Champions Trophy

Case Competition 2015

Case 1: Performance Lab Technologies

Wednesday 28 January 2015

Case prepared by Aarani Anandabaskaran under the supervision of Sunny Gu. This case has been prepared solely for the Champions Trophy Case Competition. All data in this case has been obtained from publically available sources and Performance Lab Technologies. This case is not intended to serve as an endorsement, a source of primary data, or an illustration of effective or ineffective management.

THE UNIVERSITY OF AUCKLAND
BUSINESS SCHOOL

From: Finn Fit
Sent: Thursday 22 January 2015
To: Performance Lab Strategy Team
CC: John Joggs, Sam Sprint, Wendy Walker
Subject: Performance Lab strategy presentation

Hi team,

Performance Lab Technologies (Performance Lab) provides the added element of having your own personal trainer in your pocket during your everyday run. Using 20 years of collected data alongside sports science, coaching and technology, the company has created the ARDA Coaching Engine. The ARDA Coaching Engine is a personal coaching software platform for wearable devices that automatically senses your activity, analyses, and interprets it to provide real-time fitness coaching for you.

Performance Lab has recently secured investment from Intel Capital, a US venture capital firm, to further develop its virtual coaching technology and generate global revenues for the product.

Currently, Performance Lab operates as a B2B company, marketing licences to its ARDA Coaching Engine to four types of customers: makers of health and fitness wearables, smartphone and smartwatch makers, fitness app developers, and multinational sportswear companies looking to deepen their customer relationships through digital/device channels.

Deals with small and medium sized companies have been closed easily, yet the company is taking some time to close deals with larger players in the market. As a result, the management team are re-considering their choices for future growth and success. They are faced with the following three options and are interested to hear what you think is the best option going forward:

1. **Release and sell the ARDA Coaching Engine as an app for smartphones**
2. **Continue with B2B sales and further develop the software to be able to close more significant deals**
3. **Be acquired by a large company**

The management team at Performance Lab are looking forward to your presentation

Regards,

Finn Fit

Silicon Valley Consulting

The business

Champions Trophy
Case Competition 2015

Performance Lab's story

Performance Lab changes lives through fitness and wellness coaching. Founded in 1993 by Jon Ackland and Kerri McMaster, it is a pioneer in the use of monitoring technology and built the first commercial sports lab in the world. As a sports lab, Performance Lab has been training many professional athletes, and has also been a leading player in corporate health programmes. From this background, the company has collected physiological and performance data involving tens of thousands of athletes and users at all levels. For 15 years data was collected in the sports lab, and for the past five years data has been collected exclusively in the field using wearable sensors.

In the past decade, the company's focus has been on automating the prescription of exercise using real-time environmental and physiological data, as well as historical data and insight into training goals. Bringing together the collected data, technology and sports science principles, Performance Lab has created the ARDA Coaching Engine.

Fitness applications currently available on the market simply report back or share data with their users. However, no application provides interpretation of this data into personalised, trustworthy and goal-focused coaching advice. The ARDA Coaching Engine does just that for its users.

Performance Lab has been using and refining its ARDA coaching methodology as the foundation of its corporate health and wellness services, with tremendous success. Of the hundreds of Performance Lab clients who have trained for a half marathon, more than 99 percent complete the distance – triple the industry standard.

The ARDA Coaching Engine was conceived by Performance Lab co-founder Jon Ackland, an internationally regarded exercise physiologist and sports performance consultant whose clients include world champions and world record holders across a number of disciplines, including Terrenzo Bozzone (triathlon), the All Blacks, Team New Zealand (America's Cup); and the New Zealand national triathlon, rowing and cycling squads.

Refer to **Appendix 1** for a related news article on Performance Lab.

Investment secured from Intel Capital

Performance Lab secured investment capital in June 2014 to further develop and generate significant global revenues for the coaching technology. The undisclosed funding amount was provided by Intel Capital, a US-based venture capital firm. Refer to **Appendix 2** for a related news article.

Intel Capital is a division of Intel Corporation, which is set up to manage global investments. Mainly, Intel Capital makes equity investments in innovative technology start-ups and companies worldwide. The key benefits of working with Intel Capital include obtaining a global reach, worldwide customer access, recognised brand capital and technology expertise.

From 1991 to September 2014, Intel Capital has invested more than US$11 billion in over 1,396 companies in 57 countries. The 29.44 percent stake investment in Performance Lab is Intel Capital's second investment in a New Zealand technology company.

Below is a breakdown of the remaining 70 percent ownership stake in the company as at 19 December 2014.

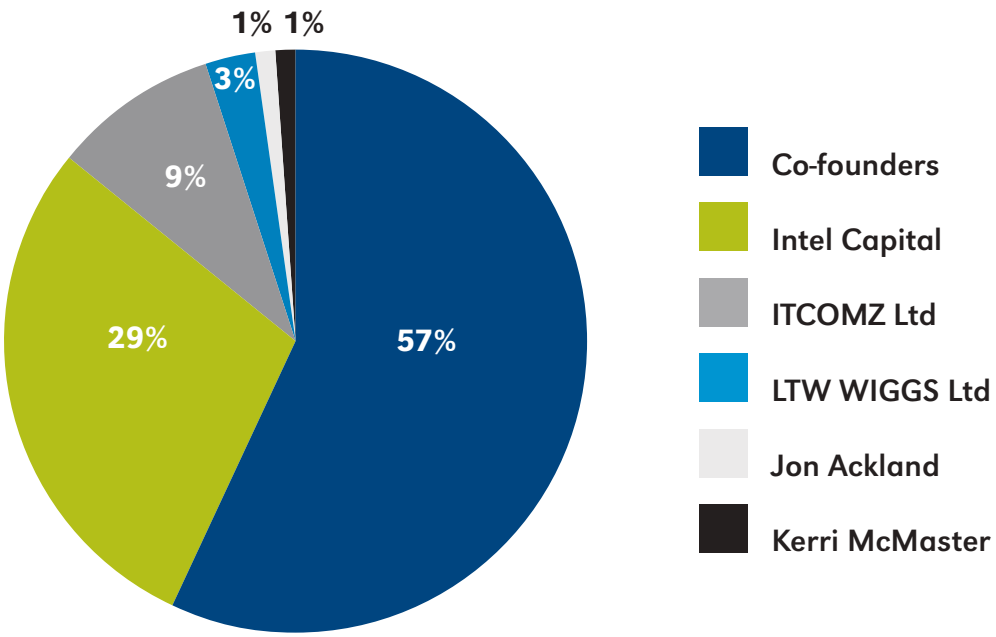
Intel Capital's recent investments in health and fitness wearable devices:

