

A portrait of a man with dark hair and a light beard, wearing a black t-shirt and a smartwatch. He has his arms crossed and is looking directly at the camera. The background is a plain, light-colored wall.

WILL AHMED

How WHOOP knows you've got
COVID-19 before you do



01 Live

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03 Virtual

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04 Monetize

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Monetising digital

Having made a lightening fast pivot to digital during lockdown, gym operators are now figuring out how to optimise the assets they've invested in – it's time to monetise digital and find ways to create hybrid models



Fit tech saved many gym and health club businesses during lockdown, by keeping operators engaged with members and members engaged with exercise.

Now the challenge is figuring out how to shape digital going forward – whether to walk away and refocus on the bricks and mortar business or to continue to invest and fully integrate digital into the business model.

The opportunity is turning into a major land grab and it seems all suppliers that can engineer a digital bolt-on to their base business are doing so, from aggregators to management software companies and from equipment suppliers and consumer electronics giants to content providers.

One thing is certain – operators have a wealth of options – the bottom line is how much consumers are prepared to pay.

Recent research in the UK by mystery shopping specialist, Proinsight, found a direct correlation between the mystery shopper score of online workouts, the intensity of the class and the amount consumers would be prepared to pay for it.

Deploying mystery shoppers wearing Myzone belts, Proinsight assessed a wide range of online classes by measuring three key metrics; heart rate, calories used and intensity (measured in MEPs or Myzone Effort Points – a measure of output).

The classes that scored best had an average intensity of 198 MEPs per hour, while those that were least popular had an intensity of only 142 MEPs per hour, indicating that some consumers value classes more when they are inspired to work harder.

Average heart rate increases and calories burned also correlated with mystery shopper



Consumers will pay more for digital classes in which they're inspired to work out harder

scores, with those in the top quartile being +16 bpm and +161 calories burned.

Importantly, Proinsight found people are prepared to pay more for highly valued classes. The average that mystery shoppers were willing to pay for the content was £15/month, while for classes in the top quartile, they were (on average) willing to pay £4.73 more than those in the bottom quartile.

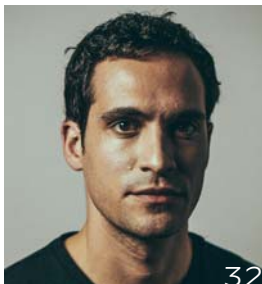
As businesses develop hybrid offerings, consumer insight such as this is vital to guide investment decisions, with a huge need for it to be hyper-local and calibrated for age, wealth, class type and fitness levels.

Digital also gives deep insights into what consumers want, guiding overall direction.

Liz Terry, editor, FitTech @elizterry

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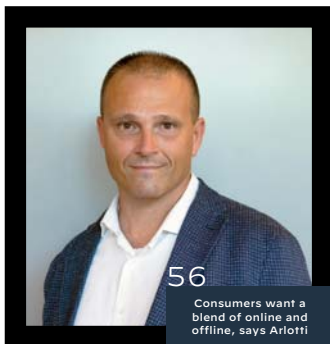
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A background image showing a person's hands holding a white smartphone over a white contactless payment terminal. The terminal has a numeric keypad and a small screen. The scene is brightly lit, suggesting an outdoor or well-lit indoor environment.

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FitTech PEOPLE



Using predictive and machine learning models, operators can hyper-personalise engagement

Ian Mullane Founder, Keepme



Mullane has developed Keepme around an intuitive dashboard



Tell us about Keepme

Keepme is a software solution for the fitness industry, designed to help increase membership, reduce attrition and increase secondary revenue spend.

All fitness operators can benefit from Keepme. The tool provides transparency on the actions of members. It translates these actions into insight about the business and how it's performing and functioning.

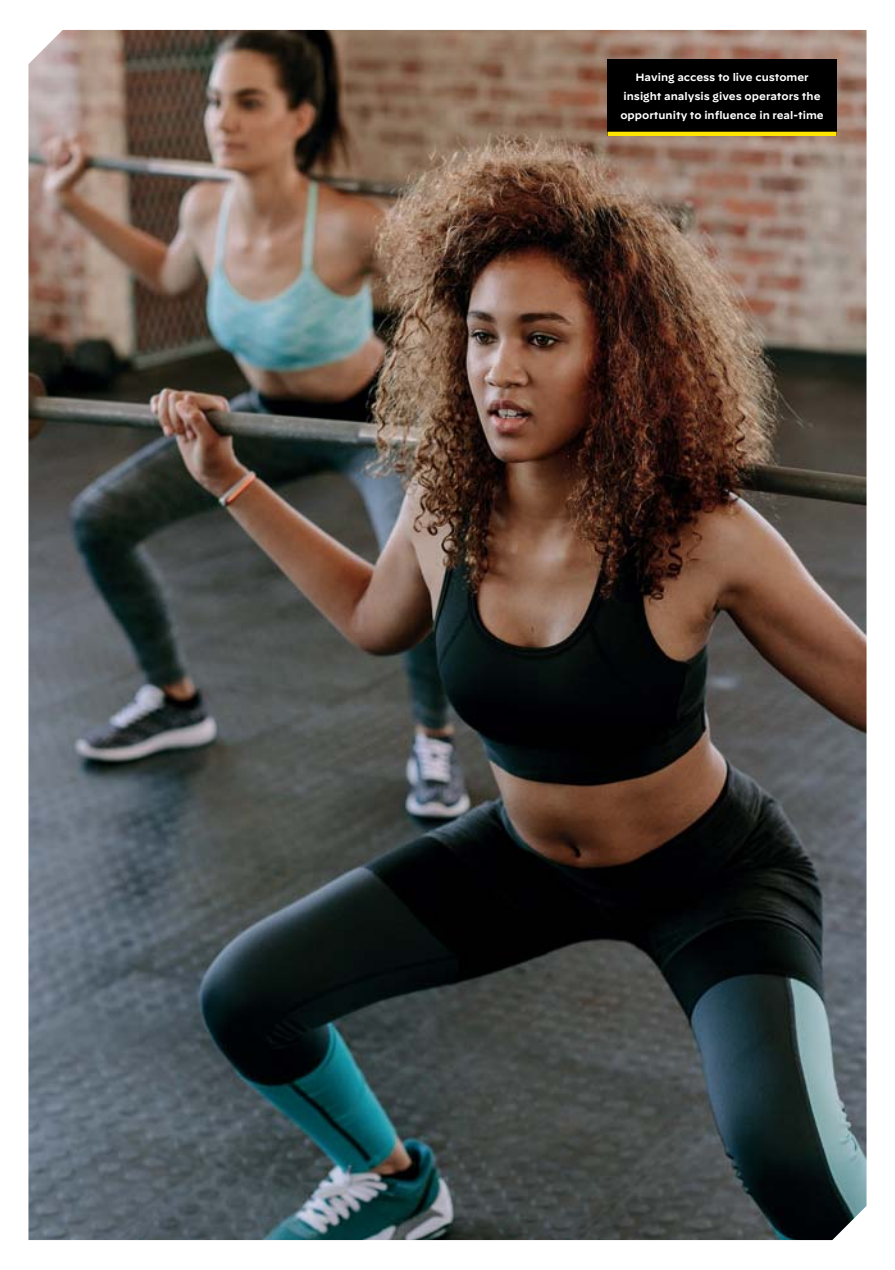
Using predictive and machine learning models, operators can hyper-personalise engagements with a commercial and operational perspective and increase response levels to benefit the business.

What tech is Keepme built on?

Keepme is a software as a service (SaaS) platform, available globally. It was custom-built for health and fitness operators. It uses machine learning models that use the client's everyday data to build highly accurate and predictable models that are then utilised to increase revenue for operational efficiency.

What gave you the idea?

I was the owner of a fitness business in Singapore called Vanda.fit. I became increasingly aware of the importance of retaining more members in an environment that was getting more competitive, while the cost of acquiring new members was increasing between two- and three-fold on an annual basis.

A photograph of two women in a gym setting, performing squats with a barbell. The woman in the foreground is a Black woman with voluminous curly hair, wearing a black sports bra and black leggings with teal accents on the thighs. She is in a deep squat position, looking off to the side with a focused expression. The woman in the background is a white woman with dark hair tied back, wearing a light blue sports bra and dark leggings. She is also in a squat position, looking forward. The gym floor is dark and textured, and the background shows a brick wall and a chain-link fence.

Having access to live customer
insight analysis gives operators the
opportunity to influence in real-time



I wondered if I could use my previous experience in modelling and investment banking in the fitness world, by using data that already existed in my business.

I found I could, and realised I had an opportunity to use data to predict which members were likely to leave. What's more, I could predict this result far enough in advance to change the outcome. This was not data that we previously had available.

What's your vision for the business?

The ambition for the business is to democratise AI tools so fitness industry operators can take advantage of this technology to increase revenue, engagement and service levels for members.

The ambition for the business is to democratise AI tools, so fitness operators can take advantage of it

How has it developed so far?

Keepme was launched in January 2019. Since then, we've experienced significant growth. Today, our team operates from six offices around the world to serve customers in eight countries, ranging from large international brands to multi-site and boutique operators.

What are your plans for the company in terms of development and investment?

The opportunity for Keepme is enormous and we're only just at the start of that journey. Our main objective is to continue to grow, develop and build a sustainable business.

In the coming years, we'll come to the attention of many trade operators who may like to bring our capabilities in-house. Should that enable us to meet our potential, we would be very open to it.

Keepme completed an investment round in October 2019. This allowed us to bring in the capital that the business requires to resource expansion and continue the development of the platform.

Keepme has developed an AI-driven sales module to support operators coming out of lockdown



Anyone running a fitness business has a great deal of uncertainty about the future, especially right now



Mullane came to the fitness industry after a career in investment banking and with experience in financial modelling

Who are your main clients?

A wide range of operators across the world, including Virgin Active, California Family Fitness, Hockessin Athletic Club in Delaware, Pinnacle in Australia and NuYu, the female-only chain of fitness clubs in Saudi Arabia. In the UK, we've recently brought on board Ten Health and Fitness, and Primal.

How have you priced Keepme?

Keepme is priced on an annual subscription basis that depends on how many sites the operator has. A single site starts at US\$9k a year, with a declining price per site thereafter.

Who are your competitors?

Combining AI with client data to provide insights is not an offering we've seen with other participants in the market.

The primary differentiator is that Keepme provides insights that are actionable and driven by AI.

There are tools available to provide business intelligence and customer engagement data, however, it's the integration of both, combined with AI, that makes Keepme different.

An app gives operators insight into on-site details of members

How are you assisting operators through COVID-19?

The team at Keepme is aware that insights into member retention and the tools to improve them will never be more important than in the post lockdown period.

We've come to realise it's also the time to revolutionise the tools available for membership sales, so we've been building a new AI-driven sales module to ensure every prospect is captured, the opportunity understood and a higher percentage of leads converted.

What future plans do you have to enhance Keepme?

Anyone running a fitness business has a great deal of uncertainty about the future, especially right now and we have many future plans to build out new predictive models to support them.

We'll provide operators with a tool that can fill that knowledge gap about future trading which, in turn, will allow them to act more quickly – both defensively and offensively.

What advice would you give to operators?

We would like every organisation to understand that the resources they have in their business could be worth a lot more than they think. The value of their business is locked in their data.

We can do things today with standard data sets that we couldn't even think of five years ago. And this opportunity will only continue to become greater over time.

This trend suggests that every organisation should consider the value it has in its data. It could be the most valuable asset you have over the next 5-10 years. ●





“

I was in Yemen, close to the capital, Sana'a, when I had the accident that put me in a wheelchair and gave me a chronic nerve damage pain problem.

This led me to develop the underlying technology of Sana

Richard Hanbury Founder and CEO, Sana

Tell us a bit about Sana

Sana is a non-addictive simple mask and headphones you wear on your head. The device uses audio visual stimulation to increase balance between the left and right side of your brain leading to greater relaxation. Ongoing use of your Sana mask resembles the effect of long-term meditative practices, which leads to a more restful state overall. Sana can clear a busy mind and accelerate mental and physical recovery.

What was your career background prior to founding Sana?

I was studying Arabic at University. My second year was in Yemen, and I was close to the capital, Sana'a, when I had the accident that put me in a wheelchair and gave me a chronic nerve damage pain problem. This led me to develop the underlying technology of Sana.


How did you develop Sana?

I used all of the research into how meditation effects long-term changes in the brain. The aim was to create meditation from the outside in, in order to help my own pain problem.

It took nine months to develop the first prototype, and 18 years of improving it to get to where we are now.



The system has been refined over a period of 18 years



Sana uses light and sound to create a state of deep relaxation

Tell us more about the technology – how does it work?

Sana is a wearable device that delivers a patented sequence of Audiovisual Stimulation (AVS). AVS synchronises groups of neurons with frequencies of light and sound presented to the eyes and ears.

When the brain is given a stimulus through the eyes and ears it emits a responsive electrical pattern. The brain follows a complex series of electrical patterns every time it goes into healthy relaxation, helping to induce deep relaxation and meditation. This leads to reduction in stress, improved sleep management and enhanced rest and relaxation.

Is Sana better than more traditional meditation?

The biggest reason why so many people start to meditate and then give up is called the 'Goldilocks Problem'. This refers to the lengthy amount of time it takes a beginner to get benefit from meditation. This problem is more severe if you have stress issues or other health issues.



We offer a zero effort way to get to where meditation gets you.

We provide the benefits to the brain in a fraction of the time of meditation. What we don't do is provide any of the wisdom benefits of meditation – there is no shortcut to that.

So for just relaxing when you most need it, we are more effective with less effort, but we don't replace the broader benefits of meditation.

Is there scientific evidence that supports the use of Sana?

Sana has conducted pilot studies that show scientific support for its use, although it doesn't have FDA approvals in these areas yet.

In our pilots, participants indicated a 74 per cent positive response, describing it as calming, life-changing, meditative and relaxing.

You accelerated the launch of Sana due to the pandemic. Why?

COVID-19 has brought with it a crisis in mental health and anxiety, with people in more urgent need of a relaxation method that can be used at home, and help to manage sleep improvement.

How has the Beta product been received?

So far the launch has gone smoothly. As with all launches we have had many things to improve and we're doing that. We're very grateful for the patience and feedback of our early customers.

What are your plans for Sana?

Over the next two years we'll be carrying out multiple clinical trials, from the existing study at Mount Sinai, to the next study at Duke, to Cleveland Clinic, UPenn and many others. We plan to get multiple FDA approvals across all the areas that we believe we can help people in, so that we can give people relief and greater control over their lives. ●



We can capture tracking data from historical videos, enabling us to do large scale comparisons of players, such as Michael Jordan, across eras

Patrick Lucey, VP of AI, Stats Perform



Patrick Lucey says the more data you have, the better your AI will be

How does AI assist the sports industry?

Many of us rely on AI-based technology without even knowing it. For example, when we use Google Maps, it gives us an estimate of a route and time it takes to get to a destination by using AI. Or when we order an Uber or Lyft, it connects us to a driver and calculates the fare.

These are examples of assistive technology – enabling people to make easier/better/quicker decisions, and they not only emulate but sometimes surpass what humans can do.

The reason these companies are able to achieve this ‘super human’ capability, is that they’ve utilised an enormous amount of data. The more data you have, the better your AI technology will be – simple as that.

When it comes to the sheer volume of data in the sports industry – both historically in terms of capturing all games played, and also in terms of granularity (details of locations and times of games played) – no other company has the volume of sports data we have at Stats Perform.

We cover all sports and we capture details of them at a depth no other company does, which positions us as the best sports AI company.

The goal of our AI technology is to help all segments of the sports industry to make better and quicker decisions, as well as to do things they couldn’t beforehand.

ABOUT STATS PERFORM

Based in Chicago

Founded in 1981 by John Dewan

Collects the world's largest amount of sports data

Clients include media outlets, sports leagues and teams, fantasy sports and sports betting services

Pioneers in the computer vision tracking space, using it since 1999

Provide immediate insight on gameplay from more than 45 different sports

Can you give us an example?

Football (soccer) is a hard sport to analyse because it's low-scoring, continuous and strategic. For these reasons, the current statistics used, such as possession percentage, number of passes, corners and tackles, don't correlate with goals scored and who won the match.

Our AI-based metrics, such as expected goals, quality of passes and playing styles, correlate far more accurately with the number of goals scored when compared with standard statistics. Our AI metrics measure performance better.

Using these AI tools, we were able to show how UK team Leicester City won the 2015-16 English Premier League title. Basically, it wasn't the goal-scoring exploits of players Jamie Vardy or Riyad Mahrez that won the game, the result was down to goalkeeper, Kasper Schmeichel, who saved five more goals than the average Premier League goalkeeper, and their defenders who intercepted the most 50-50 balls – especially midfielder Ngolo Kante.

