



# SUPEROP

## TRAINING OPTIMIZER

1. WHAT IT DOES
2. HOW IT WORKS
3. ASSESSING THE DAILY CONDITION
4. **TRAINER VISTA: A NEW TOOL FOR THE COACHES**
5. THE SCIENCE OF SUPEROP
6. **TOP ATHLETES, TEAMS AND FEDERATIONS**



OFFICIAL SUPPLIER:



# 1. WHAT SUPEROP DOES

SuperOp, in 1 minute a day, answers the most important questions for coaches:

- What is the athlete's actual condition today?

And therefore enables the coach to decide

- What the most beneficial training load is

## ADVANTAGES

1. **PERFORMANCE IMPROVEMENT** (through training optimization)
2. **HEALTH RISKS REDUCTION** (e.g. Overtraining, NF Over-reaching)



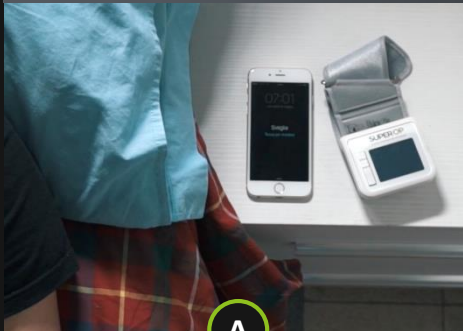
## 2.1 HOW IT WORKS

SuperOp consists of:

- ① Wrist Blood Pressure and HR Monitor
- ② SuperOp App integrated with the Monitor



JUST 60 SECOND A DAY...



A

In the morning, before getting up, put on the wrist blood pressure meter.



B

Measure your blood pressure and heart rate in only 60 seconds.

C

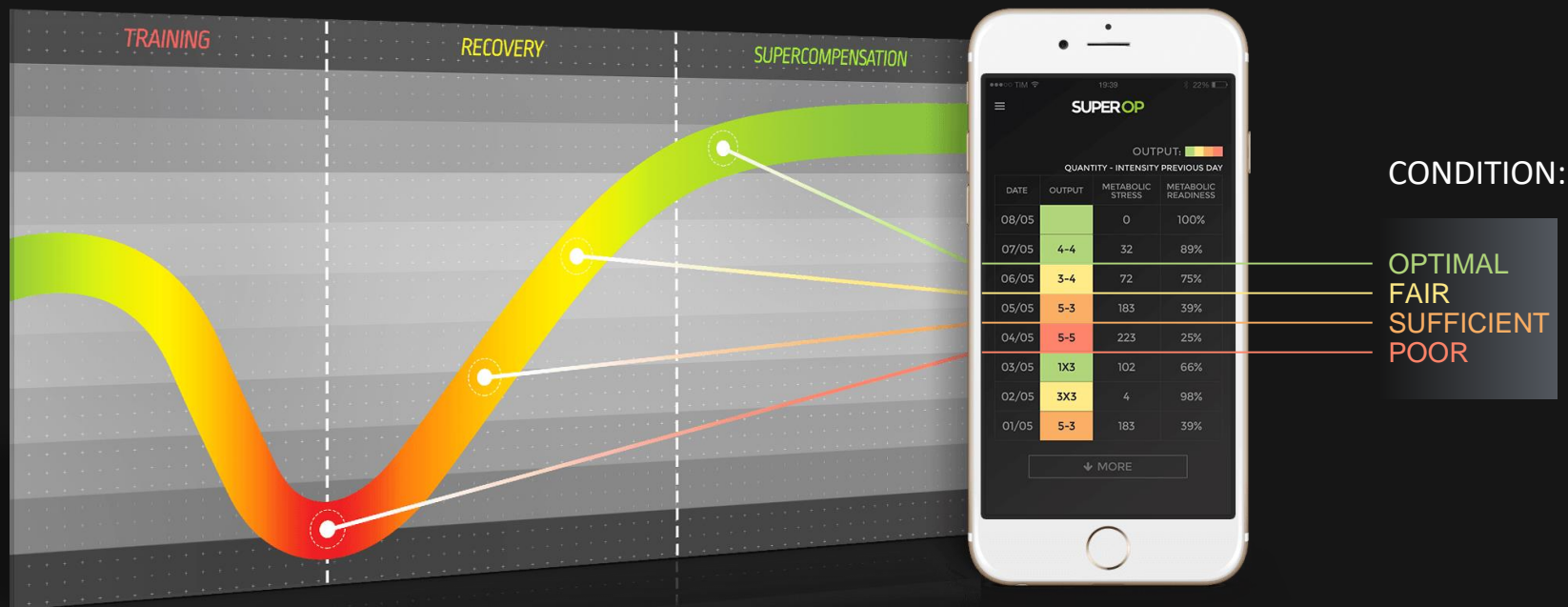
View your condition, in terms of Readiness (0% - 100%) to a new training load