In November 2013, Intel Capital invested in Basis Science, the maker of an innovative health tracker called the Basis band. The band contains sensors that continuously capture heart rate patterns, motion, perspiration and skin temperature throughout the day and night, providing greater insights into the user's health and personal behaviour. The investment from Intel Capital and other investors has seen Basis Science expand its product team to further develop and market its product.

In September 2013, Intel Capital made an investment in Recon Instruments, the maker of the world's first consumer Heads-up Display products for sports – "the Google Glass for athletes and professionals". The Heads-up Display unobtrusively delivers activity-specific information instantly to the athlete's eye.

Refer to **Appendix 3** for further information on Intel Capital's portfolio of investments.

Performance Lab ownership



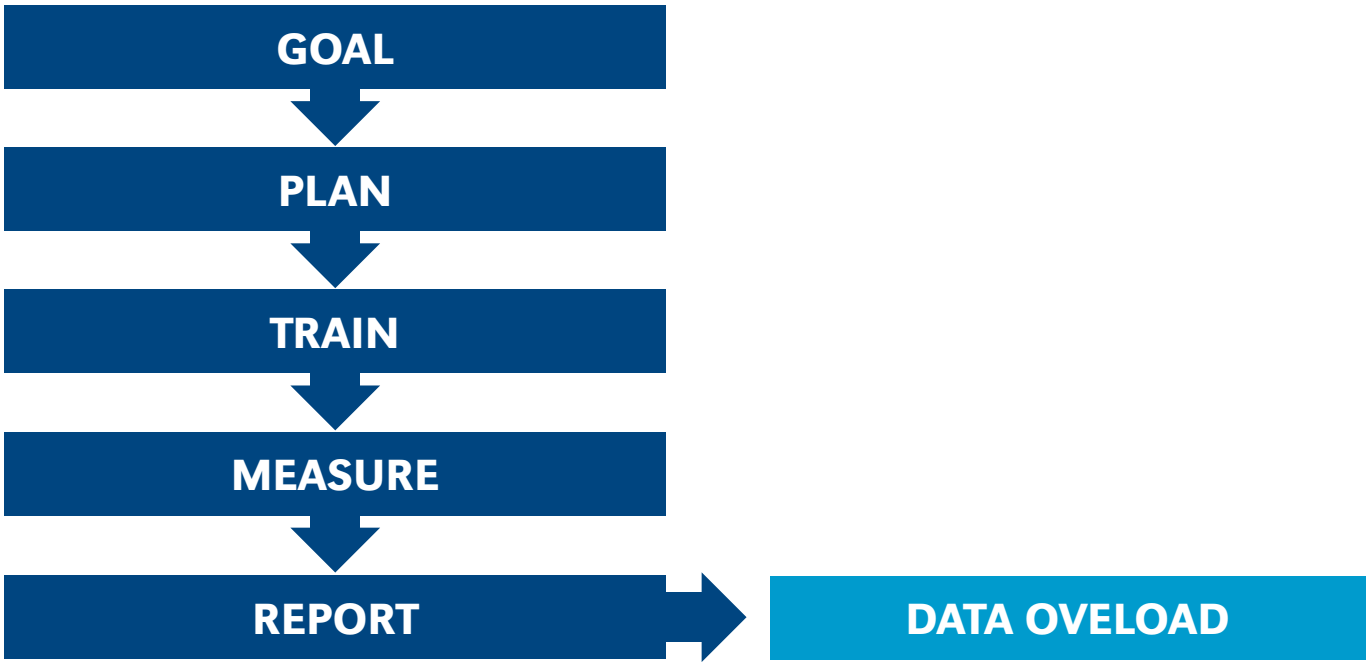
Note: The two co-founders (Jon Ackland and Kerri McMaster) jointly own the majority stake of 57%

Director of ITCOMZ Ltd is Waynne Dartnall (CEO of Performance Lab)

