

HOW IT WORKS

ACTYVO.

YOU VS. ANYBODY

The world's first road cycling
app to challenge anybody.



ACTYVO.
YOU VS. ANYBODY

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ACTYVO Cycling & Challenges

There are many millions of road cyclists around the globe, many of whom wish to compete with other cyclists and compare their performances.

The ACTYVO Cycling & Challenges app makes this possible!

No matter the location or route, the ACTYVO platform can compare ride-performances for different route profiles.

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Glossary

ACTYVOLTS (AV)

Per ride measurement unit based on average power output over ride distance (similar to \varnothing watts).

ACTYPOINTS (AP)

Personal scoring of a ride, derived from ACTYVOLTS, taking into account the ride distance.

CHALLENGE RIDE

Ride that finishes after at least 25 km / 15.5 mi within the Finish Radius (5.0 km / 3.1 mi).

FREE RIDE

Ride with a distance < 25 km / 15.5 mi, or not finished within the Finish Radius.

FINISH RADIUS

To complete a CHALLENGE RIDE correctly and thus be considered in the rankings, the Ride must be completed within the Finish Radius. The Finish Radius is 5.0 km / 3.1 mi (as the crow flies) max. distance from the start location of the ride.

Rides will be counted as FREE RIDES if they are completed outside of the Finish Radius.

 **GARMIN CONNECT**

Function to connect the ACTYVO account with the user's Garmin Connect account. With this feature, rides can be automatically uploaded to the ACTYVO platform without using the ACTYVO app. The data of a ride may be synchronized from the Garmin Connect platform to the ACTYVO platform.

 **STRAVA CONNECT**

Function to upload an ACTYVO ride to the user's personal Strava account.



Registration

The registration or creation of a user account is necessary for the platform to recognize the user. When registering, a personal app LOGIN is created, with which the user identifies and logs in to the app.

The minimum age to register and use the platform is 16 years.

Registration takes place after downloading the mobile app. The app is available on both the Apple and Google Play Stores. The download and registration on the ACTYVO platform are free of charge.



Subscription

After registering, users receive a 30-day free subscription. For "Early Birds", ACTYVO is offering a free period until 31 July 2024.

With a valid subscription, users can take part in CHALLENGE RIDES, which are also included in the rankings. For this purpose, users receive scoring points (ACTYPOINTS) for each ride, which entitle them to awards (discounts, other bonuses, etc.) when they reach defined levels.

Registered users without a valid subscription can still use the platform (FREE RIDES), but the results will not be listed in the rankings and no ACTYPOINTS will be awarded.

As soon as the free subscription expires, registered users can buy an annual subscription (12 months term) via the App Stores to continue doing CHALLENGE RIDES, appear in the international rankings and collect ACTYPOINTS.



Distance Categories

The following distance categories are offered on the platform.

Distances in metric (km) and US miles (mi) units are identical.

KM	MI
25	15.5
36.5	22.7
(Q36.5 Distance)	
50	31.1
75	46.6
100	62.1
150	93.2

In the rankings, the distance categories are considered.

Rides > 150 km / 93.2 mi will also be considered in the ranking of the highest distance category (150 km / 93.2 mi).

CHALLENGE RIDES & FREE RIDES

Rides recorded by the users of the platform are classified in two different types of rides.

CHALLENGE RIDE

CHALLENGE RIDES are rides where the minimum distance (25 km / 15.5 mi) has been reached AND the ride concluded within the specified Finish Radius (5.0 km / 3.1 mi). See also chapter "FINISH RADIUS".

The ACTYVOLT-score (see also chapter "ACTYVOLTS") for correctly completed CHALLENGE RIDES is listed in the rankings. In return, users also receive the full number of personal ACTYPOINTS (see also chapter "ACTYPOINTS").