What else can your software do?

There are things in football that can't be measured reliably by humans, such as a team's formation.

Using our AI techniques – most notably our unsupervised clustering method – we can automatically find a team's formation at every frame of

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AI technology enables great players, such as Michael Jordan, to be compared across eras

a match. We're very proud of this, as we're the first group to be able to do this and it's a central feature of our Edge football software.

Outside football, we've also recently launched a couple of new AI-based products for analysing NFL and NBA, called VQ and Insights.

The VQ (victory quotient) system, uses our wealth of data in both the NBA and NFL, as well as our deep learning models to provide predictions of performance of every player in every match. That's the power of AI, as we can scale our models to provide these predictions for every match being played.

Additionally, we've launched our Insights Live product, which

provides notable information during every match using our deep data, in tandem with our natural language generation platform, which is another great example of using AI to scale and provide information where it wasn't previously available.

How is AI changing the world of sports for consumers and competitors?

The reason sport is so compelling is that it's played and coached by humans who are constantly making decisions in the heat of the moment – often the wrong decision.

Every single decision that a coach or player makes can be broken down, analysed and debated and at

Stats Perform was able to show that Leicester City won the UK Premier League due to goalkeeper Kasper Schmeichel



The result was down to the goalkeeper, Kasper Schmeichel – who saved five more goals than the average Premier League goalkeeper

Stats Perform, we have the data on every decision coaches and players make, which means that by using our AI technology, we can provide objective analysis on each decision.

This is compelling for front-offices as we now have a better measure of performance.

It's the same for audiences at home. Every sports event is now a talking point and we can make it even more compelling by providing a reliable prediction service for consumers.

Our AI technology is also the ultimate decision analysis tool, enabling everyone associated with the sports world to make better decisions.

Sports are increasingly being broadcast and consumed via mobile and the internet and this means raw and AI-based metrics are required to make more interactive and compelling experiences.

How can AI maximise old data?

We have the most sports data on the planet. To continually improve, we want to collect even more, with a granularity that a human could not do manually. That's how our AutoStats functionality works.

This utilises computer vision, which captures a player's skeleton from a broadcast video frame and then provides player tracking and event data.

Our goal is to collect tracking data from every sports video that has ever existed – which essentially enables us to travel back in time.

Take basketball as an example: tracking systems were not available in the 80s or 90s, so capturing the performance of Michael Jordan has not been possible... until now.

Using AutoStat, we can capture data from historical videos, enabling us to do comparisons of players across eras.

Will AI take the magic out of sport?

I get asked that question often. My honest belief is that we're making sports better. Instead of it being a mere athletic endeavour (ie, the fastest and strongest prevail), we're adding a cognitive dimension to the equation, where players and coaches have to also hone and perfect their cognitive function to best prepare for (and predict) the strengths and weakness of opponents.

How will AI change sport?

Currently top professional athletes receive the best analysis and coaching. AI technology will democratise this to the point that everyone, whether amateur or professional, kid or adult, can receive the best analysis and coaching for free. ●

More: www.StatsPerform.com

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Digital health education should promote learning that helps young people manage their online health identities

Emma Rich

Schools should teach kids how to use fitness tech to 'protect them from risks'

Children and young people need support to navigate the growing number of digital wellness technologies that track and manage their fitness and health.

According to a new report, 70 per cent of young people – some as young as eight years old – are already using apps, YouTube videos and digital online technologies to track and manage aspects of their health.

The researchers responsible for the report – from the University of New South Wales in Australia and universities of Bath and Salford in the UK – say the findings highlight risks and opportunities for young people. They also suggest that more needs to be done to expand digital literacy lessons at school to focus on health.

Called *Digital Health Generation*, the report is based on survey data of more than 1,000 young people.

Starting young

The report shows that 75 per cent of children owned their first mobile or tablet between the ages of eight and 11 years old, with 70 per cent using the devices for health purposes in relation to fitness or dieting.

The researchers also suggest the growth of digital technologies can pose problems in terms of data collection, security and ownership and also in how young people navigate sometimes competing health advice.

Among the report's findings is that, while young people draw on health advice provided through digital (such



70 per cent of young people are already using tech to track and manage their health

as training plans and dietary advice) – many are concerned they would not be able to recognise if they were over-exercising or dieting too much.

Therefore, the researchers suggest that, as a priority, schools should be "supported in educating young people about digital health as part of the health curriculum".

"There's been a surge of apps, blogs and videos targeting young people, with messages about personal improvement in their health and lifestyle," said lead researcher, Professor Emma Rich from the University of Bath.

"These technologies offer certain opportunities for young people, but they also carry risks, both in terms of the direct advice and guidance given, and the implications this can have in relation to body image – for instance

– and also wider concerns about data storage and ownership by third parties.

"Our findings suggest young people want to learn more about this, but need help in navigating a fast-paced, fast-changing online environment.

Updating curricula

"Digital health education should promote learning that benefits young people in ways that help them feel better prepared to manage their online health identities, particularly in relation to social media," said Rich. "Educational policymakers need to take notice of this issue in order to update the curriculum. We need to ensure young people have the skills and know-how to cope."

Researchers say young people must be the priority when it comes to policy.

■ **MORE:** http://lei.sr/M3U5V_F



Technogym is creating its own content and enabling clubs to stream their own classes

PHOTO: TECHNOGYM

Technogym gets into digital content

Technogym has announced the launch of live streaming and on-demand.

The new content will be delivered via the Technogym Mywellness app.

The service offers operators the opportunity to stream their own content, so users can connect to their favourite classes and instructors.

Operators will also have access to a library of ready-to-use content created by Technogym to integrate into their own content libraries.

"This is a new business opportunity for clubs for member engagement and attraction," said Nerio Alessandri, founder and president of Technogym.

"Mywellness has been playing a fundamental role in supporting operators to connect, engage and coach customers. Now users can follow their favourite instructors and classes, even when they're not at the club."

■ **MORE:** http://lei.sr/j3k4f_F

This is a new business opportunity for clubs for member engagement

eGym helps health clubs reopen

German fitness tech and equipment firm eGym has launched a new Corona Gym Solution, bringing together a number of resources aimed at helping health clubs to re-open their doors as lockdown measures are eased.

The new service has been designed to bring together a range of services that will help operators meet the new regulations and cater for the increased safety and hygiene needs of members – as well as take into consideration the business interests of operators.

The components within the service will range from hygiene features and the ability to book training slots for optimal space planning to new exercise programmes, specifically designed to provide members with an immunity boost.

"The aim of our Corona Gym Solution is to quickly restore



A range of resources are offered

PHOTO: eGYM

the studios to full functionality," eGym said in a statement.

"It provides an easy-to-use mobile platform that enhances the gym with a free digital offer."

■ **MORE:** http://lei.sr/S3M5X_F

Fitbit Flow

Wearable tech giant Fitbit has unveiled a low-cost, easy-to-use emergency ventilator for use during the COVID-19 pandemic.

The Fitbit Flow has been granted emergency-use authorisation by the US Food and Drug Administration (FDA), which means it can only be used to treat people during the current health crisis.

The device is designed to be intuitive and simple to use, potentially helping to reduce the strain on specialised staff.

■ **MORE:** <http://lei.sr/Y3V9k>

FitTech Summit

Natalia Karbasova has set up a new company to run the FitTech Summit, the conference devoted to fitness technology.

The event was previously run by the German publishing and media conglomerate, Hubert Burda Media.

Karbasova, the CEO, has acquired the trademark and domains for the summit to further develop the event and networking concept.

■ **MORE:** <http://lei.sr/s8P6m>

Clean air tracker

Tenzing Natural Energy, a drinks brand, has recently added new functionality to its free Clean Air Tracker, tool, now enabling its use by cyclists and pedestrians, as well as runners.

Since the tracker launched The Tenzing Clean Air Tracker launched on 4 July 2019, over 125,000 runs have been logged.

Andrew Grieve, senior air quality analyst at King's College London, said: "I'd encourage everyone to use this tool, whether you're running, walking or cycling."

■ **MORE:** <http://lei.sr/7h5No>

We hope the Brrrn Board appeals to a broad base of exercisers



Brrrn plans to create an affordable category of at-home fitness

NEILS O'LOUGHLIN

Brrrn goes digital with launch of at-home offering

Brrrn – the world's first “cool temperature fitness experience” – is launching into the at-home market with a full digital offering based on the ‘Brrrn Board’ – a slideboard workout.

The board comes complete with programming, a variety of workout genres, recovery and ‘brrreathwork’.

As part of plans to tap into the booming at-home market and create an affordable offering, the Brrrn Board will be made available for

US\$399 (€349, £316), with a monthly content subscription of US\$19.99.

The subscription service will give members access to eight categories of total-body, on-demand workout videos – Slide, Core, Cardio Sculpt, Bootcamp, Recovery, Brrreath and Brrrnouts (DIY daily challenges).

Videos are categorised by 10-, 20- and 30-minute workouts and new content will be added on a regular basis across all available categories.

Brrrn, which offers group exercise classes in a fridge-like environment, launched its flagship studio in New York City in May 2018. Group exercise classes take place inside a patent-pending ‘fridge’ that provides a continuous training environment of around to 50°F (10°C).

The Brrrn gym and home workout brand is the brainchild of entrepreneurs Jimmy T. Martin and Johnny Adamic.

■ **MORE:** http://lei.sr/RBZ7r_F

Glofox raises US\$10m, launches digital platform

Gym management software provider Glofox has launched a new digital platform, enabling gyms and health clubs to deliver live streaming and premium on-demand content.

The new platform has been provided to help Glofox's partner gyms to continue operating remotely and keep members engaged during the COVID-19 lockdown.

Consumers have learned how to consume fitness content digitally and feel comfortable with it

Conor O'Loughlin

Commenting on the new digital platform, Glofox CEO Conor O'Loughlin said: “COVID-19 has transformed the fitness industry. Many gyms have made the leap to delivering virtual experiences overnight.

“Consumers have learned how to consume fitness content digitally and are beginning to feel comfortable with that. Businesses are adapting fast, and those that adopt new tools will survive now and be able to add new revenue streams coming out of this pandemic.

“We're enabling gyms and fitness studios to transform their businesses by adding live workout streaming and on-demand content.

“Working remotely has allowed fitness entrepreneurs to learn new skills. After the crisis, local businesses that project a digital presence and can deliver complementary online and offline experiences will attract and retain more members.”

■ **MORE:** http://lei.sr/3r5M7_F



PHOTO: GLOFOX

The Glofox co-founders: O'Loughlin, Anthony Kelly and Finn Hegarty

Alongside the launch of the new service, Glofox revealed it had secured additional investment worth US\$10m (€9.2m, £8m), bringing the total amount of funding the company has secured to date to US\$23m (€21.2m, £18.5m). The additional investment was made by a new undisclosed investor and joins previous funding, which was led by Octopus Ventures and also included Notion Capital, Partech and Silicon Valley Bank.

Glofox currently has partnerships with gyms in 48 countries.



The new service offers operators the tools to digitally engage with members

PHOTO: VIRTUAGYM

New Virtuagym hybrid solution enables operators to monetise digital

Virtuagym has launched Stronger Together, an all-in-one, hybrid membership solution.

The new service offers operators the tools to digitally engage with members and to monetise those relationships.

The system has been designed to enable operators to build community, create online challenges, provide audio coaching and live-streamed content, as well as to create workout and nutrition plans.

The Stronger Together solution offers thousands of hours of content, including digital 3D workouts, video classes, audio coaching and nutrition and fitness tracking.

It also includes an online community, updated with content on a daily basis and challenges to stay fit, as well as a library of meditation sessions, making it a holistic member wellness experience.

According to Virtuagym CEO, Hugo Braam, the intention is to provide a digital tech service which will allow business owners to spend more time running their gyms, clubs and studios.



Many of our customers were struggling to get an offering in place they could charge for

Hugo Braam, Virtuagym

"We noticed that many of our customers are struggling to get a good digital offering in place, which they can charge their members for during the current crisis," Braam said.

"And that's not just within single location businesses, but also within fitness chains. It just costs a lot in time and resources to do this well and to make commercial gains."

"Our customers only need to press a button to go live with Stronger Together, creating a rich digital membership experience, where we do all the heavy lifting."

"We believe that the solution won't just be relevant during the coronavirus pandemic, but will also allow clubs to offer their members a broader experience as part of their membership moving forward."

The launch is partly a reaction to the pandemic – and the way it has resulted in the fitness industry moving into the virtual world practically overnight – and partly a move to enhance the Virtuagym platform overall.

The company's own research, conducted during the pandemic, shows that the majority of fitness and wellness businesses now offer online solutions to their members.

However, most businesses surveyed admitted they have failed to turn this online coaching solution into a new revenue stream – mostly due to time and resource restrictions.

"That's partly where the name comes from," Braam added.

■ **MORE:** http://lei.sr/z6W8S_F

Magic Mountain app uses group psychology

A free app, which aims to help people get physically active and build healthy habits through the power of group psychology, teamwork and friendship, has launched after securing £500,000 worth of funding.

Magic Mountain allows users to set activity-based goals, share them with other individuals and collaboratively track progress.

The app syncs with the Apple Watch and Healthkit.

By forming 'teams' with friends, users can track progress live as their avatars ascend a virtual mountain.

A chat function allows the team to communicate, celebrate goals together and share selfies after each activity.

PHOTO: MAGIC MOUNTAIN



The app is available for iPhone, with an Android version coming soon

We aim to provide people with a solution for maintaining their physical wellbeing and connectivity with friends and family

"We're launching during a period of unprecedented uncertainty and aim to provide people with a solution for maintaining their physical wellbeing and connectivity with friends, family and colleagues in the wake of social distancing measures," a spokesperson for Magic Mountain said.

■ **MORE:** <http://lei.sr/G2X7c>

Mirror sells to Lululemon for US\$500m

Lululemon will acquire at-home fitness tech firm Mirror in a deal worth around US\$500m (€446m, £407m).

"In 2019, we detailed our vision to be the experiential brand that ignites a community of people living the sweatlife through sweat, grow and connect," said Calvin McDonald, Lululemon CEO.

"The acquisition of Mirror is an exciting opportunity to build upon that vision and enhance our digital and interactive capabilities.

"We look forward to learning from and working with the team at Mirror to accelerate the growth of our personalised in-home fitness offering."

The purchase price of US\$500m is expected to be paid from the company's primary sources of liquidity, which include over \$800m in cash, its existing \$400m revolving credit facility, and a new one-year, \$300m revolving credit facility.

Following the completion of the transaction, which is expected to

take place by Q3 this year, Mirror will operate as a standalone company within the Lululemon group.

Mirror founder, Brynn Putnam, will continue as CEO. He said: "As part of Lululemon, Mirror can further strengthen its position and accelerate its growth by leveraging Lululemon's deep relationships with its guests,

ambassadors and communities, as well as the company's infrastructure, including its store network and e-commerce channels."

The deal builds on an existing partnership which began with Lululemon making an investment in Mirror and collaborating on content.

■ **MORE:** http://lei.sr/p7v3Xc_F



Mirror will enable Lululemon to enter the home fitness market

PHOTO: LULULEMON

Gympass

Tap into the
80% of workers
who don't yet
belong to a gym.



Get in touch with our team: join@gympass.com





All Duel participants have access to a community group, where successes are celebrated

Motivation: Duel teams up with Myzone

DUEL, a new motivational health and fitness platform, has partnered with Myzone to help challenge its participants to hit their activity targets, while unlocking funds for good causes.

DUEL hosts an online exercise challenge every month that rewards activity. Participants choose a package that suits their budget and the level of motivation they need, and they receive a Myzone belt within 48 hours.

Challengers log their activity with Myzone throughout and track their progress in one of several leagues, which are tiered to suit their goals. When challengers hit the points goal for their league, 30 per cent of their entrance fee is released to that month's chosen charity partner. Participants also win prize money.

DUEL was founded by James Trevorrow, who has worked in the health and fitness sector for 20 years, as a PT, master trainer and educator, and in regional and national management roles.

"My career took me into product innovation and, as head of product development for the Virgin Active group, I developed a number of boutique products, which are still popular today. This is where I first started working with Myzone and began to think about the Duel concept – motivating people to put more effort into their workouts while directly contributing to the lives of others," said Trevorrow.

The monthly challenges start on the first day of each month and last three weeks. The fourth week is used for active recovery, maintenance and base conditioning before the next challenge begins.

"The DUEL concept means the more people move, the more money they unlock for charity," explained Trevorrow. "We use the



Duel founder James Trevorrow

three-week challenge period to raise awareness of charities people may not have heard about.

Because it is a fitness-based challenge, workouts need to be completed at an intensity of at least 60 per cent of maximum heart rate in order to earn points.