## 3.1 WHAT IS THE ATHLETE'S CONDITION TODAY?

SuperOp meets the most difficult challenge: measuring, quickly and reliably, in which **phase of the Recovery-Supercompensation curve** the athlete is today.

SuperOp measures the **internal training load** and makes it easy for the coach to identify the **ideal workload**. This optimizes the athlete's supercompensation cycles. and therefore maximizes the **performance gains**.



## 3.2 ASSESSING THE DAILY CONDITION

### SUPEROP MEASURES THE METABOLIC STRESS...

After a workout, the body repairs and improves the tissues affected by training, by eliminating the metabolites and restoring the optimal concentrations of the required substances (enzymes, amino acids, etc.).

The Metabolic Stress level is the intensity of the metabolic activities of repair and improvement of the peripheral tissues stimulated by the training.

### ....AND DETERMIES THE ORGANIC READINESS

Organic Readiness is an indication of a greater or lesser body's receptivity to a new training load and to benefit from it.

Today's Organic Readiness depends on the Metabolic Stress score that measures the body's recovery from previous workouts.

### OUTPUT CORRESPONDANCE TABLE:

OUTPUT	METABOLIC STRESS	ORGANIC READINESS
GREEN	0-44	100% - 86%
YELLOW	45-119	85% - 61%
ORANGE	120-208	60% - 31%
RED	209-380	30% - 0%

### 3.3 EXAMPLE OF A DAILY RESPONSE



TODAY YOUR ORGANIC READINESS IS 78% OF YOUR MAX.  
HENCE YOUR CONDITION IS "FAIR".

**NOTE:**

The user's App can be configured NOT to show the response to the athlete but just to the Coach via the Trainer Vista interface!

## 3.4 A POWERFUL INSIGHT TO OPTIMIZE PERFORMANCE

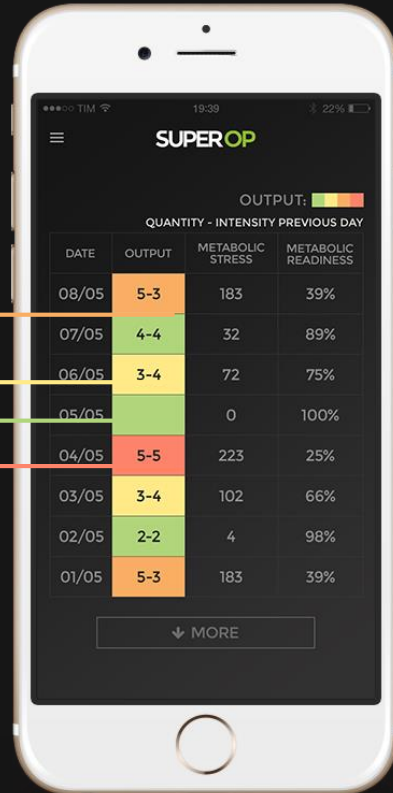
CONDITION:

SUFFICIENT

FAIR

EXCELLENT

POOR



SuperOp is a powerful tool to analyze the athlete's response patterns to multiple factors including:

- A** Training Types
- B** Recovery Strategies
- C** Sleep
- D** Nutrition And Integration Strategies


SuperOp makes it easier to optimize the athlete's preparation strategy and consistently achieve performance improvements.








