



mySASY

mySASY User Manual

version 3.1

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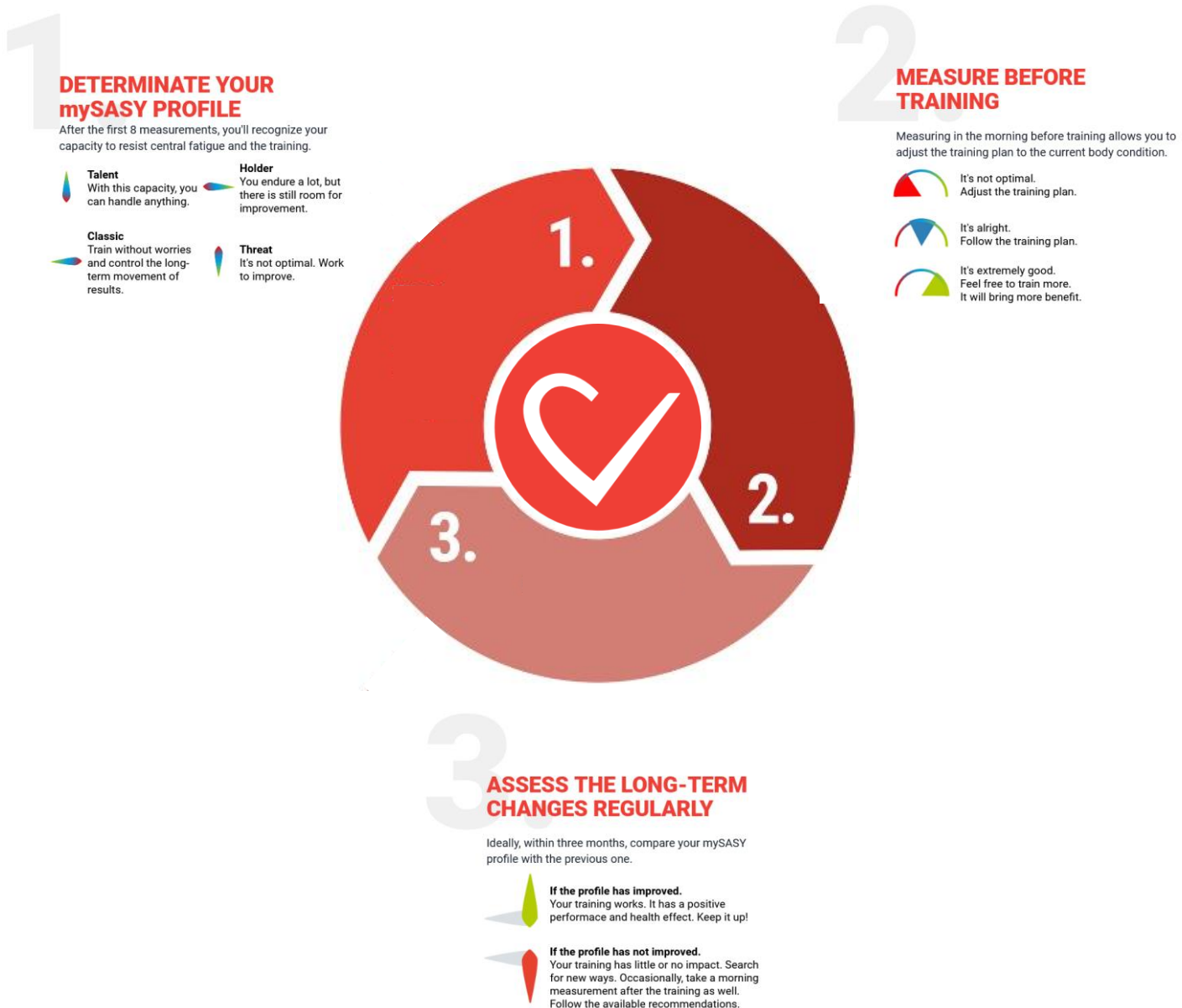
Overview

What is mySASY?

mySASY is a diagnostic system which by using a mobile phone and HRV monitor, allows you to easily and very accurately assess the activity of a key system in the human body, i.e., the Autonomous nervous system (ANS). Autonomous nervous system controls the most important processes and condition of the human body. With the help of mySASY measurements you can keep track of your long-term and/or immediate organism response to the selected workout, watch the overall load and significantly improve the training efficiency.

Three smart steps to the efficient and safe training

It is only three smart steps you need to follow and you will experience a change within three months. For more information on working with mySASY results, see Chapter [“Assessing results of SA HRV monitoring in mySASY”](#).



HRV monitor

To measure with mySASY application you need a heart rate monitor chest strap (HRV monitor). This can be purchased or hired from our [eshop](#).

If you already have an HRV monitor you can use your own. For monitoring with mySASY, the device needs to meet the following technical requirements:

- It must be connectable via Bluetooth.
- It must be able to measure the RR interval (pulse) with accuracy of one-thousandth of a second(0,001).

It should be possible to verify the above parameters with the HRV monitor manufacturer.

Despite the fact that monitors from other manufacturers meet these parameters, mySASY a.s. is not able to guarantee the measurement accuracy of any third-party devices.

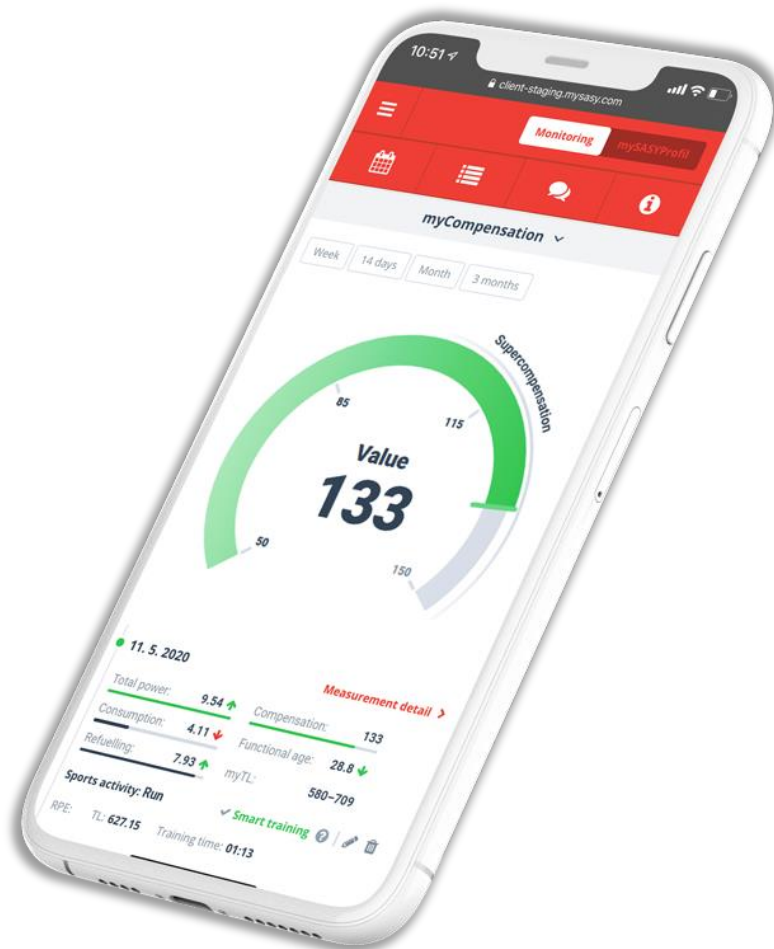


How to work with mySASY?

To work with mySASY these 4 steps are followed:

1. Mobile application download.
2. Creation of a user account.
3. Mobile application set up and its synchronisation with the HRV monitor.
4. SA HRV monitoring and results assessment.

Note: Due to the ongoing development of the mySASY system, some images especially the application demos may differ from the actual version. However it should always be clear where to find the described feature and how to use it. In case of any doubt, please contact us at support@mysasy.com.



Step 1. mySASY Training application download to your mobile device

mySASY mobile application is designed for devices (mobile phone/tablets) with the Android (version 5.0 and higher) and iOS operating system – (version 13.2 and higher).

To transmit a signal, your mobile device needs Bluetooth 4.0 / BLE (Bluetooth Low Energy).

mySASY Training mobile application is designed to measure and display the basic results.

Trainers with TEAM program do NOT need this application.

The application can be installed as follows:

1. Open the app store in your phone/ tablet (Android - Google Play, iOS - AppStore) and search for **mySASY Training**. Alternatively, you will be redirected by clicking the buttons below. The links for a download can be also found on our website - www.mysasy.com.
2. Download **mySASY Training** application and complete the installation



Step 2. Creation of a user account

To obtain an individual account you need to register. (image 1). If you already have an account you can just log in.

The account is non-transferable thus it is necessary to always activate your own individual account!

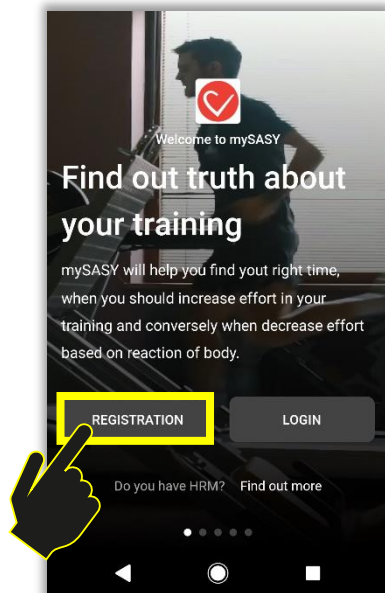


Image 1
(Android)

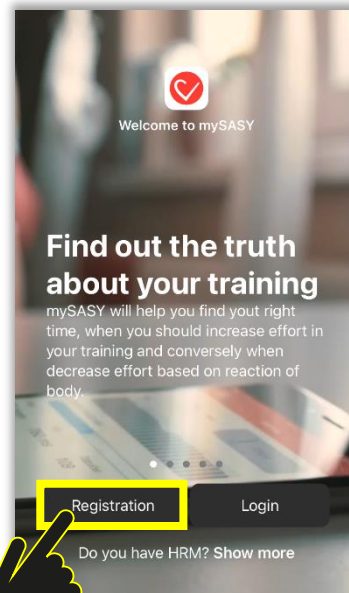


Image 1
(iOS)

You can register using a number of options (image 2).

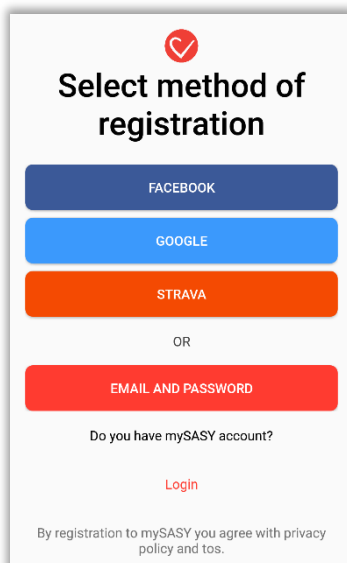


Image 2
(Android)

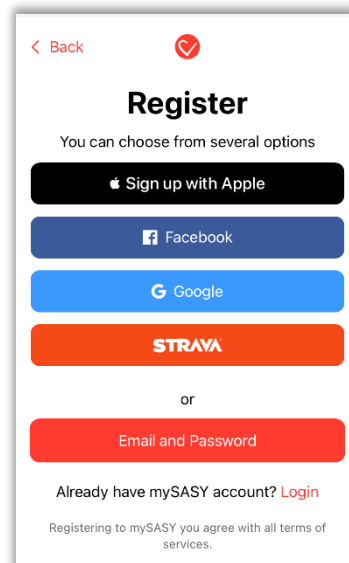


Image 2
(iOS)

Step 3. Mobile application set up and synchronisation with an HRV monitor

Upon the first application opening it is important for all devices with Android operating system to do the following: 1. to allow to pair the device with an HRV monitor you need to enable the position-providing and 2. to save measurements in an offline mode you must allow the access to your files/ depository (image 3).

