# 9. Why should you train with power meters?

In the previous papers, we have paid attention to the theory and the practice of power meters. We have shown that the Stryd power data are accurate and reliable. Also, we have dealt with some useful applications, such as the determination of your Running Economy (RE), your Functional Threshold Power (FTP) and your personal training zones. In this paper we will provide an overview of the most important reasons why training with this new technology may help you optimizing your fitness and performance.

1. **For the first time you can quantify your Running Economy**
   We believe this to be a revolutionary breakthrough. We expect a lot from this application. Now you can quantify exactly how much energy you are using to run at a certain speed. And because you get the data daily and in real-time on your smartphone or PC, you can start experimenting on how you can reduce the energy cost of running and thus improve your RE. In an earlier chapter we explained that you can easily calculate the energy cost of running, or your ECR-value in kJ/km/kg, by dividing your specific power SP (in Watt/kg) by your speed (in m/s). Your ECR-value should be in the order of 0.98 kJ/kg/km, this is equivalent to an RE of 201 ml $O_2$/kg/km. See how high your ECR and RE are and try to reduce them by optimizing your running form!

2. **For the first time you can train systematically to improve your running form**
   Until now we were all a bit in the dark when it came to improving our running form. You could read books and get tips from coaches and other runners, but you could not measure the impact of changes in your running form. Now you can calculate on a daily basis your ECR and RE-values, so you can directly see the impact of changes, like increasing your cadence, knee lift, arm drive and so on. We realize that this will not be easy because various parameters influence each other. Nor is it easy to change your running form as this has become habituated during many years of training. Also you should be careful to prevent injuries. But we believe that this application will change and improve the traditional views on running form, as soon many thousands of runners will start experimenting and share their results with the running community!

