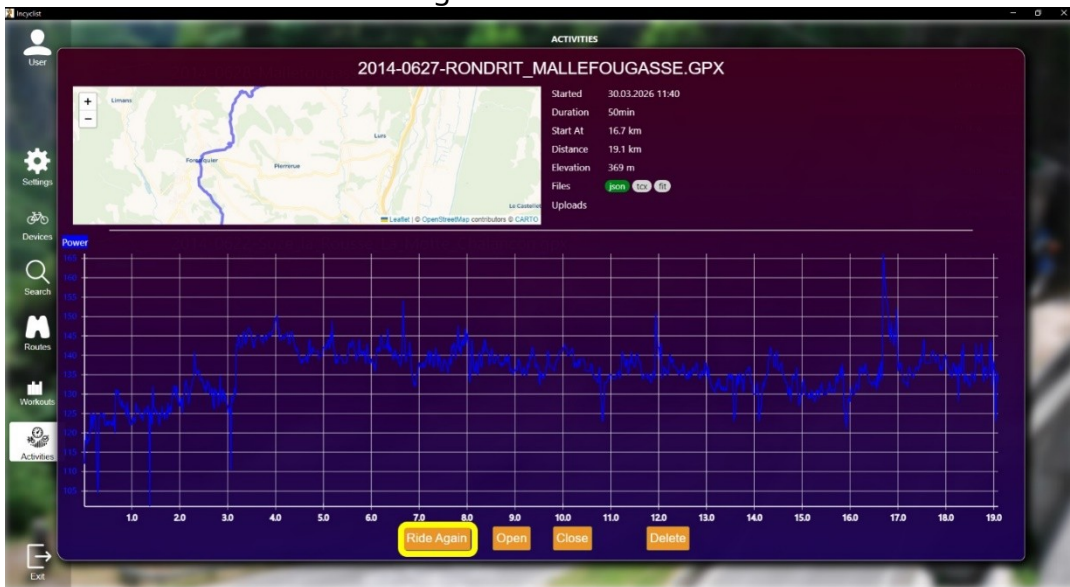


Activities

If you choose Activities in the main screen of Incyclist, you will be able to view activities that you have done earlier:



You can see details after clicking on a ride.



Note: Choose Open will open the ride , and you can choose to ride with or without a workout.

To ride against yourself : click Ride Again.

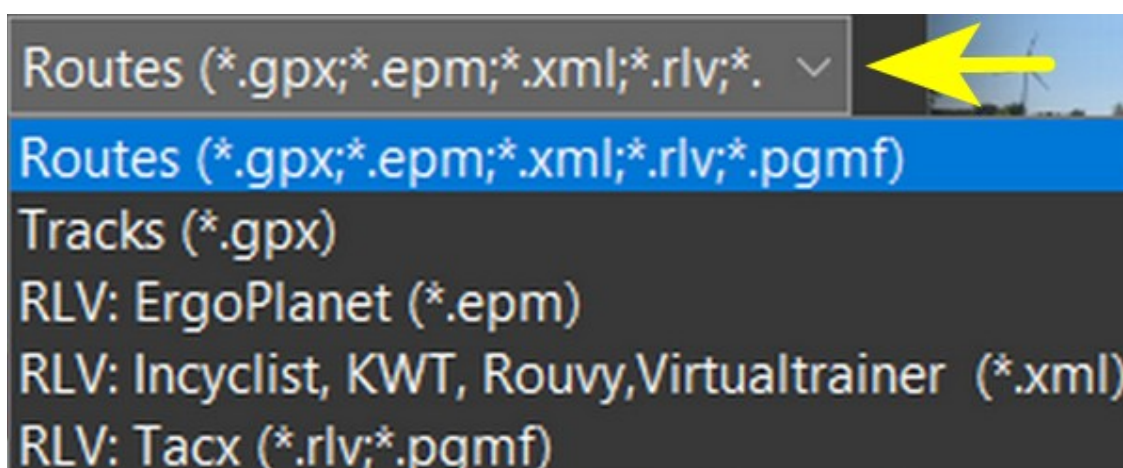


At the right under the profile for the next two kilometres you can see you progress in the Current Ride against the ride you did earlier.

External sources

You can import your own gpx or rlv or epm.
There are some issues you have to be aware of.

After clicking on import you can choose gpx (for tracks), epm (for Ergoplanet video's), rlv (for Tacx video's) or xml (for video's with gpx).



Clicking on the menu-option shows what to choose in different situations.

Using gpx Files

One of the most important topics to cover is the lack of smoothing. Most GPX routes will have a poor quality of elevation profile, which leads to extreme slopes and lot's of jumps in slope

Smooth a gpx-file

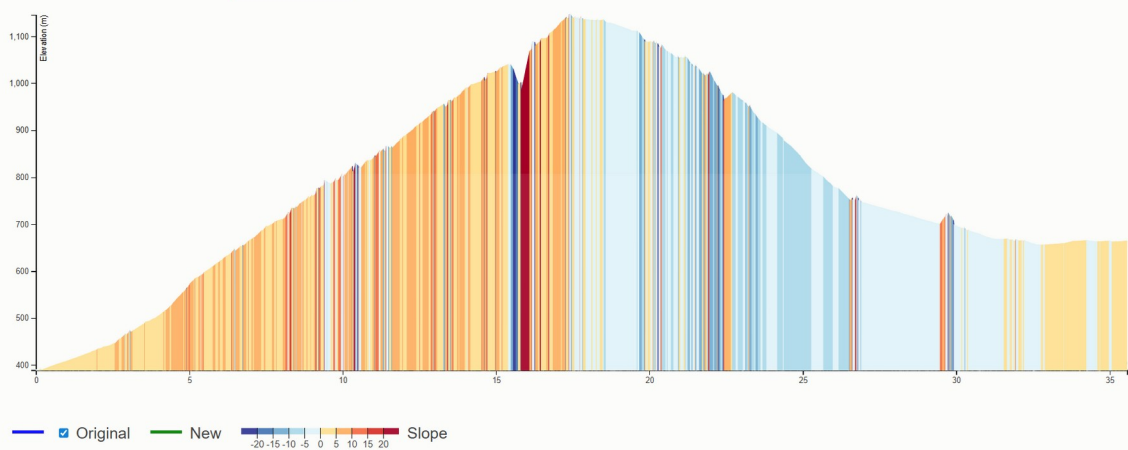
To smooth a gpx-file you can use the GPX Elevation Smoother, to be found at <https://mtbsettimo.altervista.org/gpx-elevation-smoother/gpxsmoother.html>.

GPX Smoother [About](#) [Updates](#)

1. Select a gpx file:
 munster_gerardmer.gpx

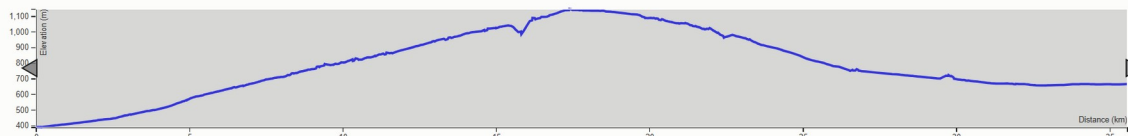
2. Smooth the data:
 Number of points to smooth over (odd):
 Minimum Slope: Maximum Slope:
 Maximum Change In Slope Between Points:
 Shift in metres up or down:

3. Check out the resulting slope. Hover over a point to see details:
[Elevation Chart](#) [Slope Chart](#) [Elevation Profile](#)

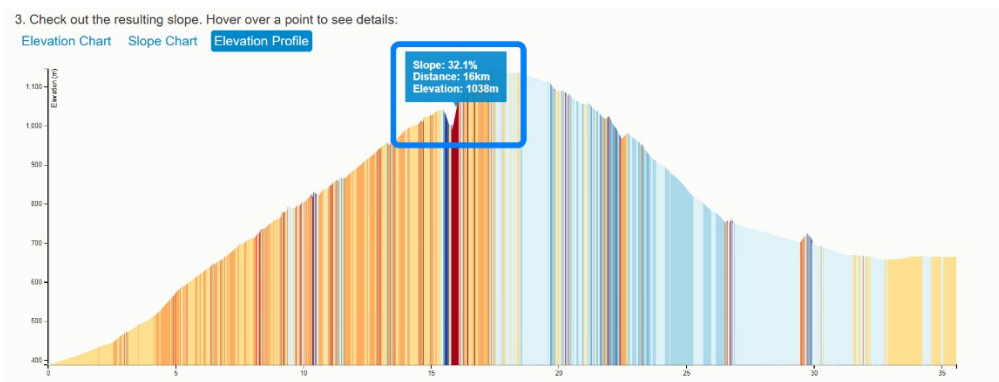


Average Slope: 1%

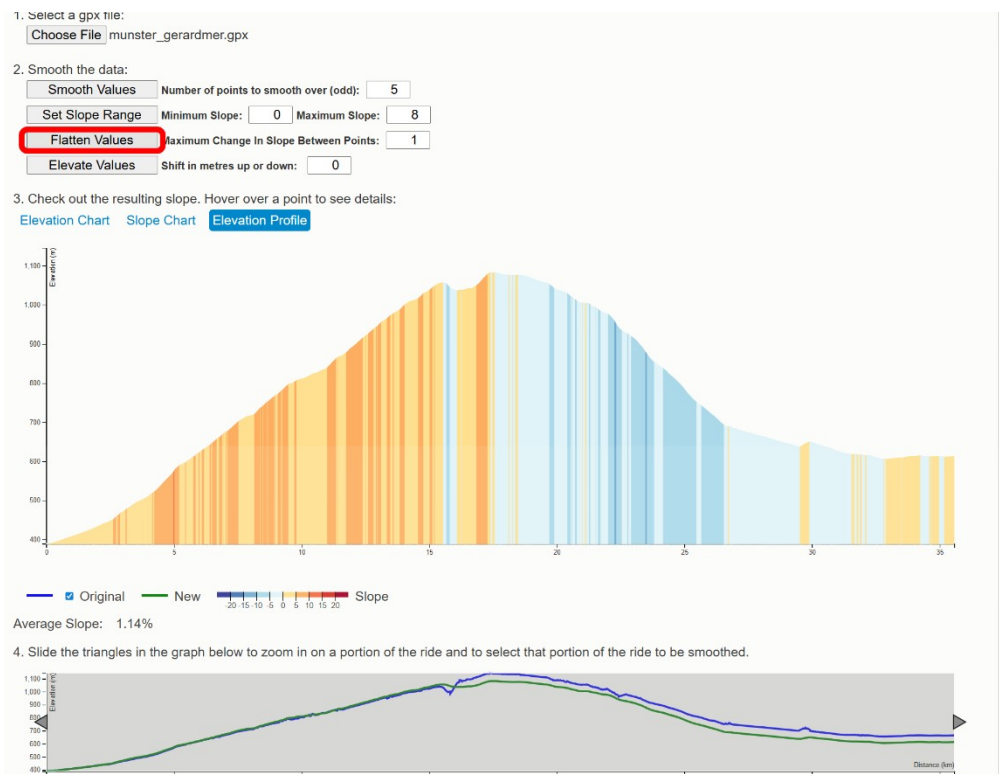
4. Slide the triangles in the graph below to zoom in on a portion of the ride and to select that portion of the ride to be smoothed.



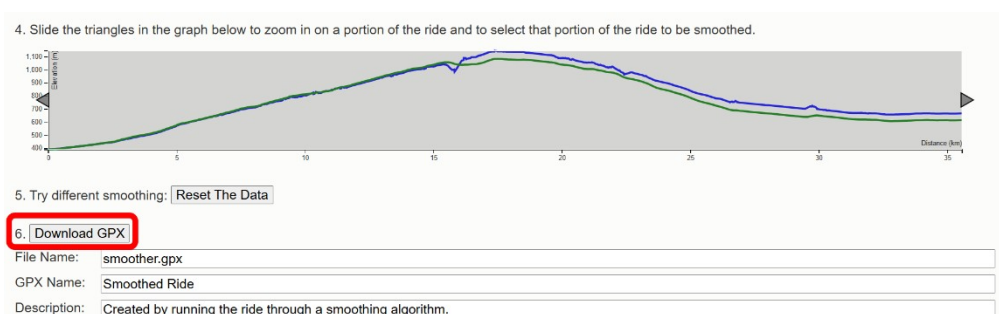
By moving the mouse over the profile you can detect slopes that are to be smoothed.