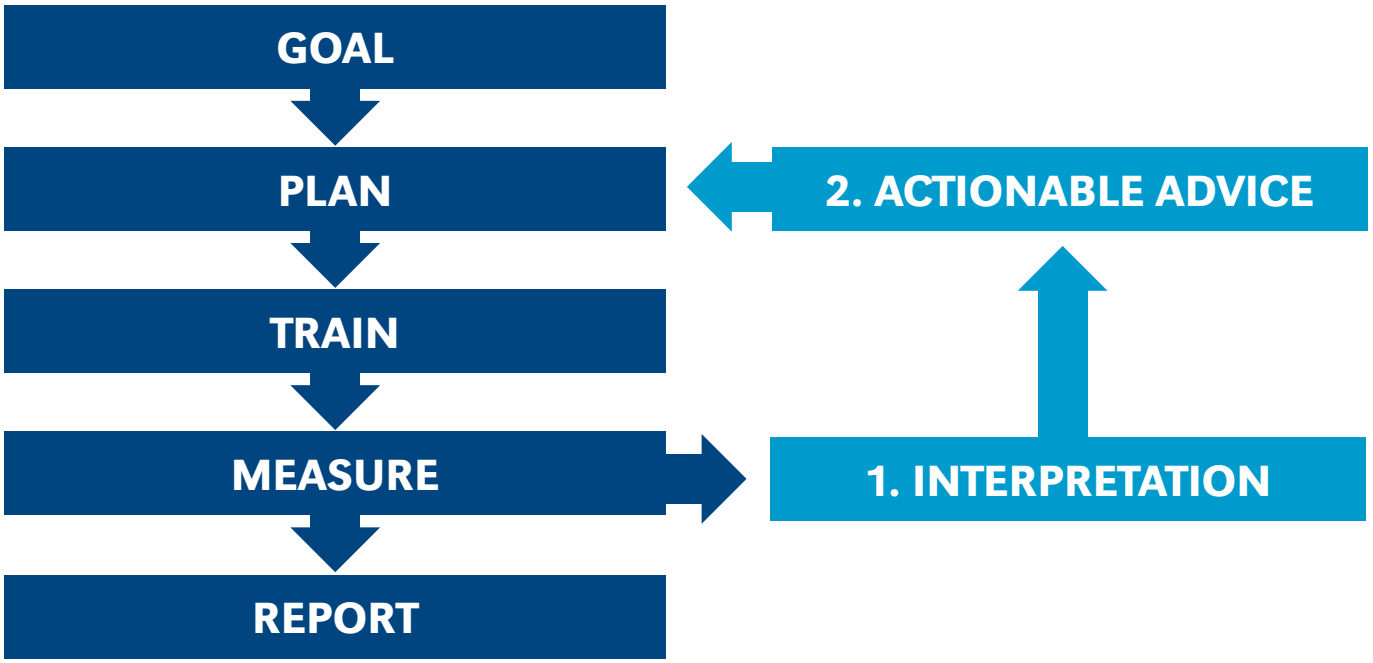
Director of LTW WIGGS Ltd is Baruch ter Wal (CMO of Performance Lab)

The product - ARDA Coaching Engine

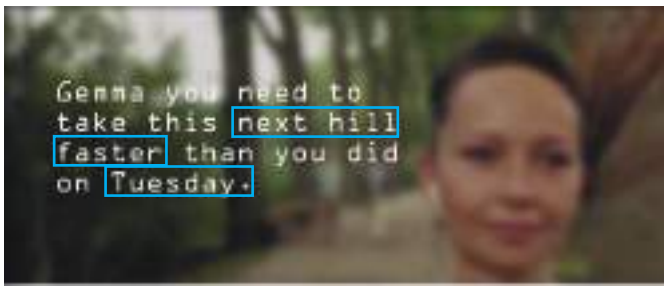
Existing digital coaching technologies in the market follow a straightforward process such as this:



However, the end report is of minimal use to the user due to data overload. For the above process to be more meaningful there needs to be interactions along the process, such as:

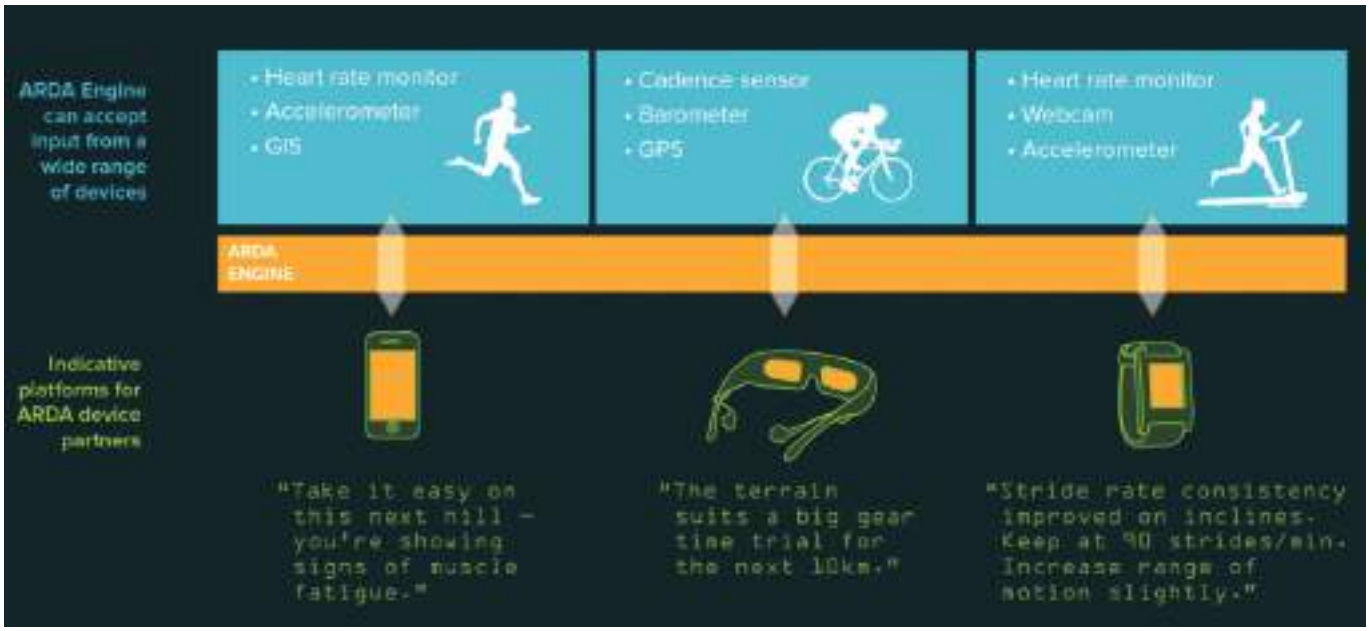


As a result, Performance Lab has created the ARDA Coaching Engine, a coaching software platform that can be built into wearable health and fitness devices and apps. The software takes in multiple biometrics and environmental data from the wearable device's sensors to build a 360-degree view of the user's activity. The platform is designed to work with multiple-parameter data streams, including terrain, weather, speed, power, recent performance, sleep and measures of central nervous system fatigue. Consequently, the obtained data is used to design real-time personalised workouts and fitness coaching.



The user of this product can expect to hear timely, relevant and trustworthy advice from the ADRA coach while exercising. The words outlined in blue in the image below indicate standard coaching concepts, which are nevertheless impossible for current fitness applications to engage with. Other examples of coaching comments include: "Let's try to take these stairs faster this week", "Your legs are a bit tired. I suggest an easier workout next time" etc. The experience of ARDA Coaching Engine can be likened to having your very own personal trainer in your pocket at all times.