## 3.5 ACTUAL EFFECTS OF TRAINING LOADS, EXAMPLE:

19:03

< Indietro **SUPEROP**

OUTPUT 

QUANTITA' - INTENSITA' GIORNO PRECEDENTE

DATA	OUTPUT	RICETTIVITA' ORGANICA	FATTORI ESTERNI
22/06		95%	
21/06		67%	
20/06		96%	
19/06	5 - 4	61%	
18/06	3 - 3	79%	
17/06	2 - 5	89%	
16/06	4 - 4	73%	



Recovery happens (too) fast:

Training loads can or must be increased.

19:02

< Indietro **SUPEROP**

OUTPUT 

QUANTITA' - INTENSITA' GIORNO PRECEDENTE

DATA	OUTPUT	RICETTIVITA' ORGANICA	FATTORI ESTERNI
02/07	1 - 2	48%	
01/07		81%	
30/06	2 - 2	57%	
29/06	4 - 3	51%	
28/06	5 - 3	77%	
27/06	5 - 3	57%	
26/06	5 - 4	23%	



(full) Recovery hardly happens:

Training loads are effective.

## 4. TRAINER VISTA - FOR THE COACHES

A straightforward web interface to see, every morning, the athlete's condition, % Organic Readiness, vs. Training Loads. So Coaches can:

A

Assess athlete's response to specific training sessions.

B

Modulate the training workloads and optimize their training programs.