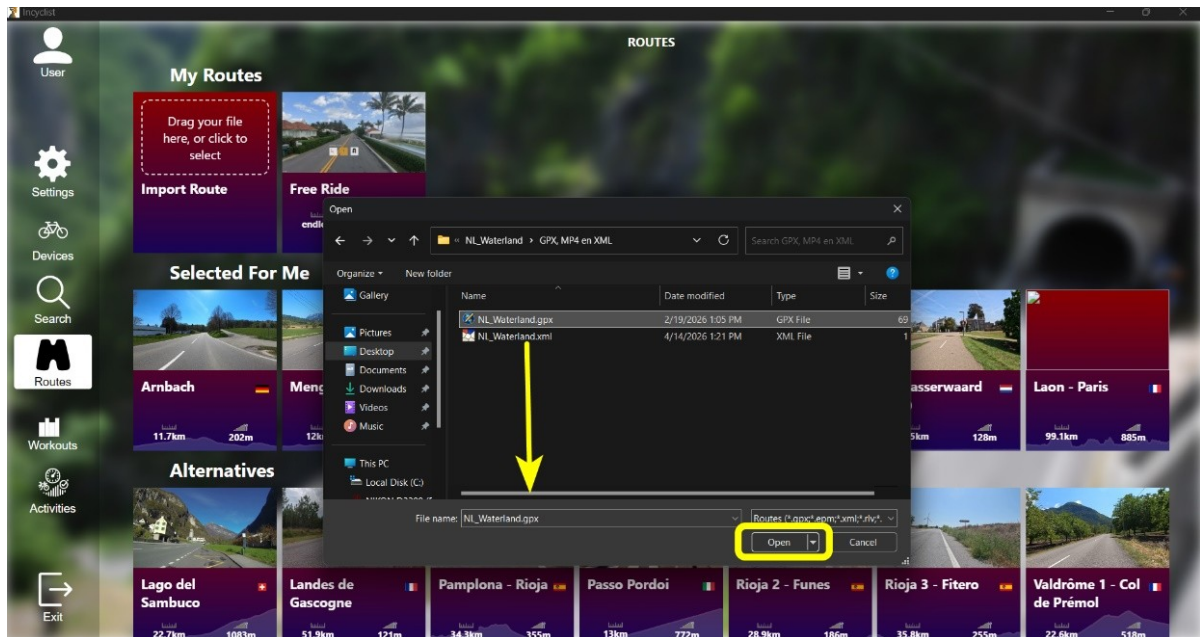
In this example more slopes to be smoothed were present. Click Flatten Values.



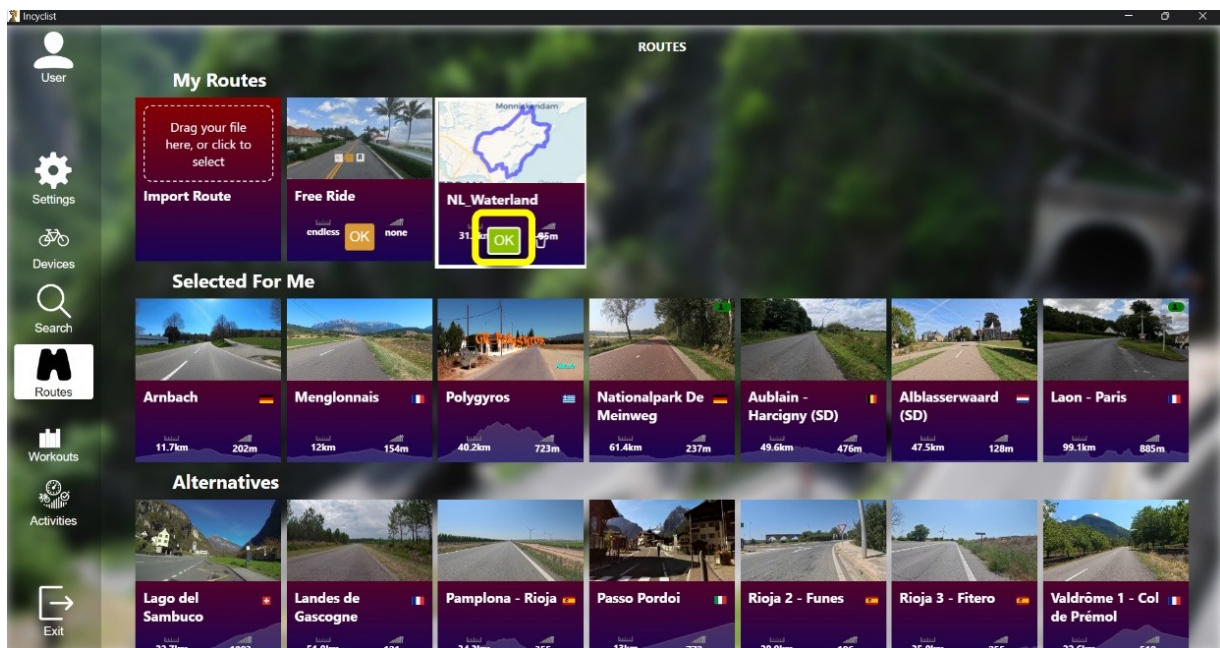
The values are flattened and the difference in height is shown.



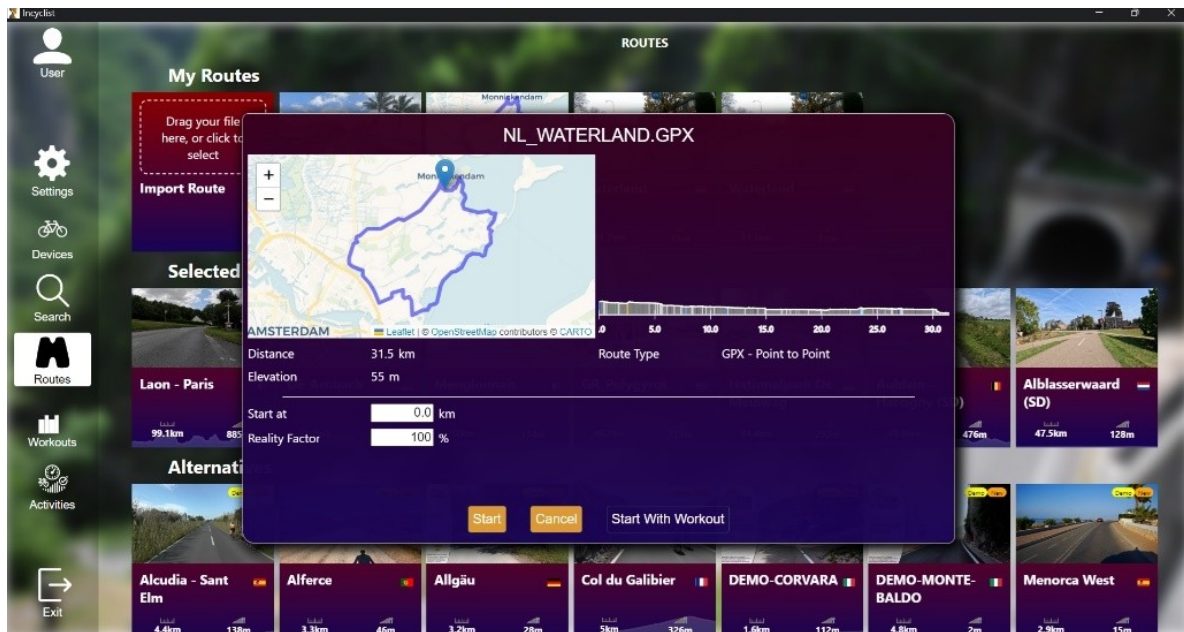
Change the File Name (if you wish) and click on Download GPX.
Import gpx-file



Click Open.



Click OK.



Now you can change

- **Start at:** starting point,
- **Reality Factor:** adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in the general settings of Incyclist, with SmartTrainer mode selected, a percentage lower than 100% is given.

Click Start



With Streetview enabled Incyclist shows where you are.

Using RLV-files

You can use RLV's you already have for your Daum, Kettler, Tacx etc..

You can import directly in Incyclist where the AVI-file will be converted, or you can convert the AVI-files before using Incyclist.

Convert in Incyclist

Incyclist supports RLV and corresponding files:

epm-files: Ergoplanet

xml-files: Incyclist, Rouvy, Virtualtrainer

rlv-files : Tacx

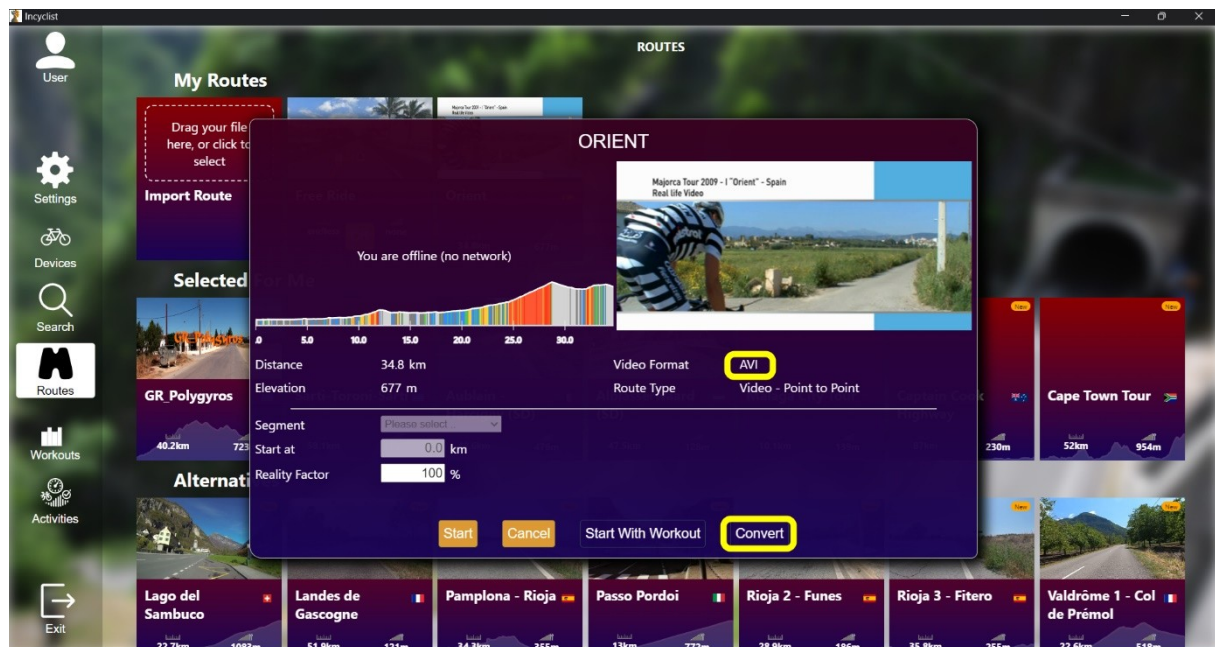
Incyclist supports different video-formats but a video with H264 codec is recommended.

Video's with codec H265 or with codec AV1 are supported **but not on linux**.

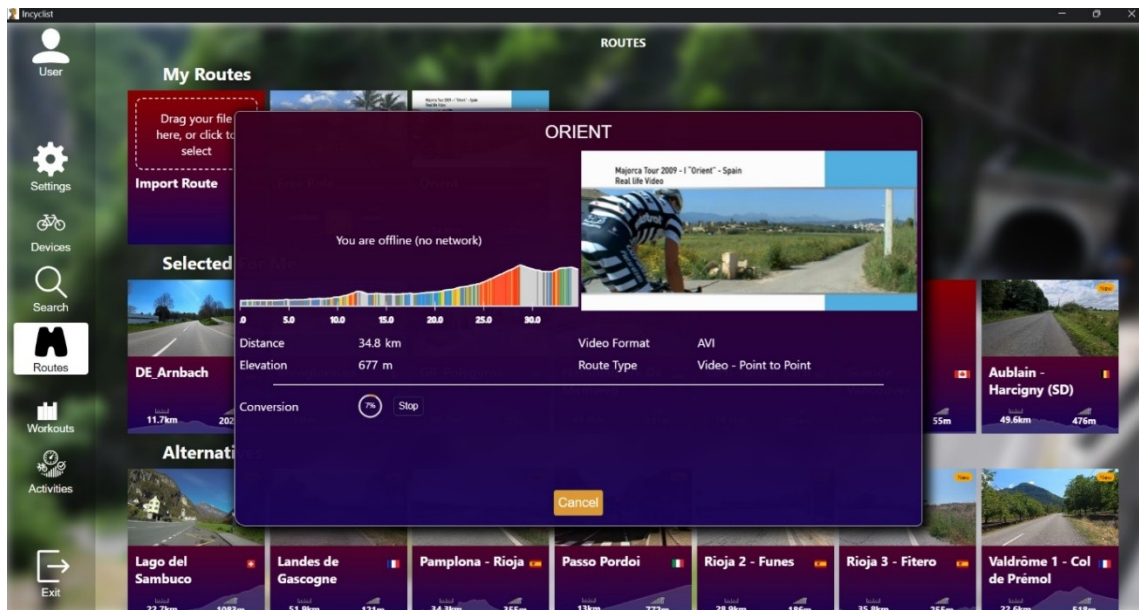
Video's with Xvid codec of Tacx-video's are not supported at all.

