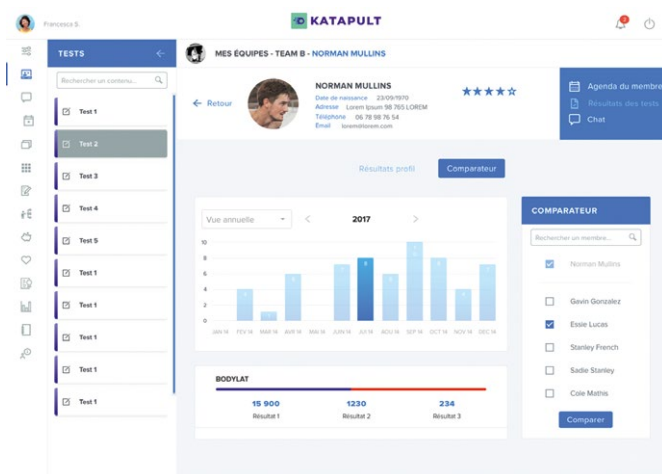## THE AVATAR: A DIGITAL TWIN TO ENHANCE ATHLETES' PERFORMANCE

KATAPULT: A PERFORMANCE DRIVER FOR ATHLETES

Application to manage personal data and to follow training programs.

How can athletes' data be collected, centralized and used to help improve the performance of all concerned? What are the most common injury risks associated with each discipline?

Katapult – an app developed in partnership with the UNIL/EPFL Sport Fitness and Health Center (CSS)– offers answers to all these questions. It enables coaches and other specialists to test athletes and collect the resulting data automatically. The data are then stored within an avatar – a digital twin of an athlete that can be accessed by all training and medical staff. Data from connected devices such as smartwatches, heart-rate monitors and other trackers are also integrated into the avatar, making it much easier for coaches to monitor athletes' performance. The app uses augmented intelligence to generate customized training programs based on each athlete's specific characteristics. The system meets the highest security standards, and all data are hosted in Switzerland.

For example, the application was used to test almost 1,800 athletes during the Youth Olympic Games in Buenos Aires in 2018. Researchers used the Bodylat system to analyze athletes' laterality, and found certain tendencies depending on the sport and the athlete's gender and age. Katapult then automatically generated a comprehensive sporting assessment along with a set of exercises to address individual laterality issues. The app will also be used at the Youth Olympic Games in Lausanne in 2020.