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.



Refer to **Appendix 4** for further information on the ARDA Coaching Engine.

Current state of play

Performance Lab is headquartered in Auckland with 14 employees and also has an office in San Francisco.

At present, the company carries out a B2B commercial model. The technology has been licensed to several companies, and products incorporating the ARDA software will be available in early 2015. Most B2B deals with small and medium sized businesses are easily executed. Deal conversations with large businesses are opening, however Performance Lab is yet to close any mega deals.

Target customers can be categorised as follows:

- Makers of smartphones/watches
- Vendors of fitness trackers
- Makers of indoor fitness equipment
- Large sportswear companies (eyewear, shoes, apparel)
- Makers of fitness apps

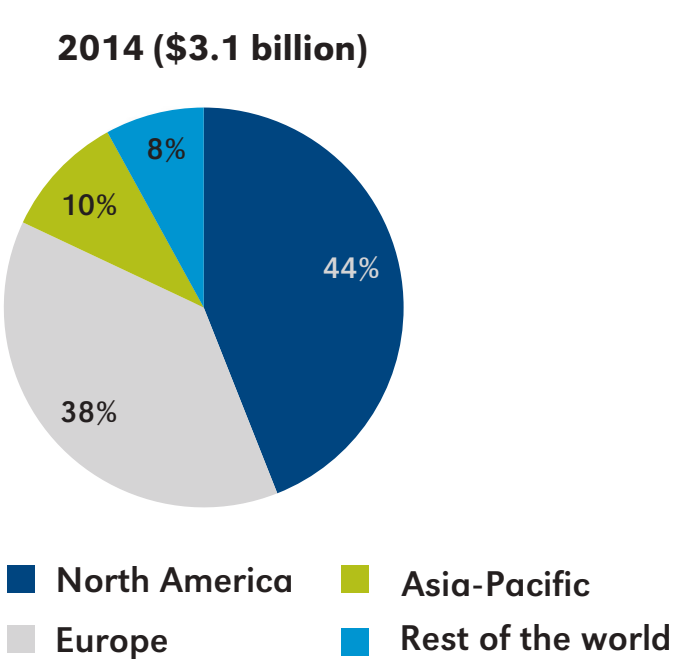
The industry

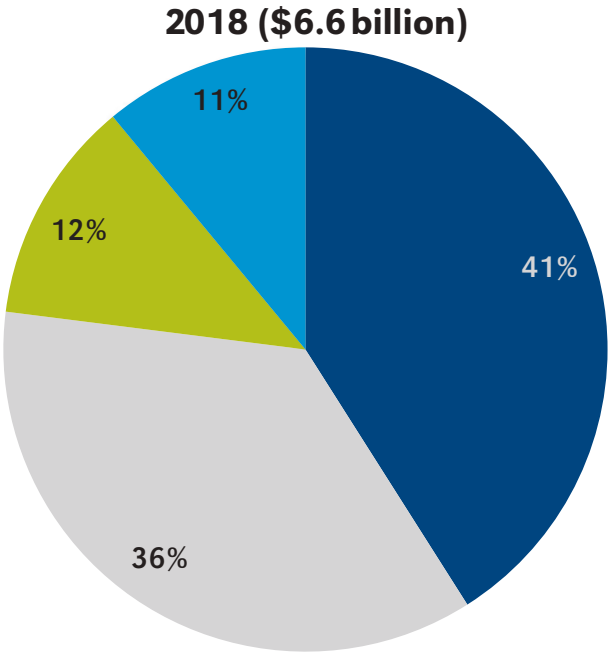
Wearable technology market

Wearables for health and fitness are marketed towards professionals and amateur athletes and health-conscious consumers. These devices range from smart bands to smart eyewear. Manufactures are continuously developing creative ways to fit these devices on and with the human body. This market will accelerate over the next few years as more innovative ideas come to the market and as consumer interest and knowledge grows.

According to MarketsandMarkets (a US-based global market research and consulting company), the global wearable electronics products market revenue is expected to grow approximately at a CAGR of 24.56 percent from 2014 to 2018. This growth will see the global wearables market spiking to NZ$14.92 billion by the end of 2018 through the steady sales of wrist wear, footwear and the emergence of eyewear. When considering only the wearable devices for health and fitness, the global market size is expected to increase from NZ$3.1 billion in 2014 to NZ$6.6 billion in 2018.

The current global market size of NZ$3.1 billion is concentrated by the three largest makers of wearable tracker devices: Fitbit (67%), Jawbone (18%) and Nike (11%). Further information on these three players and their products are provided in the "Competitors" section.