to take their athletes to their  
**FULL POTENTIAL**

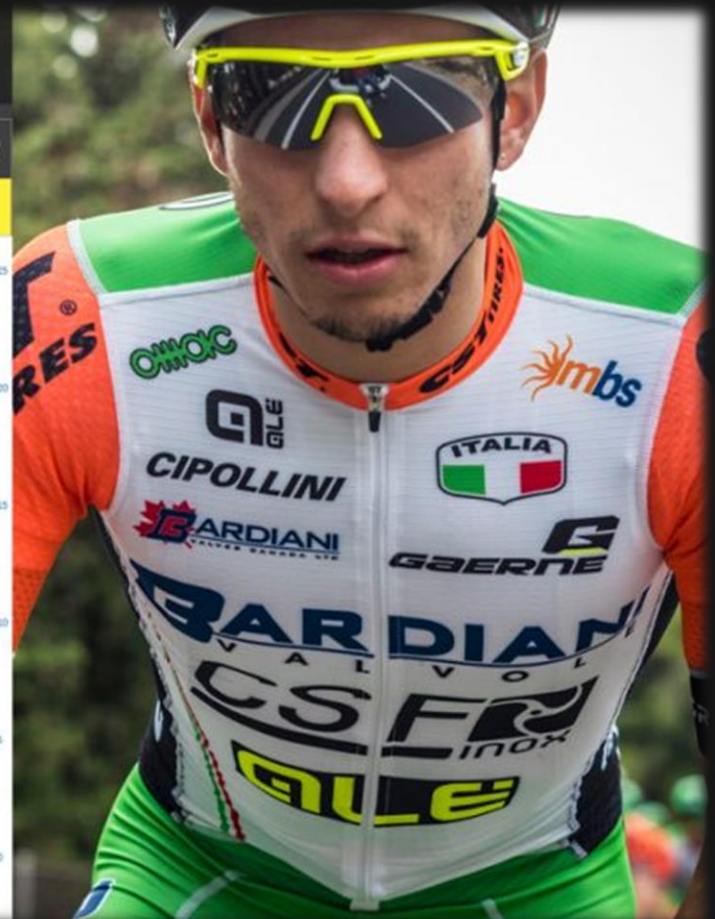
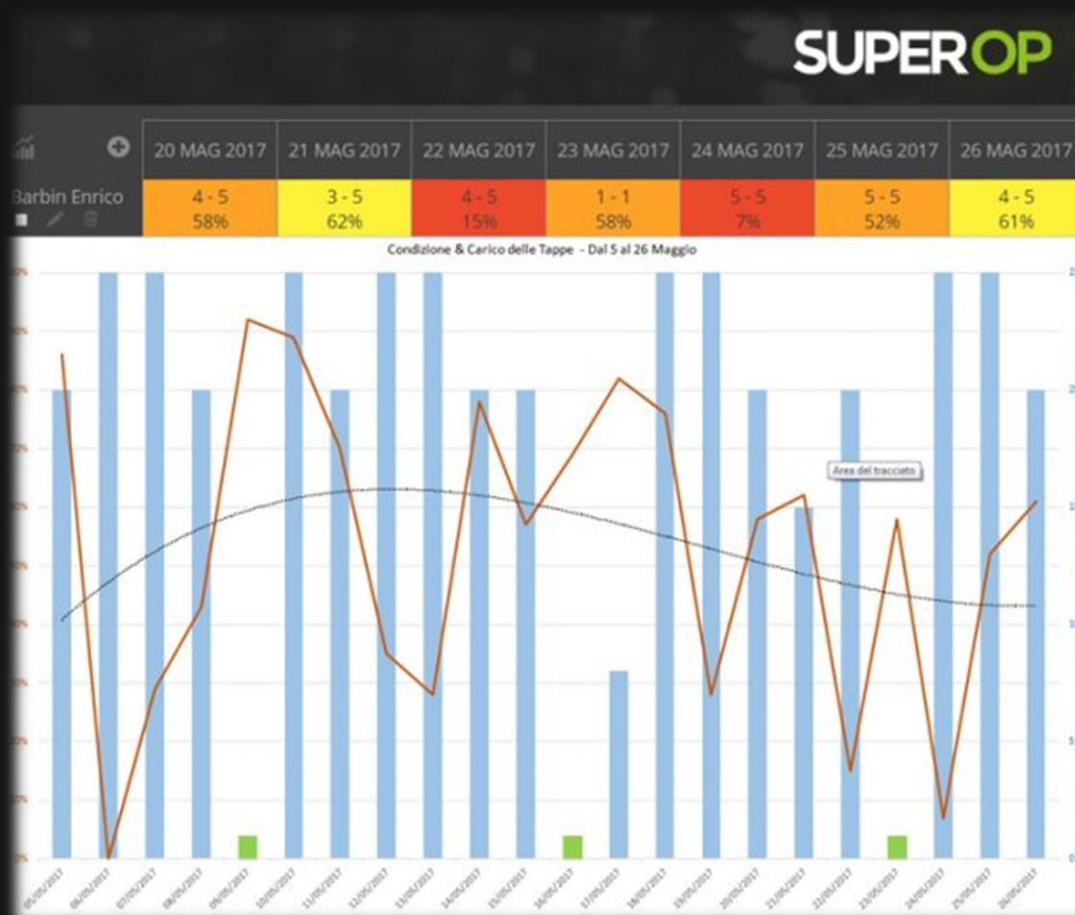


#### 4.1 Ex. CONDITION VARIATION DURING GIRO '17

## Trainer Vista data for Enrico Barbin of Bardiani-CSF:

The interpolation (black line) of Organic Readiness (orange line) shows an early peak followed by a steady decline as Enrico got into the second half of the Giro.

During the last days he also suffered from a flu (note his «colors» in the last week of race).



## 4.2 Ex. HOW TO BE AT THE TOP ON THE RACE DAYS

Trainer Vista data for **Yogi Chiappinelli, 3000 m steeplechase 2017 EU Champ. U23**