Trevorrow added: "I thought people would be primarily motivated by the prize money, but what they love most is the accountability and the daily motivation."

■ **MORE:** http://lei.sr/u4e2f_F



We make a very big deal
when someone hits
their points target

**Digital is a new vehicle
to help us move towards
our mission of serving
100% of the population**



PHOTO: PAUL MCARDLON

Steve Ward: GO fit now creates its own content

GO fit: 'Digital could help us serve everyone'

The fitness industry's pivot to digital has defined the sector's response to the COVID-19 pandemic. For Spanish chain GO fit, it could also mean achieving the company's mission to get an entire nation physically active.

Speaking exclusively to Fit Tech, Ward said GO fit was quick to react to the sudden changes in the marketplace, forced on by the lockdown – and is now reaping the benefits.

"We went into this crisis as a leading facility operator; our vision is to end it as one of the best digital wellbeing providers, as well," he says.

"Three days after lockdown, we already had our own studio

creating video content on-demand, which soon turned into live streaming, constant contact and engagement with customers.

"The digital offer has already brought great energy to the brand and put us in the window for everyone. There will be no going back. This will just be the norm, something we do – and we'll be doing even more of it, at an even higher quality.

"It's also a new vehicle to help us move towards our company mission: to get to a proposition that could serve 100 per cent of the population.

"To illustrate that point, just as an example, we have one club in

Madrid with 27,500 customers and 20,000 people on a waiting list that takes two years.

"We can't even serve 100 per cent of the people in the catchment of the club who already want to use our service. Digital is, therefore, a critical part of expanding our capabilities to fulfil our mission as an organisation.

"We're now working with Madrid, Seville and Malaga City Councils, as well as many others, all of whom have been integrating our digital response into the support they've been offering the residents of their cities during the crisis."

■ **MORE:** http://lei.sr/r3s3r_F

#DoingOurBit – free workouts for medical staff

Three industry firms – Active IQ, fibodo and Study Active – have teamed up to create a free, bespoke online fitness platform for NHS staff.

Called #DoingOurBit, the platform offers unique, personalised workouts.

The content has been created by volunteer personal trainers,

**Within four weeks we
had a fantastic, bespoke
fitness platform for
our NHS colleagues**

who were invited to 'give back' to the hard-working NHS workers by providing healthcare staff with brief, but effective, workouts suitable for the home and for between shifts.

The project is the brainchild of Julie Davis, deputy chief operating officer at the Clinical Research Network West Midlands.

She turned to Study Active and its awarding organisation Active IQ which, in turn, brought in fibodo to help host the service.

"I was overwhelmed by the quick and positive reaction I had for my idea with Active IQ, fibodo and Study Active giving their time and expertise immediately and freely," Davis added.

"The speed at which they all worked to was extraordinary. Within four weeks we had a fantastic, bespoke fitness platform for our NHS colleagues."

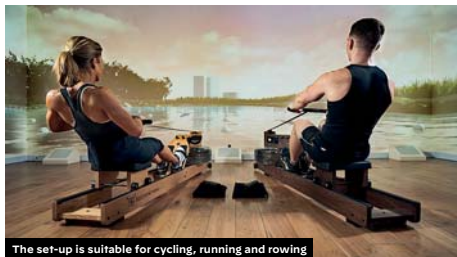
■ **MORE:** http://lei.sr/R4G5c_F



PHOTO: ACTIVE IQ

The project is the brainchild of Julie Davis (centre)

You can be immersed in any environment while being in your own space



The set-up is suitable for cycling, running and rowing

PHOTO/IMMERSIVE GYM

Immersive Gym reveals augmented real-time fitness

Luxury tech innovator Immersive Gym has launched an augmented fitness environment that “intelligently uses technology” to transform static workouts into real-time journeys.

Using overhead projectors or LED screens, 220 degrees of captured content is streamed onto three studio walls, while spatial audio and reactive add to the immersive experience.

The set-up is suitable for cycling, running and rowing or any connected

piece of training equipment, as well as wellness activities such as yoga, mindfulness and binaural beats frequency sessions.

Immersive Gym plans, designs and delivers tech-augmented fitness spaces and gyms, including advising on what gym equipment, software and cameras should be used.

A basic fit-out has a starting price of £25k, while the cost of a large bespoke installation starts at £100k.

Customers can have remote PT sessions, with camera feedback enabling trainers to guide performance.

“Immersive Gym allows you to be immersed in any environment you choose while being in your own space,” said founder, Charles Pearce.

“We’re using the latest technology to combine the opportunity for physical and mental wellbeing in an environment that’s second to none.”

■ **MORE:** http://lei.sr/J5m3Y_F

Liteboxer aiming to be ‘Peloton for boxing’

A fitness technology startup is aiming to turn boxing into the next at-home, subscription-based fitness trend.

Liteboxer is based on a hardware that ‘reimagines the punching bag’.

Combining the tech with bespoke training programming, the platform is designed to offer users a full-body boxing workout that builds cardio, strength and mental acuity.

We built Liteboxer to provide users with a complete workout that brings the exhilaration of boxing into the home

Jeff Morin

The free-standing Liteboxer is portable and doesn’t require sand, water or a suspension apparatus – LED illuminated runway lights, targets, and force-sensors combine to simulate the action of sparring with a trainer.

Once users have purchased the hardware, they can tap into Liteboxer’s workouts, led by trainers and available on-demand through the Liteboxer App.

Users can select the type of workout, duration, difficulty and can also access functional strength training and recovery workouts, such as yoga.

The system uses music and choreographed boxing combinations to keep users on their toes through beat-based programming.

Liteboxer retails for US\$1,495, with a subscription of US\$29/month.

The platform was co-founded by Spark Capital’s Todd Dagres and entrepreneur Jeff Morin. It’s backed by former NFL player, Isaiah Kacyvenski’s early stage fund, Will Ventures, while other investors include Raptor Capital, Camros Capital and US Rugby board member Paul Santinelli.

“We built Liteboxer from the ground up to provide users with an engaging and complete workout that brings the exhilaration of boxing into the home,” said CEO and co-founder Jeff Morin.

“The challenge was merging hardware that can take a punch with advanced electronics, software and online personal training in a sleek, portable and affordable package.”

■ **MORE:** http://lei.sr/f4x2u_F



PHOTO/LITEBOXER

Workouts are bespoke



PHOTO: GARMIN

Garmin acquires Firstbeat as it looks to increase foothold in fitness watch market

Garmin has acquired Firstbeat Analytics, provider of physiological analytics and metrics for consumer devices in the wellness, fitness and sports markets.

The firm – the consumer licensing business formerly a part of Firstbeat Technologies – already powers most of Garmin's advanced fitness algorithms.

Financial terms of the acquisition were not released.

"Having utilised Firstbeat's innovative analytics across our product lines for more than a decade, we're excited to have the Firstbeat Analytics associates join the Garmin team, establishing us at the forefront of physiological analytics," said Cliff Pemble, Garmin president and CEO.

"Together with their team of physiologists, scientists and engineers, we look forward to providing Garmin customers with unmatched technology for greater performance, recovery and overall health."

The deal is seen as significant, as Firstbeat Analytics also provides tech solutions for other companies – including some of Garmin's rivals.



We're excited to have Firstbeat Analytics associates join the Garmin team, establishing us at the forefront of physiological analytics

Cliff Pemble, president & CEO, Garmin

Firstbeat's software analyses physiological data and provides users with metrics in areas such as stress, sleep, VO2 max, training status, training effect, respiration rate and calories burned.

In 2018, Firstbeat upgraded its Lifestyle Assessment coaching tool to include a feature that measures users' overall fitness.

Called Fitness Level, the feature is a fitness test that's designed to offer an accurate assessment of the user's fitness, based on 30 minutes of moderately-paced walking.

"We've enjoyed a strong collaboration with Garmin over the years," said Aki Pulkkinen, co-founder of Firstbeat. "We look forward to continuing to work together to bring the most advanced and accurate health and performance data to our customers."

Firstbeat Analytics is headquartered in Jyväskylä, Finland, and will remain operating at its current facility.

The company is gearing up to launch a new corporate wellness product, called Firstbeat Life and is also very active in the professional sports market.

Garmin is considered as one of the "big four" in the fitness and smartwatch market, alongside FitBit, Apple and Samsung.

■ **MORE:** http://lei.sr/R8d5K_F

WILL AHMED

Whoop is taking wearable technology to the next level, providing deeper insights into individuals' physiology and enabling optimised training. Founder and CEO Will Ahmed talks to Steph Eaves about the importance of personalised feedback



The Whoop fitness monitor and sleep tracker is waterproof and can be worn around the wrist, forearm or bicep

Where did the idea come from?

I was captain of the Men's Varsity Squash Team at Harvard and was amazed by how little I knew about my body – I would over-train, misinterpret fitness peaks, underestimate sleep, and inevitably I got injured.

I became inspired by a simple idea: humans, especially athletes, could optimise their daily performance through a systematic approach to understanding the body.

At Harvard, I read over 300 medical papers and met with cardiologists and physiologists. I started to learn about preventing injury – even sickness – and how to unlock human potential.

In 2012, I partnered with co-founders, John Capodilupo, who was studying maths and statistics at Harvard before dropping out to found Whoop, and Aurelian Nicolae, a graduate from Harvard with a gift for mechanical prototyping and engineering, and we worked to bring that idea to life.

How did you realise the vision?

The process for creating Whoop started with a lot of research and, in particular, a deep examination of my own life as someone who over-trained as an athlete and didn't understand



this idea of balance, sleep and recovery as important mechanisms for improvement.

I did a lot of physiology research while I was at Harvard and wrote a paper on how to continuously understand the human body. I also took a class at MIT's business school to help develop a business plan and from there I found a team, co-founders, and it took off.

Tell us more about Whoop

Whoop is a next generation 24/7 fitness monitor and sleep tracker, which provides members with personalised feedback and actionable insights to optimise overall performance, fitness, recovery and sleep.

The waterproof device can be worn around the wrist, forearm or bicep and accurately measures key biometric data like heart rate variability, resting heart rate, cardiovascular load or strain, sleep staging and performance, and respiratory rate.

Whoop includes a sleep coach that recommends how much sleep you need each day based on your data, when you should get into bed and how long you need to be in bed to meet that sleep need based on historical sleep latency, and wake time.

There's also a Strain Coach, which provides activity level recommendations and overall day strain recommendations based on recovery status.

How does the technology provide such advanced metrics?

Whoop collects hundreds of data points per second from our 3-axis accelerometer, 3-axis gyroscope and Photoplethysmography (PPG) heart rate sensor. The sensor itself is measuring heart rate, heart rate variability, skin conductivity, ambient temperature and accelerometry.

We use proprietary algorithms to take all that data and provide personalised analytics to our members. The strap is connected to the Whoop app via Bluetooth Low Energy (BLE), which enables key features like Strain Coach, Whoop Live and Heart Rate Broadcast.

How is Whoop different from other wearables?

We believe we've created the best experience for understanding and improving your body through collecting the most impactful and accurate data. We have a smaller, grittier team with an entrepreneurial spirit that allows us to move faster and innovate more effectively while listening to the needs of our members.

You've said Whoop is the first fitness product that tells users not to work out. Are rest and recovery keys to success?

Whoop Recovery is a measure of your body's readiness to respond to a training stimulus

and take on the overall day. Sleep is where the gains from your day are made and it's important to factor in both the quality of your sleep and sleep-need when looking at your health. If you continue to push to max effort in each workout, you're going to break down your muscles and never give yourself the proper amount of time and care to realise lasting gains.

Whoop uniquely combines those metrics with personalised recovery to ensure people don't overstrain, that they build internal balance, and optimise their performance for real success.

Were there hurdles in getting the tech and service running smoothly?

Wearable technology has an enormous number of challenges. You have to create something that people are willing to wear and that's comfortable, and it has to deliver meaningful value for them to continue wearing it.

Within that, there's this whole concept of skin color, type of hair, tension of the sensor on the wrist, is the data accurate? Is it aesthetically pleasing? All of these things collide when you try to design a product to be worn on the body.

We ultimately came to the belief that wearable technology should either be cool or invisible and we oriented a lot of our resources around those two ends of the spectrum, avoiding doing anything that felt like it was in the middle.



Whoop Straps were US\$500, but the company pivoted to a subscription model of US\$30/month in 2018



Whoop balances exercise with recovery and sleep to maximise health outcomes



Peloton was doing well as a SaaS business. We knew recurring revenues would be valuable

Who is your target audience?

Whoop was initially created for professional athletes to help them take their game to the next level. Today, Whoop is the perfect partner for anyone who is looking to improve their overall wellbeing and daily performance.

Members include champions and all stars in every major sport, ranging from the NBA and PGA Tour to the World Cycling Tour and CrossFit Games. Whoop has been widely adopted by Fortune 500 CEOs, military personnel, medical workers, fitness enthusiasts and general consumers.

Why did you decide to switch to a subscription model, rather than a one-off price for the band?

We saw that the people who bought the Whoop hardware were engaging at a high degree and we knew that if we had a lower entry point, we could allow more consumers to try the product.

When we looked at the market in general, we saw that some wearable brands were performing poorly as publicly traded companies because they were seen as a hardware business and brands like Peloton was performing well as a private business because it was valued as a SaaS company, and so we knew recurring revenue would be more valuable to the business.

Additionally, it aligns our interest as a business with the consumer in that we believe that understanding the body is a continuous

Monitoring golfers on the PGA Tour

The PGA Tour has recently procured 1,000 Whoop bands for its golfers, after PGA Tour golfer Nick Watney said he was alerted via his Whoop band that he may have COVID-19.

Having worn his Whoop fitness tracker for more than a year, Watney noticed one morning when checking Whoop's app that his respiratory rate had spiked.

Despite not feeling any of the symptoms associated with COVID-19, he decided to get tested, based on his observation from his tracker, and discovered that he did in fact have the virus.

Watney said in a statement: "This alerted me to ask the PGA Tour for a test, even though I didn't have any other symptoms, and I unfortunately tested positive.

"I'm very grateful to have identified these signs early enough, and I am now following PGA Tour Protocol."

Following Watney's positive test, the PGA Tour procured the

1,000 Whoop bands for use by all players, caddies and other essential staff at upcoming Tour events.

Use of the bands will not be mandatory, but will be encouraged.

daily investigation, not a one-time thing, and it's our responsibility to continue to help you understand your body in that regard.

Tell us about research using Whoop for early detection of COVID-19

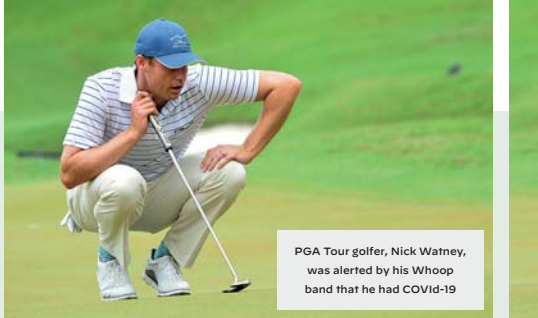
We're currently working with the Cleveland Clinic in the US and CQUniversity in Australia to investigate a respiratory rate pattern as a way to detect COVID-19 during the incubation period before someone feels sick.

Because COVID-19 is contagious before it's symptomatic, this has the potential to dramatically reduce the spread of disease, especially among individuals whose jobs preclude physical distancing.

Earlier this year, Whoop became the first wrist-worn wearable device to validate the accuracy of its respiratory rate during sleep in a third party study published in the *Journal of Clinical Sleep Medicine*. We're using our algorithms and biometric data driven by respiratory rate to specifically identify COVID-19 in a more reliable way than a symptom like a fever, which can point to a variety of illnesses.

Are you involved in any other research?

Research is core to our efforts as we look for ways to have larger public health impact



Watney noticed one morning when checking his Whoop app that his respiratory rate had spiked



through our data. On the sports science side, we previously worked with the Korey Stringer Institute at the University of Connecticut to identify a correlation between higher resting heart rate, lower heart rate variability, and a greater percentage of time spent in slow-wave sleep.

Whoop has also worked with the Weill Cornell Department of Neurology and the Weill Cornell Alzheimer's Prevention Clinic to understand how neurodegenerative diseases might show up in sleep data, even prior to the onset of cognitive symptoms.

The Duke University COVID-19 Research taskforce is currently putting Whoop straps on coronavirus patients to track how they're recovering from the disease, both in the hospital and after they're discharged.

Whoop is also working with The Stanford University School of Medicine on a new study examining the proactive impact that different breathing protocols can have on cardiovascular and mental health.

What are your future plans?

