

# Ghost partner for outdoor cycling

Reference No: B81057

## CHALLENGE

Athletes have relied on pace makers for a long time to achieve their greatest feats. Eliud Kipchoge ran the marathon distance in under two hours in 2019 with the help of 41 professional runners to set his pace. An amateur athlete is unable to acquire similar circumstances for training. Computer-assisted indoor training machines such as the well perceived company Peloton show ghosts partners on a screen that set the pace. A few companies offer augmented reality (AR) goggles for outdoor use. These products are expensive and infect user comfort and safety.

This invention presents a low cost, intuitive signaling system which allows athletes to optimize their training. The invention is especially applicable to all types of sportive cycling.

## INNOVATION

The invention uses a light signaling system that supports athletes to pursue their optimal pacing strategy. The pacing device is mountable to the handlebar of a bicycle. It projects a laser signal on the road to display a reference ahead of the cyclist that is always in sight of the rider. The device adjusts the laser spot according to the velocity of the cyclist in relation to the set target speed: At a velocity below the target speed, the laserspot increases the distances to the front wheel. This indicates that the "ghost-partner" travels at higher speed. At a velocity higher than the set target, the laser point approaches the bicycle's front wheel. The target velocity and the preferred pacing strategy can be adjusted on the fly by the rider.

The pacer provides a new type of training for experienced and amateur riders during training sessions. It motivates the cyclists to achieve their training goals in a playful manner.

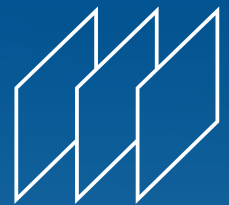


## COMMERCIAL OPPORTUNITIES

- Intuitive pace signal applicable for sportive cycling
- Easy handling and very safe also in traffic.
- Can be integrated in speedometers or provided with connectivity to cellphones

## DEVELOPMENT STATUS

A functional prototype is finished. It provides two modes: Instantaneous and accumulative. In instantaneous mode, the rider receives an instant comparison between the target and current velocity. The accumulative mode displays the difference between the distance covered by the rider and the „ghost-partner“ up to this point.



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