If your video has not a H264 or AV1 codec, it's recommended to convert it.

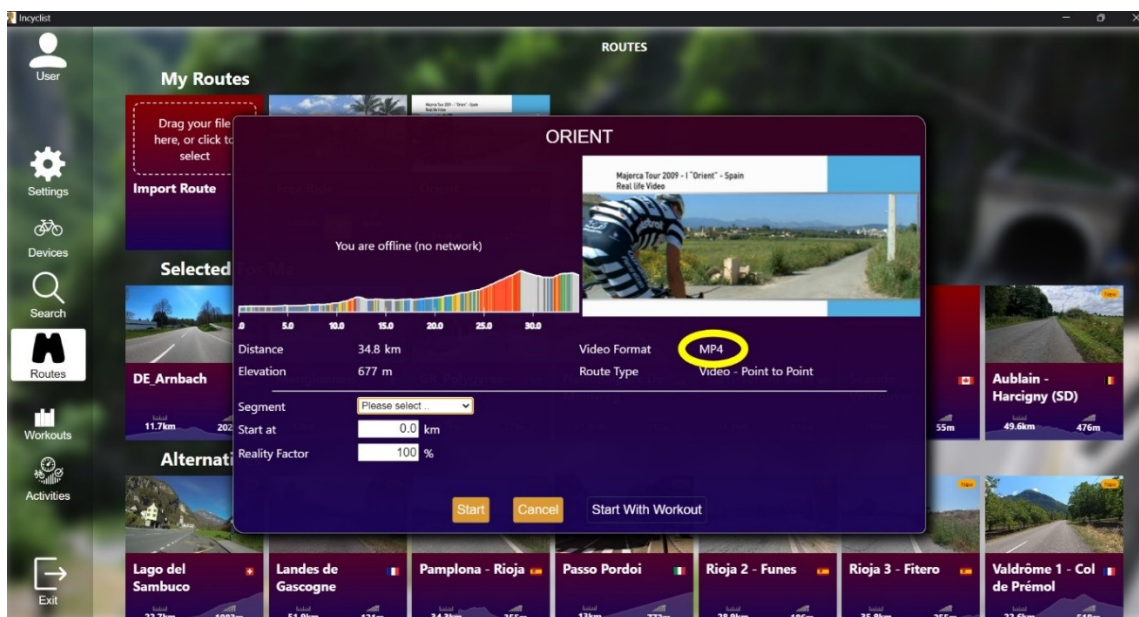
If you use one of the supported RLV's Incyclist offers the conversion when you start riding the video for the first time.



Select Convert



Incyclist start converting, showing the progress. It can take some time.



Options that are available:

- **Segment** (works only if the video offers segments that defined that start and end position)
- **Start at** : starting position of the ride (works only with mp4-videos : preset to the previous position ridden)
- **Reality Factor**: Adjust the slope used for the calculation of Speed (10% slope adjustment would mean that a 5% slope would be considered as 0.5%). Reduced slope is also sent to device if in in the general settings of Incyclist, with SmartTrainer mode selected, a percentage lower than 100% is given

Now it's ready, it's MP4. You can start the ride.

Note: The mp4 is stored in the same folder as the AVI-file.

Converting with AnyVideoConverter

Converting the file inside Incyclist causes that you have to wait before you can start to ride.

It is therefore better to convert the files beforehand with a videoconverter: AnyVideoConverter.

The windows-version can be found here:

<https://www.any-video-converter.com/download-avc-free.html>

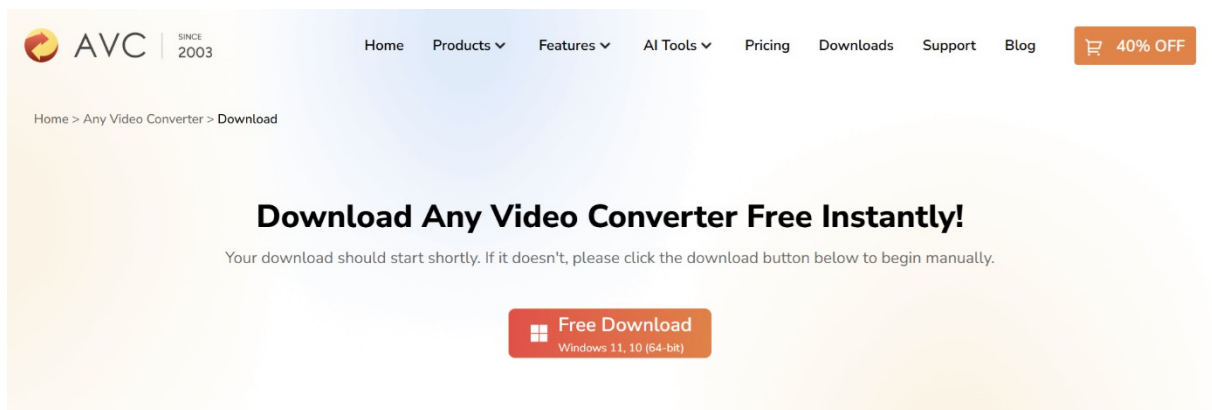
The Mac-version can be found here:

https://www.any-video-converter.com/products/mac_video_converter_freeware/

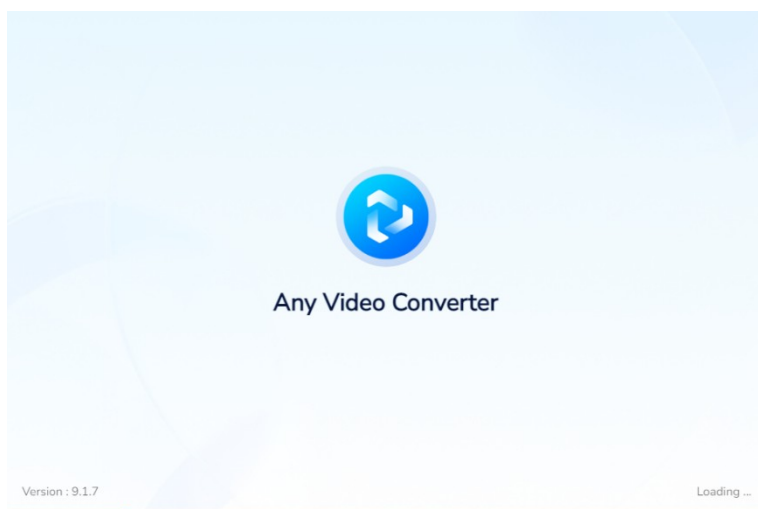
Unfortunately Any Video Converter is not available for Linux. Take a look at:

<https://www.linuxlinks.com/best-free-linux-video-converters>

Now we use the windows-version. Download and install the program and start it



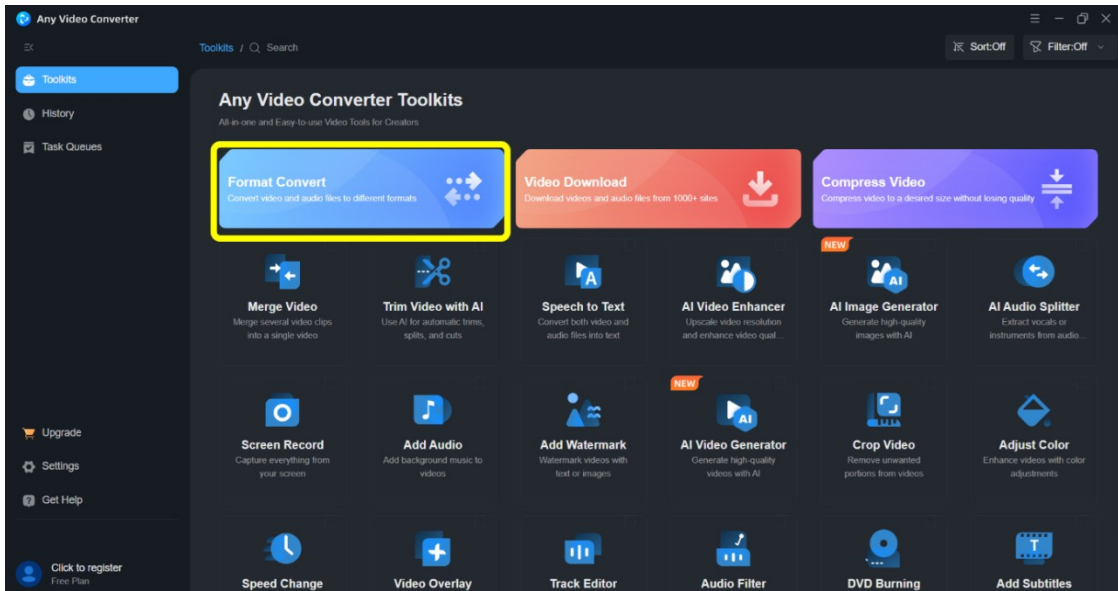
The opening screen:



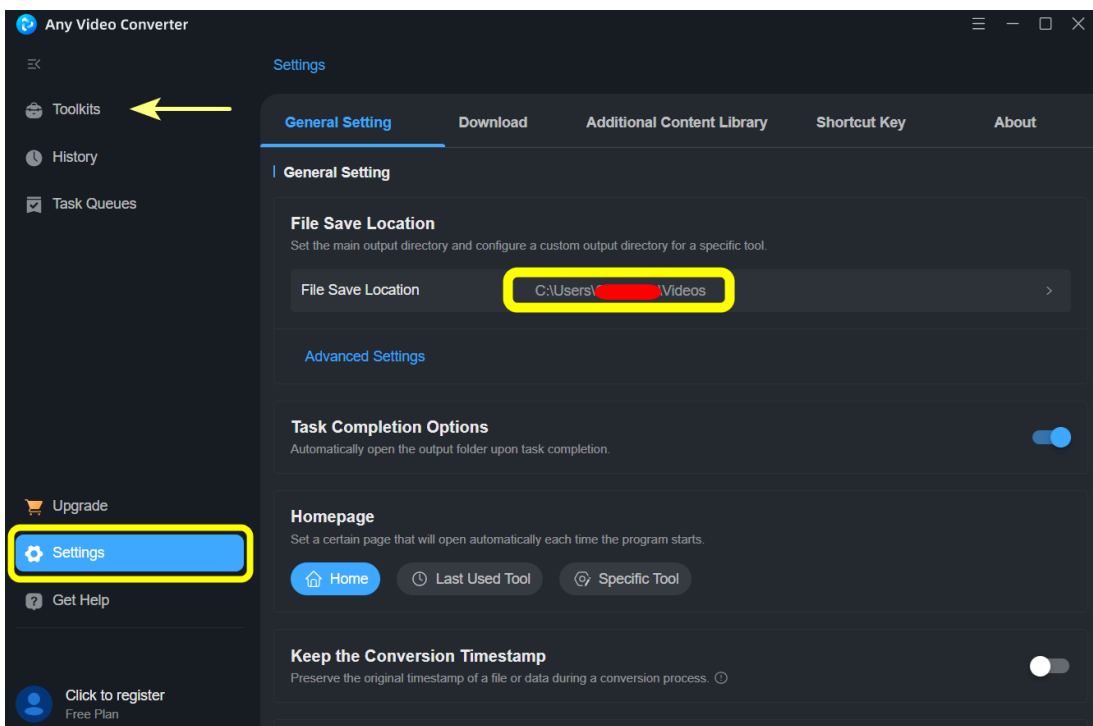
With AnyVideoConverter you can convert a single file or multiple files

A single file

You see various options but you need only the first one: Format Convert.