To continue to make our technology and membership experience better by investing in the product, hardware, software, analytics, and the ways you can wear Whoop on your body, to ultimately create a better user experience. ●



WEARABLE TECH THAT INCREASES RETENTION



MEET THE NEEDS OF YOUR MEMBERS WHEREVER THEY WORKOUT

Myzone lets you engage with your members, provide personal feedback and the motivation of group workouts, whether your members choose to be in the gym, at home or outdoors.

Go digital to provide a hybrid offering and retain members, attract new users and drive revenue.



@myzonemoves | #myzonemoves | #myzonecommunity

myzone.org | info@myzone.org

Fighting COVID-19

In the aftermath of the pandemic, people will be more aware of the importance of their health and the strength of their immune system.

Can fit tech alert users to potential immunodeficiencies or symptoms? And might these products assist governments?

We asked industry leaders for their predictions



Polar devices log a wide range of metrics, including heart rate variation and respiration

I'm strongly optimistic that wearables are increasingly going to be key tools in health, wellness and disease management

Tom Fowler US president, Polar

The adoption of wearables to monitor health status was increasing pre-COVID-19 and the pandemic has been a massive catalyst for a greater shift in this direction.

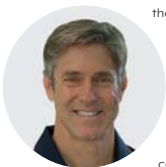
Polar has seen this reflected in the volume of sales of devices and – importantly – in the data our users have been activating.

We've worked for years with pro athletes, coaches and scientists in the area of rest and recovery. This work has focused on optimising athletic performance.

It turns out that the data sets for these elite performers are identical to the data sets that can benefit the general consumer in terms of health maintenance.

Here's an example of what is possible today with Polar devices. While you sleep, your device can monitor your resting heart rate (HR), heart rate variation (HRV) and respiration rate. You can compare each night's numbers to your normal baseline. Is your HR lower or higher than normal? How about your HRV and respiration rate?

If you experience four or five days of truly bad numbers, this will be a strong indication that something is amiss. Perhaps it's just a super-charged work schedule, too much caffeine and alcohol, or too much travelling. Or perhaps



the root cause is that you're incubating an illness that has yet to emerge. Either way, you can see that you need to take extra care of yourself.

At the government level, this is a key opportunity for controlling future pandemics.

If large populations self-monitored and the system flagged deteriorating individuals before they became symptomatic, infected individuals could be tested, receive care and be quarantined before they unwittingly spread the contagion.

Similarly, for frontline health workers, early identification of asymptomatic personnel could get them out of the rotation and into care early. This is exactly what Elysian Labs is doing, in partnership with Polar, for the US Army.

Today, we can measure HR, HRV, respiration rate, blood oxygenation and core temperature from commonly available devices. Add blood pressure to that mix and you have a powerful suite of biometrics. The data piece is relatively easy. The big question is how to properly interpret that data. What does a given data set mean for a single individual? How specific and bespoke can that guidance be?

Time will tell of course, but I'm strongly optimistic that wearables are increasingly going to be key tools in health, wellness and disease management.

We're looking forward to bringing our next wearable device to market – Scanwatch – which brings medical-grade AFib and sleep apnoea detection capabilities to the wrist

Mathieu Letombe CEO, Withings

With the current pandemic causing doctors' offices to limit patient visits, many people have turned to at-home technologies to monitor their health levels remotely. This transition has highlighted the valuable capabilities and potential of connected home devices, including wearable activity trackers.

Using a range of devices, people can monitor their health, sleep and activity levels anywhere. This includes tracking valuable insights like heart rate monitoring, and atrial fibrillation (AFib) detection.

The ability to monitor a range of health levels daily through wearables allows people and their physicians to better understand their overall health and be able to identify major issues early. Additionally, monitoring



people's health levels from day to night also provides valuable insights into health trends and potential issues, which can be used by medical institutions, providers and other health organisations to create long-term solutions.

As we continue our efforts in helping people to monitor their health, we're looking

forward to bringing our next wearable device, ScanWatch, to market.

ScanWatch brings medical-grade AFib and sleep apnoea detection capabilities to the wrist. The sleep apnoea tracking capabilities are possible through a blood oxygen saturation (SpO2) sensor, which can also be useful for monitoring other issues outside of sleep apnoea.

Our test is designed to both identify current health concerns and potential future risks



Eddie Fletcher Lead sport scientist, Wattbike

Utilising the right fitness technology, which can accurately test, benchmark and track key performance indicators, can result in a marked improvement in health and fitness, improving a person's ability to prevent complications from illness.

The Cardiorespiratory Fitness test (CRF), which is built into the Wattbike, is a measure of VO2max, used to record current health and fitness benchmarks.

From this score, personalised, effective training plans can be assigned that will improve CRF scores, and – in turn – overall health.

As CRF scores improve, training plans become more advanced, ensuring there's continual progression.

This test is designed to both identify current health concerns and potential risks, with tailored lifestyle coaching to help users improve their health for the long-term.



There's huge scope for how the CRF test can help individuals, governments and the medical profession in the fight against obesity, which is one of the biggest risk factors for dying of COVID-19.

Discovery Vitality developed a health assessment programme in partnership with Wattbike that was delivered across over 450 different venues in South Africa and last year, approximately 100k assessments were completed.

Governments need to be rallied and key decision makers need to act on the facts. Most importantly, it's people in sedentary populations who need to be targeted and engaged in order to encourage them to benchmark, track and improve their health.

Technology will continue to drive rapid advancements in health monitoring. Health tracking will just become a part of every day, reaching outside the four walls of a gym facility.

The snapshots of your body that the GP gets are only as useful as photos. They give you a glimpse of a moment in time, but they don't tell the complete story

Will Ahmed CEO, Whoop

We believe Whoop has the potential to predict illness and demonstrate secrets your body is trying to tell you that you otherwise can't feel.

This is going to become more important in society as we come to terms with the fact that a virus can keep everyone indoors or make people sick, and that you could be asymptomatic and not know you have it.

We feel it's our responsibility to examine these areas, because we can measure things in your body that you can't feel, and illness is a huge component of that.

When thinking about something like our current medical system and how we've treated doctors' appointments,



we've found the snapshots of your body that the GP gets are only as useful as photos. They give you a glimpse into a moment in time, but they don't tell the complete story.

If you're trying to understand if someone is sick or has an underlying issue, you need continuous data and that's where doctors should – and inevitably will – use data from wearables to help patients.

In this way, technology can play a big role in helping society, government and employers to manage their populations in an empowering way.

Whoop also helps people understand their own bodies and that, in turn, can make them more self-aware and healthier. ●

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SHARON HEGARTY

Samsung is one of the biggest players in the fit tech field, with a range of connected products that allow users to build fitness into every part of their lives, including their homes. Steph Eaves speaks to Samsung's Sharon Hegarty, to find out how the company is evolving its offering



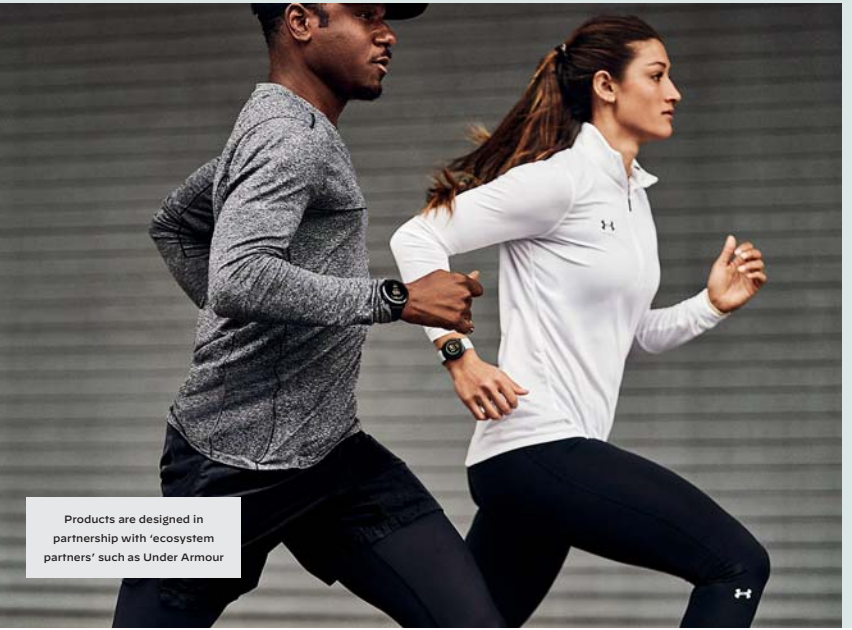
What are Samsung's most important milestones within the health and fitness space?

Health is a key part of our product and services portfolio. By integrating the latest wellbeing tech or our Samsung Health service into our products, we like to ensure our customers have access to the tools they need – and want – to help them live a balanced lifestyle.

Last year, we released the latest device in the Galaxy smartwatch portfolio – the **Galaxy Watch Active2** – with great success. This device serves as the user's guide to improve their health and wellness through positive lifestyle choices in their food and drink intake, exercise, mental health, sleep and more.

In March this year, we announced an exciting **Under Armour Edition of the Galaxy Watch Active2**, which focuses on the running enthusiasts among our customer base.

With this new edition, we provide our customers with a connected running experience, unlocking performance advantages that help runners to optimise their form.



Products are designed in partnership with 'ecosystem partners' such as Under Armour

Our **Galaxy Buds+** launched in February, and provide customers with earphones to complement their fitness regime. With an innovative design and lightweight materials, the Galaxy Buds+ stay snug during all types of activity, and the battery life can keep up with people for the duration of their workout. These are a personal favourite of mine, particularly in the gym, but also for everyday use.

Along with our products, we also have **Samsung Health**, a complimentary service available on all our mobile devices, which tracks the user's activity, nutrition and sleep, and delivers insights based on their progress.

It really does put the user in the driving seat; they can see the full picture by monitoring what they do, eat and drink, and they can track as much as they want, as often as they want.

We recently announced that Samsung Health is available on our **2020 Samsung Smart TVs**, providing customers with free access to 3,000 hours of content from 250 instructive videos, and a health companion will guide them towards their fitness goals.



Galaxy Buds+ were launched earlier this year and designed for working out

How is Samsung placed to help individuals improve their health and fitness?

We're always driving innovation across our whole business, and our fitness-inspired products benefit from that.

We believe healthcare starts with self-care and we're committed to providing technology that supports a healthier lifestyle, improving the quality of people's lives.

As mentioned, at the heart of our health and fitness offering lies Samsung Health, the service that allows users to track activity, nutrition and sleep, generating insights around their wellbeing.

Available on both our smartwatches and mobile devices, the service collates all relevant data from both, giving a holistic view of goals and achievements in one place.

Ultimately, be it through tracking workout data or setting goals, we want to enable our customers to have their health in their hands when they use our technology.

How has Samsung's health and fitness evolved and improved over time?

With a growing ecosystem, Samsung is now able to support customers along every step of their personal fitness journey, be it monitoring their heart rate on a Galaxy Watch Active2 at the gym, enjoying a yoga session via a Samsung Smart TV or following a nutrition plan on the Samsung Health smartphone app: our customers have never had better access to fitness.

We envisage a world where someone's smart home can support their fitness regime

To enhance our customer experience, we continue to form partnerships with industry peers, such as Under Armour, MapMyRun and Calm. This enables us to expand the potential of Samsung's health and fitness ecosystem.

What tech innovations by Samsung have been game changers?

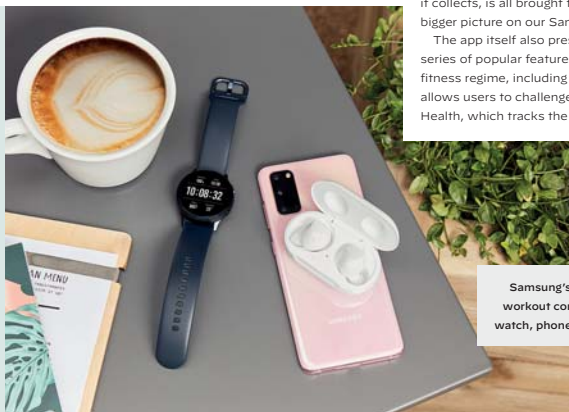
A series of features in the Galaxy Watch Active2 – it features multiple sensors to analyse real-time data, motivating users and guiding them with relevant coaching workout advice.

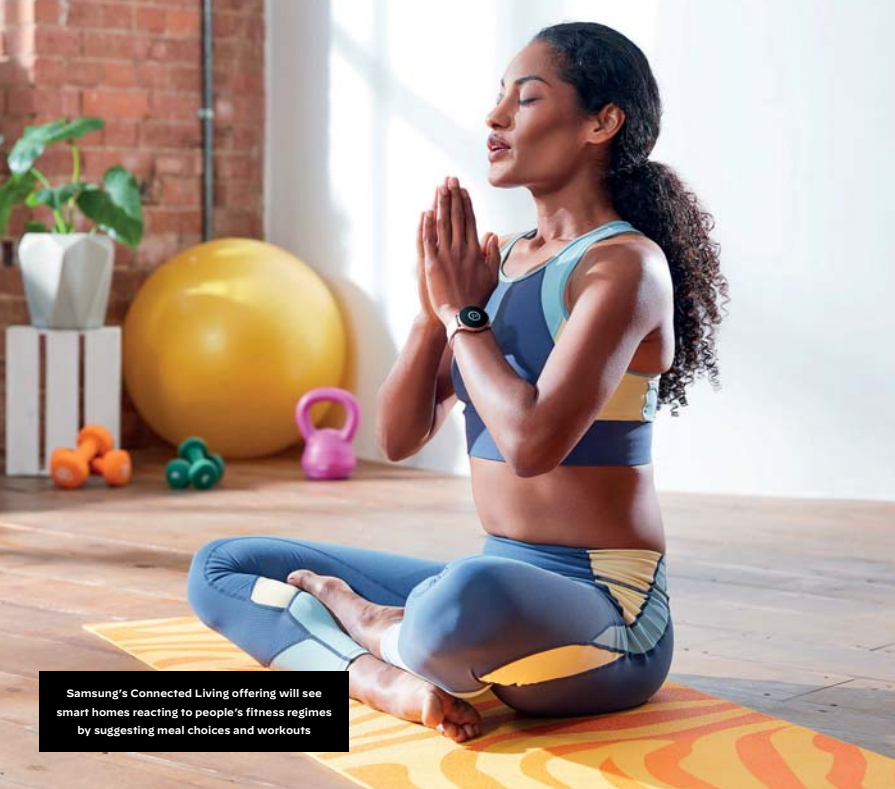
For the runners out there, the real-time Running Coach allows them to set a target and then receive regular progress updates along the way, helping to achieve goals and better previous performance. I find when I'm training, that little extra motivation can be the difference between a good run, and a great run!

Of course, the technology we have running through our product ecosystem, and the data it collects, is all brought together to build the bigger picture on our Samsung Health service.

The app itself also presents users with a series of popular features that enhance their fitness regime, including Together mode, which allows users to challenge friends, and Women's Health, which tracks the user's menstrual cycle.

Samsung's three-way workout combination of watch, phone and ear buds





Samsung's Connected Living offering will see smart homes reacting to people's fitness regimes by suggesting meal choices and workouts

What buying trends have you seen in Samsung fitness products over time? And what do you predict for the next few years?

Over the last two years, people's desire to improve their health and stay active has consistently been the leading purchase motivation for our fitness products.

The last two years have also seen a rise in the importance of functions when consumers are looking to buy a wearable. It's no longer enough to provide the basics; fitness enthusiasts expect the products they buy to incorporate the most innovative technology into their specifications. This is a trend that we only expect to increase moving forward.

In terms of features, tracking accuracy continues to be a major factor that consumers look for, however, we can now see the rising

significance of a wearable with good battery life. In fact, battery life has now overtaken tracking accuracy as the principal criteria that consumers look for when purchasing a fitness wearable.

I would have to agree with that – for me it's important to have a device that can keep up with you throughout the day – not having to worry if it will run out of charge mid-workout.

How important are fitness features to consumers? How does this influence R&D?

We recently conducted some consumer research to see how fitness trends have changed in recent months, with the results revealing that over a third of people are now focusing more on their wellbeing.

People are also turning to technology for their fitness fix, using services such as Samsung

Health for inspiration and motivation, with over half of people working out from home.

We constantly strive to push boundaries by enabling our customers to stay active and improve their day-to-day wellbeing with the support of our technology.

By making Samsung Health available on our 2020 Smart TV models we aim to support more people to achieve their fitness goals from their homes. Changes like this can have a huge impact on the way people stay active.

How do your features support mental health?

With our lives becoming busier and more connected in this digital age, it's easy to forget about ourselves. We believe it's important to take time to disconnect from the hustle and bustle and appreciate the present moment. To develop our mindfulness services, we've worked with some of our leading ecosystem partners to bring their expertise to our devices.

For instance, we integrated Calm, a leading meditation and mindfulness app, into Samsung Health, so people can easily access guided meditation programmes.