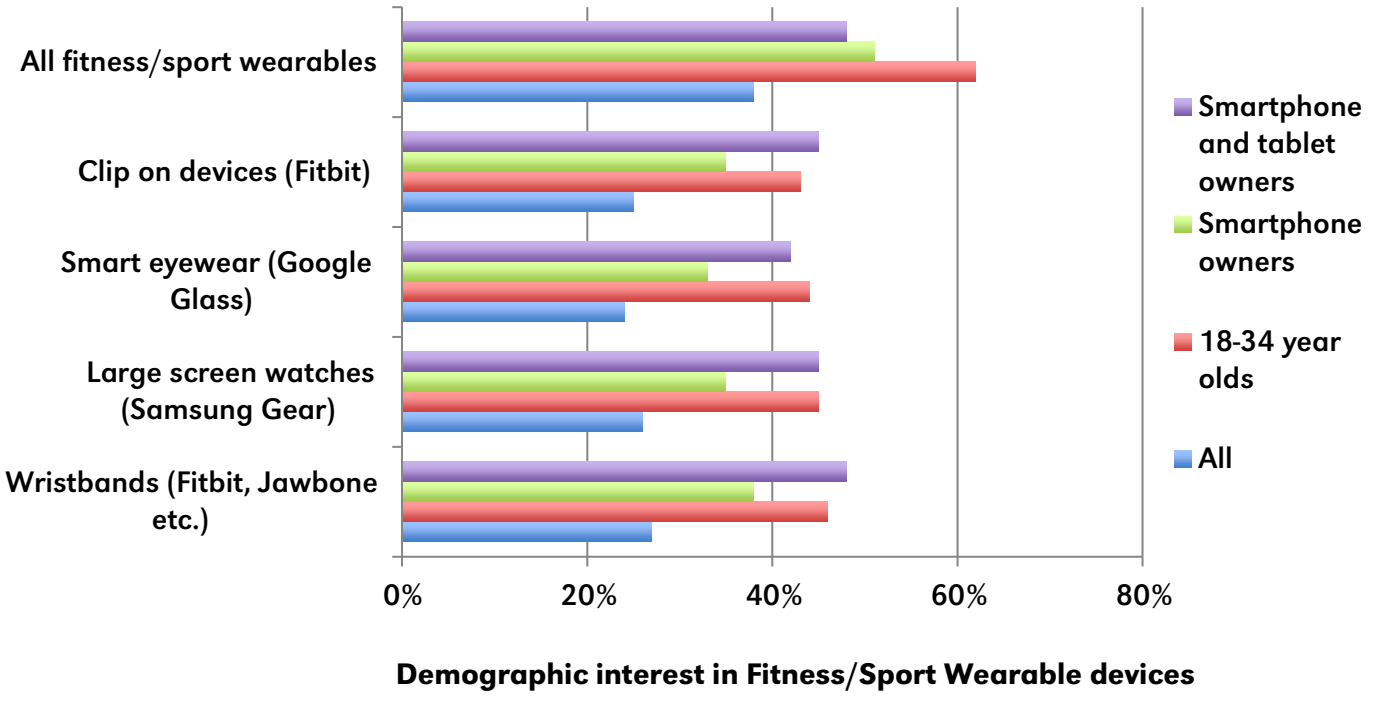
Customer demographic

Wearable devices are relatively new products, and are generating interest among a select group of consumers. According to MaRS (Canada's largest research centre and innovation hub), the target customer is expected to be an average age of 36, either male or female, have a relatively above average income, be likely to own a smartphone, and be health conscious.

Mercator Advisory Group (a US-based consulting firm) surveyed US consumers to gauge their interest in wearable technology, in particularly their interest for health and fitness wearable devices. Below is a graph summarising the survey findings:

In the below graph, the category "All" refers to all age groups surveyed.

Refer to **Appendix 5** for additional target customer information.



Demographic interest in Fitness/Sport Wearable devices

Competitors

There are multiple players in the market that provide health and fitness wearable devices. Performance Lab's unique competitive differentiation is the ability to provide users with real-time customised coaching advice. The following companies have been identified as competitors to Performance Lab (Refer to **Appendix 6** for additional information on competitors' products):

Fitness app providers:

- **Runtastic** is an Austrian company founded in 2009, which provides a suite of apps that track and manage health and fitness data. Users are able to view their stats, maintain an online training log, receive detailed data analysis and be able to compare results with other users.
- **Strava**, a US-based company, allows customers to connect with athletes across the globe. Users can track their athletic activity using compatible GPS devices, and then upload their tracked activity to receive an output of data analysis. Allowing the user to compare their data against their goals, friends, and professional athletes.

Wearable tracker device providers:

- **Nike** released its FuelBand in 2012. The band tracks the user's daily activity and provides data around calories burnt and steps taken. The band is used in conjunction with the Nike Activity tracker app.
- **Fitbit** is a US-based company founded in 2007. Its product range includes wristbands, watches, activity trackers and smart weighing scales. Alongside these wearable devices, the Fitbit App and Dashboard provides the users with progress charts and graphs.
- **Jawbone** is a US-based company and a world-leader in consumer technology and wearable devices. The company produces a range of wearable tracker wristbands. In addition, Jawbone's UP system provides users with personalised insight into how they sleep, move and eat. On 5 November 2014 Jawbone introduced a new wearable wristband, which uses the biometric data to power the "Smart Coach". This feature is built into the UP app that keeps track of progress and makes suggestions based on a user's recent actions. For example, completing an extended tennis match triggers the Smart Coach to inform the user to rebuild energy by eating a meal; getting two hours of deep sleep causes the Smart Coach to inform the user about the extra energy they'll have during the day.
- **Moov** originated from a partnership between a former Apple engineer and two veterans of sensor research at Microsoft. The Moov is a thin rounded disk on a wristband and/or ankle strap, which is used in conjunction with its range of apps (Run & Walk App, Swim App and Cardio Punch App). Moov's differentiating function is its ability to translate the user's exact movement into coaching capability to improve the user's technique and prepare the user for the challenges ahead in their activity.

Smartphone providers:

- **Microsoft Band** is the health and fitness tracker released by Microsoft in October 2014. The Band can monitor heart rate, steps and general movement during the user's activities. Additionally, the Microsoft Health App platform is compatible with Jawbone's UP, MapMyFitness, MyFitnessPal and RunKeeper.
- **Samsung** released a range of Gear Fit wearable devices that provide personalised real-time information on the progress and results of the user's workout. This technology was provided by Firstbeat, developer of heartbeat analysis technology for measurement of stress, recovery and exercise. The technology analyses how the user's body is actually working, and offers user-friendly feedback for improving physical fitness.
- **Apple** is expected to market its Apple Sport Watch in 2015. The Apple Watch is an all-day fitness tracker that uses an accelerometer to measure the user's total body movement. It has a custom-built sensor to measure heart rate, and it uses the GPS and Wi-Fi on the user's iPhone to track how far the user has moved.