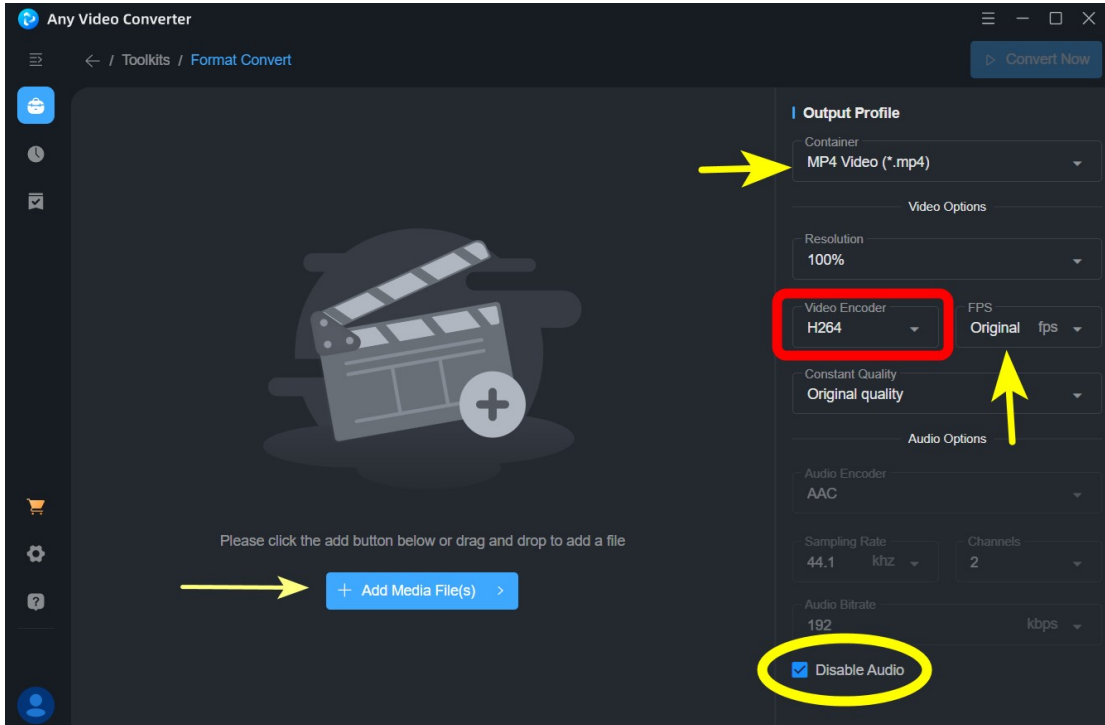
Click Format Convert



First select **Settings** to set the location where you want to store the result(s).
Select a location.

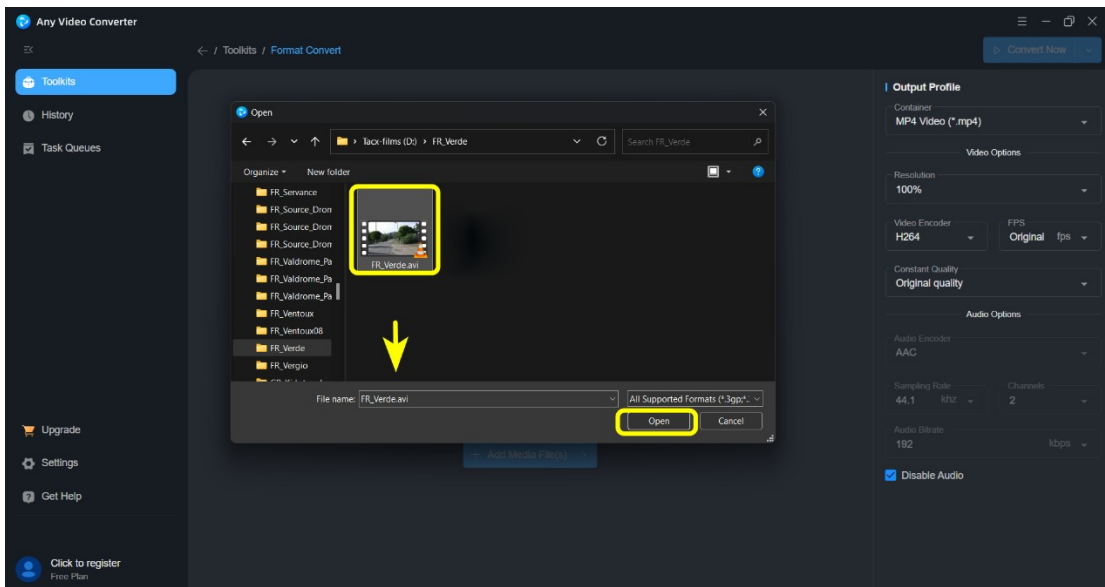
Note: AnyVidoConverter will store the result in the subfolder Format Convert of the chosen Folder.

Select Toolkits.

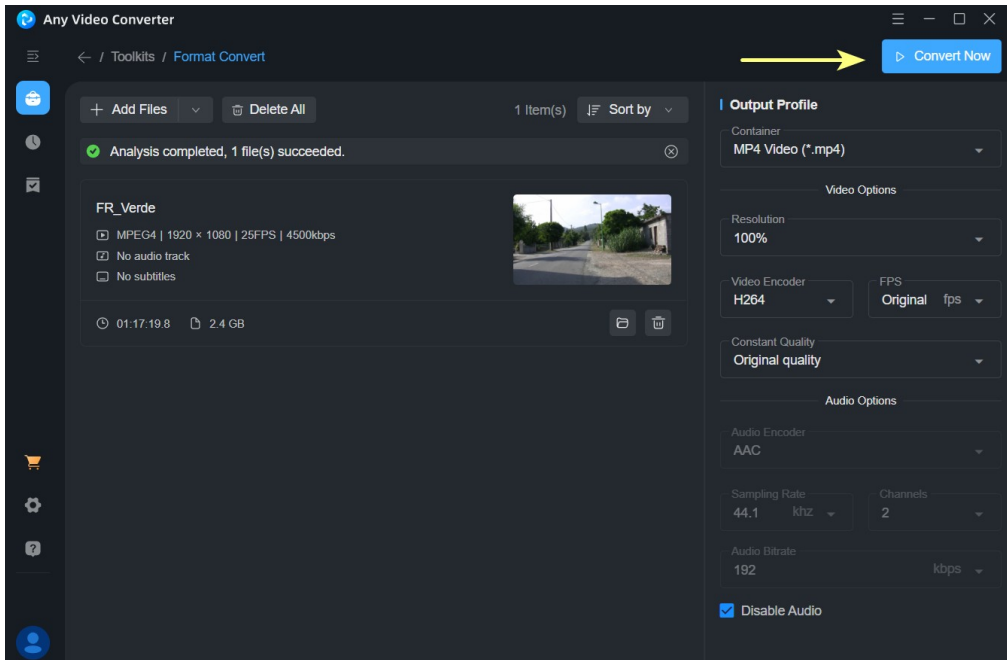


Choose the Output Profile (MP4-video).
Choose the Video Encoder(H264), and FPS Original. Disable Audio.

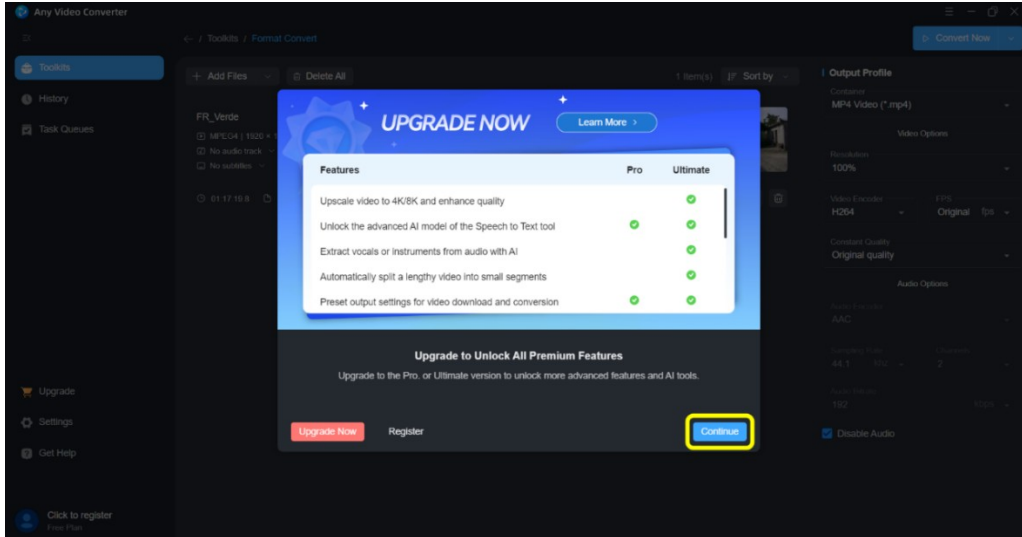
Add Media Files.



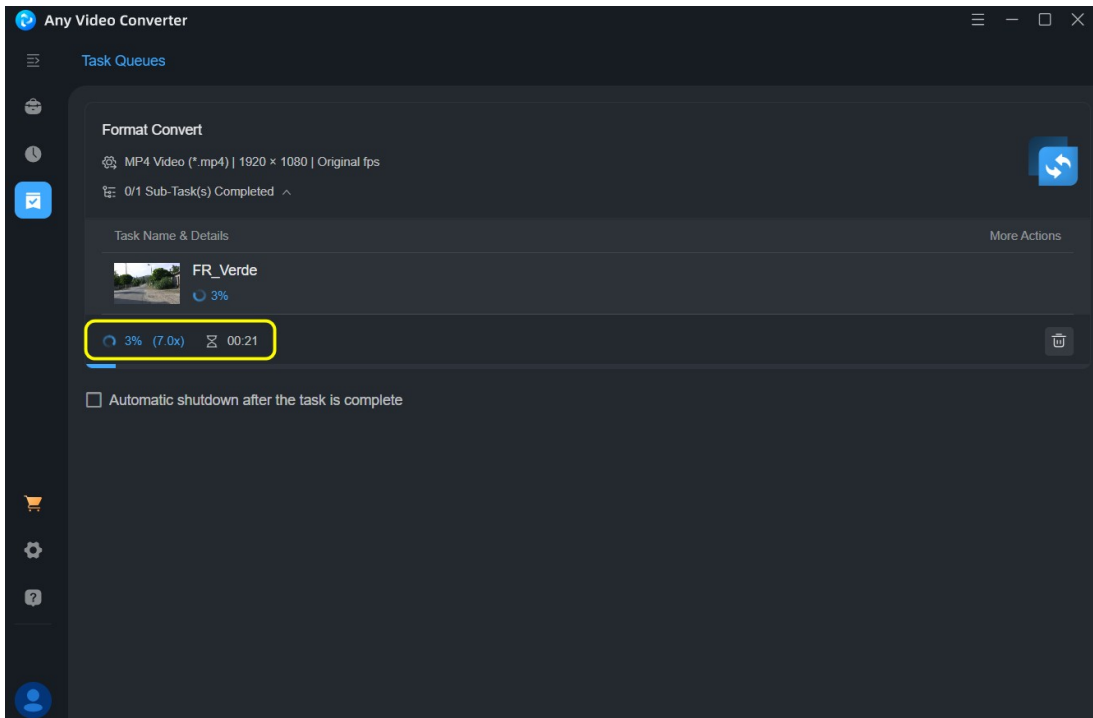
Click Open.



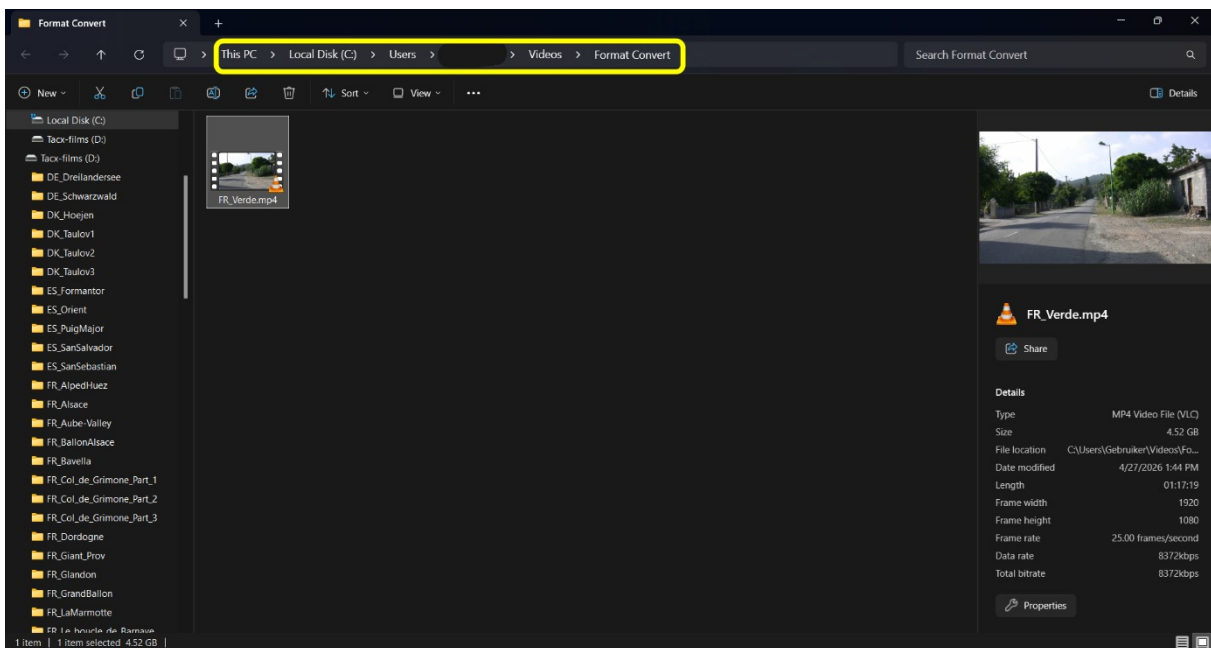
Click Convert Now.