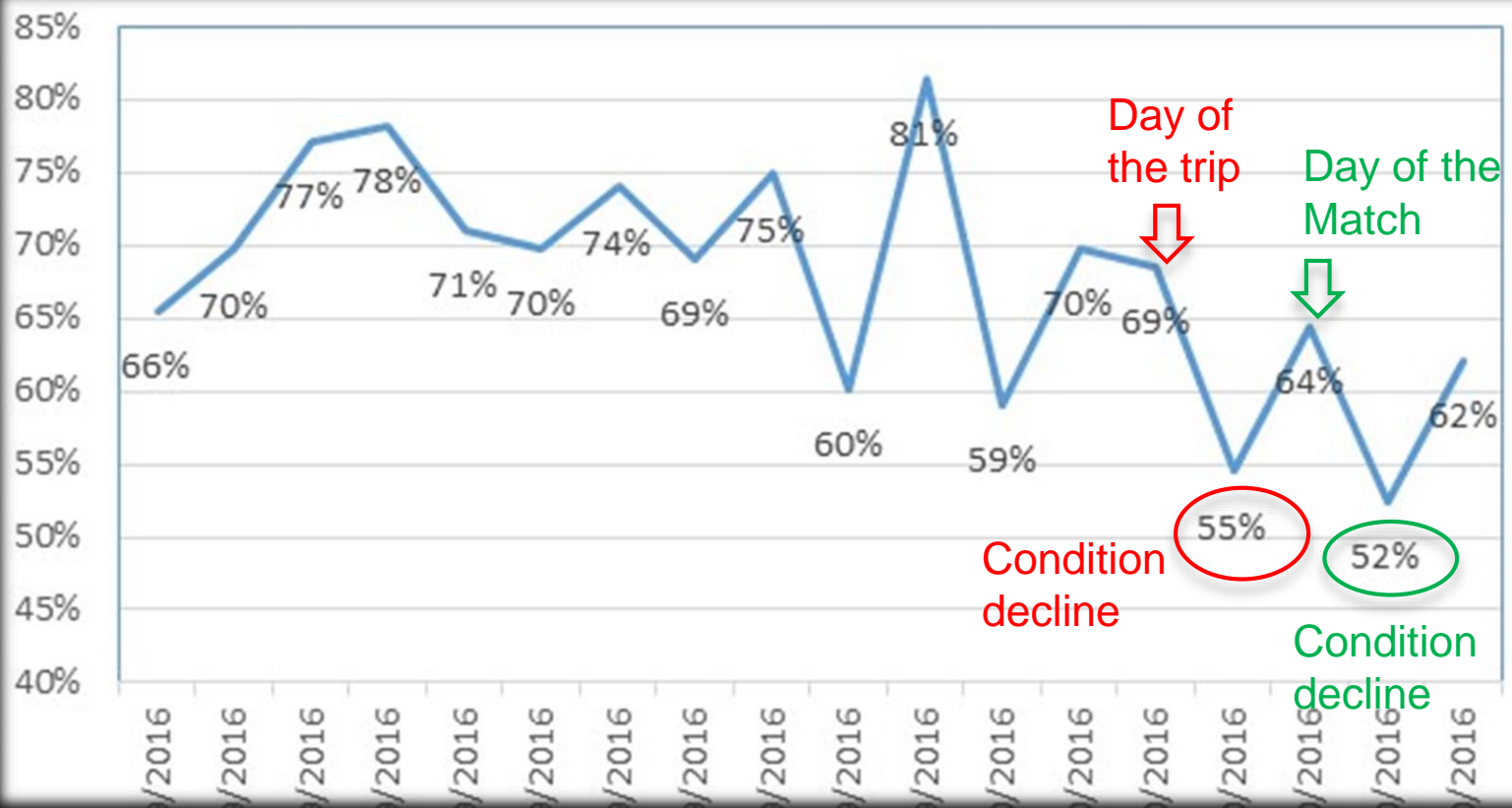
His coach tuned the training loads (blu histograms) so to ensure Yohanes' condition (orange curve) was at the top on the days of the two races where he scored his Personal Best in the 1,500 m and in the 3,000 m SC.



## 4.3 Ex. ASSESSING THE IMPACT OF A TRIP

Trainer Vista data for **Italian Serie A football team**

For the 13 athletes who played an international match, an 8 hours trip (bus + airplane + bus) determined a decline in Organic Readiness (blu line), ca. 20%, equivalent to the decline experienced after the match.