3. **You get a better picture of your workouts, so you can optimize them**
   In the past, runners based their training on how they felt. Listen to your body is still an important adagio. Are you tired or can you give something more? Since the introduction of the GPS watches many athletes base their training on pace. The additional information you get from a HR meter is also useful as it indicates how your body responds to the training. But now you can really measure your running power, which is the best and most accurate reflection of the intensity of your training. Your power data will immediately respond to changes in pace, contrary to the HR which always lags behind. The following figures of a workout with 400 m intervals by author Ron illustrate this. The first figure is the output of the Stryd PowerCenter, the second figure shows the same workout in Garmin Connect.
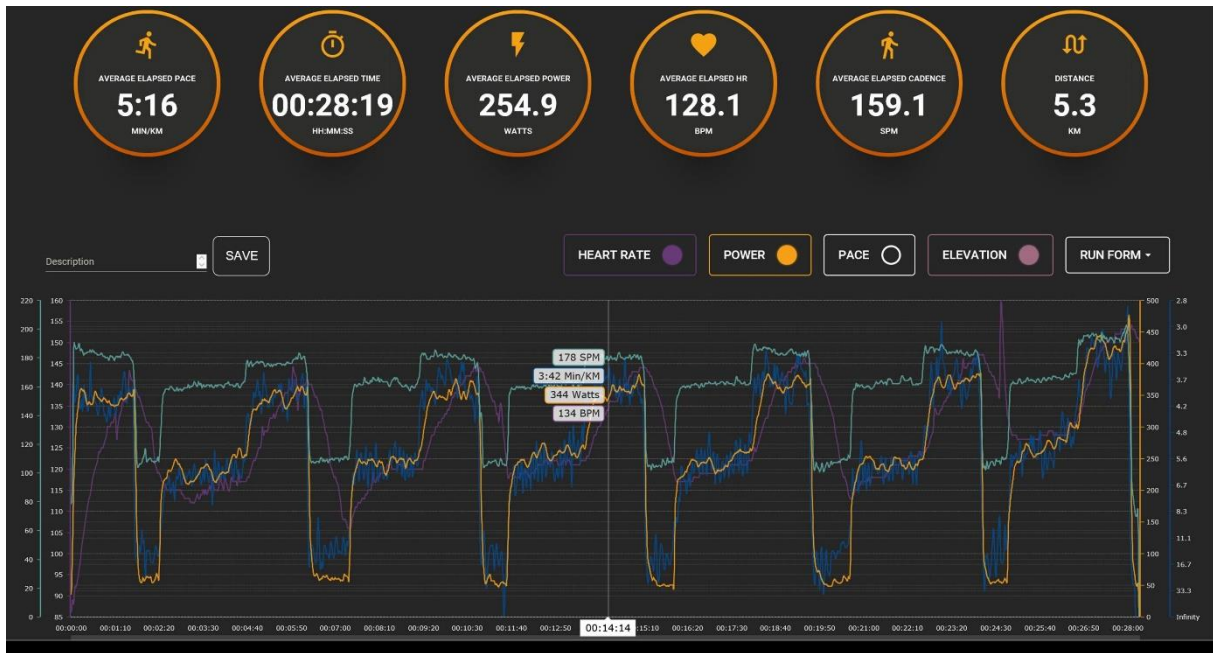
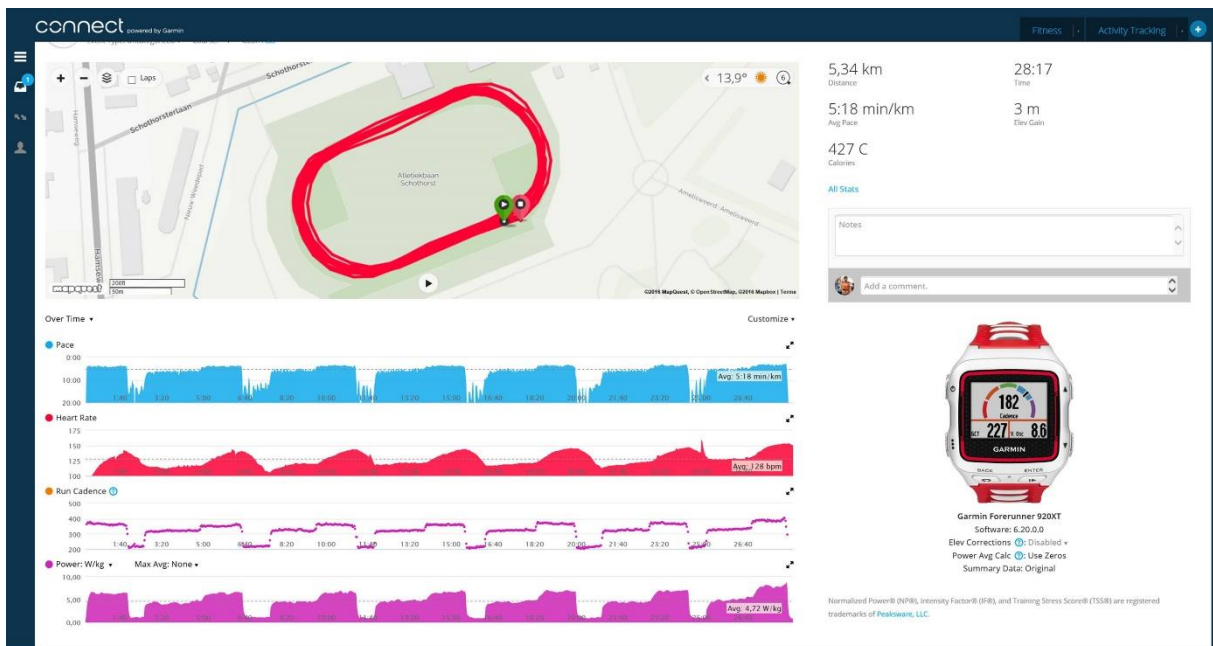*Figure: workout with 400 m intervals presented in Stryd PowerCenter.*



*Figure: workout with 400 m intervals presented in Garmin Connect.*

In this book we have shown that many aspects affect your workouts and races. Examples include hills, wind, footing, temperature, accelerations and your fitness (which could be affected by a recent disease or break from training). All of these aspects affect the effectiveness of your workout. Principally, power is the correct parameter representing the intensity of your efforts. So it is better to optimize your workouts based on real-time power data. The figure below illustrates (for the same exercise with 400 m intervals), that there can be a substantial difference between HR-based training zones and power-based training zones. We note that the Stryd Pioneer is not perfect yet in this respect, as the impact of wind and footing are reflected only indirectly in the data.