Click Continue.



Progress is shown. 3% in 21 seconds will result in app. 10 minutes to convert this file.



The result is stored in Video's/Format Convert.

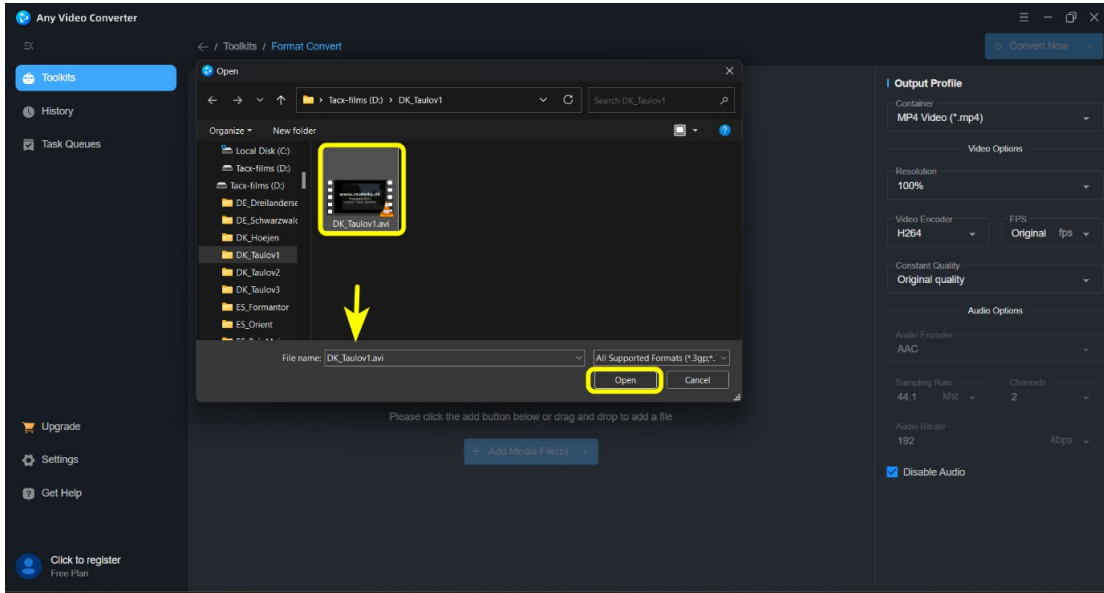
Note: you have to move the mp4-file to the folder of the AVI-file.

Note : for importing in Incyclist go to the paragraph Import rlv- or epm-file.

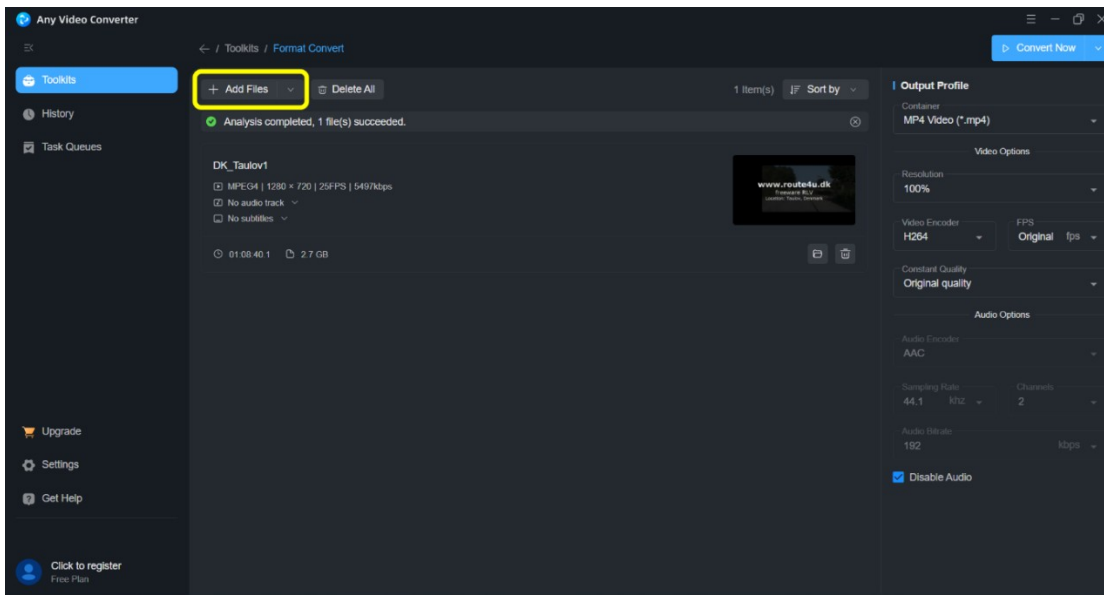
Multiple files.

If you have a lot of AVI-files with corresponding eml (ergoplanet) or rlv (Tacx) you can convert them in batch.

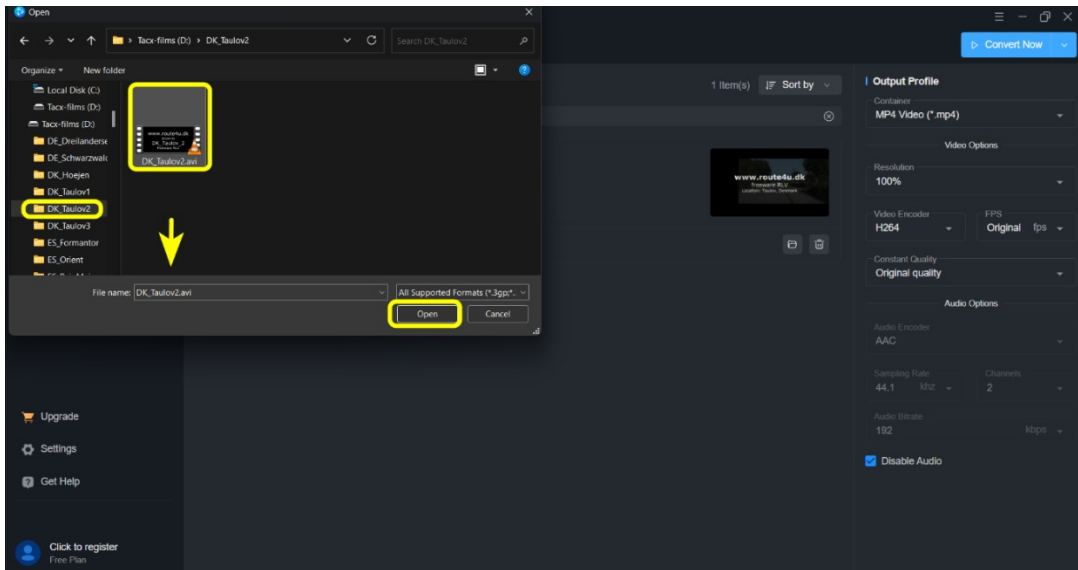
Select the first file.



Click Open.

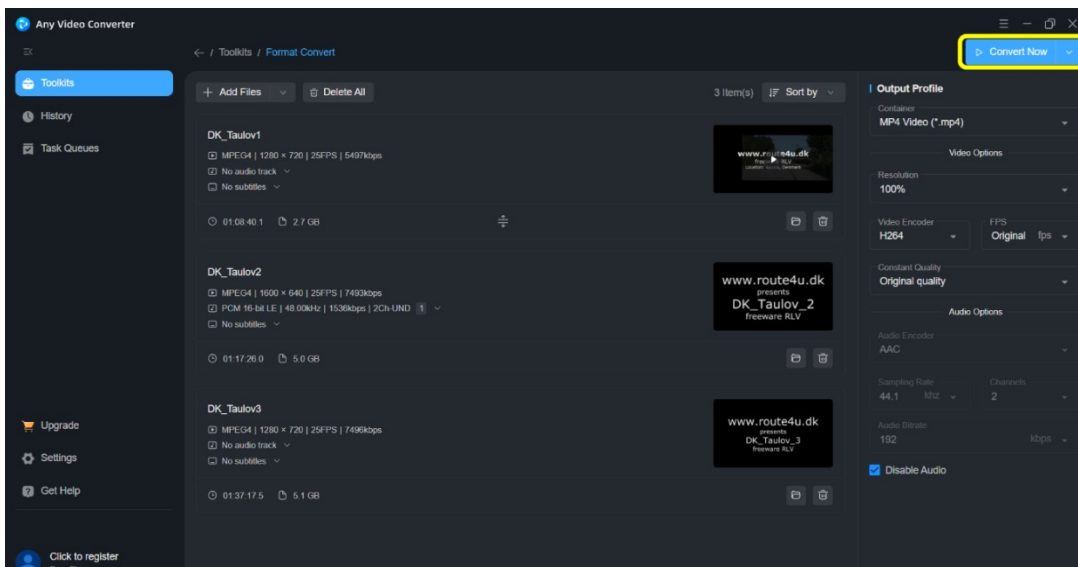


Now click Add files.



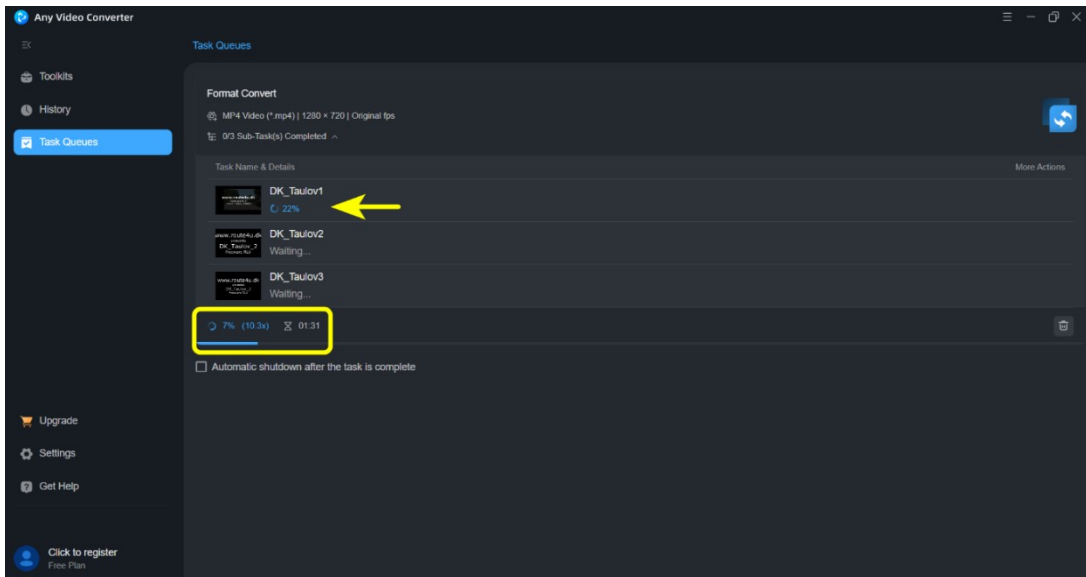
Select the folder, the AVI-file and click Open.

Repeat this step for all files you want to convert (in one batch).



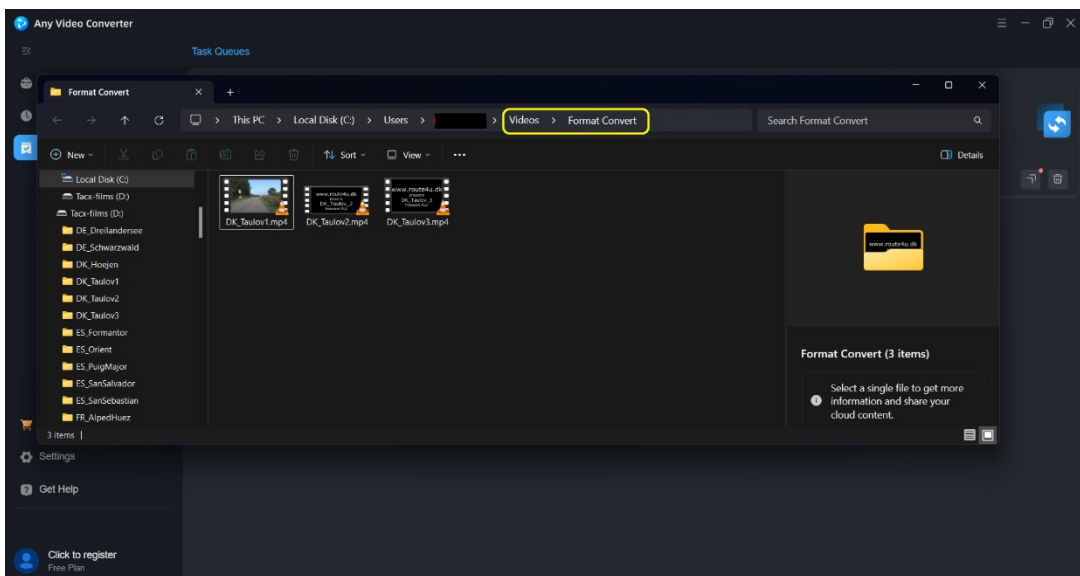
Now the AVI-files are ready to be converted.