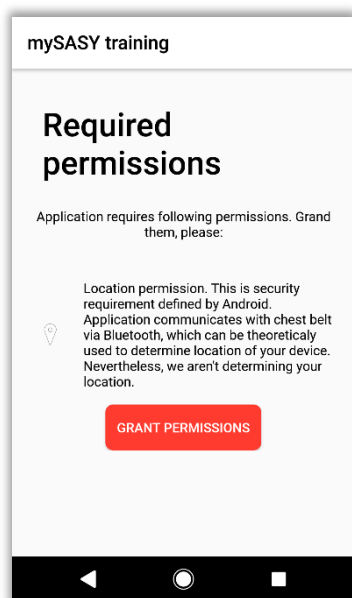


Image 3 (Android)

mySASY Training application set up

If you already have mySASY account, you can log in. (Image 4). Please be aware that if you log in by using another account (e.g. Gmail, Facebook, etc.) you need to ensure a cross connection with mySASY account. If you do not have an account you can set it up. (ref. Step 2 above)

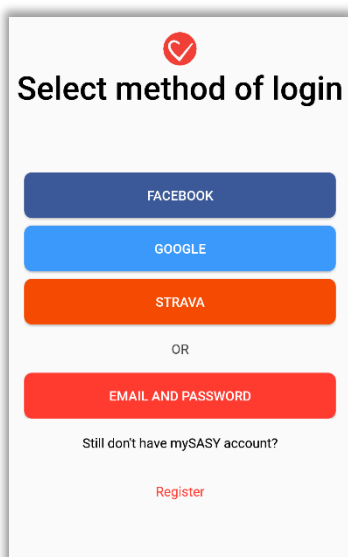


Image 4 (Android)

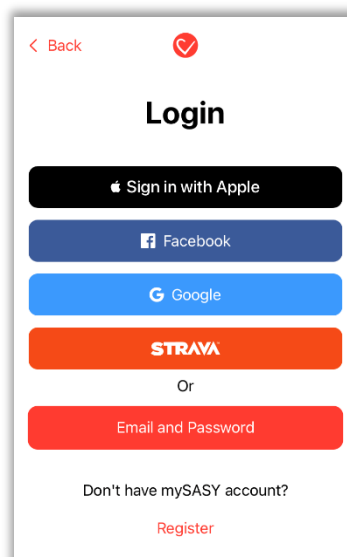


Image 4 (iOS)

HRV monitor

Position the HRV monitor on your chest just below your sternum (image 5). Ideally by using ECG gel, wet the electrodes as well as your skin to allow the most accurate transmission. Tighten the strap enough (the system scans data with high accuracy so it is necessary to have the strap snug enough with your body). Please ensure the mySASY logo on the monitor is in a readable position, i.e. it is not upside down.

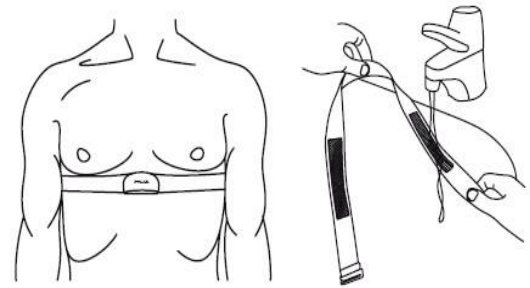


Image 5

HRV monitor synchronisation with mySASY application

To synchronise the HRV monitor you need to enable the Bluetooth function in your mobile device. During the synchronisation it is necessary for your mobile phone to avoid Bluetooth pairing with another device (*e.g. watch, sport tester, wristband, etc.*)

After you have checked the Bluetooth functionality and put on the chest strap you can start with the pairing process. You start the process by hitting the „ Start“ button in the „Dashboard“ section of the application (Image 6). After the basic steps check, the application will automatically launch the Bluetooth search of devices nearby.

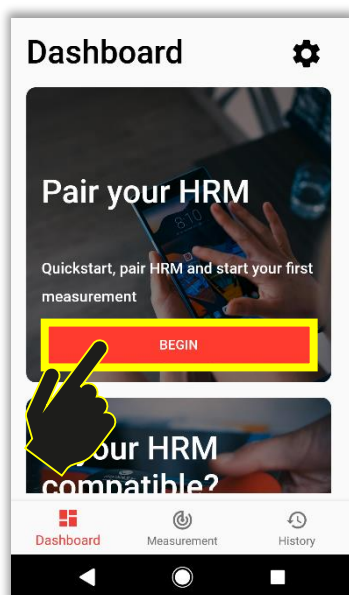


Image 6
(Android)

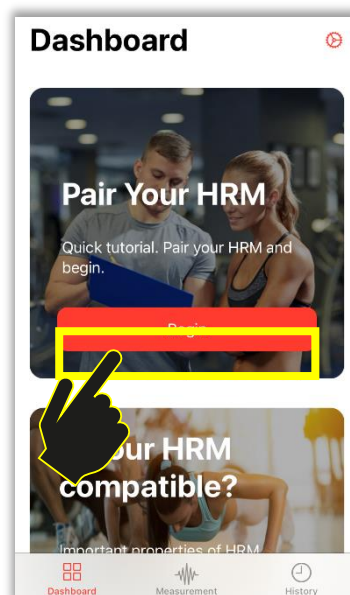


Image 6
(iOS)

In case your monitor meets all the technical requirements, it is correctly put on and the Bluetooth function is not modified by another device or another function of your mobile phone, the monitor appears on the list of searched devices. Select your monitor by clicking on its specification/name (Image 7, arrow 1). After the monitor selection you can continue to the verification step (Image 7, arrow 2). After the verification the pairing process is complete.

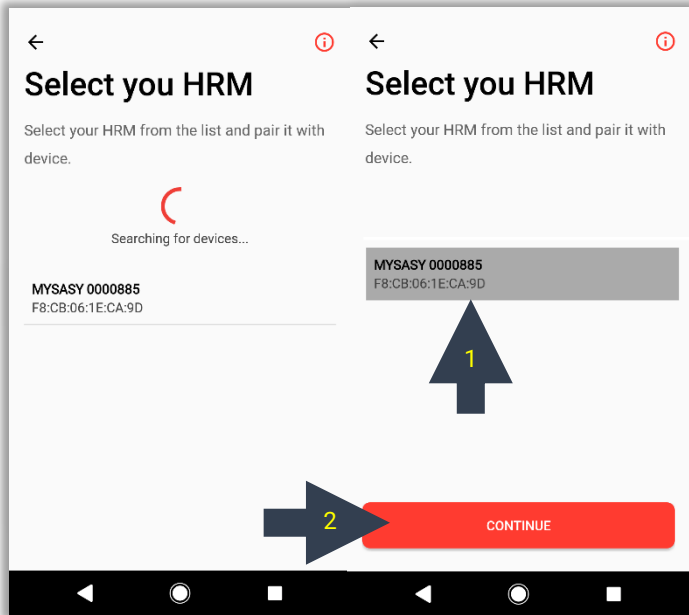


Image 7 (Android)

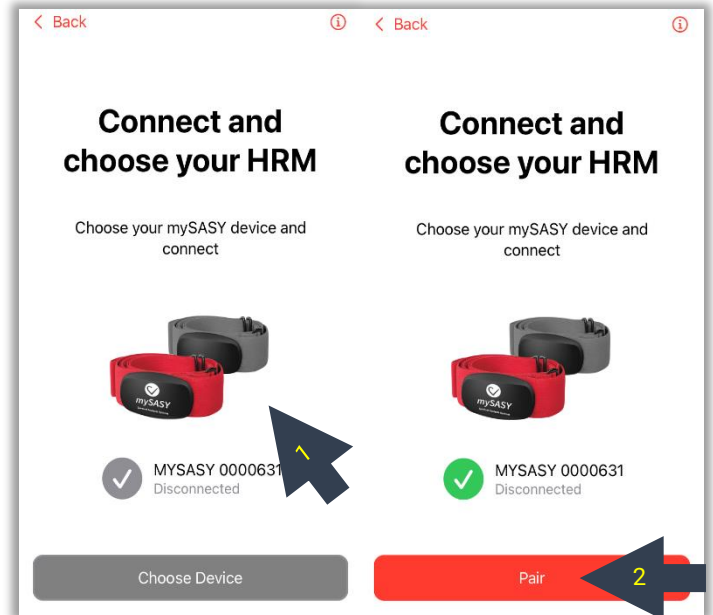


Image 7 (iOS)

When the pairing process is completed you can continue to the „Measurement“ section where the connected monitor displays your instant heart rate and the RR interval length (image 8). Once the HRV monitor data appears and the heart rate scanning starts recording, the application can start to measure (ref. Step 4).

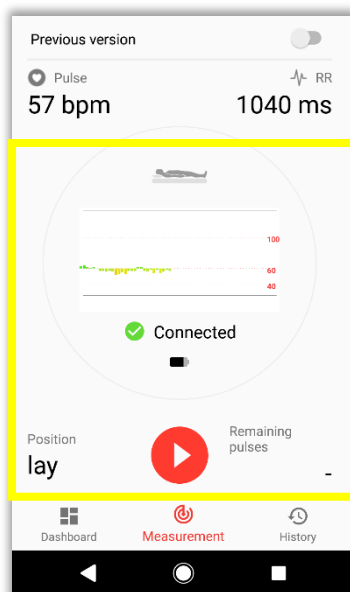


Image 8 (Android)

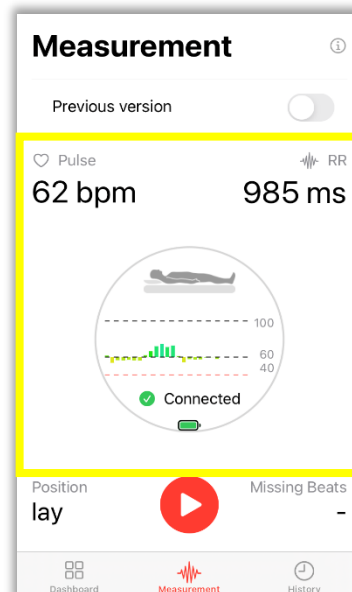


Image 8 (iOS)

To pair with another monitor or to repeat the process of synchronisation with the same monitor, you can go to the application settings – the „Dashboard“ section in the top right hand corner (Image 9), option „Pair devices“.