So, if you unwind with a Calm programme at the end of a busy day, Samsung Health tracks stress levels from beginning to end, showing progress and improvement.

How much do fitness trends influence your products?

We observe and analyse industry trends to evaluate how these can enhance our products.

Our recently commissioned research revealed that in the UK, for example, more than a third of people are now focusing more on their wellbeing and 29 per cent have a new interest in mindful activities to distract from the outside world. We found that technology has also played a key role in getting people moving, with almost a quarter feeling inspired by online fitness classes or using smart devices to track their progress.

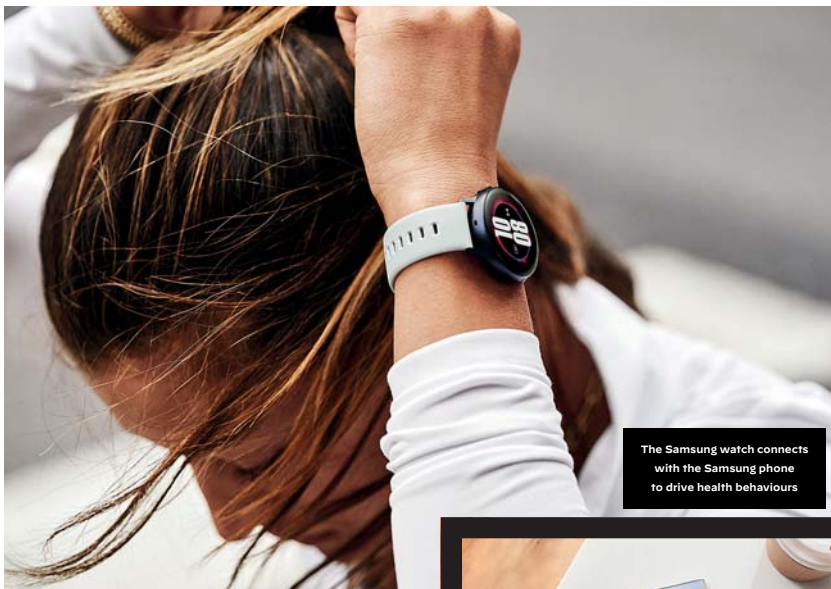
After seeing these results, we teamed up with yoga instructor Cat Meffan to offer the ultimate virtual yoga experience, hosted on our Samsung KX digital website. The three-part series kicked off in June, allowing our virtual guests to join in from the comfort of their own home.

Additionally, we found that almost half of Brits are now exercising at home, with one in five



We've worked with ecosystem partners, such as Calm and Fitplan, to bring their expertise to our devices

Samsung Health is now included with the entire range of 2020 Samsung Smart TVs



The Samsung watch connects with the Samsung phone to drive health behaviours

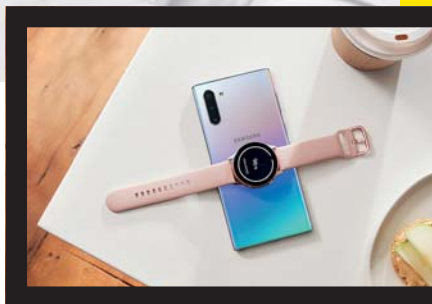
intending to continue these home workouts as restrictions lift. By bringing Samsung Health – and over 250 hours of instructive videos from premium brands such as Calm, Echelon, Fitplan, and Jillian Michaels Fitness – to our 2020 Smart TV range, we've already tapped into that trend.

Who are your core audiences for fitness and health-related products?

For our fitness products, notably the Galaxy Watch Active Series, we know our core audience is made up of those who are driven by staying active and improving their wellbeing. They strive to improve their performance by analysing data and setting targets that guide their overall fitness goals.

Through our wider Galaxy Watch Series, we also reach consumers who are more lifestyle driven. They use their wearables to help organise their life, stay in touch with the world around them and to add a touch of style to their look.

Should this audience then enter the market for a fitness wearable, we'd like to think that their experience with our other products would encourage them to try Samsung and expand their personal ecosystem, so the brand works for both consumer groups.



What are your predictions for the future of fitness and health technology?

With an increasing number of people partaking in regular exercise, and the rising prominence of technology as an 'enabler' within our society, we anticipate that the health and fitness wearables market will only keep growing.

We're excited about the future of our wider Connected Living offering and how our fitness inspired products will fit into that. We envisage a world in which somebody's smart home can support and react to their set fitness regime, be it through suggesting a shopping list for meal planning, setting the right lighting for a yoga session or optimising sleep quality. ●

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Daniel Sobhani

CEO, Freeletics

Freeletics has been committed to developing digital fitness since its inception in 2013. It continues to innovate, with evolving AI personalisation and a newly launched mindset programme. CEO Daniel Sobhani tells us more

How did Freeletics start?

Freeletics was founded in 2013 in Munich, Germany by three students who had a vision to challenge and inspire everyone to become the greatest version of themselves. With their passion for health and fitness, this small team worked hard to create the Freeletics training concept, which was repeatedly tested and improved, based on community feedback.

When the app was released it was one of the first times people were able to access a digital personal trainer to guide them through exercises, whenever and wherever they were.

This concept boosted the popularity of bodyweight and HIIT training immensely. People were now sharing their Freeletics transformations on YouTube and meeting up in local communities,

driving a new fitness movement through Europe, the US and throughout the world.

How did you come to be involved with Freeletics?

I knew the founders from university and Freeletics from the start. We built a product that can help millions of users to not only get in shape but also to create a better and healthier lifestyle. And on top of this I have the chance to do this in a fantastic setting with a highly skilled and motivated team.

I get the opportunity to learn every day – in an area I'm deeply passionate about. This is one of the main reasons I wanted to become CEO at Freeletics – our company vision is to challenge and inspire people to become the greatest version of themselves. And I firmly believe that this can be achieved through what we do.

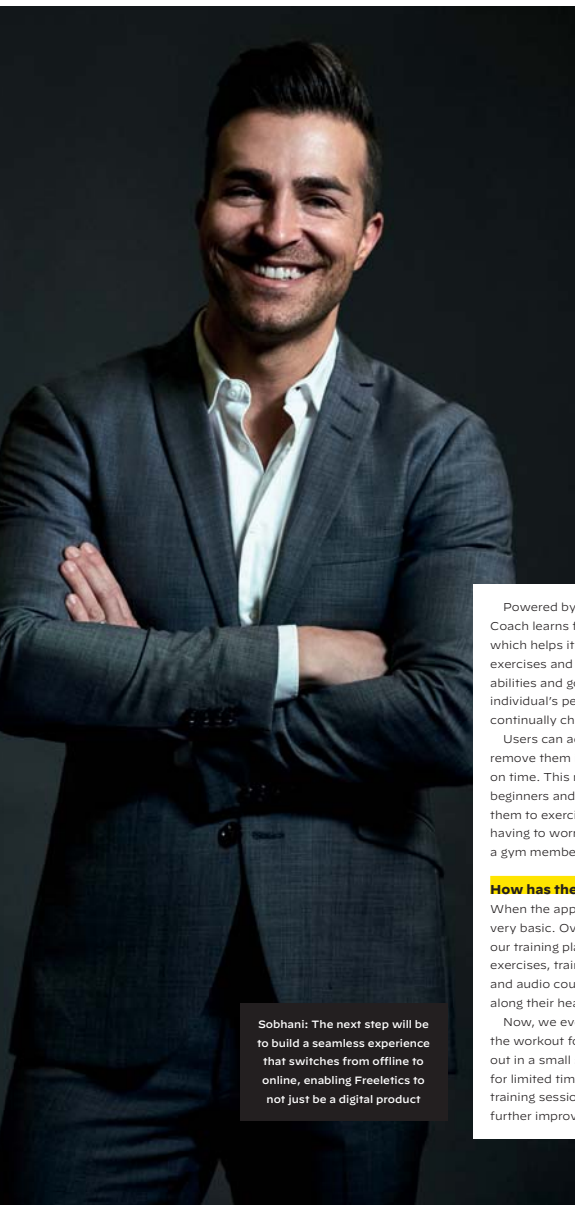
Tell us more about Freeletics

The Freeletics app helps people to get into the best shape of their life – removing the usual exercise excuses like time, money, space and equipment. The app puts an AI-powered digital personal trainer right in their pocket.

The digital coach creates HIIT workouts and training journeys tailored to personal preferences, fitness level, goals and age. The workouts are short but intense and are extremely effective, with visible results being achieved in just a short time.



Freeletics has 41 million users worldwide



Our company vision is to challenge and inspire people to become the greatest version of themselves. And I firmly believe that this can be achieved through what we do

Powered by its AI technology, the Freeletics Coach learns from 41 million users worldwide, which helps it to determine which precise exercises and workouts best match the user's abilities and goals. Over time, it analyses the individual's performance to ensure they are continually challenged and progressing.

Users can add weights to their training or remove them if they are traveling or are short on time. This makes Freeletics ideal for both beginners and seasoned fitness fans, allowing them to exercise anytime, anywhere, without having to worry about owning equipment, having a gym membership or having exercise knowledge.

How has the offer changed over time?

When the app was first developed, it was very basic. Over the years, we've built on our training platform to integrate more exercises, training journeys, running features, and audio courses to help guide people along their health and fitness path.

Now, we even have a feature that adapts the workout for users who need to work out in a small space, with no equipment, for limited time, or that want a different training session. The possibilities to further improve our app are endless.

Sobhani: The next step will be to build a seamless experience that switches from offline to online, enabling Freeletics to not just be a digital product



People are set up for failure by the fitness industry with false promises and unrealistic expectations. We've always wanted to put a stop to this, and with Mindset Coaching we're taking the next step

How does your AI coaching work?

Users provide the coach with both active and passive feedback after every single workout, and its intelligent algorithm leverages the anonymised training data from our millions of users. By identifying similarities between users we can provide a better, more personalised training experience from the very first session onwards.

This allows us to give training plans that tightly fit to each user's capabilities, expectations and circumstances – pushing them exactly the right amount. Each workout is designed to be challenging but effective to maximise the probability of people committing to their plan.

How did Freeletics gather its huge following?

We started out in 2013 and in our first year we accumulated almost one million users. Today, almost seven years later, there are over 41 million users worldwide. We believe that the reason we are successful is because of the quality of the product. Its AI-powered digital coach can create the perfect plan for anyone, regardless of their age, experience, schedule or preferences.



Furthermore, the brand itself is very strong. We listen very closely to our customers' needs and update the app continuously to meet those.

Tell us about your latest major update – Freeletics Mindset

With the new Mindset Coach, the Freeletics app helps people build a balanced, goal-oriented mindset and maintain the motivation to improve their overall health with audio coaching sessions. The audio courses have been specially-designed to teach the listeners how to establish routines, cope with

setbacks, manage stress and improve their focus, recovery and sleep, increasing motivation.

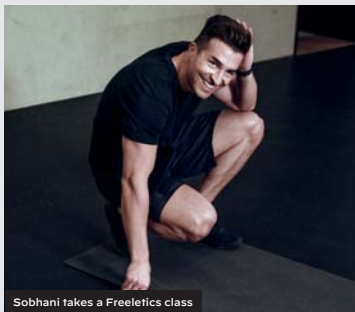
The Mindset Coaching works alongside a newly improved AI algorithm to guide users along their holistic self-development journey and ensure they're successful.

Why did you decide to introduce this update?

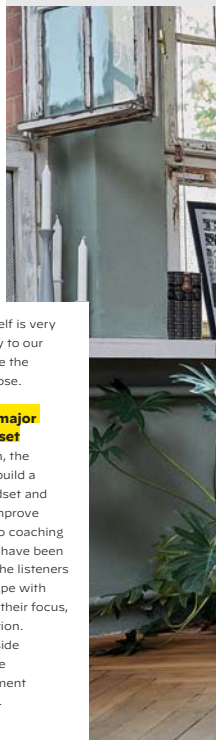
Mindset coaching has always been part of our vision to help people to become a better version of themselves, both mentally and physically. Often the attempts to start living a healthier and happier life fail before they even really begin. People are set up for failure by the fitness industry with false promises and unrealistic expectations. We've always wanted to put a stop to this, and with Mindset Coaching we're taking the next step.

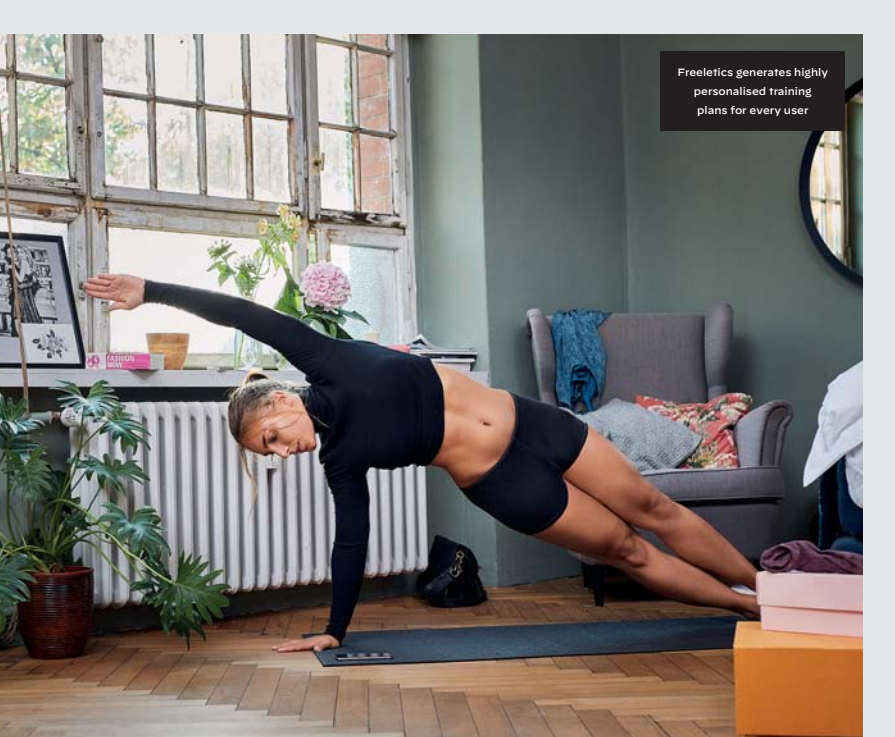
What's the story – how did you develop Freeletics Mindset?

Our content is at the heart of Freeletics Mindset. Together with the help of our training experts, management and product engineering team, the episodes come to life. It was really a cross-departmental push. With Mindset, Freeletics saw the biggest launch



Sobhani takes a Freeletics class





Freeletics generates highly personalised training plans for every user

in its history. I'm amazed to say that almost every unit of the company was involved.

What's the artificial intelligence update all about?

Weekly training plans are replaced by the Today View feature that provides new daily coaching to users, giving them workout sessions plus knowledge and audio content for the day.

Once a day is completed, the Freeletics Coach analyses the user's performance and feedback to make sure their next training day is a perfect fit. If a workout doesn't match the situation on any given day, the new Adapt Today feature lets users tell their coach if they are too sore, want a different training session, need to train quietly, can't run or have no equipment or too little space for the prescribed workout. They will then get a personalised workout that fits their needs on the day. So with this, there are no more excuses for skipping a workout!

Tell us about your marketing campaign?

'This is My Journey' showcases the personal journey and struggles of six people from across the world. They include a gamer, a US veteran, a spoken word artist, a businesswoman, soccer star Marc ter Stegen and UFC fighter Stephen 'Wonderboy' Thompson.

With these celebrity collaborations come new Freeletics Training Journeys: 'Football Fit' and 'Enter the Cage', which were created in close collaboration with ter Stegen and Thompson.

How is Freeletics different?

Firstly, the AI generates highly personalised training for every user, meaning no two users will get the same plan. Secondly, despite being a digital community, millions of users connect, motivate and support each other and meet for group workouts. Thirdly, our platform approach makes the app more flexible, offering something for every fitness goal and fitness level.



Freeletics during COVID-19

- Freeletics saw a 50% increase in people using the app during lockdown (March-June) compared to the same period in 2019.
- This included a 149% spike in equipment-free bodyweight workouts and 327% more runs recorded.
- There was also an 80% increase of UK users using the Mindset Coach during lockdown compared to the period since it was first launched in December.

Freeletics has launched Mindset audio coaching to help people with their mental wellbeing

How long do people typically keep their membership for?

People prolong at least once, but more often two times the contract they chose in the beginning. This means that people who start a three month contract generally stay for nine months, people who start a six-month contract stay for around 15 months and people who start a one year contract normally stay for two years.

What do you think is the future for digital fitness vs gyms?