Select Convert Now.



Now you will see the progress for each file, and all files together.

7% in 1minute 30 seconds results in app. 21 minutes.

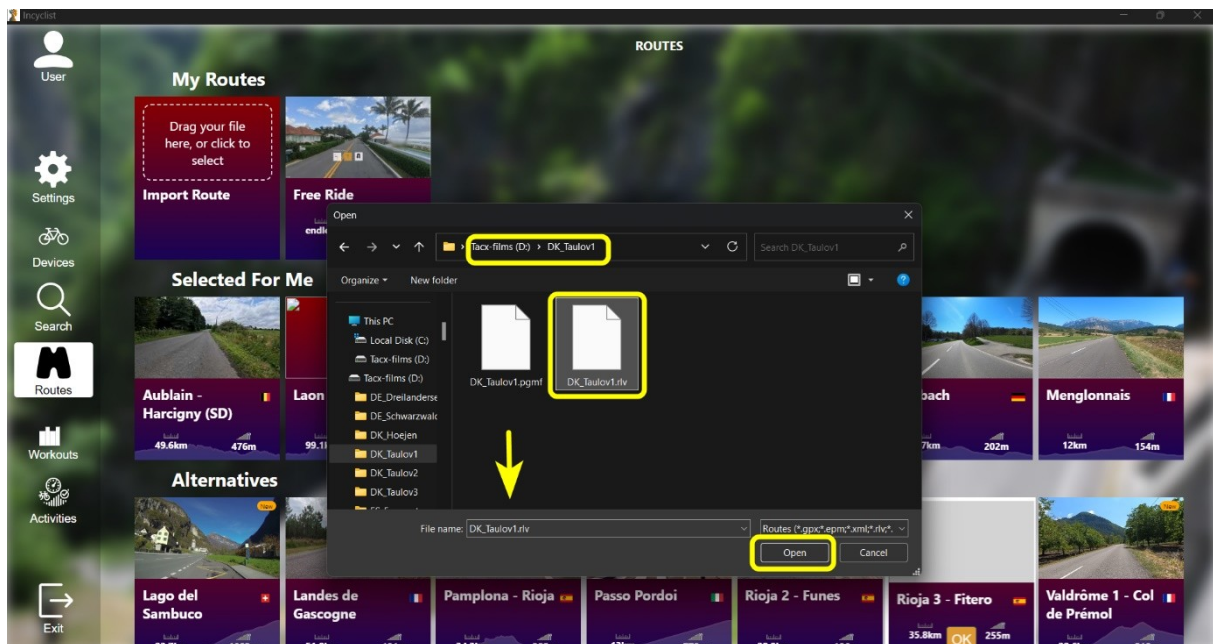


AnyVideoConverter stores the resulting files in the folder Format Convert.

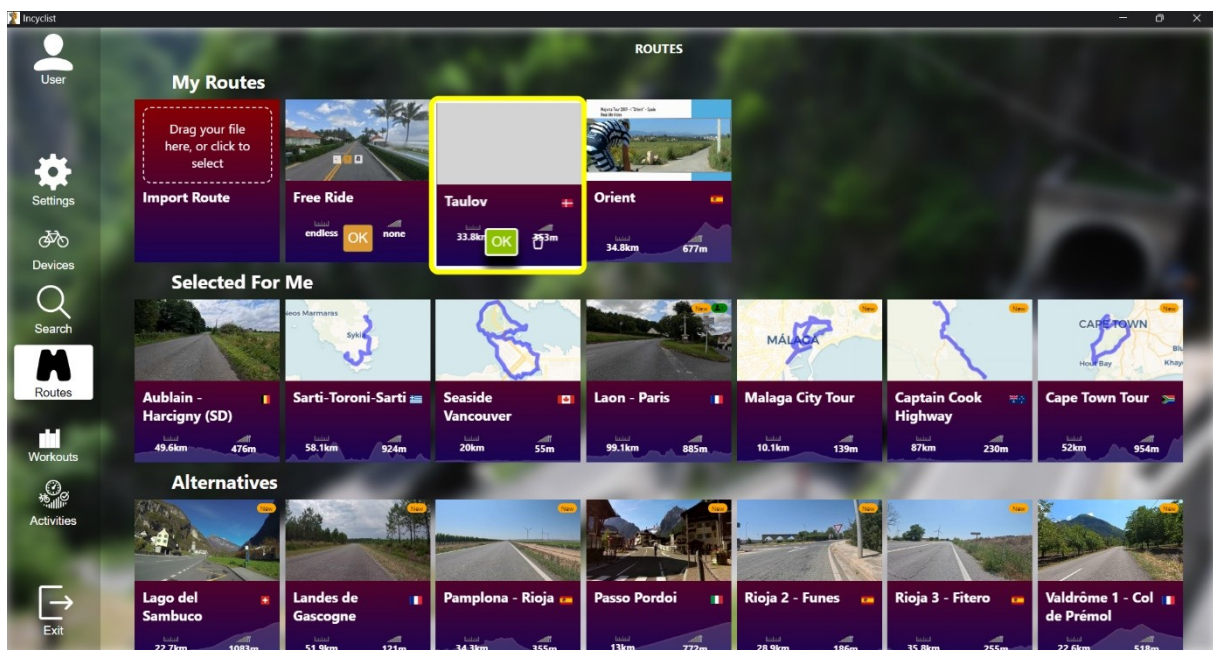
Note: You have to move the mp4-files to the folders of the corresponding AVI-files.

Import rlv- or epm-file

Select Routes, My Routes to import a rlv-file.

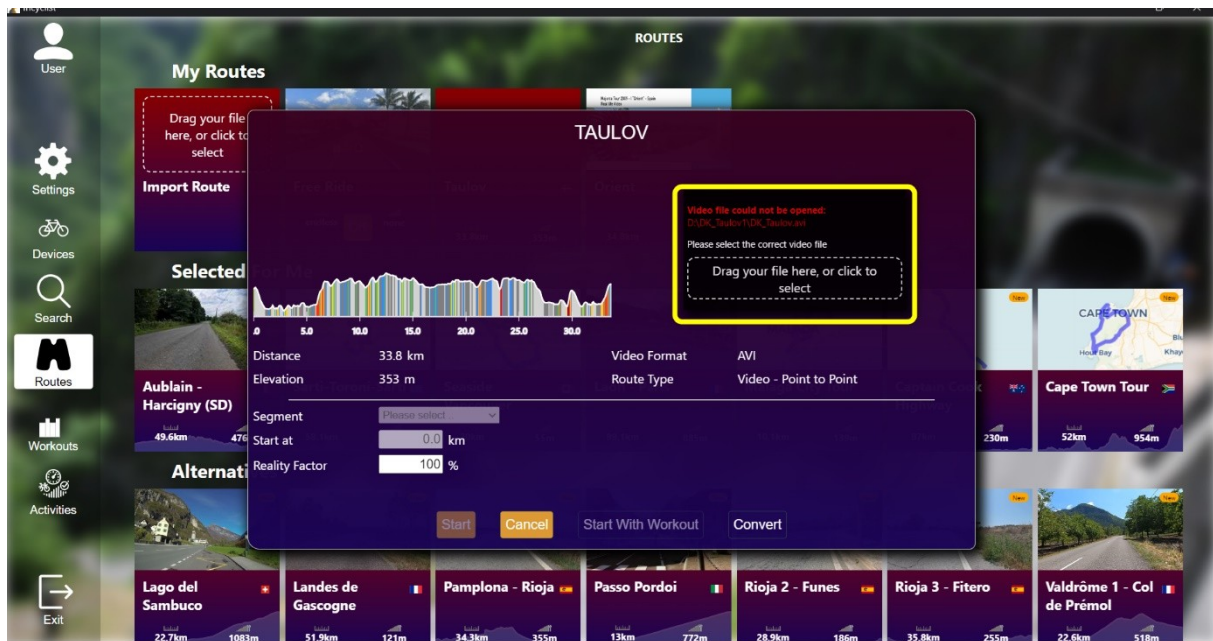


Choose the rlv-file and click Open.



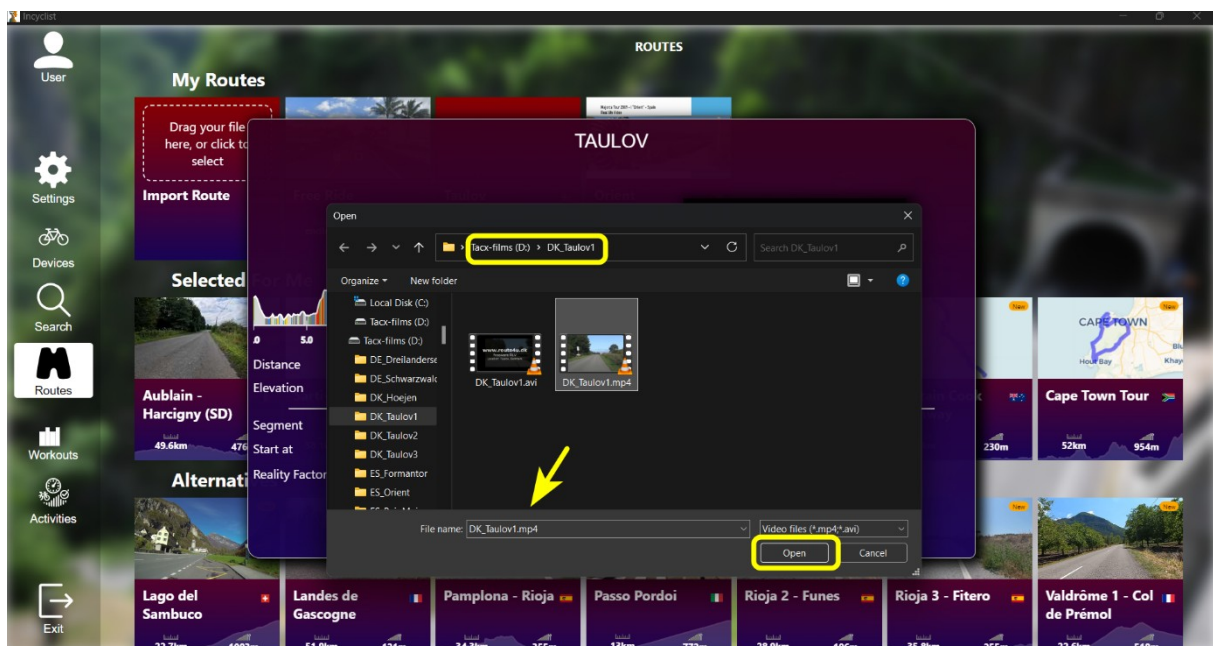
The route is added to the Routes screen, without a preview (grey).

Select (in this example) Taulov.