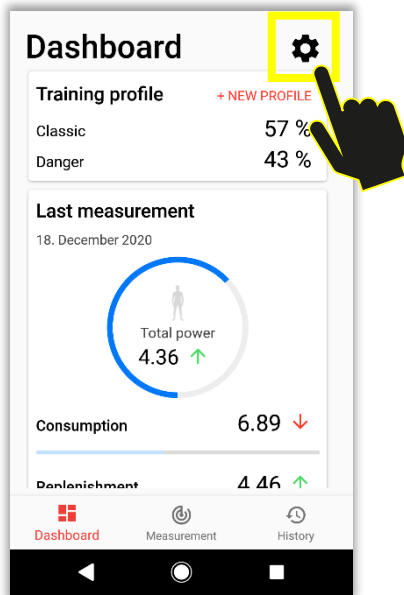


Image 9
(Android)

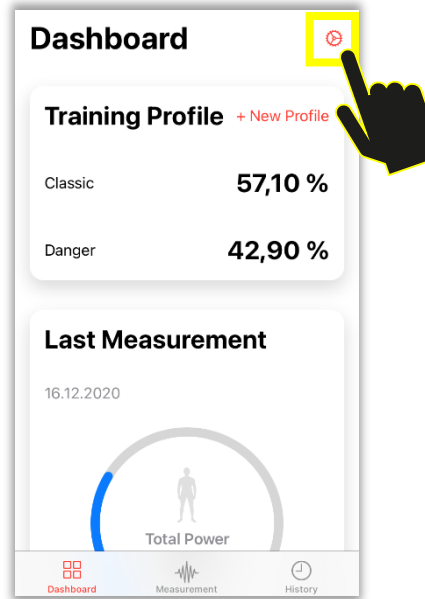


Image 9
(iOS)

Should the pairing process with the monitor fail or should the data in the measure section not appear, it is advised to restart the application as well as the mobile phone and try to repeat the process. In case the issues persist, please contact us at support@mysasy.com.


Step 4. SA HRV monitoring while using mySASY application

To ensure maximum accuracy of mySASY results, it is necessary to follow the basic methodical procedures during the measurement taking. **This means, take the mySASY measurements in a resting condition avoiding any other activities (e.g. walking, morning hygiene routine, speaking, etc.), ensure you have placed and moistened your chest strap correctly.** Before measuring, make sure that the basic settings and connection of the HRV monitor have taken place - see. [Step 3](#))

The measurement is available in the two following versions:

- A. New version (~4 min.)
- B. Previous version (~15 min.)

(The length of the measurement may vary slightly depending on your heart rate.)

The measurement version can be set with the switch button at the top of the "Measurement" section (Figure 9). If the button is switched (colored), the Previous version is set; if it is not switched, the New version is set. You start the measurement with the "START" button .

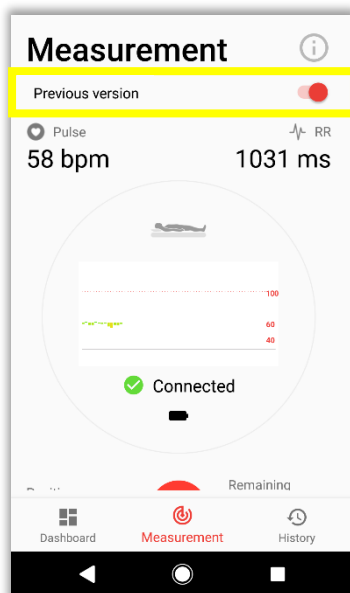


Image 9
(Android)

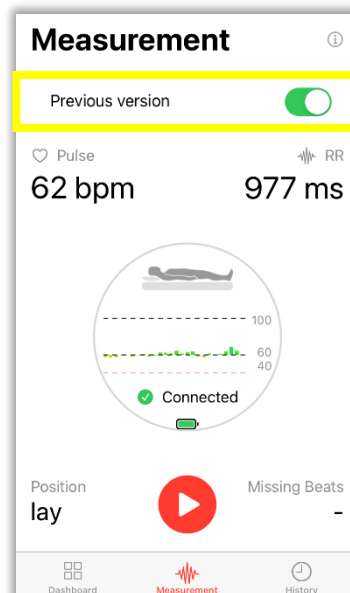


Image 9
(iOS)

Measurement process

The measurement always takes place in two positions and 3 phases, in which the required number of heart rate intervals sensing.

New version: 1. Lay (sensing 22 beats (~ 0.5 min.)), 2. Stand (sensing 55 beats (~ 1 min.)), 3. Lay (sensing 110 beats (~ 2 min.)). A total of 187 beats (~ 4 min.).

Previous version: 1. Lay (sensing 120 beats (~ 2 min)), 2. Stand (sensing 360 beats (~ 5 min)), 3. Lay (sensing 360 beats (~ 7 min)). A total of 840 beats (~ 15 min.).

The application will always show you the specific position in which the scan should take place. The application notifies you when the position changes with a vibration and an audio signal.

(You can adjust the volume of the audio alert by adjusting the media volume on your mobile device).

Click the START button to start the measurement (Image 10).

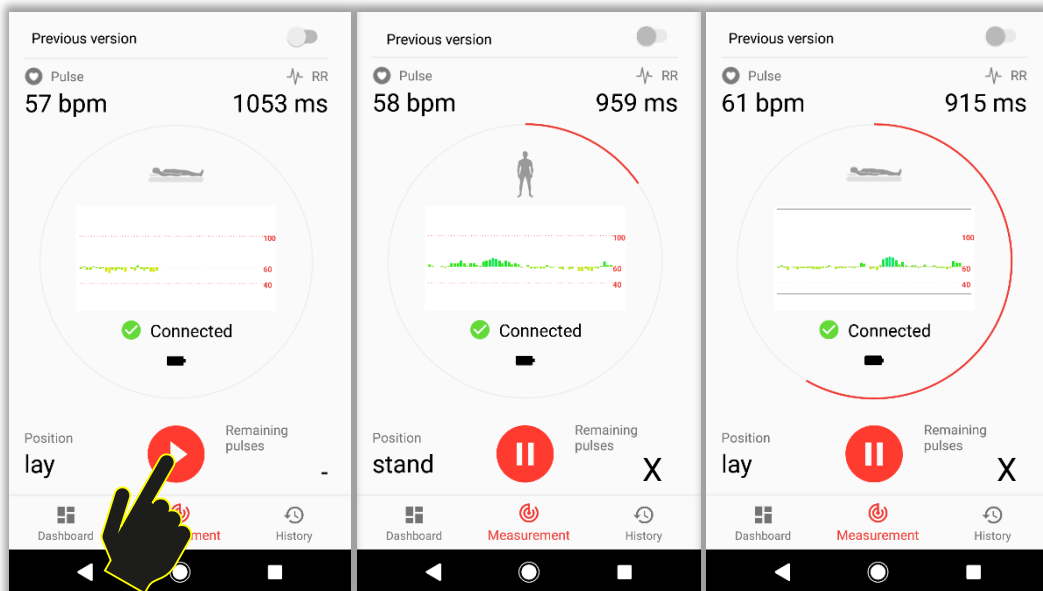


Image 10
(Android)

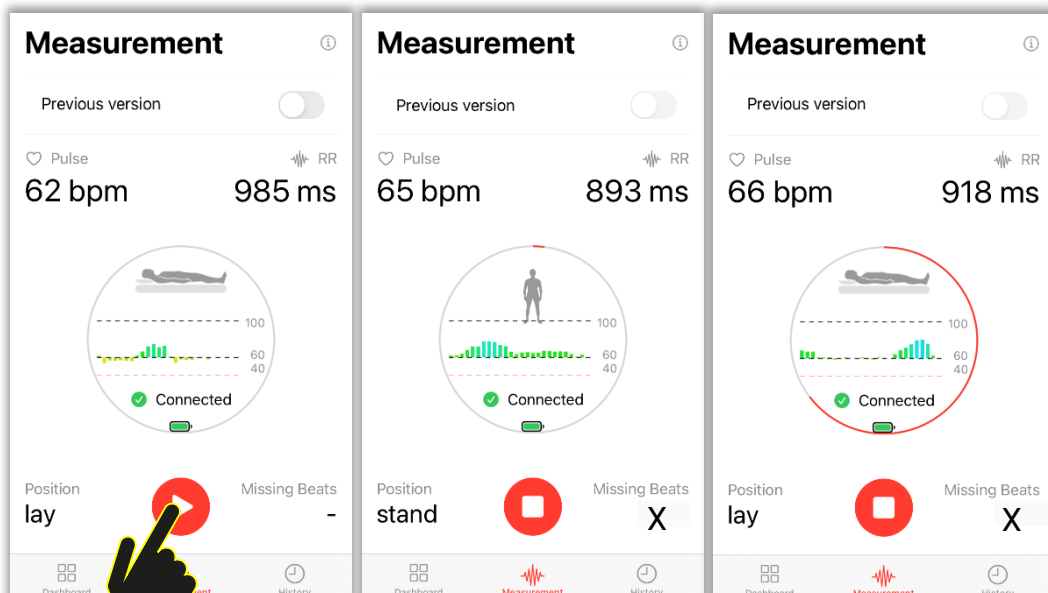


Image 10
(iOS)

At the end of each measurement it is important for you to complete a closing questionnaire about your experience and perception of the completed training. After the completion you can send the data for evaluation by hitting the “Finish” button (Image 11). To be able to send data you need a stable internet connection. The result is immediately available to be viewed in your individual online account.

The provided experience and perception information is reflected in the result verbal recommendation.

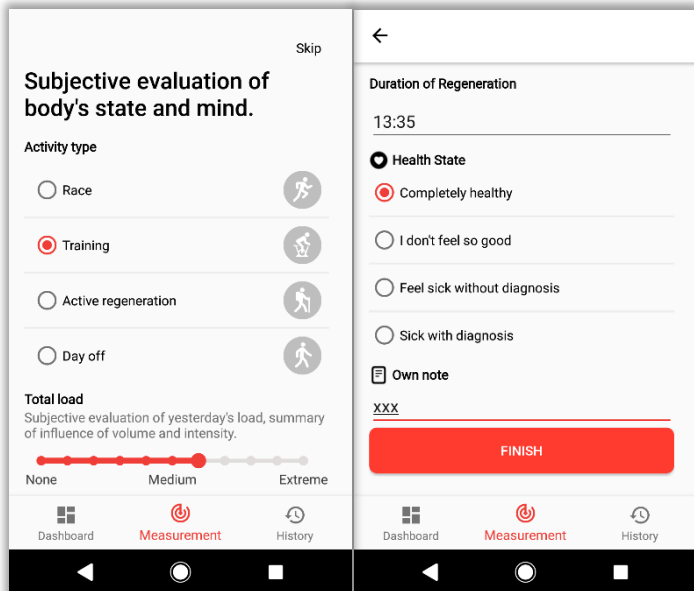


Image 11 (Android)

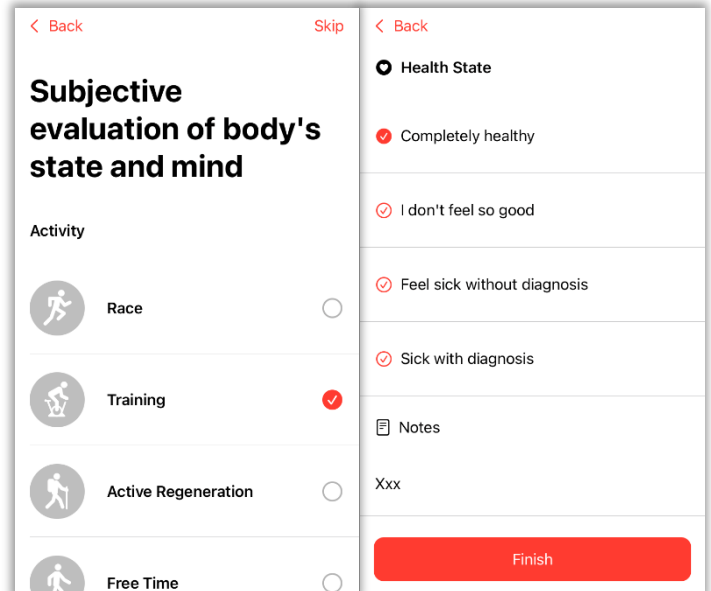


Image 11 (iOS)

If you complete the measurement without internet access (offline), you can send the measurement data at a later stage when you are connected to the internet again. This can be done by using the „Send“ button in the "History" section (image 12).