*Figure: Workout with 400 m intervals presented in TrainingPeaks.*

4. **You get a better picture of your fitness and you can peak at the right time**
   When you register your power data and RE-value on a daily basis, you get a clear and accurate picture of the development of your fitness and performance capability. This also means you can adjust your training program, if necessary, and prevent overtraining. Also you will see the impact of a cold or disease immediately and you can better taper for a race. Various online platforms such as Stryd PowerCenter, Garmin Connect, Strava and TrainingPeaks supply supporting data that you may use for this. In the next chapter we will discuss the details of these apps.
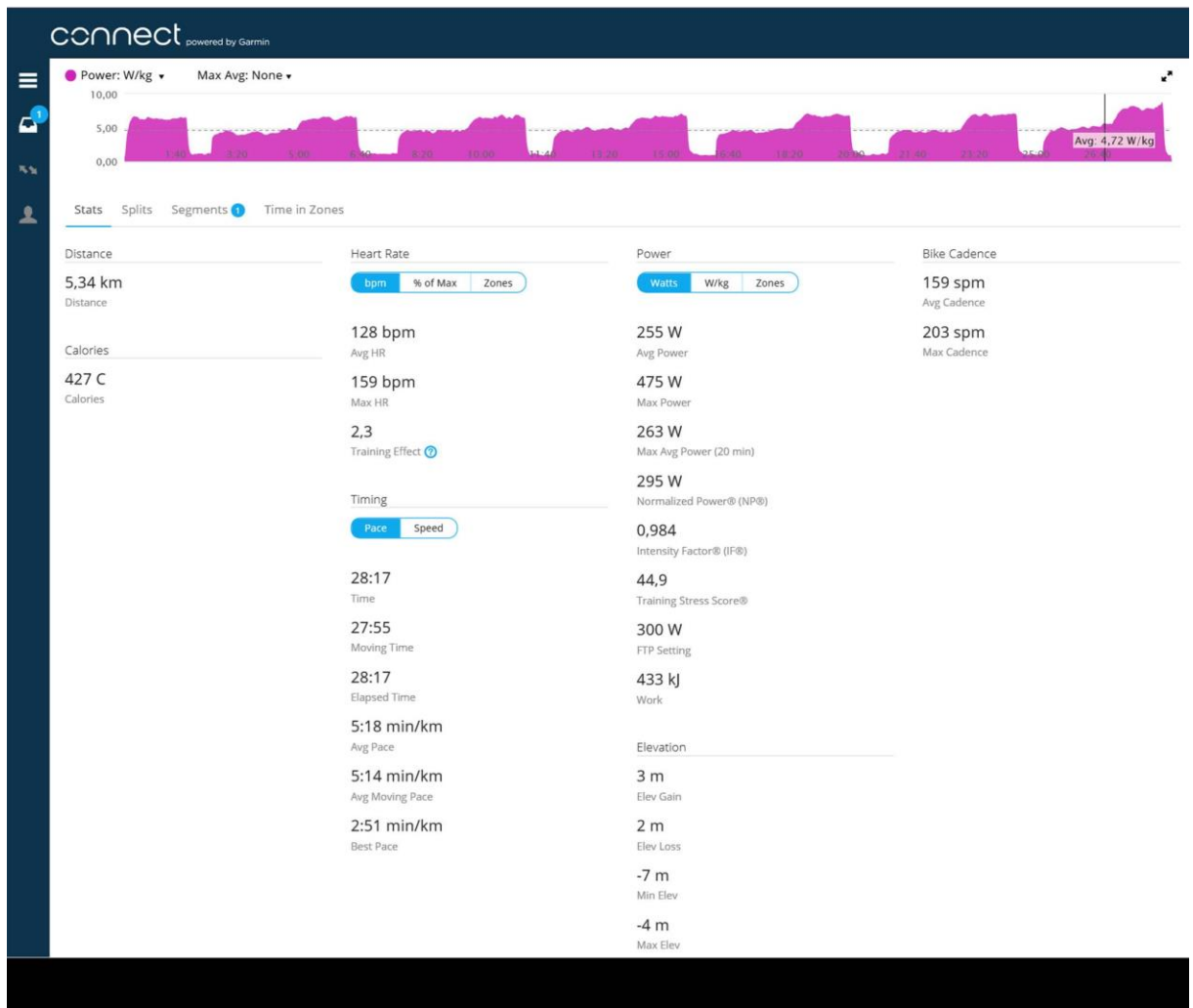
*Figure: Key-data of workout with 400 m intervals presented in Garmin Connect.*

5. **You can share all information with your coach, so you can get better guidance**
   By sharing all data with your coach, you give him the best insight into your training and the development of your fitness. Your coach can give you better advise with this information. You can also share your data with apps and online platforms as Stryd PowerCenter, TrainingPeaks, Strava, Garmin Connect and Polar. An example of TrainingPeaks is shown below. This way you build a wonderful database of all your workouts with all the details and can get feedback with trend analysis and correlation of data.

*Figure: Endurance training with 3 tempo blocs presented in TrainingPeaks.*

We are curious to the reactions and experiences of the readers, we welcome you to share these at www.thesecretofrunning.com.

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