The wonderful thing about sports is that it will always be an analogue thing. We experience a trend towards individualisation in the fitness sector. People want to work out free of barriers. This is where digital brands can help. There will always be a demand for guidance, whether people go to a gym or work out at home or outside.

How has the COVID-19 pandemic affected the company?

We transitioned to remote working and focused on supporting our employees and keeping the company culture and spirit up.

When it comes to external factors, we're very happy that we offer a product that can be a small support for people out there, helping

them cope with the situation and keeping them fit and mindful during these times. For this reason, we've seen an increase in new users, and generally a higher activity on our platform.

How do you think the pandemic will change the way people work out in the future?

The fitness industry will change. We're going to see very high innovation in the digital/at-home space, and the concepts of gyms will have to adapt. People in general will demand more flexibility of their fitness solutions.

What are your future plans for the app?

We want to help our users to become the greatest version of themselves. We fulfil this vision by producing the most advanced and holistic digital fitness coach on the market. We are currently focusing on improving our users' mindsets so they can overcome all barriers and live a sustainable healthy and fit lifestyle.

The next steps will be to further build a seamless experience that switches from offline to online and enables us to not just be a digital product. No matter where we go in the future, our users will always be at the centre.

We look forward to reaching more people and educating people from all over the world about the benefits of health and fitness. ●

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“The digitisation of the sector was going to happen anyway. COVID-19 has simply accelerated the digital transformation”

Digital ecosystem

In these strange times, we have a chance to engage more people in fitness and wellbeing, but it will require great flexibility and creativity. Francesco Arlotti, Technogym's global head of sales for digital solutions, talks to Kate Cracknell

How do you feel the pandemic has impacted our sector?

The first thing to say is this: What's happened over recent months, in terms of the digitisation of the fitness sector, hasn't only happened because of COVID-19. It was going to happen anyway. The crisis has simply accelerated the sector's digital transformation.

I sometimes make myself unpopular saying this – it's hard when a lot of operators are still struggling – but I, therefore, see this crisis as an opportunity. It has thrown a spotlight on why our penetration rates were stagnating. It has forced us to think out of the box and be more creative in meeting customers' needs.

It has confirmed what was already true: that an exclusively offline model is not a good option. Neither is exclusively online: people want community and other people. But there does need to be a blend, because consumers are already digitally addicted. They're already there, waiting for us to catch



Francesco Arlotti

up, and we needed to respond or risk them seeking out a pure consumer solution.

That's why I see COVID-19 as an opportunity. It has accelerated us towards a destination we needed to reach anyway. It has given us a boost and a chance to reinvent this fantastic industry. And as a huge added bonus, it has given consumers a far greater appreciation of good physical and mental health – and with it, handed us a far more receptive audience.

However, it will only be an opportunity if we understand what consumers want – if we focus on their needs rather than ours – and if we steer away from commoditising our product.

How have you been supporting customers through the COVID crisis?

We've adopted a phased approach.

Phase one was about helping our clients support their customers in training at home, with online solutions people could use during lockdown.

Mywellness now has live and on-demand classes





Technogym Bike streams content to consumers from operators such as 1Rebel

Phase two has been focusing on building confidence among members, by allowing them to book absolutely everything online – not just classes but everything in the club – based on strict capacity limits. We've been working hard on this recently, helping operators map out all their spaces, so members feel safe.

Phase three is business model evolution, helping operators build on what they've done during lockdown to develop a seamless online/offline offering.

We've also launched new upgrades for Mywellness, designed to help operators move into phase three. Firstly, we've introduced a library of virtual on-demand classes created by Technogym; if operators also want to upload their own signature classes for their members, they can do that too. Also launching is Coach Live video chat: live streaming of classes where instructors can also see the people training at home, allowing them to feed back on technique and so on.

All of this is alongside the existing functionality on Mywellness, from exercise prescription and body assessment to challenges, communication and class booking and rating. The new modules are there to complement all of this and ensure operators have the right software platform to thrive in the new normal.

What is your advice for operators as we begin to emerge from lockdown?

Firstly, fitness clubs and home fitness are not competitors. People are getting accustomed to training both at home and in clubs.

Recent UK research found that 12 per cent of respondents plan to work out from home after lockdown, while 50 per cent said they would work out both from home and in their club or fitness centre.

Home is a safe space for people: those with safety concerns around COVID-19, as well as those who haven't used a gym before. Don't fight the safe space, rather, be in alliance with it.



Coaches can use Technogym Mywellness to set programmes, record results and motivate members

The new model is a blend of offline (clubs) and online (digital) – a model we call ‘phygital’.

Second, help rebuild people’s confidence. Make your members feel secure and ready to come back to your facilities.

Third, don’t go back to your old ways. Don’t see what you’ve done during lockdown as a temporary solution. Build on it. Evolve it. I like to give the example of my favourite fish restaurant. During lockdown, it started to do home deliveries – a wonderful alternative to the usual junk food options. It has now re-opened, but it continues to offer home deliveries as an additional revenue stream.

Four, remember that a digital proposition can only be effectively monetised if it’s seamless.

What do you mean by seamless?

Let me take a step back and explain that, at Technogym, we aim to provide solutions that on the one hand help operators overcome the challenges of adopting digital, and on the other allow them to provide members with personalised solutions.

There are two common scenarios we help operators avoid: trying to create a proprietary system, generally witnessed among the bigger club groups, which involves huge investment and lower ROI than they tend to expect; and cherry-picking a number of different platforms based on particular features you want, which results in a digital proposition that’s full of friction-points and hard for staff and members to handle.

We don’t sell features. Features in themselves don’t guarantee a seamless experience; we believe they’re consistently over-rated. Meanwhile, the journey tends to be under-rated when in fact this is what matters.

Let’s take the example of an iPhone compared to another cheaper phone that, in a feature-by-feature comparison, seems very similar. Why are people still willing to spend four times more to have an iPhone? It’s because of the experience once the phone is in people’s hands: the design, the fluency of the user experience, the seamlessness.

It’s why we sell a full proposition as a service: product, content, consultancy and activation

Innovation with a vision

ArloTTi explains: “Technogym has a software development team of around 50 people, and about the same number again who are focused purely on equipment connectivity: with external membership software systems, with bioimpedance analysis platforms, with the most popular consumer fitness apps and devices to ensure we’re embracing overall wellbeing.”

“It’s a complex process that takes in data from a wide range of sources. For the new mywellness platform release in April this year, for example, we analysed billions of anonymous clicks and data to gain insights into member behaviour. We assessed trends and market research, conducted by ourselves and by others, to understand how those behaviours might change. We listened to feedback; we’re

in the privileged position of working with over 80,000 wellness centres across 100+ countries, so we can secure a lot of valuable input.

“But layered on top of all this, you still need a vision to which your R&D is linked; responding solely to requests could lead you to develop a product that’s obsolete even by the time it’s launched.

“At Technogym, our overarching vision is this: We want to take wellness to the highest possible number of people, creating a healthier world by supporting those who live in it to become healthier themselves.

“In digital terms, that translates into technology that takes wellness beyond the gym. It’s about supporting industry evolution so it isn’t just about gym membership any more, but also about taking the programmes, services and expertise of gyms out to people wherever they are.”

“15 million people across 15,000 clubs globally are registered on Technogym’s Mywellness system. It’s about helping operators stay connected to their members 24/7”



Apple Watch



Mywellness connects workouts and analytics across multiple platforms



Digital in-club options with Technogym's Skill Athletic

support to ensure everyone – from the operator to every member of staff – understands the full journey, their role within it, and how to communicate it to members. Without this, operators will not achieve the successes they should from their digital investment.

How do you see membership structures working in this new world?

We need to move our members away from free fitness content on Facebook and Instagram. Sharing for free on these platforms commoditises the service being offered by clubs – something from which it's hard to come back. Operators need to work now on re-establishing a more regular relationship with members.

I believe if we put consumers at the centre and allow our creativity to spark, we will come up with brand new propositions.

Blazing a digital trail

"After roles at Accenture and P&G, I joined Technogym in July 2006 as international trade marketing manager," Arlotti explains. "I later became solutions manager for the health club sector, and it was in this role that digital emerged as a passion, ultimately leading to my appointment as head of digital solutions in 2012.

"It's important to recognise Technogym's history in this field: it was 1996 when the company founded a team in Seattle and launched Wellness System. Trainers could design and upload personalised programmes onto Wellness Keys;

the equipment would automatically set the appropriate speed, load and/or reps when a key was inserted; and results could be downloaded at the end of the workout.

This doesn't sound ground-breaking now, but back in 1996 nobody had yet asked for this. It was a true innovation.

"The market has changed since then, with digital becoming more important. But just because you're market leader for phase one, doesn't mean you'll still be market leader through the second, third and subsequent phases.

Nokia is an example. It was market leader, but as the market moved on, it failed to understand the point was having your apps with you all the time.

"Technogym didn't fall into this trap. We realised the world was changing and needed a new digital proposition that followed people wherever they were, embracing movement in the gym, at home, at work and on the way to work. In 2012, we therefore launched our 'Wellness on the Go' mywellness cloud solution.

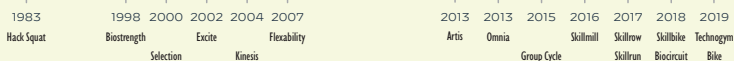
"But with digital, nothing stands still. We continually evolve and develop mywellness cloud. In April 2020, for example, we introduced real-time analytics, so you can see what your members – and even sub-sets of your members – are doing, when, what equipment they're using, even what they like."

1983

Technogym – 37 years of wellness innovation

2020

PRODUCTS



DIGITAL





Health and fitness operators have an opportunity to move into the wellness market, says Arlotti

We've already had customers, like Virgin Active, who've successfully used Mywellness to offer programmes and 'Workouts of the Day' during lockdown; there's no reason why these operators might not now start to charge for content, as everything is already being delivered on their own platform.

We just need to be more flexible in the way we think about things. If we see the home as a class studio or workout space that just happens to be in a different location – a space into which clubs can extend their expertise via digital channels – then we can reach out to far more people, offering at-home and blended memberships, alongside more traditional packages.

What are Technogym's digital plans and ambitions?

Everything digital is accelerating so fast. As I said before, what's happening isn't because of COVID-19, but the virus has certainly accelerated things. What might otherwise have taken three to five years has happened in the space of a few months.

Our digital teams worked round the clock to create new solutions that work immediately. Tomorrow. Today even! And

we're still moving at this rapid pace to keep supporting operators through these difficult times. That's the short-term view.

Looking at the mid- to long-term, our goal is to leverage the huge ecosystem we've created over the years across equipment, technology and activation in order to offer people relevant training experiences in line with their goals, personality and passions.

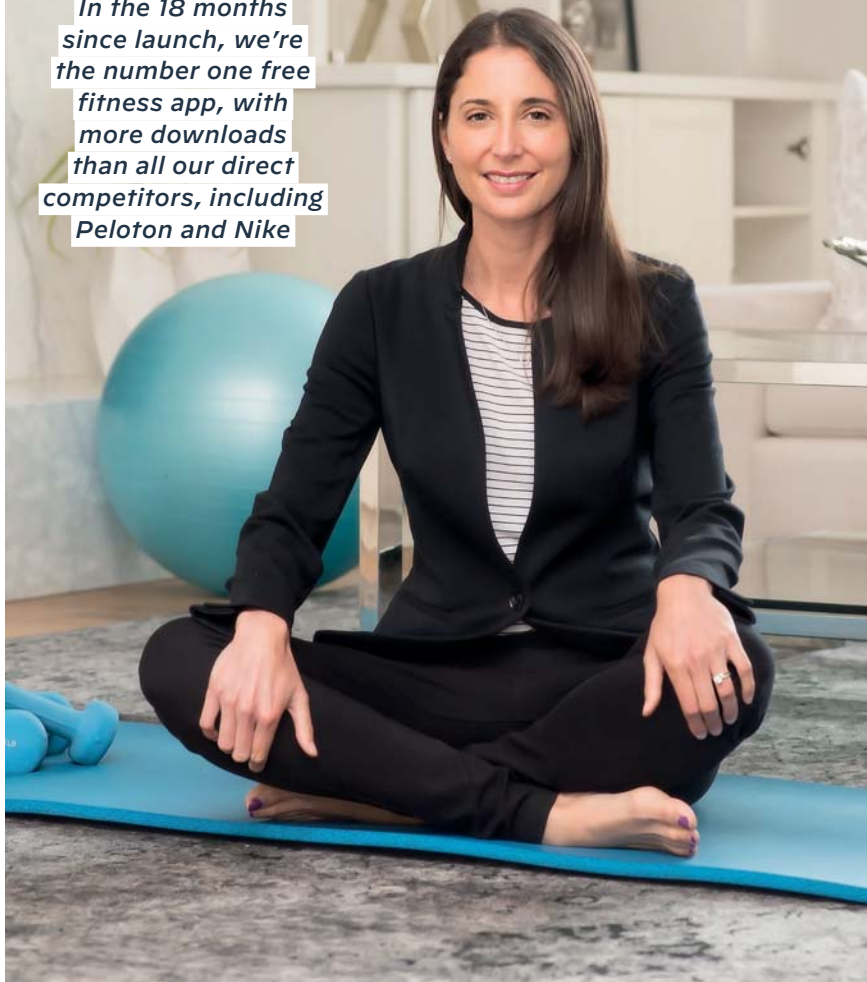
Today, 15 million people across 15,000 clubs globally are registered on Mywellness. It's about helping operators stay connected to members, not only for the couple of hours a week they spend at the club but through an enduring relationship, 24/7.

Clubs have the real possibility to become wellness hubs – not only to incrementally improve their day-to-day business, but also to innovate their business model – for example, by interacting with insurance companies, medical organisations and the corporate world.

Technogym is continuing to invest in digital innovation – including digital training content, artificial intelligence functionality and mobile applications – with the goal of being a strategic partner creating real value for fitness operators in the long-term. ●

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In the 18 months since launch, we're the number one free fitness app, with more downloads than all our direct competitors, including Peloton and Nike





LINDSAY COOK

The founder of FitOn, a fitness app that's completely free to use, talks to Steph Eaves about democratising the fitness experience, and how the app's social features are making home fitness more engaging

What's your background?

I was lucky to have started my career at Microsoft where I found a love for the intersection of technology and consumer products. I joined Fitbit in 2012 as one of the first marketers on the team and went on to become the head of devices and vice president of product marketing.

During my time at Fitbit, I was responsible for launching many of their award-winning hardware and software products and contributed to driving Fitbit to emerge as a globally recognised brand with over US\$2bn in revenue. Fitbit got me excited about the world of health and fitness, and as I immersed myself in user trends and dynamics there, I began to see an opportunity for a company like FitOn.

How did you come up with the idea for FitOn?

Working out and being active is an integral part of what helps us feel good and stay healthy. But so many of us are too busy nowadays to work out, and I was no different. Between my long hours as an executive at Fitbit and having young kids at home, it was almost impossible for me to carve out time for my favorite classes at the gym. I tried to find workout videos on other

Lindsay Cook worked in the product marketing team at Fitbit for five years before creating her own app

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Not everyone can afford an expensive piece of fitness equipment or a personal trainer, but everyone has a smartphone



Above: Queer Eye's Jonathan Van Ness collaborates with FitOn.

Below: The app includes a wide variety of workout styles

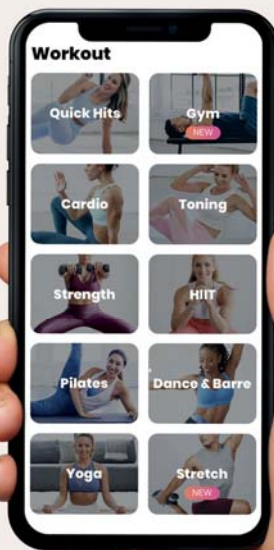
apps or online that would keep me motivated, but I either got lost in the depths of YouTube, or felt like I was watching content right out of the 80s, or I just got bored following simple moves and GIFs of someone doing a pushup. I couldn't find premium workouts that were super motivating and I kept asking myself how in the world this didn't already exist.

I founded FitOn because I wanted to give us all a reason to stop putting ourselves last on the to-do list. I understood that not everyone can afford an expensive piece of fitness equipment or personal trainers, but that they do have smartphones. Our focus has been on producing insanely premium fitness content that's easily accessible, and with a social experience that helps people find motivation.

In the past 18 months since launch, we're proudly now the number one free fitness app, and so far in 2020 we have driven more downloads than all our direct competitors, including Peloton and Nike.

What's the main point of difference between FitOn and the many fitness apps already on the market?

FitOn offers completely free instant access to premium fitness classes – from HIIT to strength to cardio – all led by world class trainers. We're excited to be working with amazing celebrities like Gabrielle Union, Julianne Hough and Jonathan Van Ness, and world-class trainers like Cassey Ho, Jeanette Jenkins and more, to create motivating workouts you can do anytime, anywhere.