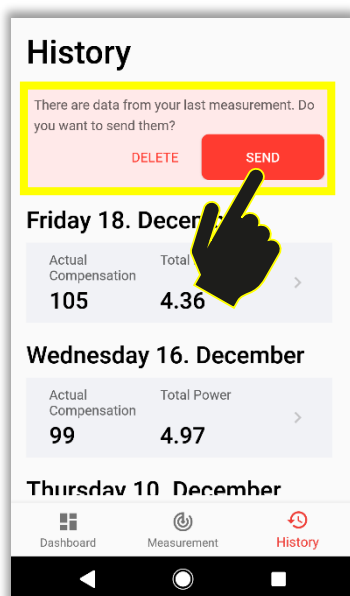


Image 12 (Android)

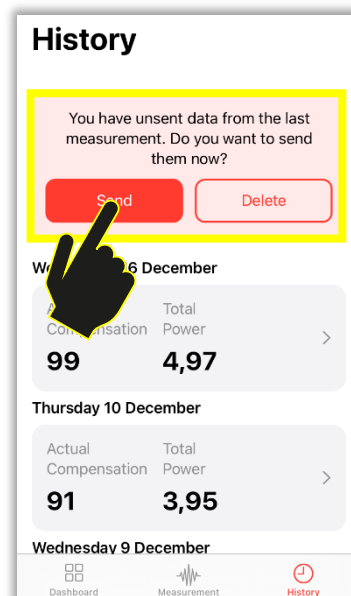


Image 12 (iOS)

After completing a successful measurement and data sending you can display the respective result in your account directly. You can do so by clicking at the desired data record in the “History” section. (Image 13)

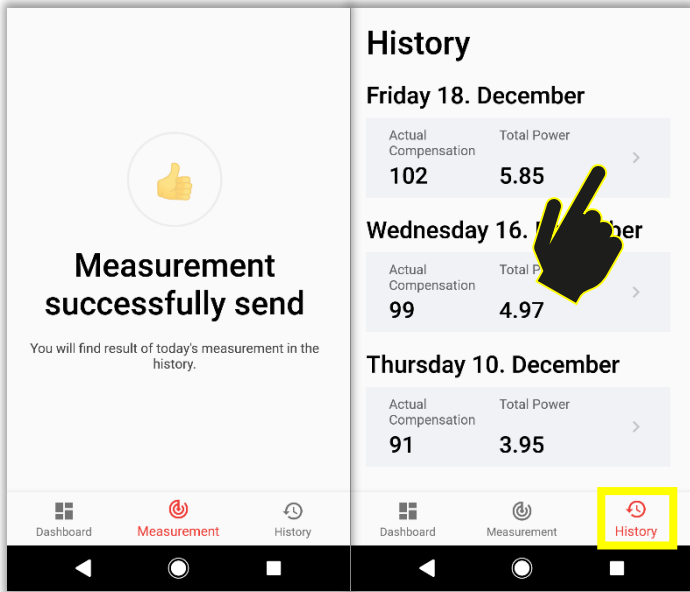


Image 13 (Android)

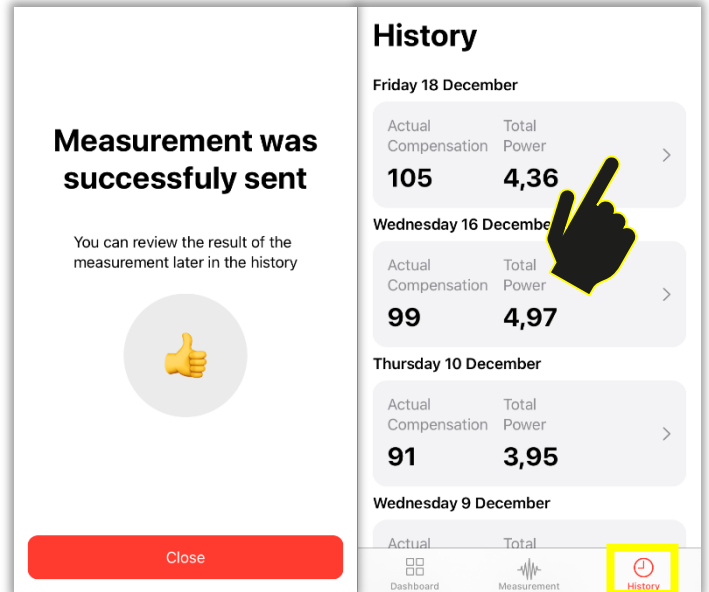


Image 13 (iOS)

You can access your results data at any time by logging in at www.mysasy.com (Image 14), alternatively directly on the website at <https://client.mysasy.com> (Image 15), using whichever internet browser available. Upon your correct login details input you can enter your account.

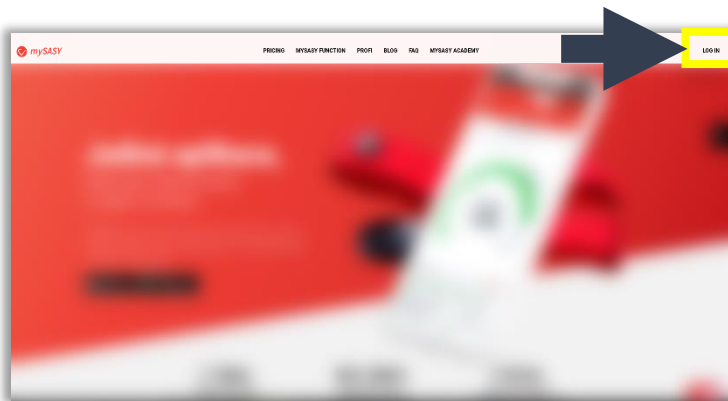


Image 14

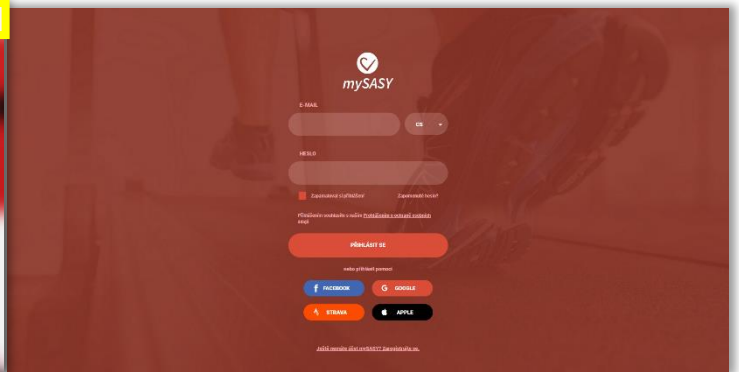


Image 15

Displaying results

Video Tutorials

To learn about the basic principle of my SASY system, you can watch 4 available tutorials with a description of main functions and ways how to interpret the results. You can simply access these following the links below, or at our blog at <https://mysasy.com/blog>, or in the mySASY Training mobile application in the bottom “Dashboard” section (Image 16).

[Tutorial 1 – mySASY basic information](#)

[Tutorial 2 – myCompensation and myFunctional Age](#)

[Tutorial 3 – myTraining module](#)

[Tutorial 4 – mySASY Profile](#)

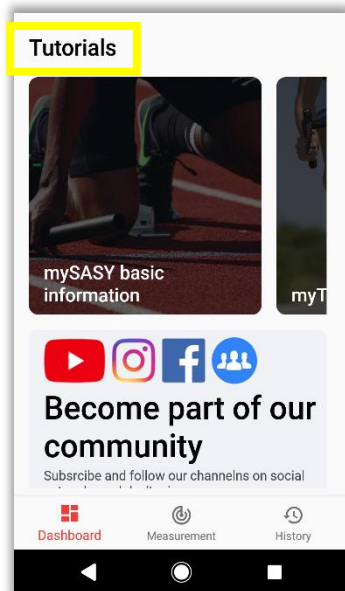


Image 16
(Android)

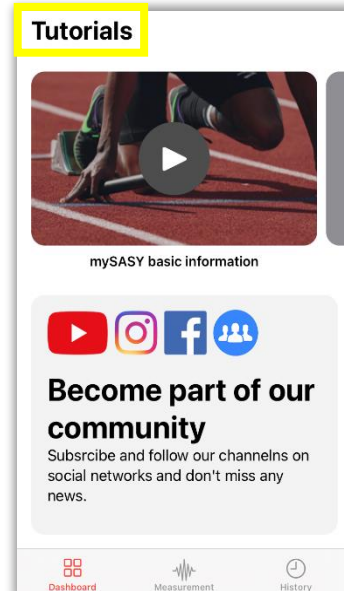


Image 16
(iOS)

1. myHRV

This chart (Image 17) shows the tune of the organism over the selected period (ANS activity). The result is indicated by the point: circle standard measurement / square short measurement. You can use the calendar to view and compare results for any time period you choose. The numbering of each result is in the order from newer to older records (most recent measurement = 1). Working and interpreting the results is described in the chapter [Step 4. Working with results of SA HRV monitoring in mySASY](#).

Representation of key information in the chart:

- **Refuelling** - location of the point on the X axis = the level of regeneration/ replenishment of organism resources (parasympathetic).
- **Consumption** - location of the point on the Y axis = the level of activation/ consumption of organism resources (sympathetic).
- **Total power** - (point size) the overall performance of the evaluated (Autonomic nervous) system without considering the distribution of activity between the individual branches. The lower the value, the lower the overall activity of the system and the less it makes sense to deal with the balance between Refuelling and Consumption.
- **Total score** - evaluating the overall performance and mutual balance / tuning of both branches of the system. The higher the values, the more the organism is regenerated, better prepared for further stress.

(values are listed in the table, which is displayed after clicking the result in the myHRV chart)

Heatmap mode button

Heatmap shows the individual coloring of results (positioning and movement of values within the individual spectral profile). The function is available after 8 standard measurements and is continually updated. The mode can be switched on/ off.

Only standard measurement button

This option appears only if you have more than one measurement per day.

Button on – shows only results marked as "standard".

Button off – shows all measurements made within the selected period.

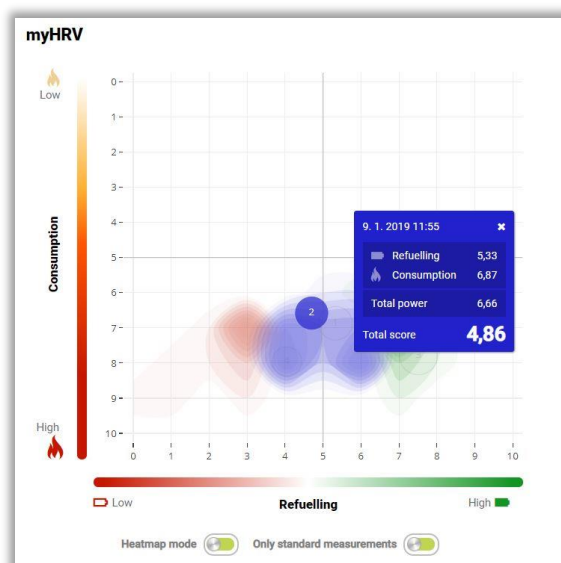


Image 17

2. myCompensation

The value of the current compensation (Image 18) is determined based on a comprehensive comparison of the current measurement result with the results of previous measurements, the so called individual spectral profile. Therefore, this value is shown for the first time after 7 measurements, which suppose to be made over maximum 20 days.

The compensation level helps determining the appropriate regime for the following training load. How to work with the compensation results is described in the chapter [Step 4. Working with results of SA HRV monitoring in mySASY](#).

Verbal recommendations

The basic recommendation is created algorithmically based on the results of current and previous measurements and information entered into the training load questionnaire that appears at the end of each measurement (the accuracy of the recommendation is directly dependent on the accuracy of the data entered in the questionnaire).

