Performance Lab
Corporate Backgrounder

The evolution of wearable technology has provided an influx of data surrounding people's health and fitness. Applications currently on the market simply report or share data with users. However, users require further interpretation of this data into personalized, trustworthy, and goal-focused recommendations. Performance Lab does just that.

Performance Lab was founded in 1993 to apply sports science principles to help endurance athletes achieve peak performance and is headquartered in Auckland, New Zealand with an office in San Francisco. The company creates adaptive training tools for individual performance, team performance, and military performance, as well as applications for the health and well-being market. Clients include world champions and world record holders across triathlon, rugby, sailing, rowing and cycling, as well as tens of thousands of amateurs seeking to improve general fitness and well-being.

A pioneer in the use of monitoring technology, Performance Lab built the first commercial sports lab in the world 20 years ago, and since then has collected data involving tens of thousands of athletes and users at all levels. For 15 years data was collected largely in the lab; for the last five years it has been collected exclusively in the field using wearable sensors, providing Performance Lab with a vast amount of unparalleled domain expertise. Bringing together this unique perspective with sports science, coaching and technology to understand and formulate the correlations between data, activity types, and performance results, Performance Lab created the ARDA™ Coaching Engine.

The ARDA Coaching Engine

The patented ARDA Coaching Engine is a software platform for wearables that provides real-time fitness coaching to meet an individual's goals by combining multiple biometric or location inputs to build a 360 degree view of user activity. It is unique in its ability to build a true picture of what a user is doing, and advise them in real time based on this assessment and their own health and fitness goals. The platform is designed to work with massive multiple-parameter data streams including terrain, weather, speed, power, recent performance, sleep, and measures of central nervous system fatigue.

ARDA's architecture can accept and collate a range of inputs including those delivered by heart rate monitor, accelerometer, cadence sensor, GIS, GPS, camera, sleep cycle apps, blood pressure meter, power meter, footpod and barometer. These sensors can be onboard a partner's device or external, or a combination thereof. Only a user's weight and exercise goals need to be inputted. The system automatically detects all the rest of the data required—including detection of activity type. The ARDA Coaching Engine comprises a set of algorithms and commentary designed to enhance the user experience and value of existing platforms. It can operate as a cloud-based service, or be housed on a partner's device or chipset.

Through its history of working with athletes across all levels, Performance Lab has developed proprietary algorithms that can visualise the fitness and health indicators within a data stream. In addition, the company has invented a system to auto-generate comprehensive workout plans based on

an interpretation of the multiple-parameter data stream. These algorithms power the ARDA Coaching Engine.

Performance Lab has been using and refining its ARDA coaching methodology as the foundation of its corporate health and wellness services, with tremendous success -- a greater than 90% success rate of athletes achieving their training goals.

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