Actress Gabrielle Union has filmed workouts at her home during COVID-19 lockdowns, sometimes introducing her family

We differentiate ourselves by filming really high-quality guided workouts across an exceptionally wide variety of workout types, that are optimised for your smartphone. We also give our members a really addictive social fitness experience where they can work out with friends and family, wherever they may be.

With FitOn, we've essentially given everyone access to a gym in their pockets, equipping them with the accessibility and convenience that will help them reach their health and fitness goals.

When did you launch?

We launched FitOn in January of 2019. I had left Fitbit and was taking a much-needed break from work travelling with my kids, when I began to really reflect on my life and the lack of work-life balance I'd had. I've often said that I began FitOn by doing what many founders do, trying to solve my own problem. This break gave me the time I needed to build the concept of FitOn – to make a product that would help busy people, like me, to get fit.

I was looking for a co-founder to go after this dream of mine and after searching, I suddenly realised that the perfect person was actually right beside me. My husband Russell founded AllTrails, the number one outdoors app and had 20 years' experience building digital subscriptions businesses.

We set out to design the app, talking with consumers, and went from concept, to design, to version 1.0 of the product in the App Store in just a few short months. Being a really small company at the time, gave us the ability to be nimble, making extremely fast decisions and iterating quickly. We have been running at full speed ever since and the product has come so far thanks to all of the amazing feedback from our members.

How often is new content added?

We add new workouts just about every week and are constantly introducing new ideas in every shoot to help keep our members engaged and excited about coming back. One of our newest additions is our recent launch with dancer Julianne Hough of KINRGY x FitOn.

Why did you decide to make the app completely free?

Our core belief is that everyone should have the freedom to get fit. And so, from the very beginning, it was extremely important to me to make sure everyone had access to the platform. This is why all of our workouts are free on FitOn.

Where does your revenue come from?

Earlier this year, we introduced FitOn PRO, a premium subscription service that offers a suite of additional features to our members.

With FitOn PRO, you get premium music from top artists, personalised meal plans, 500+ exclusive recipes, group video calls with friends, unlimited offline downloads, real-time heart rate from your Fitbit, Garmin, Samsung, etc., and more.

How many regular users do you have?

As of July 2020, we have 4M+ members. We're excited to have just passed 250 million workout minutes with 60 million workout minutes recorded in June alone.

Who is your target audience?

We designed FitOn to be an experience for everyone. We have a diverse offering of

classes from beginner to advanced levels across a wide variety of workouts like HIIT, strength, Pilates, yoga, dance and more. We have workouts tailored for people who are just starting out, to those who are active athletes and regular gym goers.

Tell us more about FitOn's focus on social experience

At FitOn, we strive to create a sense of community with our workouts. Working out alone at home can be less exciting than at a studio fitness class, so we gave a lot of thought to how we could create that feeling and experience at home.

We set up live leaderboards where you can compete with friends using real-time heart



rate monitoring from Apple Watch and other devices. We also allow you to invite your friends to classes and see their progress in the app, so you can cheer them on, or maybe push yourself a little harder with some friendly competition.

We're definitely seeing a movement of more people working out at home and FitOn is there to help with that extra motivation.

What other features are designed to keep users motivated?

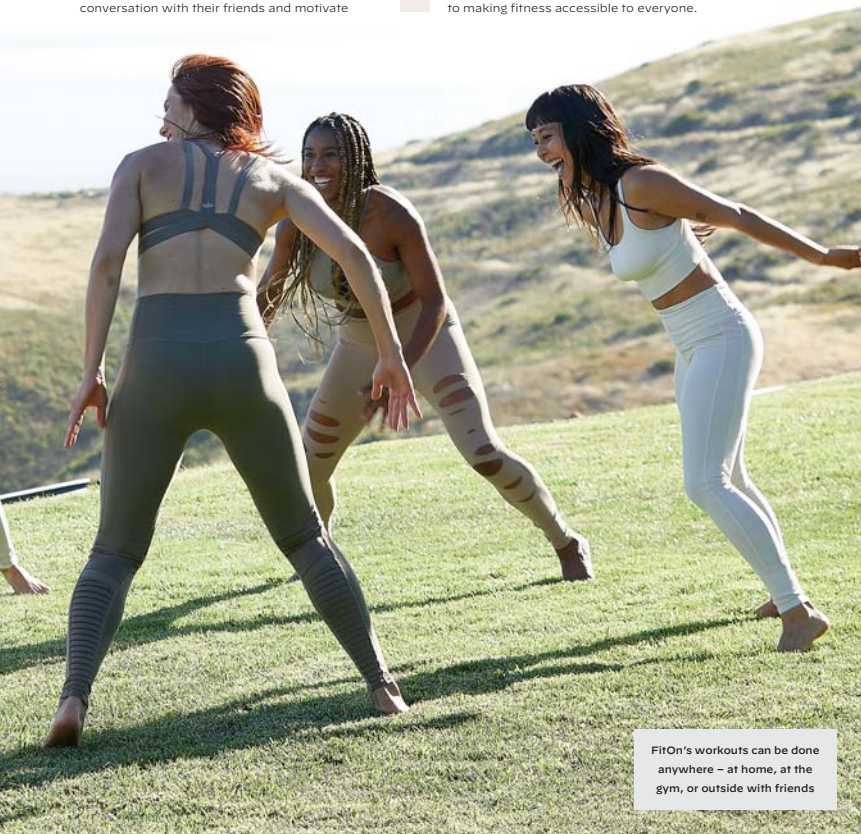
We just launched a feature called FitOn Party that allows users to do live video calls with their friends while they're taking FitOn classes. They can have a video and audio conversation with their friends and motivate

each other throughout their workouts while getting a more social experience from home.

In addition to classes, we provide an advice section of the app that shares articles and tips based on people's personal fitness goals.

Tell us about your celebrity collaborations

We're thrilled to be working with Queer Eye's Jonathan Van Ness, actress Gabrielle Union, and dancer Julianne Hough. All of these celebrities truly represent and believe in what FitOn is all about – using fitness as a vehicle for self-care. While they all have very different styles and bring different workout aspects to the platform, they're all dedicated to making fitness accessible to everyone.



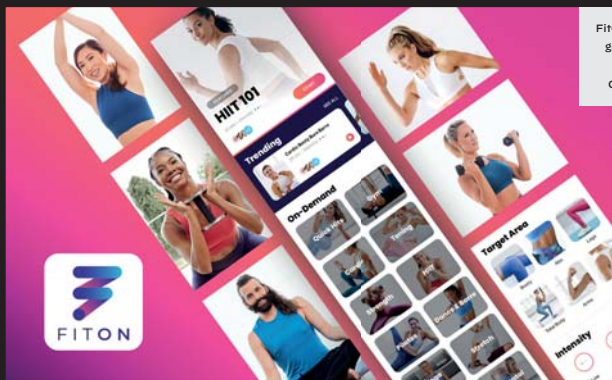
FitOn's workouts can be done anywhere – at home, at the gym, or outside with friends

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Today FitOn is a totally different experience. That's the beauty of software – it's so easy to improve and change to meet your members' needs



Cook believes more physical fitness clubs will soon be looking to partner with digital companies



FitOn has seen significant growth in its customer base, as a result of COVID-19 lockdowns

How has COVID19 impacted your following?

As people try to find a sense of normalcy during this incredibly unsettling time, there has been even more accelerated growth in the digital fitness industry. With mandated closures and many people working from home, we have seen a significant growth in our business these last few months for workouts (260 per cent increase), signups (200 per cent increase), and friends working out together (a 3X increase).

Now more than ever, FitOn is helping people stay active, healthy and less stressed during this difficult period, and it has shown people that home fitness can be an amazing experience.

Did you adapt the content at all to suit these new lockdown users?

FitOn has always had workouts that were intended for people to do at home, but with the lockdown, we've added workouts designed specifically for quarantine, where you might not necessarily be able to access exercise equipment. For example, Gabrielle Union and her husband, Dwyane Wade, filmed workouts that require no equipment, using their household items as props.

We have also filmed more content to include the type of equipment most people use at home, such as resistance bands.

How has the app evolved since you launched?

Today, FitOn is a totally different experience from when we launched at the beginning of 2019. That is the beauty of software. It's so easy to improve and constantly change to meet your members' needs and demands.

When I was at Fitbit, every time we launched a piece of hardware it took at least 12 months to develop. But with software, we're launching new updates of the app every week.

What are your plans for FitOn?

We started FitOn believing in the opportunity to democratise digital fitness with an innovative, technology driven solution that eliminated any barriers for users. Our focus moving forward will be leveraging the ubiquity of the smartphone and improving video streaming capabilities to provide every single person across the world with an invaluable social fitness experience.

What is the future of digital fitness?

Having seen the impact COVID-19 has had on the fitness industry, it's clear the importance of digital fitness will only increase over the coming years. These last few months have shown that digital platforms like FitOn can be a great alternative to more traditional in-person sessions.

In the near future, I think traditional retail gyms will be looking to partner with companies like FitOn as they quickly move to become more capital efficient and create more digital solutions for their members.

Beyond the more immediate shift to digital fitness we're very excited about leveraging new technologies in AR/VR.

I'd also like to see the fitness industry focus more on wellness and self-care than on shaping the 'perfect body'. Through FitOn, I'm hoping we're creating a platform that allows people to take time for themselves and not feel stressed or guilty about doing it. ●

If you don't have a hybrid
digital / physical model,
you won't survive

Paul Bowman

The future of fitness is hybrid, says the CEO of Wexer. He shares his thoughts on why and how the industry should embrace this change

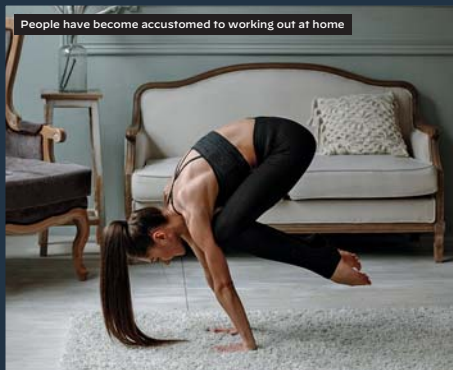


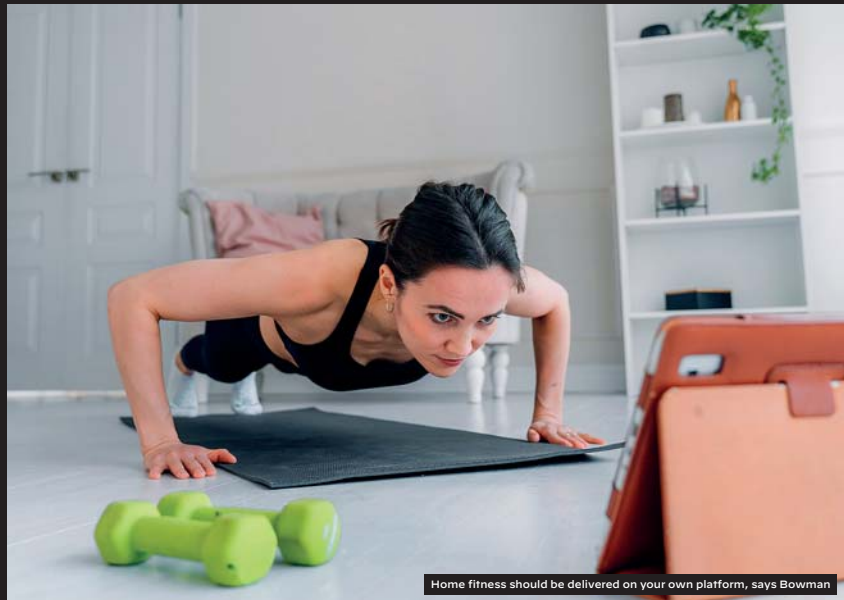
Think about how disruptive low-cost was for those who didn't respond quickly enough. Digital will be equally disruptive

It's no longer a question of 'do we go digital?' Now the only question is: do you merge digital into physical, or physical into digital? Which approach is most likely to succeed? I genuinely believe it will be the latter

“

Instagram and YouTube offered quick, easy solutions, but in using them, clubs have effectively given away their contacts, their opportunity to gather insights and their ownership of the customer relationship. They now have to wrest it back





Home fitness should be delivered on your own platform, says Bowman

On-demand retention figures beat most traditional operators: about half of online fitness customers are retained for nine months or more

Digital fitness was already growing fast. Then COVID-19 happened and things accelerated exponentially: we had clients whose online user base grew 10-fold almost overnight

Home fitness must be delivered on your own platform, not a third-party channel – like Instagram or YouTube – which you can't monetise or use to generate brand loyalty

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The shift towards online is not a temporary measure: 43% of Mindbody survey respondents want to continue with at-home classes as well as going back to the gym; 60% of these expect to add 2-3 live streamed workouts a week



Variety is key online: exercisers seek a new class more regularly than in-club

Digital opens up bigger audiences. There may be less revenue per head, but there are many more heads to go after

“

Clubs should start with the home fitness journey and work out how to gain a competitive advantage here, before working out how to dovetail physical visits into this

Online requires strength in depth to be sustainable, because people only do the same online class twice before they look for something new. In-club it's about the social. Online it's all about variety

Clubs want to create their own content, so on 1 June, Wexer launched Web Player Connect – a new solution that gives operators their own TV channel

During lockdown, 40% of all spend on live streamed and pre-recorded workouts went to businesses those individuals had never physically visited

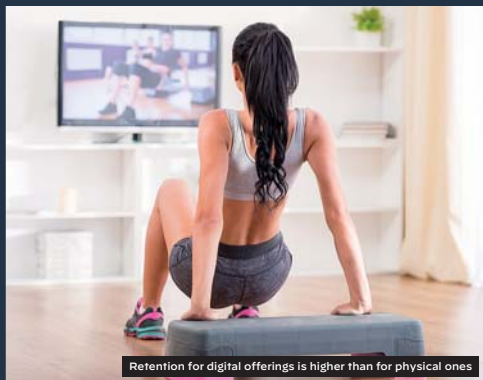


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In clubs that have re-opened, we're seeing higher demand for virtual classes. This is the only way to take part in group exercise in many clubs, and with social distancing, classes are regularly full

We've talked about personalisation for years. Digital fitness is the way to speed it up – it's both the tool to gather the data, and the channel through which to deliver it. That's hugely exciting.

Training at home is so convenient, it's where the bread and butter of fitness will now happen



Retention for digital offerings is higher than for physical ones

People will still be willing to pay for programming, expertise and support in-club, but the baseline will be delivered online via convenient, high-quality, personalised fitness content

Trent Ward & Yves Béhar

After four years in development, Trent Ward and industrial designer Yves Béhar are launching the Forme Life home fitness concept. The co-founders talk to Steph Eaves about combining artificial intelligence, a 43-inch 4K display, voice control, and personalised workouts in one elegant piece



Trent Ward (left) and Yves Béhar
are co-founders of Forme Life



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I think the big ‘a-ha’ moment was when we had the idea that a mirror would be the best way for somebody to learn

Where did the idea for Forme Life come from?

Ward: I had started working for myself and had become really busy – I wasn’t making it to the gym, so I started working out at home with a trainer. I realised that with all the equipment I had around, and my trainer’s schedule, there was probably a better way to do this.

I thought about a weight machine that was hidden in the wall and which had instruction and measurement and modification. And then I also thought about adding other disciplines, because I get bored if I’m only doing one type of activity.

How did the two of you come to work on this together?

Ward: I started to do some R&D and then I started looking for an industrial designer. A friend of mine introduced me to Yves and he was really excited right away. He’d wanted to do something in wellness and health for a while.

Yves had worked with Nike making gym equipment that turned into office furniture and vice versa, so he’s always been interested in this concept of transformation. Everything in his house sort of disappears into the walls

Forme Life will offer a wide range of classes for all tastes and needs

when it’s not being used, so he was the one who had the idea of turning it into a mirror – both functionally, to be able to see yourself while working out, which is important for form and technique, but also to obscure the fitness equipment when you’re not using it.

Béhar: I personally felt very connected, both to the problem and to the possible solution of Forme Life. I’d been training for 20 years myself and I could see that a solution for the home was not available, and that great design and user experience would make a tremendous difference in a project like that.

Tell us about the development process over the last four years

Ward: There were a lot of different pieces to get right. On one hand we were creating a new type of resistance machine, and so that involves

Trent Ward's career background

I had a successful career in finance, I was an investment banker doing mergers and acquisitions for consumer companies for a while, and then I spent several years at a big hedge fund managing a portfolio, as an equity investor. It was exciting and fun, and I learned a lot.