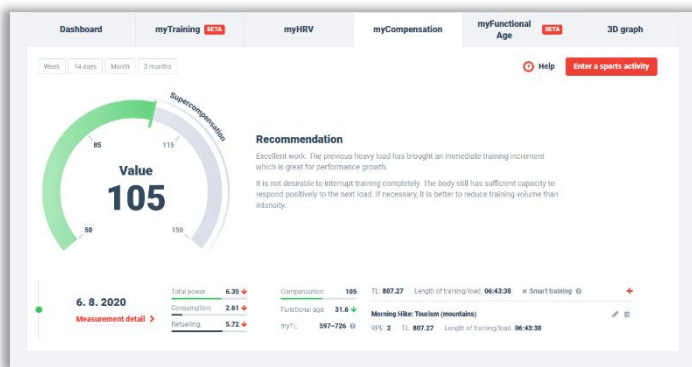


Image 18 (marking one result/day)

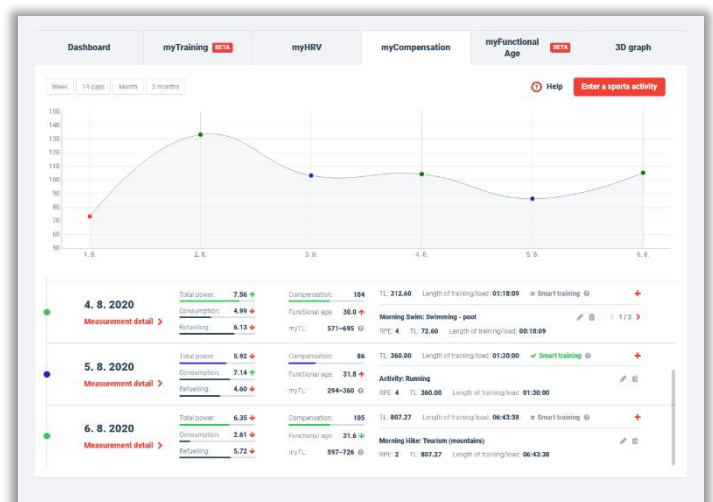


Image 18 (marking multiple results/days)

3. myTraining

This module (Image 19) integrates data about your training with data about your long-term and current organism condition. Based on this information the module prepares the optimal training recommendation as well as the evaluation of your long-term training efficiency. The information is compiled from your recorded training load and its combination with individual data obtained from the HRV.

The training data can be input based on the following 3 parameters:

1. RPE parameter (rating of perceived intensity) + time. The parameter can be input in mySASY manually or by a synchronisation with Strava FREE account.
2. Relative Effort parameter (from the Strava system). The parameter can be input in mySASY manually or by a synchronisation with Strava Premium account.
3. TSS parameter (from the Training Peaks system). The parameter can be input in mySASY manually.

Rem. If you do not use any of the above mentioned systems, please use the RPE option. The parameters can be changed but cannot be combined.

The first recommendation appears after 10 standard measurements with a entered sports activity recorded in the last 60 days. The system accuracy depends on the amount of data recorded. The more data and reactions are recorded the more accurately can system work.

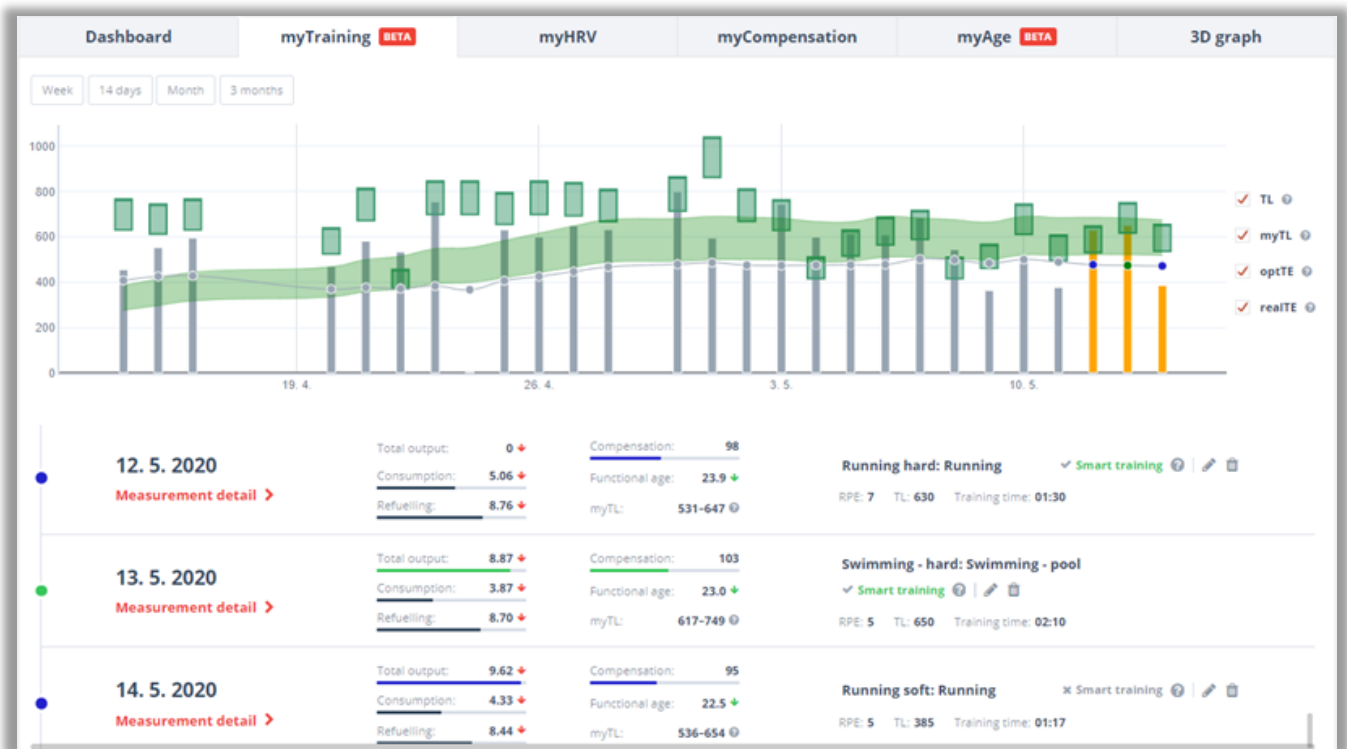


Image 19

Parameters of the module My Training:

mySASY Training load (myTL) – this is where mySASY defines the extent of the recommended training load evaluated based on the combination of the current and long-term state of your organism (image 20).

Base values correspond to the base values input in the system (RPE, TSS, RE).



Image 20

Training Load (TL) – introduced training load, visualised by the bar height (Image 21).

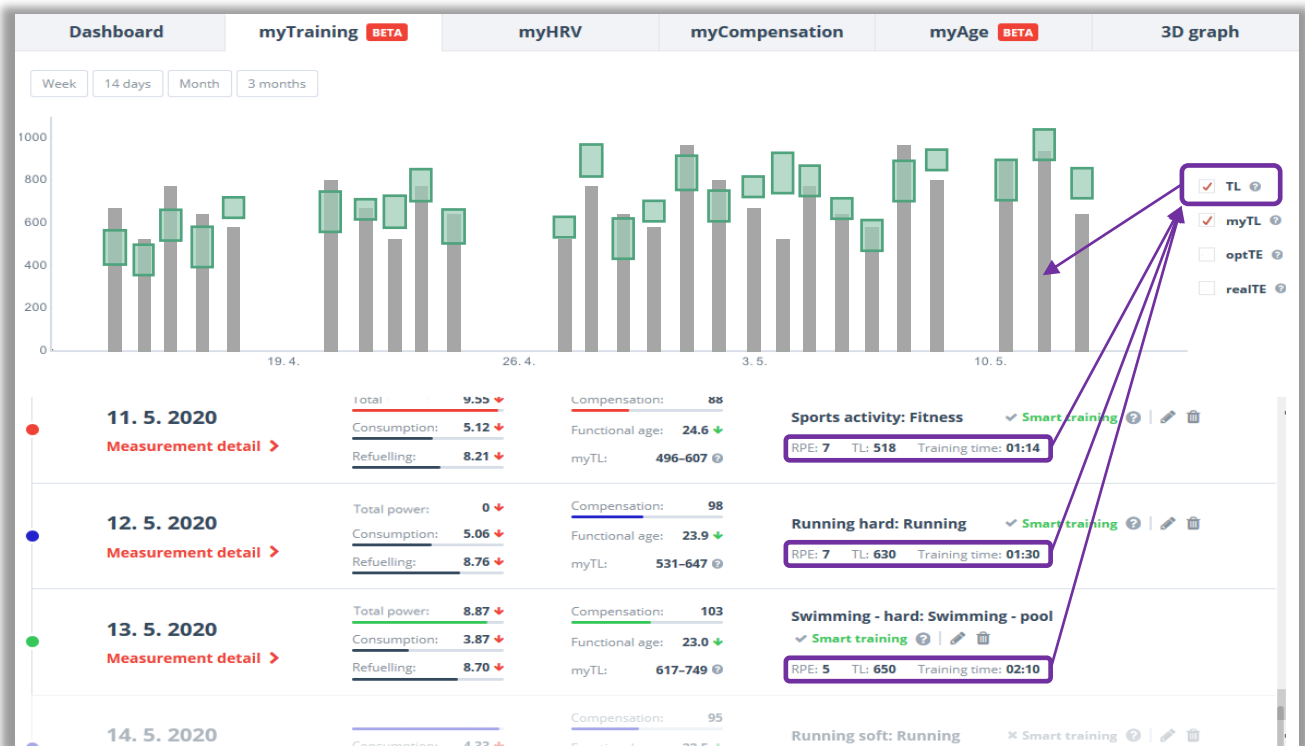


Image 21

Parameters of the module My Training:

Optimal training effect (optTE) – shows the range of the optimal effect of training, which the user can achieve with his dispositions and values of measurement and training while following the recommended procedure (Image 22).