FREE RIDE

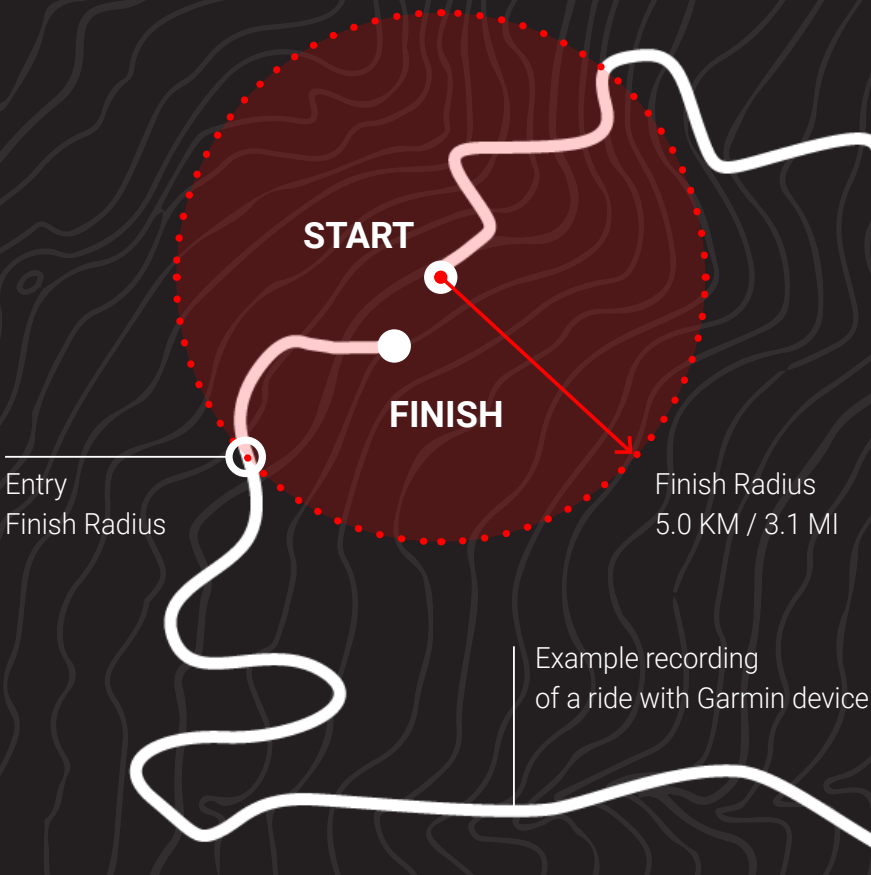
FREE RIDES are rides that ended prematurely / abandoned before the minimum distance was reached or where the Finish Radius criteria was not met. The ACTYVOLT score of a ride classified as FREE RIDE is only displayed in the personal ACTIVITY list and not in the overall rankings. Within this personal scoring list for the FREE RIDE, 30% ACTYPOINTS are considered.



⊖ FINISH RADIUS

ACTYVO aims to make the comparison of users's bike rides as fair as possible. In order to do so, a complex algorithm considers a variety of factors when calculating the results of a bike (ACTYVOLTS). It is important to note, that this calculation does not take the influence of wind (direction/strength) into account.

It is necessary to finish a ride within the Finish Radius of 5.0 km / 3.1 mi from the starting point, in order for a correct comparison to be facilitated and a CHALLENGE RIDE classification granted. This ensures, to some extent, that the influence of wind is compensated for.



If a ride is finished outside of the Finish Radius, it will be counted as a FREE RIDE and will not appear in the leaderboards.

For rides with Garmin Connect: if the Finish Radius is crossed along the route, the Ride will be counted as a CHALLENGE RIDE if the minimum distance of 25 km / 15.5 mi has been reached when passing through the Finish Radius.

Garmin Data Field

For this purpose, ACTYVO has provided users with an "ACTYVO Dist2Start" data field in the Garmin Connect IQ Store, which provides an indication of the finish radius on the Garmin device. The data field shows the (immediate) distance of the current position to the start location of the ride recording.

This data field can be downloaded free of charge from the Garmin Connect IQ Store and thus added as a data field on Garmin devices.

Garmin Connect IQ Store:

ACTYVO Dist2Start

[Download](#)



ACTYVOLTS «AV»



ACTYVOLTS «AV» are the measurement-units for the performance of a ride with respect to distance travelled in the recorded time along the route profile.

The AV is calculated using a complex algorithm that considers all factors of the rides on different route profiles. The distance rode is divided into segments, each segment is calculated individually in terms of the required power output and elevation profile. The sum of the calculated performance of all segments, considering the total ride time, results in the AV of each ride.

