

Case Study

Swimrun High-Performance Equipment

Research and development of sport-specific high-performance equipment



Swimrun is a relatively new endurance sport in which the competitors intercalate running through trails with open water swimming. Unlike triathlon or aquathlon, swimrun does not have formal transition points at the end of each leg, meaning that the competitors have to carry their entire gear from beginning to end, running while wearing a wetsuit and swimming while wearing running shoes.

The competitors are allowed to use swimming aids such as hand paddles and pull buoys to compensate for the additional weight and drag created by the shoes. Traditional pool-specific devices have been imported into the sport, however in the swimming pool these are used for drills and not necessarily focused on performance.

Sabe Technology's founder Gerson Garsed-Brand is a swimrun competitor and through Sabe Applied Science has been researching and developing high-performance equipment specific for this sport, taking into consideration their contribution to the body position, efficiency and overall drag.

We are passionate for sports performance, contact us to discuss your idea or challenge!



Project summary

Background Application:

Research and development of high-performance equipment for swimrun competitors.

Engineering Challenge:

Mapping the forces and moments acting on the swimmer across a range of variables such as body position (height relative to the free surface), body attitude (yaw, pitch and roll angles), swimming velocity, stroke cadence and others.

Evaluating the localised effect of the swimming aids as well as their global effect on the body position/attitude.

Technology/Methodology Employed:

Design and computational fluid dynamics simulations, in-house prototype manufacturing and testing.

Our Experience:

We are combining our engineering background in fluid dynamics to our passion and experience in this sport for the development.

Video links:

Video 1 – [Breca Gower 2018](#)

Video 2 – [ÖTILLÖ World Championship 2019](#)