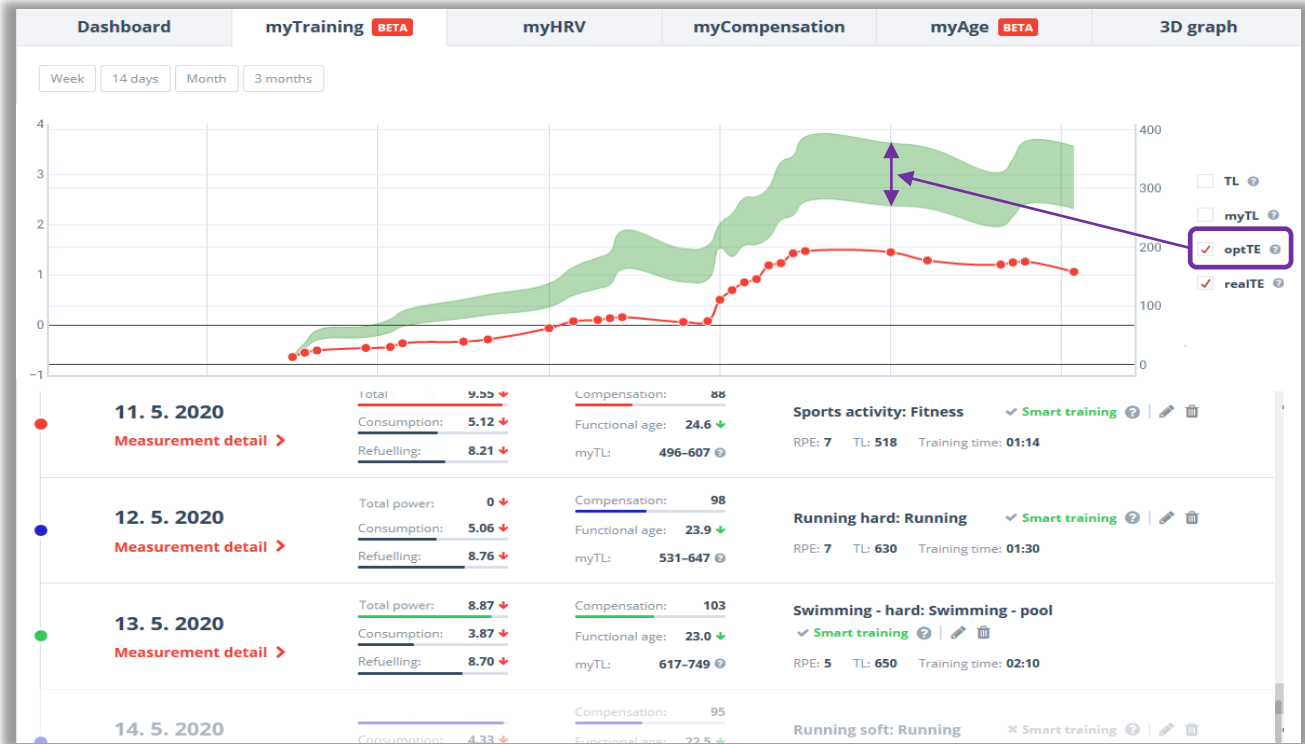


Image 22

Real training effect (realTE) – shows what the real effect of the training is. The trend development of the value/s indicates what the overall complex effect of the realised training is (Image 23).

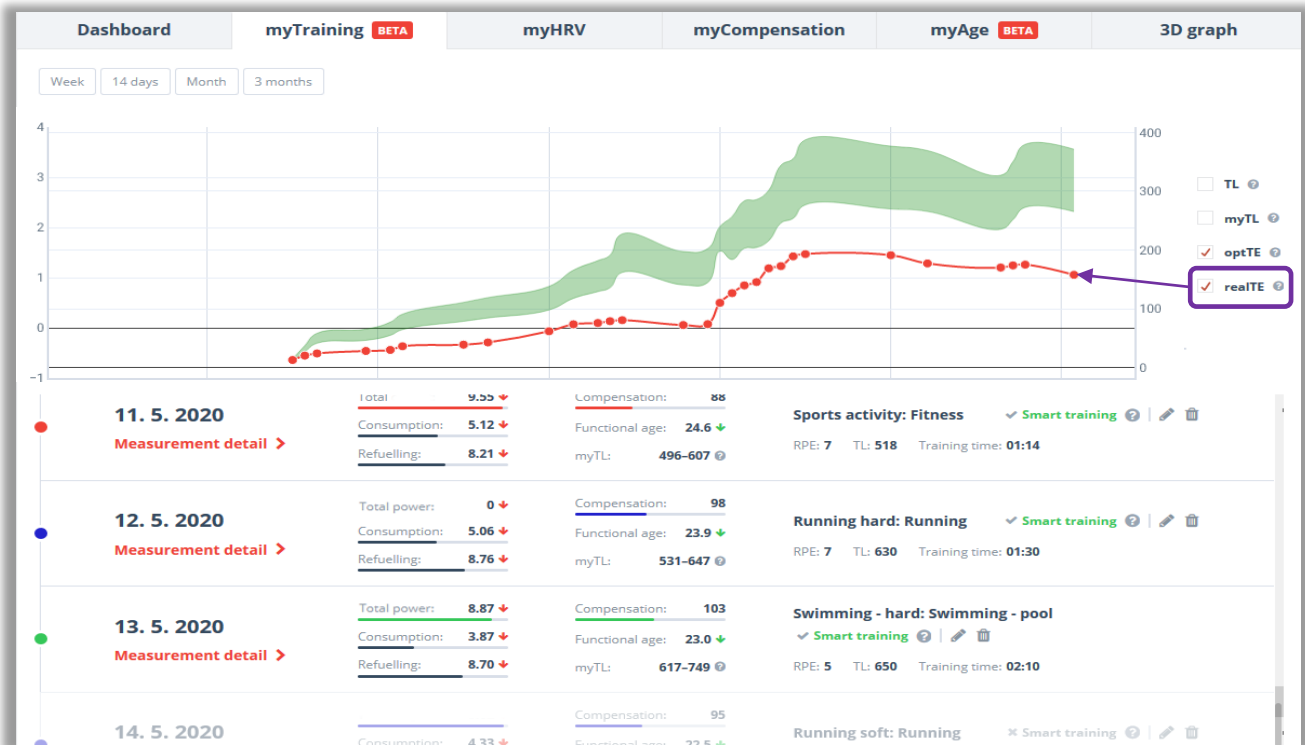


Image 23

4. myFunctional age

Functional age (Image 24) corresponds to the organism's ability to withstand stress, load and impulses from the external environment and overall health. It allows you to determine the real Functional age of the organism and compare it with the calendar age. In addition to the current Functional Age, we also determine the individual range in which the values of a given individual are usually located (this requires at least 7 measurements).

You can monitor the current value as well as the long-term development of values. The trend of changing the age of the organism and its dynamics is plotted using the direction, color and number of arrows. If the Functional Age is lower than your actual age, your body is better off than it would correspond to the average in the given age group. If the value is higher, the opposite applies.



Image 24
(marking one result/day)

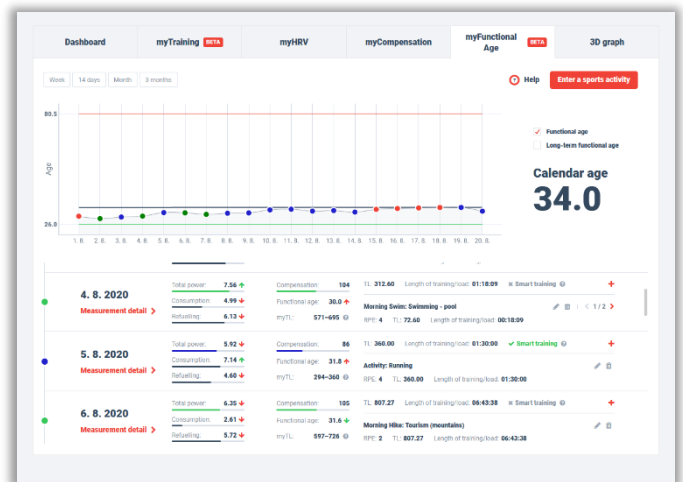


Image 24
(marking multiple results/days)

4. 3D graf

The 3Dgraph (Image 25) graphically and tabularly presents the results of spectral analysis of heart rate variability in the form of absolute values (= all values that are the original output of the mathematical statistical method used). Values are in accordance with internationally accepted standards ([Link here](#)). This functionality is only in the program SPORT and SPORT+. All the values can be exported.

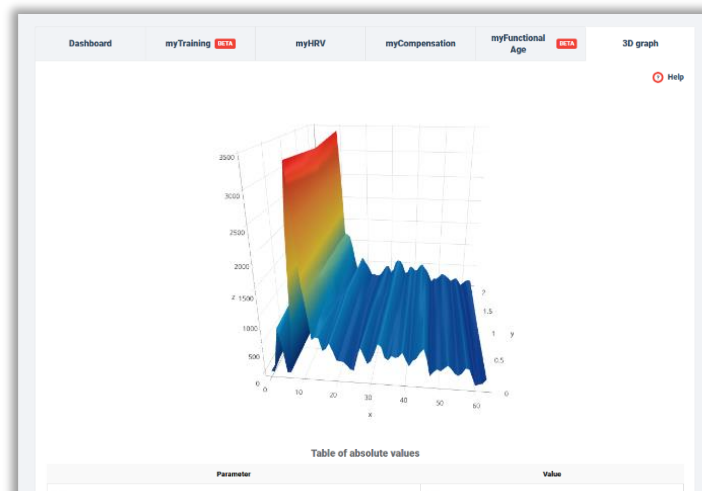


Image 25

Assessing results of SA HRV monitoring in mySASY

1. mySASY Training profile (Tp)

mySASY profile evaluates and graphically displays the body's ability to withstand central fatigue, physical and mental stress. It is determined by evaluating 8 standard mySASY results in the monitored period (usually 30 days). The function is available in the tab of the same name on the top bar of your account.

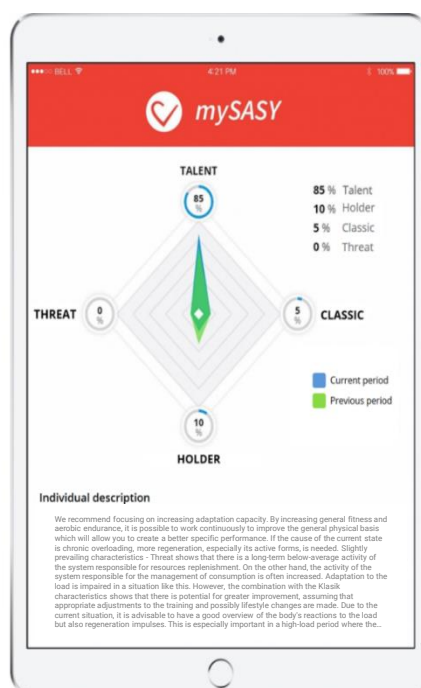
Determining an individual mySASY Training profile is an important basis for working with mySASY. The profile describes the initial state of the organism and helps to reveal the space for adjusting the training / regime. Long-term monitoring of changes in the profile will help control the effectiveness of training adjustments. Monitoring the body's response to individual types of stress and regeneration provides important information for defining the optimal training approach. The current individual disposition of an individual (mySASY profile) is influenced by long-term and medium-term factors.

The long-term factors affecting the mySASY Training profile:

- 35–45 % genotype (genetic predisposition)
- 55–65 % phenotype (long term disposition = influenced by previous lifestyle, training, stress,...)

Medium term factors affecting the mySASY Training profile:

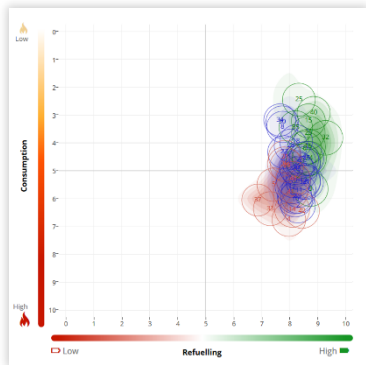
- Current health condition, phases of the training process
- Factors influencing the central management of the organism (sleep, stress, motivation, emotions, Nutrition,...)



4 basic types of Tp were identified in the analysis of tens of thousands previous measurements. The determination of individual Tp is then based on a comparison between individual results and defined basic types or their combinations. Results also include a detailed analysis of the impact of individual training days on the overall training regime.

It is clear from the names of the basic Tp types that some are more suitable for sports training than others. However, it should be added that for each Tp type, appropriate adjustments in the training regime can be identified which may lead to further training improvements.