Competitors

Competitor	Price range (NZD)	App available on
Runtastic	Free app with In-App purchases from $1-$35	App Store, Google Play, Windows Store, BlackBerry World
Strava	$7.50 per month; $80 per year	App Store, Google Play
Nike	Wearables: $100-$150; Free app	App Store, Google Play
Fitbit	Wearables: $100-$350; Free app	App Store, Google Play, Windows Store
Jawbone	Wearables: $140-$180; Free app	App Store, Google Play
Moov	Wearables: $155; Free apps	App Store, Google Play
Microsoft Band	Band: $200; Free app	App Store, Google Play, Windows Store
Samsung Gear Fit	Gear Fit: $150-$300; No app	N/A
Apple Sport Watch	Watch: approx. $450; Free apps	App Store

In considering the above products as competitors, Performance Lab acknowledges that these competitors can also be considered as potential future customers to the company. Performance Lab's ARDA Coaching Engine can be incorporated within an app, sold as a native app on a device, or built into a wearable device's functionality.

Smartphone market

Global smartphone shipments are expected to increase from 1.3 billion units in 2014 to 1.9 billion units in 2018, translating to a 4.2 percent CAGR in market revenue over the same forecast period. From an operating system perspective, Android devices will continue to drive shipment volumes while iOS devices will drive revenues.

Global smartphone market size forecasts				
	2014		2018	
	By revenue	By volume	By revenue	By volume
Android	66.6%	82.3%	60.9%	80.0%
iOS	30.4%	13.8%	33.8%	12.8%
Windows Phone	2.0%	2.7%	4.2%	5.6%
Other OS	0.9%	1.1%	1.1%	1.6%

Financial information

Revenue streams

Current revenue streams for Performance Lab include an upfront licence fee and recurring monthly royalty payments. Royalties are based on the volume of sales of wearable devices with the coaching software, and they are negotiated for each B2B deal. Detailed financial information on revenues and profits is confidential and therefore unavailable.

Cost allocation

Performance Lab's main costs in providing the ARDA Coaching Engine include product development, sales and marketing, and administrative expenses. Given a hypothetical cash burn of $1,000,000 pa the current cost allocation would look like:

Product development	
- New product development	$200,000
- Product integration to customer needs	$400,000
Sales and Marketing	$300,000
Administrative	$100,000
	$1,000,000

Appendices

Appendix 1: News article related to Performance Lab

Performance Lab creates Siri-like personal trainer to put more power into your fitness wearable

By Mark Sullivan, Monday December 8, 2014

Performance Lab's CEO Waynne Dartnall repeated the point so many times it began to sound like a mantra: All the step counts, feet climbed, distance run, and calories burned data we're collecting with our fitness wearables is just a bunch of numbers that don't mean much. What we need is a system that translates the numbers into real, actionable insights in real time.

He's right. There's no shortage of apps and devices that generate numeric data but stop there. We need technology that interprets it all, but, so far, the attempts we've seen to do that have been clunky.

New Zealand-based Performance Labs unveiled its answer to the problem today — a personal coaching software for wearable devices.

The software, which will be built into wearable fitness devices and apps, is called the ARDA Coaching engine. Dartnall showed a video of a person running while listening to the ARDA Coach in his headphones. The calm female voice was saying things like "Jon, you're running down these stairs too fast" and "Let's try to take this hill a little faster this week," and "Your legs are a bit tired. I suggest an easier workout next time to recover."

The coach takes in biometrics and environmental data from whatever sensors the wearable device makes available and uses the data to design personalized workouts and give training advice in real time. More specifically, the software can use data about terrain, weather, speed, power, recent performance, sleep, and measures of central nervous system fatigue to inform the various algorithms that create the coaching advice

The demo video is impressive. We'll wait and see how it works in the wild with real user data. But Intel Capital, the global investment arm of the multinational chip manufacturer, made a substantial investment (the exact amount wasn't revealed) in Performance Labs, leading us to believe that the ARDA Coaching software at least has a lot of potential. The deal underscored Intel's increased focus on wearable technologies and Internet of things.

"The ARDA Coaching Engine will help our partners bring to market a new generation of wearable fitness devices that will function as a virtual coach," Dartnall said. "We expect a personal trainer who we trust to assess what we are doing, how we are doing, and in what context we are doing it to provide the best advice as to what we should do next."

Performance Lab says it is currently working with several partners on a variety of devices that will use the coaching software. The software, Dartnall said, can operate as a cloud-based service, or be housed on a partner's device or chipset. It can be baked into a range of devices, including fitness trackers, smartwatches, smartphones, and eyewear.

According to an IDC report, consumers and businesses will buy nearly 112 million wearable computer devices by 2018, a 78.4 percent growth from 2014's predicted sales of about 19 million units.

Performance Lab was founded in 1993.

Retrieved on 10 December 2014 from www.venturebeat.com

Appendix 2: News article related to Performance Lab

Intel invests in NZ maker of 'virtual coach' technology

By Chris Keall, Thursday June 26, 2014

Performance Lab specialises in technology that senses and analyses movement, helping people and their coaches to monitor training.

UPDATE: Performance Lab technologies CEO Waynne Dartnall tells NBR his company will use its investment from Intel to push into North America.

The Auckland company has already been in talks with several major consumer electronics brands about incorporating its "virtual coach" technology into their wearable gadgets.

He expects to announce licensing deals this side of Christmas.

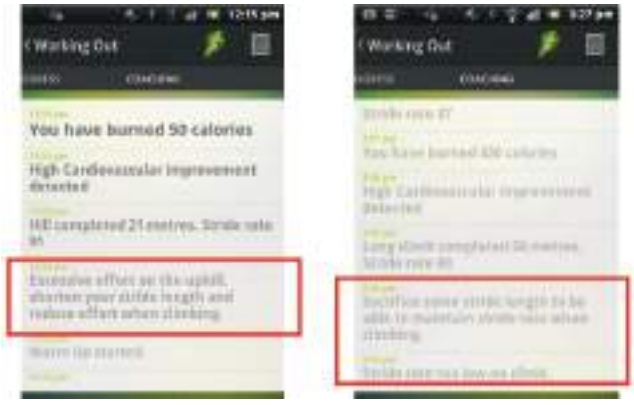
Although Performance Labs has been active in sports fitness technology since 1992, the CEO says its virtual coaching technology has only just been developed has yet to generate any significant revenue.