ACTYPOINTS «AP»



ACTYPOINTS «AP» are the units of the user's personal scoring.

Greater distances collect more AP, and CHALLENGE RIDES are also rewarded with higher scores (100%) than FREE RIDES (30%). Users who complete more rides will see their APs grow in the personal stats section and thus climb to higher AP levels, in turn unlocking new bonuses (such as discounts).

ACTYPOINTS are collected over a 12 month period. Collected points that are older than 12 months will expire automatically (floating 12 month rating).

New users start at level 1 – the following levels are stored in the system:

LVL	ACTYPOINTS
1	0 – 499
2	500 – 999
3	1000 – 1499
4	1500 – 2499
5	2500 – 3499
6	3500 – 4999
7	5000 – 7499
8	7500 – 9999
9	10000 – 14999
10	15000 – 19999
11	20000 – 24999
12	25000 – 29999
13	30000 – 39999
14	39999+

Upon reaching the next level, users will be notified and informed about their personal bonus via the provided contact details (email).

The AP statistics of the users are not published publicly. They are only visible to users in the "personal statistics" section in the app.



Make the whole world your own personal race track.

Recording of Rides

For registered users, there are two ways to bring their rides to the ACTYVO platform.

1. Garmin Connect

Using the option available in the app under "Profile" / "Manage Profile", users can connect their ACTYVO account with their Garmin Connect account. Subsequently, the cycling activities and data are synchronized by Garmin Connect to the ACTYVO platform and the data received from Garmin is used to calculate the ACTYVO ride results. (see chapter "GARMIN CONNECT").

2. ACTYVO App

ACTYVO records rides using the built in GPS and barometric altitude sensors of the smartphone hosting the app. To do this, select the ride button in the app and then set the necessary settings on the smartphone so that the ride or the recording of the ride can be started after selecting the distance. The app automatically completes the rides after reaching the selected distance and, if necessary, within the Finish Radius and then uploads the data to the system to calculate the results. After a few minutes, the result will appear in the ACTIVITY list or in the rankings (for CHALLENGE RIDES).

Garmin Connect

This feature allows for the easiest way for a registered user to bring a ride to the ACTYVO platform and thus compare themselves with others.

The coupling and connection of the ACTYVO account with the user's Garmin account (Garmin Connect) allows a ride to be brought to the ACTYVO platform without having to start the ACTYVO Cycling & Challenges app. The results and rankings can then be viewed in the app.

The following requirements are necessary for the recording of rides using a Garmin device connected to the user's personal Garmin Connect account:

- Activity type: Cycling
- The Garmin device must have a built-in barometric altitude sensor (most Garmin devices have a built in barometric altitude sensor)

- Garmin bike computers (Edge devices) or Garmin sports watches are best suited for recording rides.
- Minimum distance for a ride to be considered a CHALLENGE RIDE: 25 km / 15.5 mi
- Finish of the ride within the Finish Radius – 5.0 km / 3.1 mi to be counted as a CHALLENGE RIDE, otherwise the ride will be classified as FREE RIDE.
- Rides that are manually uploaded to Garmin Connect will not be synchronized with the ACTYVO platform



In order for the ACTYVO system to automatically retrieve the ride data from the Garmin device, the Garmin Connect function must be enabled in ACTYVO app and the accounts must be linked correctly.

Subsequently, the ACTYVO system checks whether the conditions of the recorded ride for a CHALLENGE RIDE (minimum distance, Finish Radius) have been adhered to and calculates the ACTYVOLTS.

Since no distance category is selected in advance for a ride with a Garmin device, the ACTYVO system considers the highest distance at which the conditions were met during the evaluation of data.

Example of a recorded ride with Garmin device
(data from Garmin Connect):

-  **DISTANCE: 107 KM**
-  **DIFFERENCE IN ALTITUDE: 1200 M**
-  **RIDE TIME: 4H 30MIN 45SEC**

The ACTYVO system starts the evaluation of the data at the end (at km 107) and checks backwards at which position the Finish Radius has been crossed. If this was the case at km 100, the ride will end at this point (at km 100) and will then be charged. The ride is then assigned to the "100 km" distance category and listed in the "CHALLENGE RIDE 100 km" ranking.

If this was the case between km 75 and 99.99, the ride will end at this position and will be assigned to the “CHALLENGE RIDE 75 km” ranking. This evaluation will continue down to km 25.