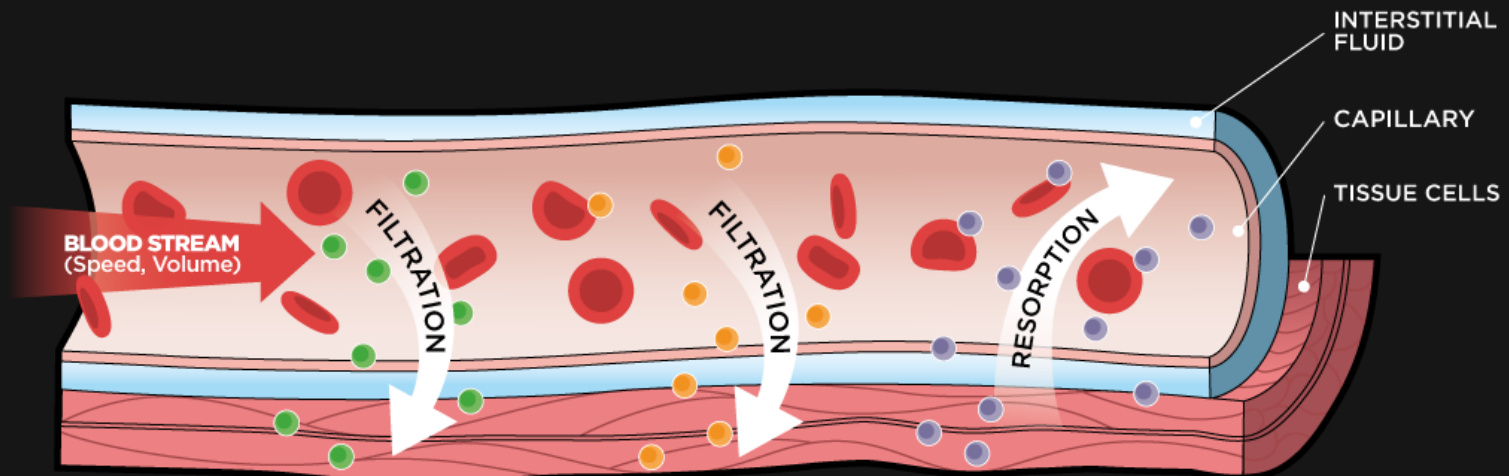
# THE SCIENCE BEHIND SUPEROP

## 5.1 WORKING PRINCIPLES

- A** The body always tries to maintain a condition of ideal functional equilibrium for all the systems, this condition is called homeostasis.
- B** Homeostasis may be modified by different factors: training, illness, stress, insufficient sleep, nutrition, etc.
- C** The bloodstream parameters (pressure and HR) provide an insight on the homeostasis variations and on their meaning.
- D** SuperOp is able to determine to what extent the current homeostasis of an athlete deviates from the ideal situation and therefore to determine the athlete's condition.
- E** In fact the distance from the ideal homeostasis provides an indication about the recovery and supercompensation phase the organism is after a training session: still recovering? just recovered ? supercompensating?
- F** The algorithm uses a many weeks moving window of data to define a reliable profile of an athlete (in terms of homeostasis and of how it changes) through itens of indexes. This enables SuperOp to track the homeostatis trends and provide accurate indication also when the athlete's external conditions change (training phases, holidays, illness, change of season, etc.).

## 5.2 WORKING PRINCIPLES

This diagram shows the exchanges of substances between muscles and bloodstream.



During the recovery (and Supercompensation) phases the bloodstream changes its characteristics of speed and pressure to enable the required exchanges of substances that happen through the variations of hydrostatic and osmotic gradients.

SuperOp first identifies the athlete's homeostasis and then it measures the variations of the bloodstream parameters to assess the Metabolic Stress level, i.e. how far from the homeostasis the athlete is and what his condition is.

## 6. SUCCESSFULLY ADOPTED BY TOP ATHLETES

Including: Team Bahrain Merida, China Race Walk team (2 Golds at Rio '16), ITA Rowing Team (EU & World Champ. '17), , ITA Canoe & Kayak Fed., ITA Athletics National Team (including EU Champs Meucci , Crippa & Chiappinelli), ITA Cross Country Sky Team (inc. '17 World Champ F. Pellegrino, ITA Open Water Team (S. Ruffini '17 World Champ.) and many many more...