Tp types and their basic description:

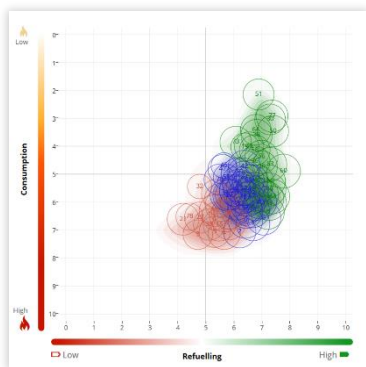
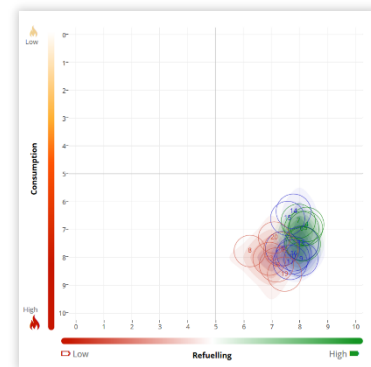


1. Talent

The steady high activity of recovery system balanced by the significant response of the system responsible for activation. Excellent disposition for training. Excellent adaptation after every training/load. Low risk of overloading and overtraining. mySASY will help to find the right training regime to achieve further performance growth and preventing stagnation.

2. Holder

Significant stability of Regeneration and Activation system. Constant slight activation of the system responsible for resource consumption prevail. Low risk of overload and overtraining, but low adaptation response to the training load. The recommendation is to include stronger training impulses and see if they stimulate an adaptation response that is a condition for training improvement. Training can be further intensified if mySASY monitors the risk of overloading.

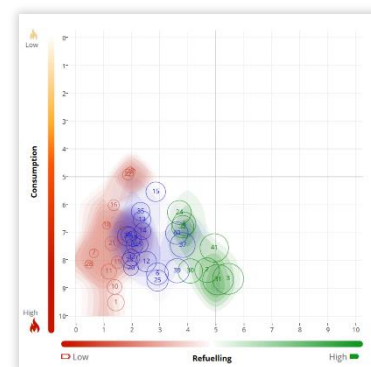


3. Classic

Both the regeneration and activation systems react adequately dynamically. Good disposition for training with good organism response to load enabling quality feedback control of training. With mySASY you can try adjusting the training load without the risk of overloading. At the same time, it will allow you to identify impulses which stimulate adaptation that is a prerequisite for training improvement.

4. Thread

The low level of the recovery system is often accompanied. Low activity of the recovery system is often accompanied by a significant negative response of the activation system to load / stress. The current training regime is not optimal. It is possible to identify situations that pose a threat of overloading or chronic deterioration. mySASY will help you find impulses that will help stimulate better adaptation of organism. As a result, the adaptation capacity of the organism can be gradually increased.



Identify impulses that cause significant ANS reactions

Determining the T_p will reveal individual capacity to resist central fatigue and to cope with training. That verifies the basic reactions of body to the training impulses. Among these impulses, it is possible to identify the significant extreme results of the T_p (red and green) and compare them to the activities that preceded the results. Based on this comparison, it is possible to edit and refine each aspect of your training regime.

In principle, it is advisable to avoid results signaling previous low efficiency or overloading impulses/ regime. The long-term (3 or more consecutive results) occurrence of such results is not desirable as it may indicate a tendency to deteriorate the ANS adaptation capacity. Training in this state does not bring the expected effect. In such cases, it is better to adjust the training so that it would be primarily aimed at increasing the adaptation response. Signs of increased adaptation should occur regularly (green). Such a result indicates the capacity to continue the demanding workload. Training in this state brings the greatest effect and the greatest training gain.

Not effective or overloading Impuls/ regime.

It must not occur in the long term.

Training in this condition does not bring maximum effect.

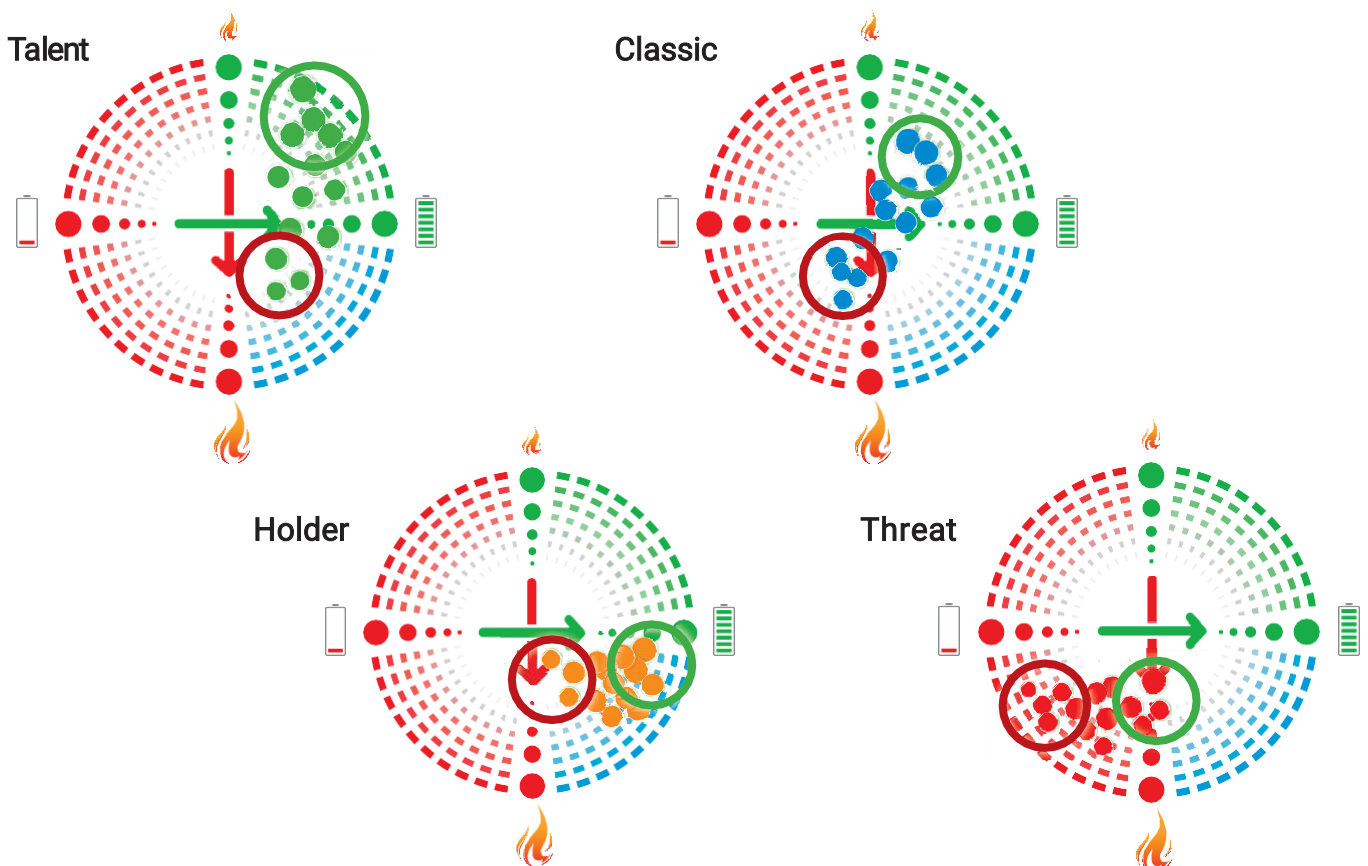
It is better to modify the training and try to increase the adaptation response.

Increased adaptation reaction.

It should occur regularly.

Indicates capacity to continue the training load.

Training in this state brings the biggest effect and the biggest training growth.



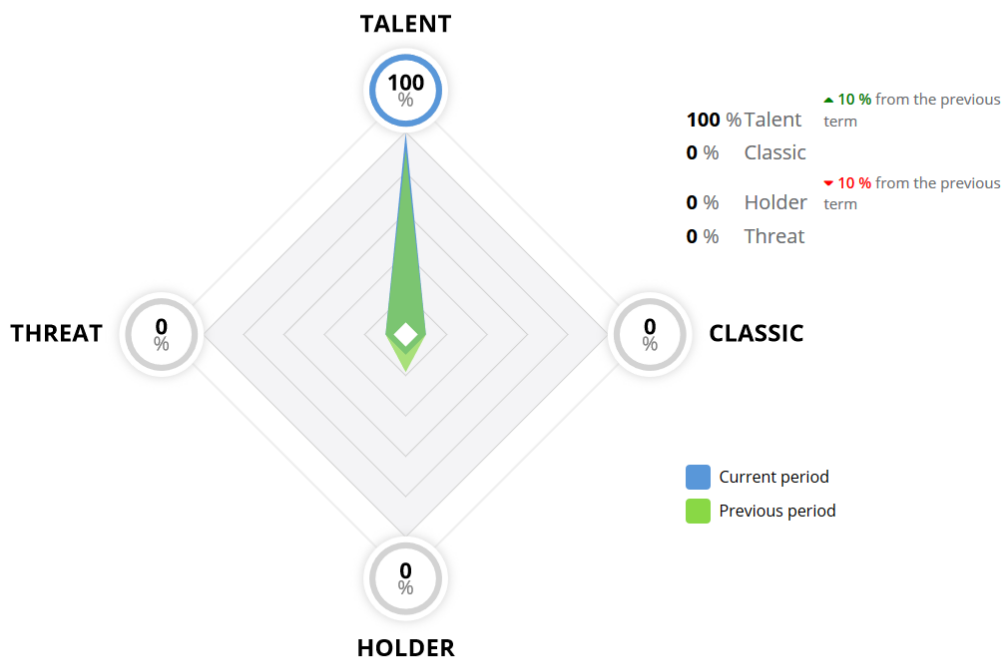
Determine mySASY Training Profiles continuously and regularly monitor long-term change.

If the training is managed correctly, i.e. in the period of strong adaptation, sufficient training impulses are included for further development and in the period of poor adaptation the training is optimized so that negative reactions do not accumulate, in the long term the overall adaptation capacity of the organism will improve, its durability and trainability.

For easier monitoring of the individual's long-term adaptation capacity, mySASY enables repeated determination of Tp (with **BASIC+/ SPORT/ SPORT+ program**) and comparison new Tp with the previous one (the mySASY Profile section). This makes it easy to track shifts in the overall training capacity of an individual. Tp determination is recommended at least every 3 months.

If Tp has improved, then the training regime works. It has a positive performance and health effect and we recommend continuing and regularly monitor long-term change.

If Tp has deteriorated, then the training regime is not working properly and we recommend focusing on optimizing it. mySASY will help you find out if the regime adjustments were positive or negative.



2. Interpretation of the result in the myHRV chart

The basic interpretation of SA HRV results in mySASY occurs in the myHRV chart (described in more detail in the chapter - [Displaying results](#)), which clearly shows the current activity of both evaluated branches of ANS:

- **Parasympathetic = responsible for anabolic processes**, i.e. Refuelling and storage of resources (longitudinal axis of the graph (indicated by the battery symbol in Image 26)).
- **Sympathetic = responsible for catabolic processes**, i.e. the release and Consumption of resources (transverse axis of the graph (indicated by the flame symbol in Image 26)).