Users don't have to do anything more than record their rides with their Garmin devices. All further steps up to inclusion in the rankings are carried out automatically by the ACTYVO system.

Strava Connect

This function can also be found in the user profile of the app and makes it possible to automatically upload completed rides from the ACTYVO platform to the user's personal Strava account. It is NOT possible to download or synchronize ride data from Strava to ACTYVO.





ACTIVITY List

In the app's activity list, all personal rides are listed individually.

Rides can also be shared with others from the activity list via smartphone.

Rankings

The ACTYVO rankings include the results of correctly completed CHALLENGE RIDES (min. distance: 25 km / 15.5 mi, finish within Finish Radius). The higher the ACTY-VOLTS achieved, the better the ranking of a ride.

FREE RIDES or their results do not appear in the rankings, but there are ACTYPOINTS (scoring) for personal statistics.

CHALLENGE RIDES LEADERBOARDS

The rankings of the CHALLENGE RIDES record all correctly completed rides of the users (no FREE RIDES) per distance category.

The rankings for men and women are always kept separately, as the calculations of the results cannot be compared due to factors such as average height and weight

The following filters are offered in the rankings:

- Week / Month / Year (Day coming soon)
- Age Groups : 16 – 24 / 25 – 34 / 35 – 44 / 45 – 54 / 55 – 65 / 65+

Depending on the filter

- Daily ranking (calendar day): ranked according to ACTYVOLTS / participants (here more than 1 ride per user can appear in the ranking)
- Weekly ranking: the best ride (with the highest ACTYVOLTS) of each week / user
- Monthly ranking: the best ride of each month / user
- Annual ranking: the best ride of the year (calendar year) / user

In the rankings, the global time difference or delayed synchronization with Garmin accounts of the users must be taken into account.

Therefore, rides posted in the rankings may be subject to delays.

CHALLENGE SERIES LEADERBOARDS

The Challenge Series is a separate class, which is created according to the following criteria.

- Monthly ranking: the 6 best rides of the month (from the CHALLENGE RIDE ranking) are added per participant - if the participant has made less than 6 rides, then fewer rides will be added and taken into account - e.g. only 4 rides per month
- Annual ranking (calendar year): the supreme discipline of the application, here the best 6 monthly rankings (from the CHALLENGE RIDE monthly ranking) are added together and included in the ranking list - again, if the participant has less than 6 monthly results, fewer results will be added here as well.

The results will be recorded for each distance category as in the CHALLENGE RIDE ranking.

Calculation & Algorithm

ACTYVOLTS are calculated using a complex but accurate algorithm. In doing so, all fixed and individual factors of the rides on different route or altitude profiles are considered.

The total route is divided into individual route segments. The service to be provided for the completion of the route segment is calculated, taking into account the

altitude profile (ascent, descent), travel time and distance of the individual route segment.

The sum of all segments performance values of a ride and considering the total ride time of a ride, results in ACTYVOLTS.

Fixed factors in the calculation:

- Uniform \emptyset height and weight (different for M/F, there fore also separate rankings) – M: 178 cm / 75 kg – F: 165 cm / 60 kg
- Weight bike (9.5 kg)
- \emptyset Cadence (90)
- \emptyset Temperature along track (20°C / 68 F)
- Top of handlebar or triathlon position (air resistance) depending on the route segment profile
- Racing tire (narrow)
- Road surface medium-fine

Variable factors:

- Altitude of route segment (air density, air resistance)
- Slope % of route segment

Factors not considered in calculation:

- Route geometry (curvy, straight track segments)
- Weather factors (precipitation, visibility)
- Traffic situation along the routes.

The wind or the wind direction is a not insignificant factor. Therefore, the Finish Radius was considered in order to finish a CHALLENGE RIDE correctly. This is intended to enable fair comparisons of rides on different routes and their profiles, no matter where in the world.

The calculation algorithm also considers, for example, factors such as route segments / subsequent segments with counter-ascent in order to compensate for the “carried speed” in counter-ascents after downhill segments. For this purpose, maximum power values and maximum speeds are taken into account.

The track segments are defined by vertical height differences of +/- 4m, and smoothing mechanisms are also used by the algorithm.



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