The company first put out feelers to local and international investors last October.

Why did it choose Intel (beyond the blunt question of who would offer the most cash for a minority stake)?

Mr Dartnall says the giant US tech's name has the power to open doors. It's already been a factor in securing talks with A-list consumer brands (he would not name any, but when NBR suggested Apple, Nike and Samsung, he said they were in that league).

Intel's name would also attract talent, the CEO says. His company currently has 12 staff. It wants to double that as it expands R&D and sales.



Examples of how Performance Lab's techology could be incorporated into a fitness app.

The US giant's 29.44% investment is also represents validation, Mr Dartnall says. If Intel's poured in capital, people assume the technology must be up to snuff.

Performance Labs' technology is based around sensing a person's movement and position, then giving them context-sensitive advice.

For example, it it was built into a Fitbit-style wristband or smartwatch, it could sense if you were running up a hill — then give you a reminder to keep your posture straight rather than concentrating on the fact you were slowing down.

"The idea is it's like having a real coach running beside you," Mr Dartnell says.

Performance Labs is looking to license its technology to gadget makers rather than make devices itself.

The health and fitness has been a huge focus for gadget makers over the past 12 months, with Samsung building a heart rate monitor into its latest flagship smartphone, the Galaxy S5, and its latest Gear smartwatches. It's also expected to be a point of focus for Apple's next iPhone, and its rumoured iWatch. The giant Consumer Electronics Show (CES) in Las Vegas was awash in wristbands and smartwatches that track metrics like heart rate and how far you've run, and use GPS to map your exercise efforts.

Canalys recently estimated 2.7 million wearable bands shipped worldwide in the first quarter of 2014, with FitBit accounting for just over half of all sales. Pebble, Sony and Samsung are also big players in the space.

Intel takes 30% stake in Kiwi fitness company

EARLIER: The venture capital arm of chip-giant Itnel has invested in Performance Lab Technologies, a developer of real-time exercise measurement analysis and virtual coaching software, based in Auckland.

Terms were not disclosed, but a rep for Intel told NBR, "This is Intel Capital's second investment in New Zealand and till date it has invested over $US100 million in more than 20 tech companies [that is, an average $US5 million] in NZ, Australia and southeast Asia."

Companies Office records show Intel has taken a 29.44% stake, making it the second largest shareholder. The ubiquitous Lance Wiggs has a 3% stake.

The largest stake (56%) is held by a group of investors including co-founders Kerri McMaster and Jon Ackland, an exercise physiologist who has worked with the All Blacks and Americas Cup crews and run Performance Lab since 1992 (although its virtual coaching technology is a much more recent development).

Performance Lab specialises in technology that senses and analyses movement, helping people and their coaches to monitor training — a hot area as companies like Samsung and Apple target fitness and health apps, and expand into wearable devices.

The funding will be used by Performance Lab to advance product development and to accelerate international expansion, the company says.

Performance Lab designs automated coaching technology for exercise and activity. Its ARDA product suite provides the next generation of intelligence for exercise and activity applications. The technology works across most fitness and wellness devices and provides automated coaching in real-time to optimise a user's performance based on sensor detection, the user's changing physiology, classification of their training, history, behaviours and goals. ARDA transforms readily available data into meaningful, relevant advice for consumers across smartphones and tablets, the company says.

"The sports, fitness, health and wellness sectors are fuelling strong global demand for smart gadgets," says Sudheer Kuppam, Managing Director, Asia Pacific, Intel Capital. "Performance Lab's suite of products provides enduring value to the smart gadgets that customers are incorporating into their health and fitness regimen."

"We are looking forward to working with Intel," added Waynne Dartnall, Chief Executive Officer, Performance Lab. "The combination of funding, together with technology, sales and marketing expertise, will help Performance Lab take our advanced coaching software to a global level."

The investment was led by Deepak Natarajan, Director, Intel Capital, Southeast Asia, Australia and New Zealand, who will join Performance Lab's board as an observer. Intel Capital's focus in the region includes mobility, security, cloud infrastructure and services, wearable technologies, and Internet of Things.

Retrieved on 8 December 2014 from www.nbr.co.nz

Appendix 3: Details on Intel Capital's portfolio of investments

YTD 2014 data:

- 111 investments, including 50 new investments and 61 follow-on investments
- $327 million, including $228 million in new investments
- 18 exits: 3 IPO and 15 M&A

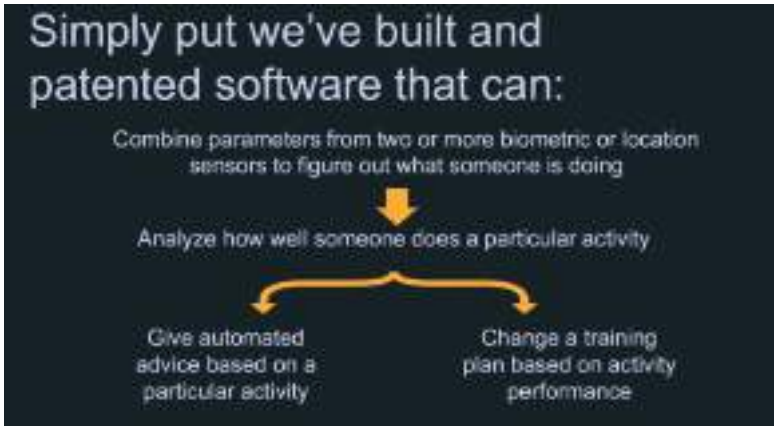
Intel Capital typically makes four types of investments:

- Ecosystem: Investments in technologies that support the final products in which Intel's products are used. These companies' products complement and help drive demand for Intel products.
- Market development: Investments in companies that help accelerate the adoption of technology in emerging markets.
- Gap fillers: Investments in companies that sell technology that Intel needs to help market or produce its products.
- Eyes and ears: Small investments in emerging technologies that might be useful in three to five years, but are not necessarily related to a current Intel business.