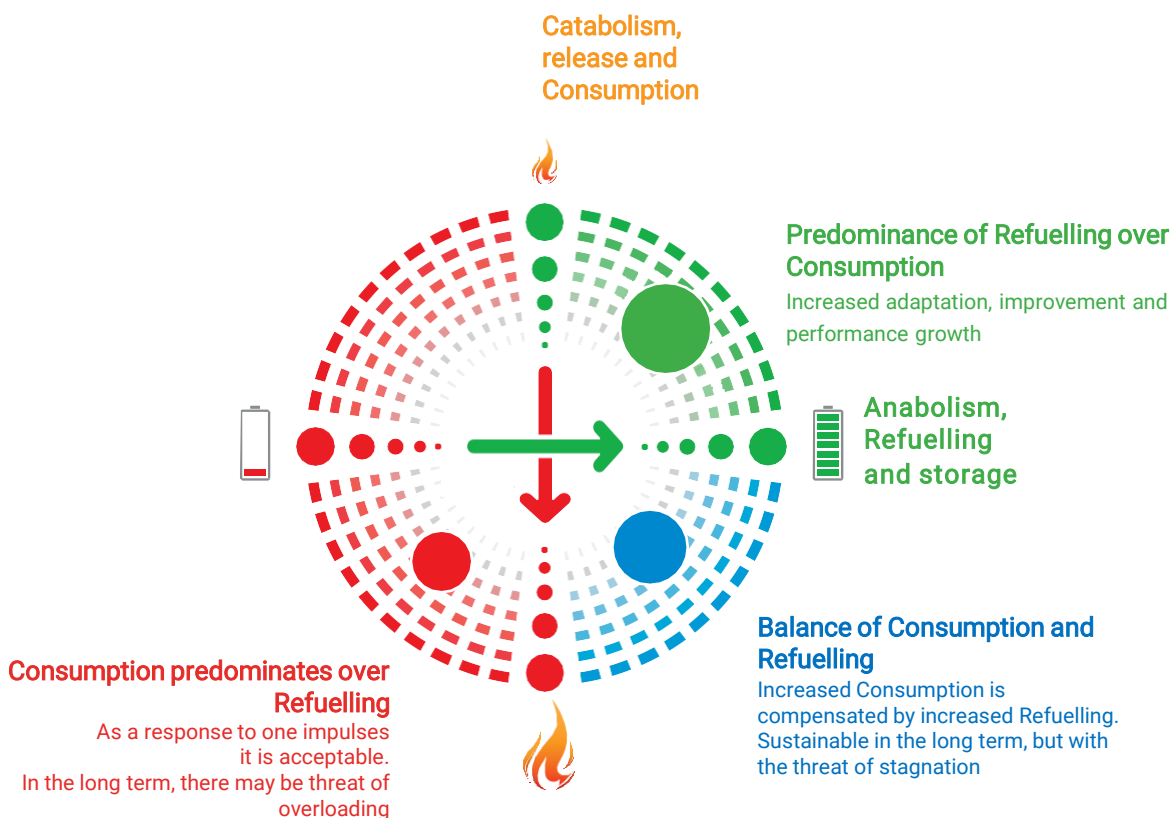


Image 26

In the myHRV chart, each measurement result is displayed as a single "point/circle". The size and position of this point show the current ANS status in relation to the population standard. From the point's position, you can guess the following:

- The location of the point on the top right (green) indicates the supremacy of energy Refueling over Consumption (Image 27).
- The location of the point on the bottom right (blue) indicates the balance of Refuelling and Consumption (Image 28).
- The location of the point to the left (red) indicates the predominance of Consumption over energy Refueling (Image 29).

The point size shows the total current ANS activity, so it is also an important parameter for evaluating the result. If the system activity is low (= point small), it is not very important which ANS branch is more represented in this result. If the activity is high (= point large), it is very important to track which branch of the ANS is more represented in the result.

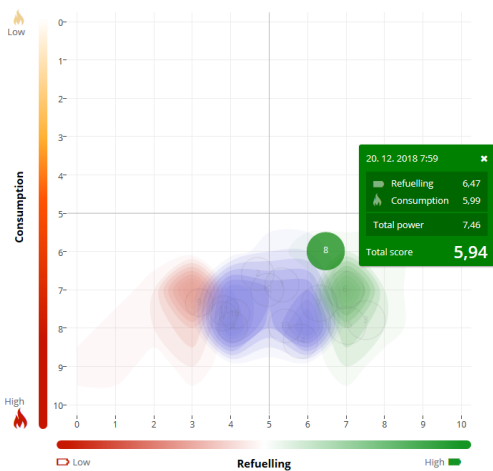


Image 27

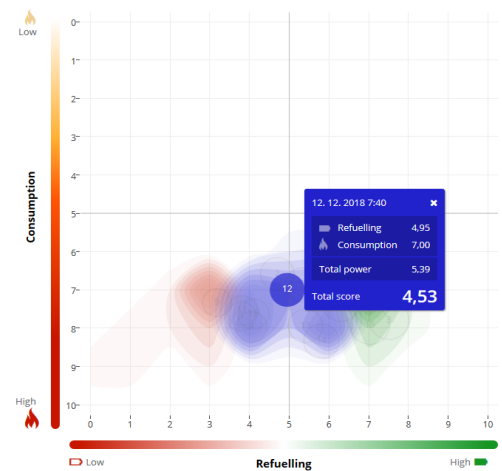


Image 28

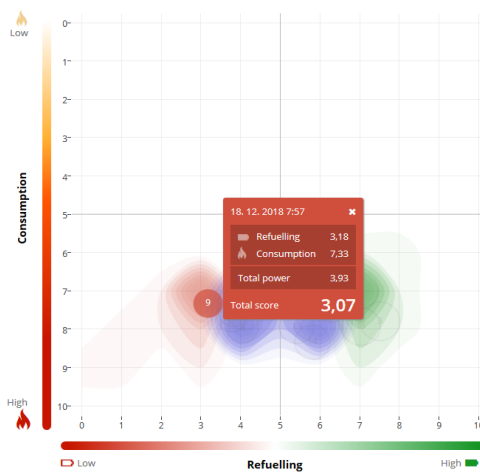
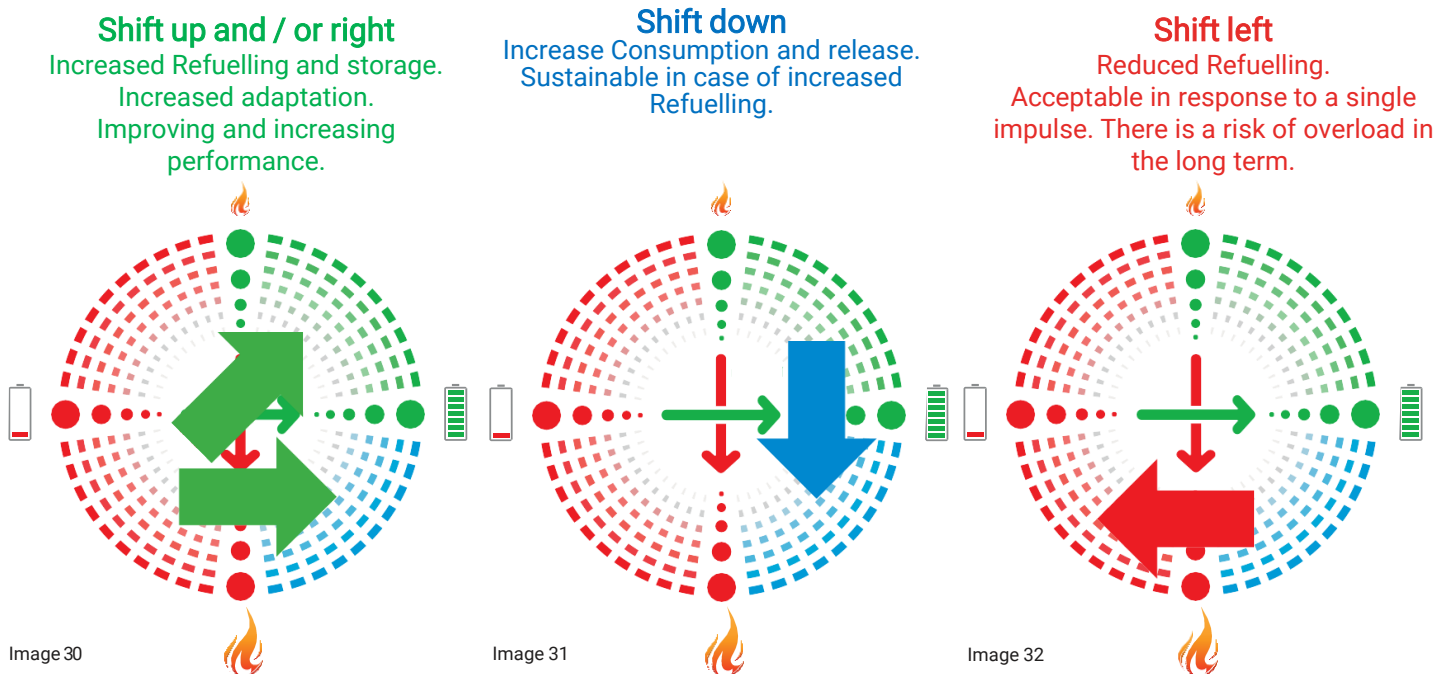


Image 29

For individual evaluation and the resulting adjustment of the training process, it is essential to monitor the direction and extent of the result shift in response to the previous impulses:

- Moving up and/ or right signals an increase in Refuelling and storage of resources, an increasing adaptation (Image 30).
- A downward shift is a sign of increasing Consumption and releasing resources, which is sustainable if the level of Refuelling does not decrease (Image 31).
- Shift left/ left-down means a drop in the level of Refuelling, which is manifested also by a reduction of the point (decreased overall ANS activity). On a one-time basis, in response to a disproportionate impulse, this shift is acceptable. Prolonged persistence in this state indicates the need to significantly adjust the load to eliminate the risk of impending overload or health complications (Image 32).



3. Interpretation of myCompensation chart result

To simplify work with mySASY, it is also possible to control the training according to the level of the current compensation (CC) (the function is described in more detail in the chapter - [Displaying results](#)). Based on this assessment, an ineffective or overloaded impulses/regimen results in a decrease in value, and an increased adaptation response results in an increase in value.

50 – 95% - the organism has not yet completely equaled the previous load, or the previous load was too low to induce an optimal adaptation reaction.

95 – 115% - the reaction of the organism is optimal for the continuation of training in the current regime.

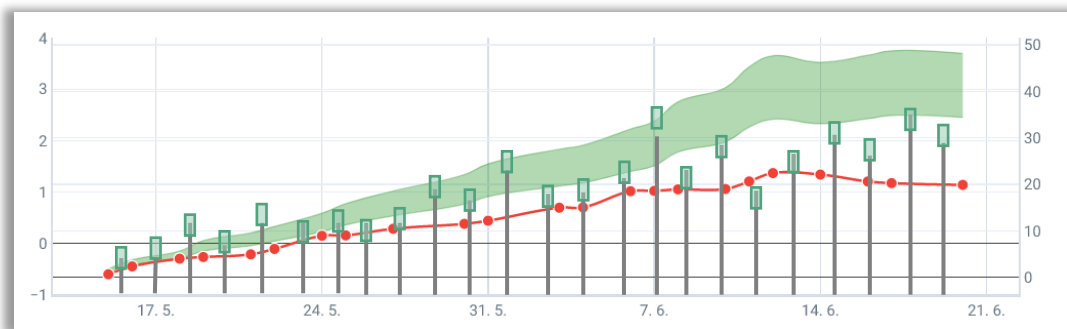
115 – 150% - the organism is in the phase of supercompensation, which should be used for further intensive training or racing load.



4. Interpretation of the result in My Training module

If the parameters in the module chart are blending for a long period of time, i.e. **Training Load (TL)** is reaching the **mySASY Training load (myTL)** values and **real Training Effect (realTE)** is in line with **Optimal Training Effect (optTE)**, this means the training is performed consistently with the organism condition. (the module parameters are described in detail in the above chapter – [Displaying results](#))

Training load – if TL is not reaching the myTL values, your training load can be increased. On the contrary, in case the TL values are exceeding the myTL values, your organism can be over trained or start showing some other form of damage in the long-term.



Conclusion

Control of the entire system should be as intuitive as possible. However, due to the number of functions and data, it requires a certain user experience. If you have any questions while using mySASY, do not hesitate to contact our support.

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mySASY