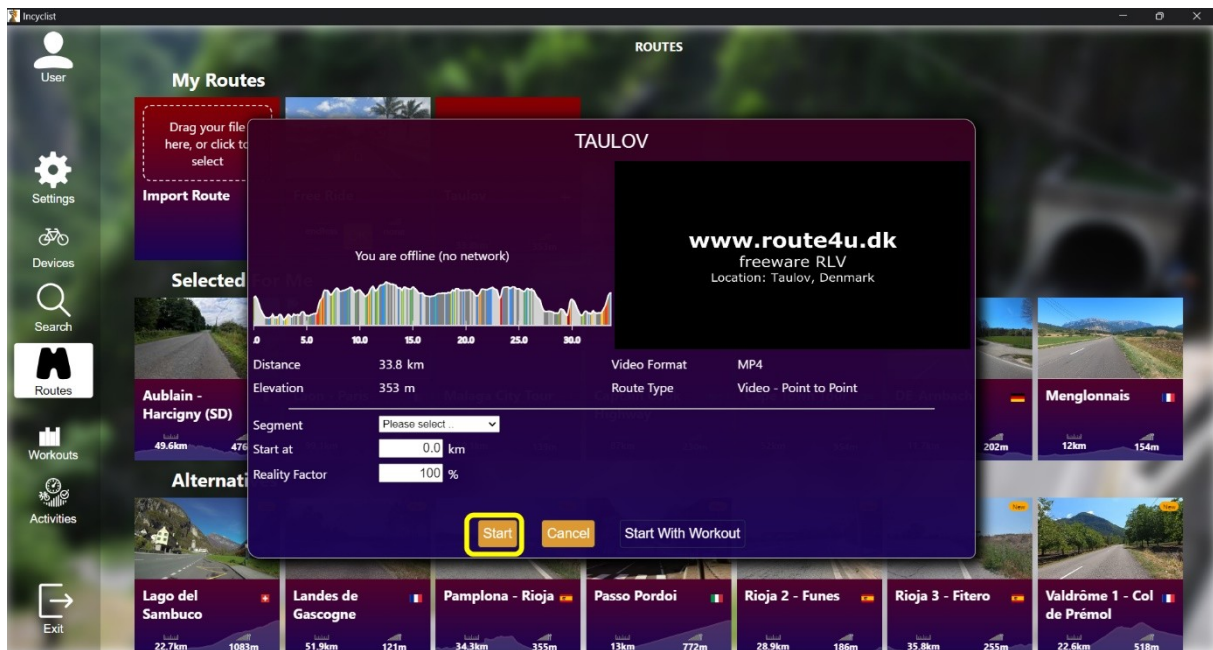


The rlv-file asks for an AVI-file (mentioned in the rlv-file) but you must use a mp4-file.

Click on Drag your file here, or click to select.



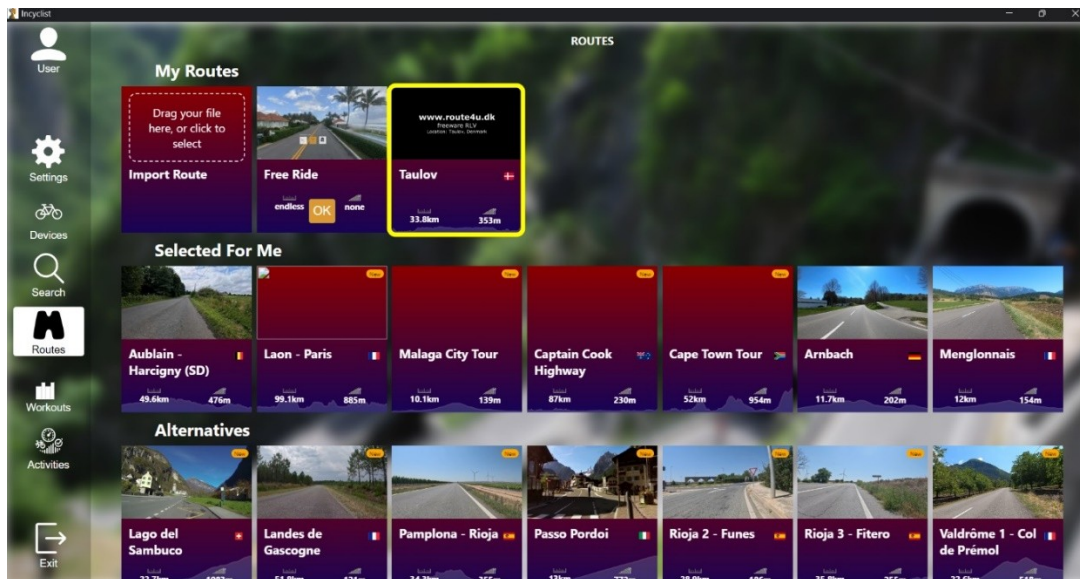
Select the corresponding mp4-file and click Open.



Note: now the preview of the mp4-file is shown.

Click Start.





If you select the rlv-file for a second time (on another day) you will now see directly the mp4-file with the preview.

RLV with gpx

You have to follow three steps:

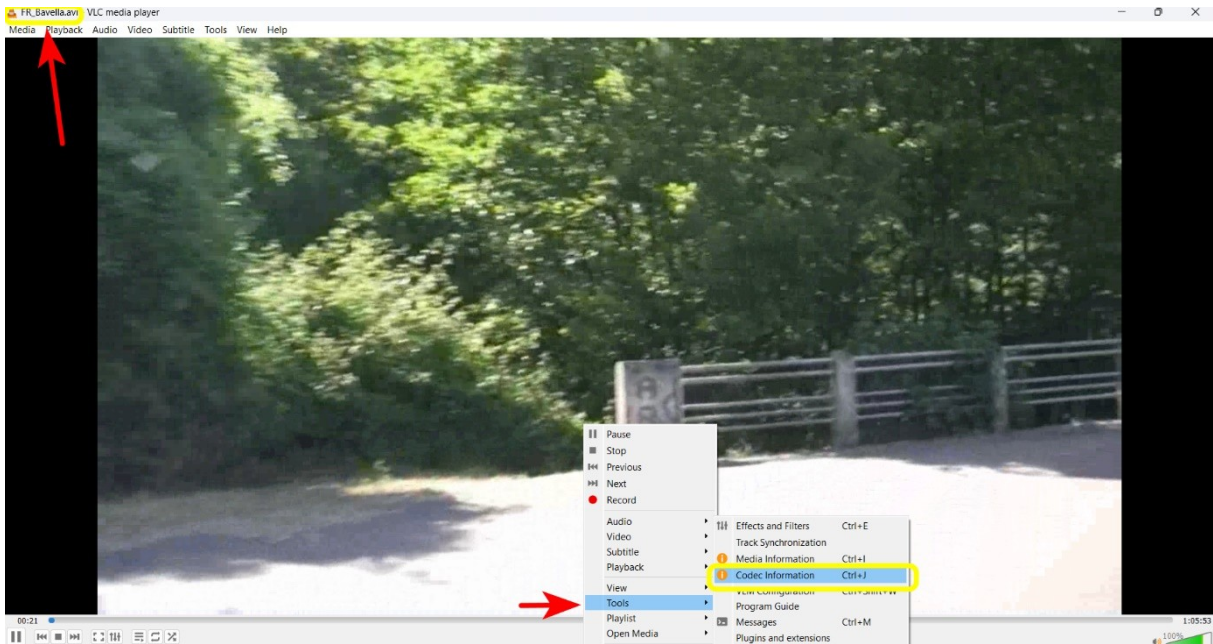
- Check the codec of the AVI-file (and save the framerate)
- Create a GUID
- Create the XML-file

Check codec (and save the framerate)

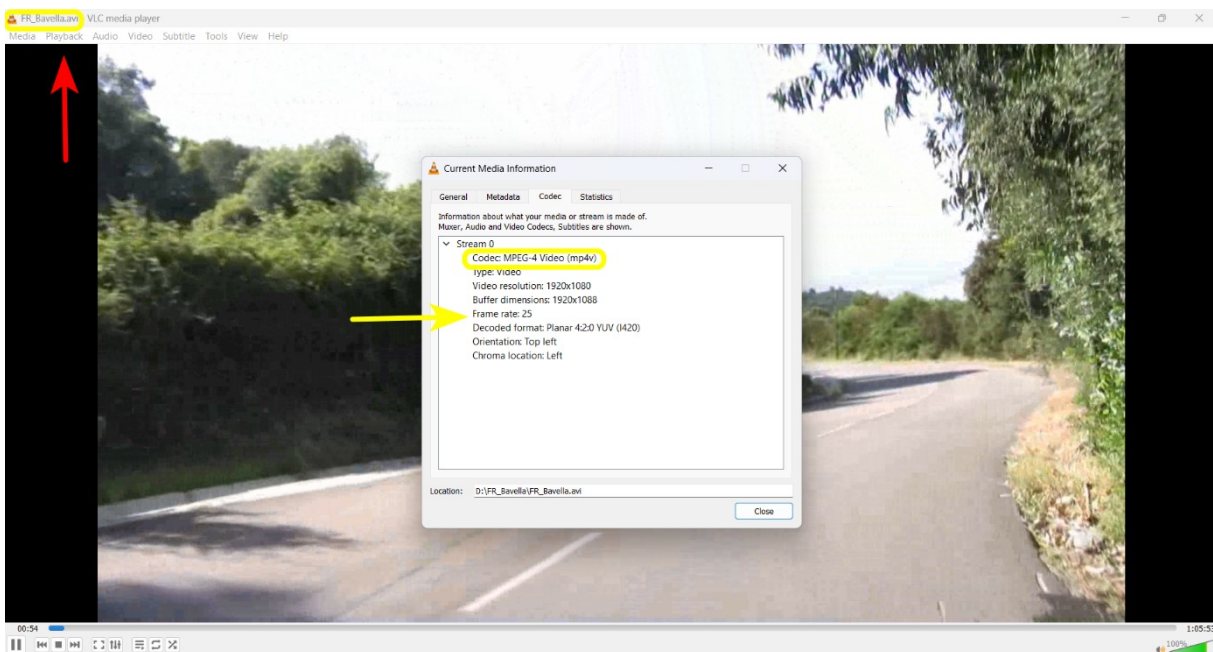
You may use Videolan VLC : you can find it here: <https://videolan.org>

Download and install it.

Open the AVI-file with Videolan, and when it is running click on the right mouse button. A pop-up menu opens.



Select Tools-> Codec Information.



This codec (MPEG-4) can be converted to H264. Save the framerate for later use.

Create a GUID or GUID's

The video (every video) needs a GUID (Globally Unique Identifier).

The GUID can be generated at <https://GUIDGENERATOR.COM>

Online GUID / UUID Generator

Free Online GUID / UUID Generator

How many GUIDs do you want (1-1000):

Format: Hyphens Braces Uppercase Quotes Commas

Encoding: Base64 RFC7515 URL Encode

Auto Copy To Clipboard

Results: ✓ Copied

```
92-58ec-4713-95b5-0e01c672a5710074c4
```

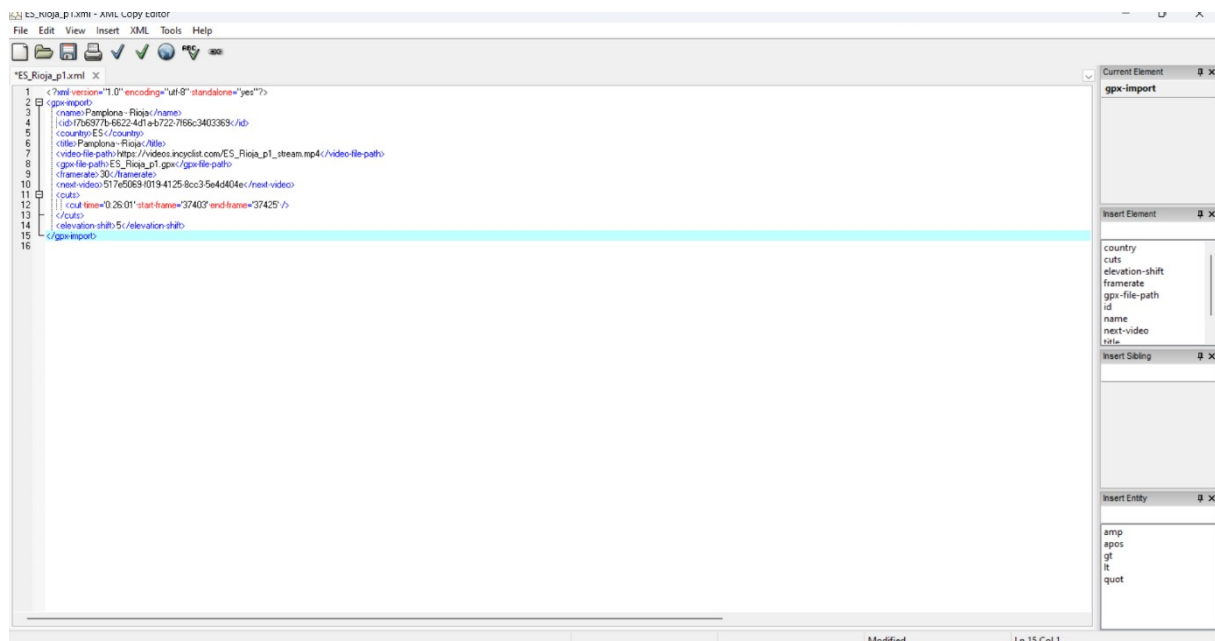
Use these GUIDs at your own risk! No guarantee of their uniqueness or suitability is given or implied.

You may generate more than one GUID.

Copy the GUID's to the clipboard and save them in a file (for later use).