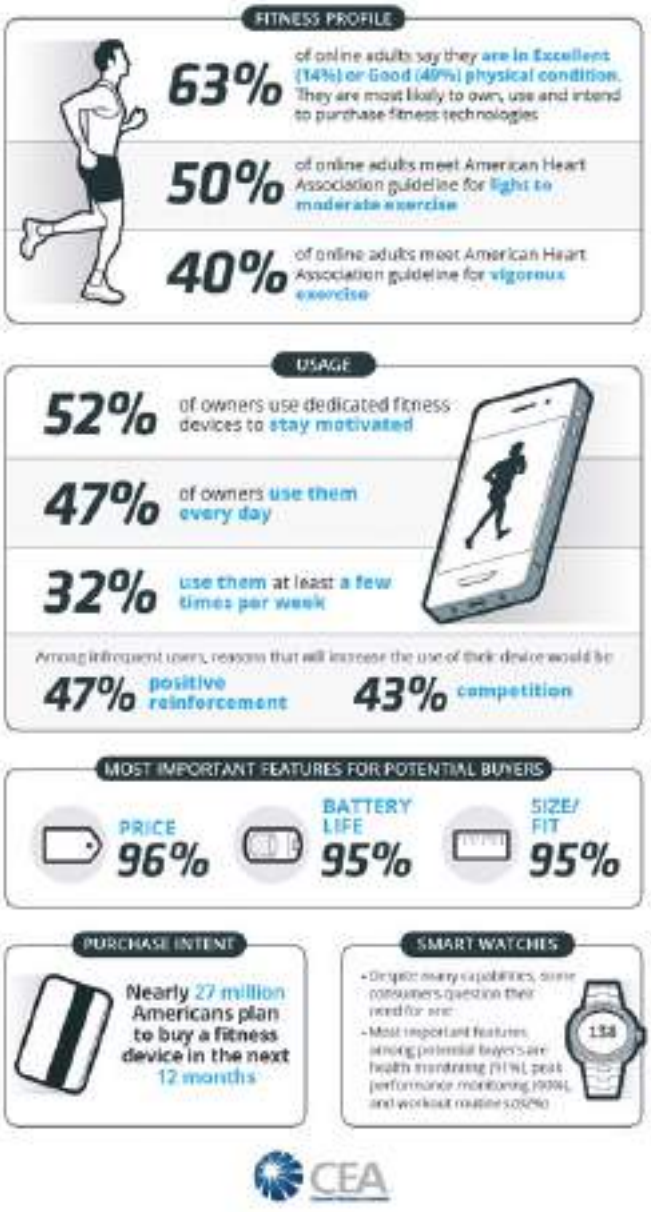
Appendix 4: The ARDA Coaching Engine

Example of the input data required for the ARDA Coaching Engine to obtain a 360-degree view of the user's activity:

The ARDA Coaching Engine – simplistic view:



Appendix 5: Health and fitness wearables target customer information



Appendix 6: Competitors

runtastic
makes sports funtastic

Take your GPS device

Start your exercise

Analyze & share your success on **Runtastic.com**

STRAVA™

1 Record your athletic activity using one of the many compatible GPS devices.

2 Upload your activity from the device.

3 View Your Activities on Strava.com

fitbit

JAWBONE

moov™

Microsoft

SAMSUNG

Appendix 7: The management team

Waynne Dartnall, Chief Executive Officer

After starting a number of businesses in his teens and 20s, Waynne has worked primarily in the IT and Telco sectors. He has been the architect and driving force behind some of the most successful network and systems management service offerings in New Zealand and the UK, establishing and growing new multi-million dollar businesses.

Waynne has also founded, grown and sold a number of start-up companies, including Network Solutions, EMS Global and Bizo. Along the way, he has completed several VC funding rounds, and has received a number of technical and business industry awards, including the selection as a finalist in the Ernst & Young Entrepreneur of the Year.

Kerri McMaster, Co-Founder and Chief Strategy Officer

Kerri drives the transformation of unique intellectual property into a scalable and profitable business. Before Performance Lab was formed, she worked in the health sector in the UK, leading to the commercialisation of corporate health management programmes that have been hailed as a benchmark within the industry.

Kerri has an intimate understanding of the pre-requisites for world-class performance and development, as she has won two World Karate Championships back-to-back.

Jon Ackland, Co-Founder and Chief Product Officer

Jon is an internationally regarded exercise physiologist and sports performance consultant with more than 20 years of experience in high performance analysis, prescription and motivation. He enjoys outstanding results with his athletes, with multiple world titles and international success across rowing, triathlon, cycling and sailing squads. Jon is the author of nine books on high performance and endurance training, two of which are used as University texts (the best-selling Power to Perform and Complete Guide to Endurance Training).

In the area of sports performance technology, Jon is a prodigious serial inventor and has developed a wide range of successful training systems and products. An experienced sportsman himself, Jon is a former national rowing champion and Ironman triathlete, and has represented New Zealand at two World Ironman Championships.

Baruch ter Wal, Chief Marketing Officer

Baruch has designed the go-to-market strategies of several of New Zealand's most promising start-ups, including Kiwa Digital, Geneious and Wiki New Zealand. The company he co-founded in his 20s, Lee ter Wal, helped numerous companies raise capital and seal major enterprise deals.

Baruch has also served as head of R&D for a Carter Holt Harvey business unit and was an associate with McKinsey and Company.

Matt Halstead, Chief Technical Officer

Matt has a PhD in experimental and computational neuroscience, a lead developer for Virtual Spectator for its first three years, research and development for Peter Hunter in the Bioengineering Institute University of Auckland for four years, followed by information systems and product analyst for Orion.

Matt's area of focus is on ensuring that with ARDA we have an architecture that is aligned with our requirement to manage big data in a super flexible modulated configuration.

Matt is a rare technologist with combined expertise in bioengineering and construction of big data architecture and structure for real-time delivery.


FUEL
GOAL

THE UNIVERSITY
OF AUCKLAND
BUSINESS SCHOOL