Create the xml-file

The best way to do it is by using a XML-editor (because it checks on errors).



```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<gpx-import>
  <name>Pamplona - Rioja /name>
  <id>176537b48224d1e817227b56c3403389</id>
  <country>ES</country>
  <title>Pamplona - Rioja /title>
  <video file-path="https://video.incyclist.com/ES_Rioja_p1_stream.mp4">video file-path</video file-path>
  <gpx file-path="ES_Rioja_p1.gpx">gpx file-path</gpx file-path>
  <transfered 30/>transfered
  <next-video 51765069101941258cc35e4404e/>next-video
  <cuts>
    <cut time="0.2601" start-frame="37403" end-frame="37425" />
  </cuts>
  <elevation shift 5/>elevation shift
</gpx-import>
```

You can also use the next xml-file as an example.

```
<gpx-import>
  <name>Pamplona - Rioja</name>
  <id>f7b6977b-6622-4d1a-b722-7f66c3403369</id>
  <country>ES</country>
  <title>Pamplona - Rioja</title>
  <video-file-path>ES_Rioja_p1_stream.mp4</video-file-path>
  <gpx-file-path>ES_Rioja_p1.gpx</gpx-file-path>
  <framerate>30</framerate>
  <next-video>517e5069-f019-4125-8cc3-5e4d404e</next-video>
  <cuts>
    <cut time='0:26:01' start-frame='37403' end-frame='37425' />
  </cuts>
  <elevation-shift>5</elevation-shift>
</gpx-import>
```

Id: the GUID. In case you want to share the RLV with others, it has to be globally unique. Otherwise, you just have to ensure that it is unique within the set of your RLVs

framerate: framerate of the AVI-file wich is the framerate of the corresponding mp4-file, after the conversion from AVI to mp4.

next-video You can create a chain of video's. Enter the GUID (another GUID) of the next-video.

You can mark cuts (when you had to cut video and gpx) - which makes the ride after the cut a bit smoother

cuts entry has the properties

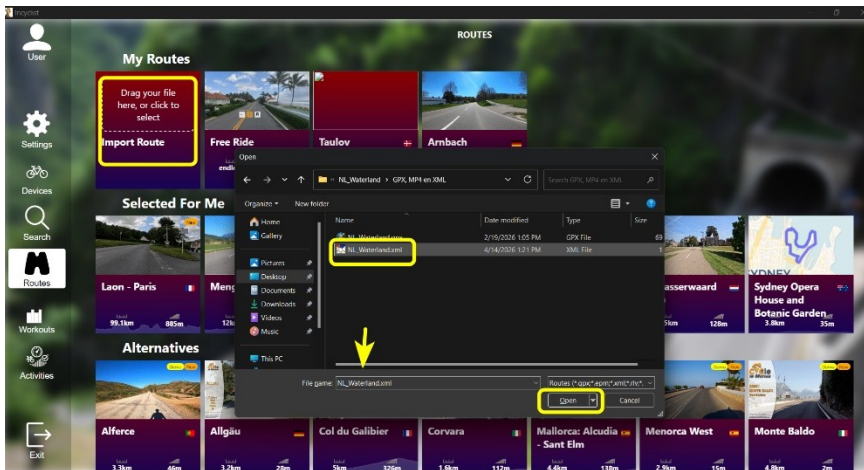
- time (mandatory): identifying the time (relative to start of the gpx) of the first point *after* the cut
- start-frame (optional): frame number of the start of the transition effect (if available)
- end-frame (optional): frame number of the end of the transition effect (if available)

elevation shift (in seconds)

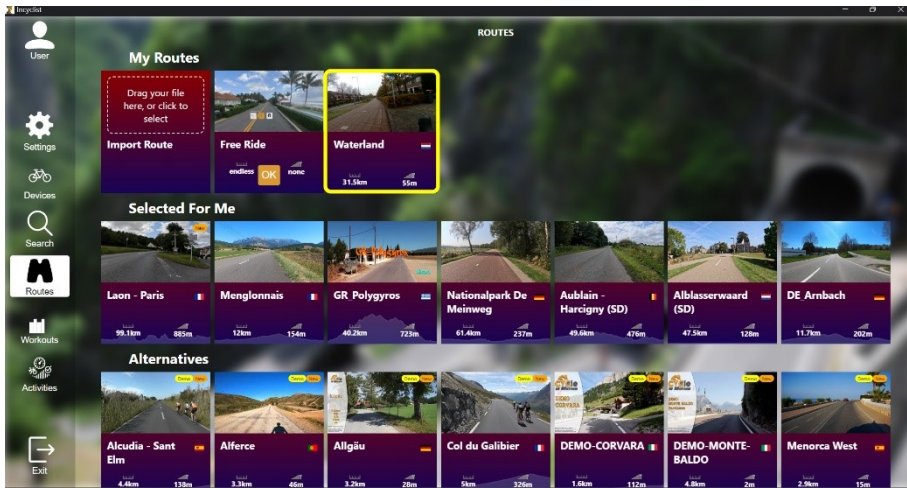
If you have smoothed the gpx then this typically results in the fact that slope changes are always a couple of seconds delayed. This property can be set to remove this effect.

Note: modifications, adding new lines has to be done between the first and the last line (with gpx-import). It's beyond the scope of this manual to explain all the possibilities.

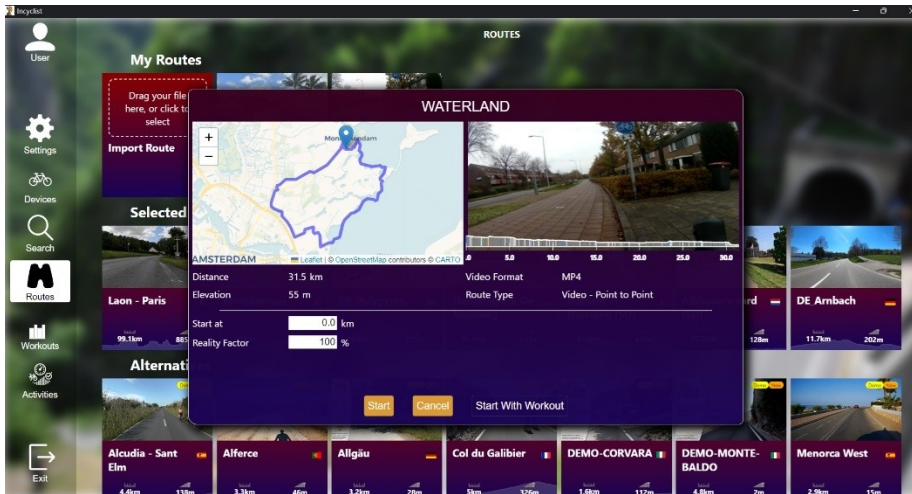
Import xml-file



Select the file and click Open.



Click on the OK button of Waterland.



Left the map, right the video. Click Start.

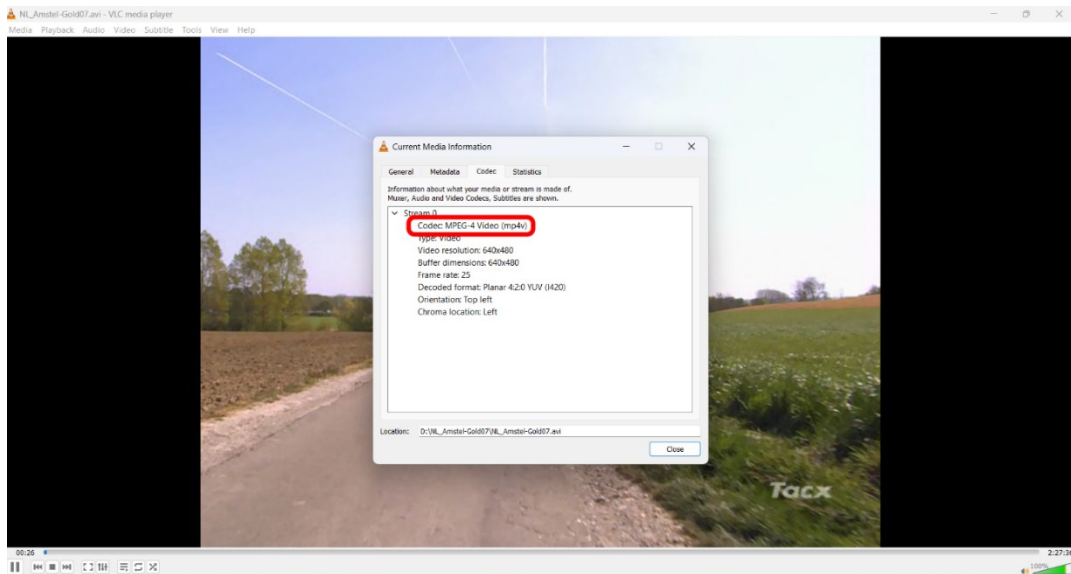


Unfortunately is the video of low quality.

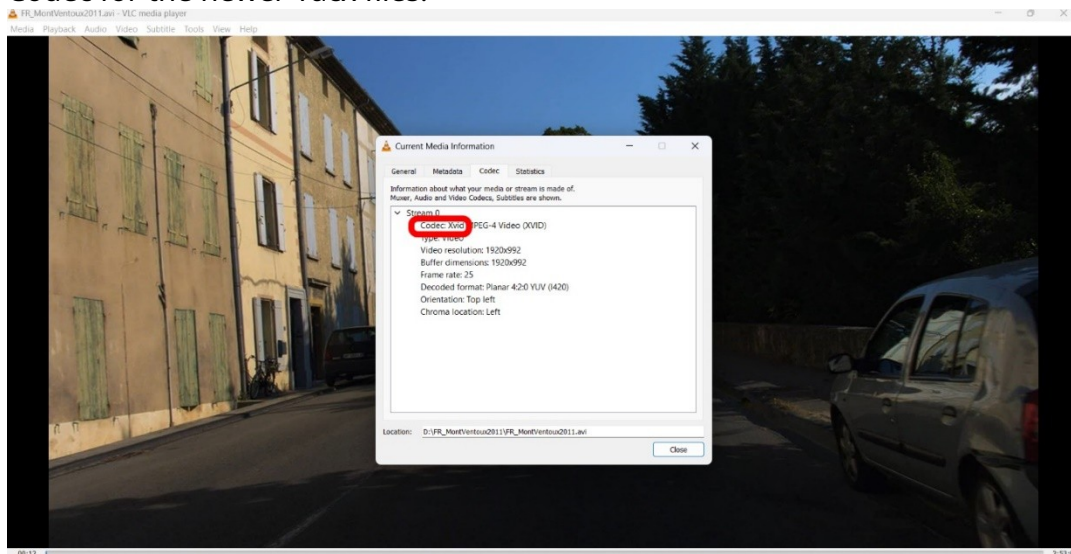
Tacx-TTS

Newer Tacx RLV's don't have corresponding rlv- and pgmf-files, but TTS-files. Tacx changed the way of recording video's, especially the codec is changed from MPEG-4 to Xvid.

Codec for the old tacx-files:



Codec for the newer Tacx files:



It's not possible to use the video with corresponding TTS-file, even if there is a corresponding gpx-file, because there is no converter for converting the AVI-file to mp4 that gives good results: you will experience in a constant changing of video speed in the converted Tacx video.

Note: video's from external sources with Xvid-codec can be converted to codec H264.

Download or buy RLV's

Some users of Incyclist have created their own RLV's, which are free for use and can be downloaded:

- <https://cycling.vangestel.online/indoor/videos/>
- <https://rlv.nielspn.synology.me/index.php/incyclist-video> (only available during a limited amount of hours per day)
- <https://www.vermail.nl/RLVs>

There are also paid downloads of RLV's:

- <https://www.cycle-in-motion.de/>
- <https://www.reallifevideo.de/incyclist.php?lang=en>
<https://www.real-life-video.nl/>
- <https://www.bikelabshop.it/en/>
- <https://www.fitviewer.com/indoor-cycling-videos.html>

On Strava you can find a club Incyclist: <https://www.strava.com/clubs/1029407>

Note: Sometimes a video comes with both rlv- or eml-file and a gpx-file.

You can make a choice:

- import the gpx-file
- import the rlv- or eml-file
- create and import a xml-file

Create your own video's

If you want to create your own videos you may find the explanation of Fred van Gestel useful.

<https://cycling.vangestel.online/indoor/faq/video-production/index.html>.

The result shall/must always be a combination of an AVI-file and a gpx-file. You need to smooth the gpx-file, to convert the AVI-file, to generate a GUID, to check the framerate and to create a xml-file.

Incyclist support all the encodings the Chromium supports. H264 works everywhere. H265 and AV1 however have some limitations (e.g. on Linux). This probably is not so important if you only want to use the video for yourself. But you should be aware of this limitation if you would plan to distribute to others.

Enjoy riding!