Then when I was switching funds and I had to sit out my non-compete clause, I started getting involved in some entrepreneurial stuff and one thing led to another. One of the ideas I had was Forme, and I started to get really excited about it, and it got to the point where it became the only thing I was doing.

I moved back to California, which is where I was raised. I spent time in San Francisco, which is where a lot of our engineers are, and in LA, which is where all of our business and content and marketing is based.

It's a super exciting time to now be public with it after four years and I'm excited for consumers to be able to experience what we've created.

- ▶ sourcing hundreds of custom parts, finding the right manufacturers and the partners to do it.

To create interesting shapes in our design we partnered with a bike manufacturer – there are a lot of similarities to an electric bike, such as bent metal, cables, motors, etc.

And then the screen is effectively a six foot tablet, so developing the product from scratch took time, lots of testing and millions of cycles.

The most cutting edge technological advances have been around artificial intelligence – the algorithms involved with getting the machine to spot the weights, as well as extracting skeletal pictures from the cameras in order to provide feedback on form.

Béhar: Initially, we were looking at a set of standard components, a screen that was horizontal, and the mechanical exercise attachments. I think the big 'a-ha' moment was when we had the idea that a mirror would be the best way for somebody to learn – when people watch themselves they can self-correct.



Forme Life with full studio is US\$4,295 or US\$110/month for 39 months. Plus US\$39/month for Forme Life multi-user membership.

“

The screen is effectively a six foot tablet, so developing the product from scratch took time, lots of testing and millions of cycles



Forme Life launches in Q3 2020 with pre-ordering available now

Creating one big seamless, tall, portrait-format mirrored surface was really the big switch for a better solution for how to integrate all these components within an environment like the home.

How are machine learning and AI used?

Ward: It's used in the selection of weight and providing a certain amount of resistance – Forme Life determines the right weight for you based on your past performance and, if you're using a wearable, your stress levels, recovery, sleep, etc. We take into account a number of data sources to determine what weight you should be using, and then as you're working out, whether you need assistance.

The machine learning or artificial intelligence component is largely taking data, processing it and providing feedback.

On the computer vision side, we're extracting 3D models of you and your movements using a neural network that works in the same way as autonomous vehicles use cameras to recognise objects and compare these images to what is expected and then provide feedback on that.

So it's the same technology that you're seeing in other places, but repurposed for fitness.

Who is your target audience?

Ward: It runs the gamut, across demographics, but probably the most common characteristic of our audience is someone who's short on

time. Working out at home is hands down the most efficient way, and having on-demand content is obviously where everything is headed from a service perspective – like Netflix or Uber. Content that fits into your schedule.

So I think it's someone who's really looking for efficiency and time saving, but then you get the added benefit of world class instruction, which you can't always get. Depending on where you live, the variety might not be available to you.

So it's also someone who's looking for inspiration and variety of content.

Most likely, they're between 35 and 55 years old, married with kids and living in a suburb.

How did you decide what fitness equipment to include with the Full Studio?

Ward: We thought about what everyone would use and what fits easily, and that's the core accessories – handles, rope, the short bar, ankle straps, yoga mat. These are easy to store and put out of the way.

When it came to add-ons, we offer things like a bench – which we made so it can fold and fit under your furniture or lean up against the wall – and a long bar. However, these may not be what every user wants. I sort of think about my Dyson vacuum and the 10 attachments that it came with, and I don't use most of them! Most of them are just a bunch of plastic that sits around, and to me that seems really wasteful, so that's part of the reason why we separated these options out.

► **Béhar:** The important thing there is that people tend to have multiple different activities that they like to do. Forme Life is more than a single-activity piece of equipment; the type that tends to just lay around the house as people lose interest or move to other things.

By providing multi sports or multi activities, we can reach different members of the family and we can also let our users expand their curiosity and try new things, which we think is important, both in terms of physical workouts, to have a variety, as well as exploring newer types of activities, such as meditation.

How is celebrity trainer Harley Pasternak involved?

Ward: I was talking about Forme with a friend one day and he said, "you need to meet Harley Pasternak".

I explained the concept and Harley said he'd been thinking about something like this for a long time. He's been very helpful in thinking about how to train people, the accessories, making sure that everything is correct, and developing the content.

Harley's a no BS, no fad trainer, which I like. He believes in balanced diets, walking, mobility, and getting enough sleep. He has strong beliefs on how to keep people healthy. He's helpful

Yves Béhar on the importance of design

I think the role of design is to accelerate the adoption of new ideas. Whether they're new ideas which we need to adapt to new conditions, like the current COVID situation, or whether they're new ideas that we need in order to adapt to environmental or social reasons.

In many ways, design is the thing that allows important new technologies to create an easy transition from the way things are done today to the way things are done tomorrow. So for me, design has a huge responsibility in new technologies being adopted. I very much see design as a way to support people to make important changes.

The products that I've launched all have an ability to change people's approach or their experience. New technologies and new designs can be integrated in a way that reduces the complexity of our modern lives.

The challenge is that everything new requires us to adapt and design can make that transition not just attractive, but easier. It ensures that the change will be a step we can all take.



A full set of accessories is included in the top of the range package

in every regard. And his relationships in the industry are unparalleled. His title is chief fitness advisor, but it really should be chief fitness guru!

Will you adapt the Forme Life for international markets?

Ward: I think we will, eventually. From a hardware perspective, we need to go through a separate set of certifications for the different voltages that are used internationally, and we plan on doing that. We've had an incredible amount of interest internationally.

I lived in London for 12 years, we have a lot of investors there, and friends, and there's a lot of demand from consumers there, so we are focused on international, probably sooner than other brands, is my guess.

Do you see this product being utilised in environments outside of the home?

Béhar: From the very beginning we understood that some of our users are transient, and will be travelling and in hotels, and so having Forme Life in those places would also make sense. I know that as I travel, usually my exercise declines. But if I can continue with the same trainers, the same workouts and the same routine while I'm on the road, that would be an ideal situation.

Ward: Harley is the global fitness advisor for Four Seasons Hotels, and we've had a lot of interesting conversations with them about putting the product into their rooms. That's obviously taken on a lot more importance these days when people are concerned about the safety of gyms and working out in public places.

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We have such a timeless design that this product will fit into the home for a long time



The screen-only option is US\$2,245 or US\$58 month for 39 months. Plus US\$39/ month for Forme Life multi-user membership

Are there any other Forme Life products or models in the works?

Ward: I think we have such a timeless design that this product will fit into the home for a long time. The exterior doesn't need to be changed, but what's on the screen will, and that can be updated remotely on a regular basis, just like your phone.

We made specific technology choices with longevity in mind. We have a 4K resolution screen, unlike the competition, who largely selected 1080. This ended up being a better experience, but the main reason we did it was for technological obsolescence. We saw how poor 1080 looks already, and will continue to be in the future. We tried to be as future-proofed as possible.

Béhar: We're already thinking about software updates that use the existing hardware within the units. For example, to do more with the cameras, to allow the AI in Forme Life to correct your form. So the updates and upgrades that we see happening are about using the system that we've built to its full capacity, which could be very significant with the skeletal recognition and form adjustment.

Yves' past clients include

Jawbone, Herman Miller, Movado, PUMA, Kodak, MINI, Western Digital, General Electric, Swarovski, Samsung, Happiest Baby, Prada and Cobalt Robotics

What's the future of home fitness?

Ward: Home fitness has been around maybe since the 80s and Jane Fonda, and I think it's always been a bit of a trade-off between experience and convenience.

Traditionally, it's more convenient to be at home, but going to a boutique or the gym could be a better experience.

The advent of streaming technology, which Peloton took advantage of first, just six or seven years ago, made the experience at home not as much of a sacrifice and potentially even better.

We're still at the very beginning of this process, and what you'll see with people working from home and other digital transformation drivers in the fitness space.

It was already happening and it was growing, but it was still a small part of the market. COVID-19 has accelerated that.

The great thing is, it's not just a substitute for a gym membership. People are starting to work out for the first time as a result of the convenience and cost efficiency. So it's an enabling technology as well, in addition to just shifting where the activity is occurring. ●

Create your own energy

A breakthrough in technology means wearable devices and other health and fitness products could soon be self-powered.

Steph Eaves talks to Dr Ishara Dharmasena to find out how this could impact health and fitness



Research into TENGs at the universities of Loughborough and Surrey in the UK could revolutionise the market for wearables



Dharmasena foresees a time when wearables and implants run on self-generated power

Small, flexible generators that convert movement into electricity could soon be the future of free and unlimited energy, thanks to a breakthrough in energy harvesting technology.

Scientists from Loughborough University and the University of Surrey in the UK have created a unique device based on triboelectric nanogenerators (TENGs), which generate electricity from motion – in much the same way static electricity is produced.

Until now, using TENGs has been incompatible with many day-to-day electronic devices due to their inability to produce a constant current.

But a team of researchers, led by Dr Ishara Dharmasena of Loughborough's School of Mechanical, Electrical and Manufacturing Engineering, in collaboration with the Advanced Technology Institute of the University of Surrey, has found a way to produce a direct current (DC) from a unique TENG design, creating a steady flow of electricity and opening up the potential for real-world applications.

We spoke to Dr Dharmasena, who explained this breakthrough.

How long have you been conducting research into this technology?

I've been working on this since the beginning of my PhD project, in early 2016.

What have the challenges been in making TENGs compatible with everyday electronic devices?

The main drawback of TENG, to date, has been discontinuous and unpredictable outputs. Because of this issue, we can't use TENGs to directly power electronic devices – you need additional circuits to manage the current, and, sometimes batteries to store electricity. This meant the effectiveness and applicability of the technology in real life situations was drastically reduced.

What was the breakthrough?

Instead of using a single TENG device to generate a discontinuous current signal, in this new design, we're using a collection of TENG units to directly produce a DC current signal, which is a current output similar to a regular battery.

This way, we can get rid of additional electronic circuits, batteries, etc, and directly use TENG devices to power practical applications.

Wearables could be self powered by non-toxic TENGs

How can this technology be used in fitness, sports and health products?

This technology could be very useful in next generation wearable and implantable electronics, which measure fitness and healthcare information. For example, the power generation capability of these devices could be useful in powering existing electronics, such as smart watches, motion sensors, activity monitoring units, heart pulse sensors, physiological sensors and, potentially, mobile devices.

Another special feature of TENG is that it can act as a self-powered sensor; in other words, a sensor that can generate its own power to provide information like movement, position, etc. This could be massively useful for monitoring things like our physical activity, speed and pulse.

TENGs are being extensively researched for their compatibility with emerging technologies such as Internet of Things (IoT) and 5G-related applications, which will also provide unparalleled advantages to sports and healthcare products.

In what other ways could it improve and evolve these products?

TENGs can be constructed using flexible and stretchable polymers (plastics), which are similar to our clothing. They can also act as a secondary skin.

Since TENGs can be constructed using low-cost, waste plastics and simple

With TENGs, health and fitness products can be made more sustainable, durable, low cost, wearable and autonomous

manufacturing techniques, they are cheap and non-toxic. Whereas conventional battery-related power supplies are rigid, bulky, expensive and contain toxic materials.

With TENGs, health and fitness products can be made more sustainable, durable, low-cost, wearable and autonomous.

How will TENGs impact the Fit Tech market?

In future, technologies that provide self-powered operation of fitness and health-related applications will enable a number of unique benefits.

For instance, they will enable technologies such as remote health detection and monitoring. Without external intervention, the self-powered systems will be able to continuously monitor the health or exercise related parameters of a person and transmit the relevant data to doctors, trainers, etc.

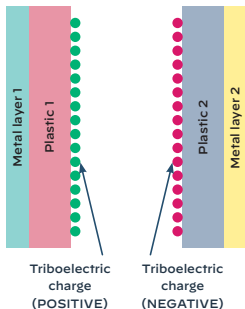
Furthermore, they would potentially be able to power the sensors and medical devices implanted in our bodies, enabling their long-term operation, without needing to be recharged or replaced.

How soon will they be used by consumers?

The technology is still in its early stages. However, my vision is to produce a textile-based working prototype of a wearable health monitoring system within the next three years.

If things go according to the current plan, consumers will be able to benefit from this technology in the next three to five years. ●

How TENGs work – harnessing the power of +/- charges



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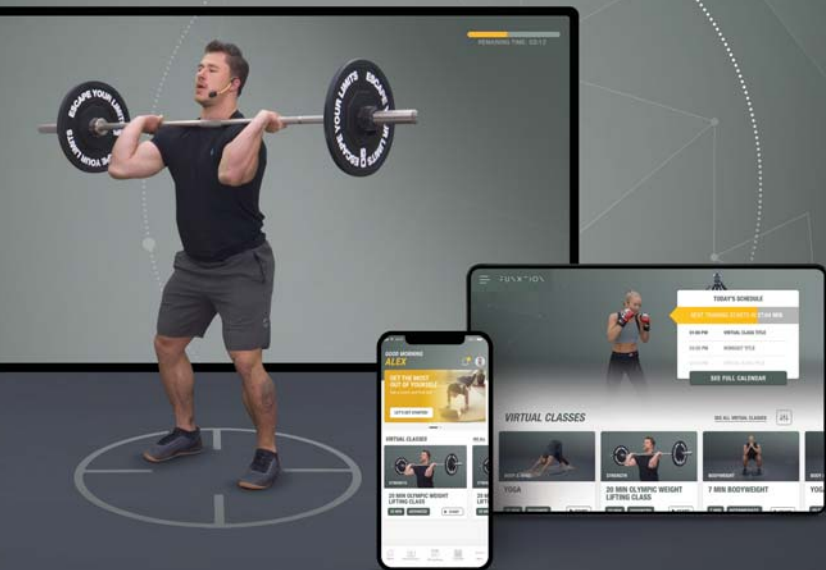
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Bryte develops AI smart-bed to improve and optimise restorative sleep

A Silicon Valley tech startup has launched Bryte, a smart AI-driven bed for wellness hospitality. Bryte has collaborated with sleep scientists to develop The Restorative Bed, a purpose-built mattress to improve and optimise sleep using built-in sensors which monitor heart rate, temperature, respiratory rate and motion.

The bed is designed to fit into luxury settings and contains advanced technology, pneumatics and AI that actively decreases wake events, while increasing both deep sleep and REM sleep.

Ely Tsem, Bryte co-founder and CEO, commented: "For a hotel to address wellness at scale, they must start with the foundation of health and wellness itself: sleep. And when you seek to improve sleep, the most important product to consider is the bed."

"In order for wellness to be relevant, accessible and make a difference in hospitality it's time for it to expand out of the walls of spa and fitness and into guestrooms where

we can improve their health while they sleep," said Amy McDonald, CEO of Under a Tree, and hospitality advisor to Bryte.

Sleep tracking

Laced with 100 computer-controlled pneumatic coils, the mattress keeps track of sleep status, sensing pressure points and temperature and making real-time adjustments for optimum comfort.

The bed creates a quiet, head-to-toe motion beneath the body and also gently wakes them by warming the mattress' temperature and using an optional gentle movement to nudge sleepers softly awake.

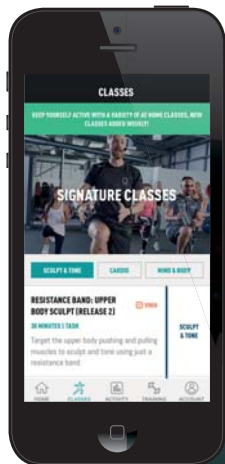
After use, each guest's preferences are anonymously stored in Bryte's secure cloud app – Restorative Cloud, letting guests log in to any Restorative Bed at any Bryte hotel location and have their bed configured to their preferences.

Bryte claims guests can expect to fall asleep more quickly, sleep better and wake naturally feeling refreshed and energised. ●

We've been ranked
number two on the App
Store for health and fitness,
second only to Fitbit

PUREGYM

Apps are an important way for health and fitness operators to keep members engaged and motivated. Lucian Weston, head of business development at Puregym, talks about developing their app in-house to ensure it met member needs



Tell us about your background

My previous role was a strategy consultant at PwC. I came to Pure Gym three and a half years ago.

In my current role I'm responsible for the development of new products and services to enhance member experience and deliver incremental revenue. Product management of the mobile app is an important component of this.

What were your main goals in developing the PureGym app?

Ultimately, we believe the app should be central to the entire member experience and provide a point of competitive differentiation. It's also a great way of engaging and motivating those who don't use our physical facilities.

Who did the development work?

We chose to develop it in-house. We see this as a real strength as it gives us complete ownership and allows us to continually add features and improve usability for members.

The first version was released in June 2018.

What functionality did you opt for and why?

Initially, our aim was to develop a tool for class management. However, over time, we've added a wide range of other features to be relevant for a broader audience.

Did you consult members in relation to the app?

Member feedback is one of the key principles of our development process. We always start with a member problem and think about how we can solve it.

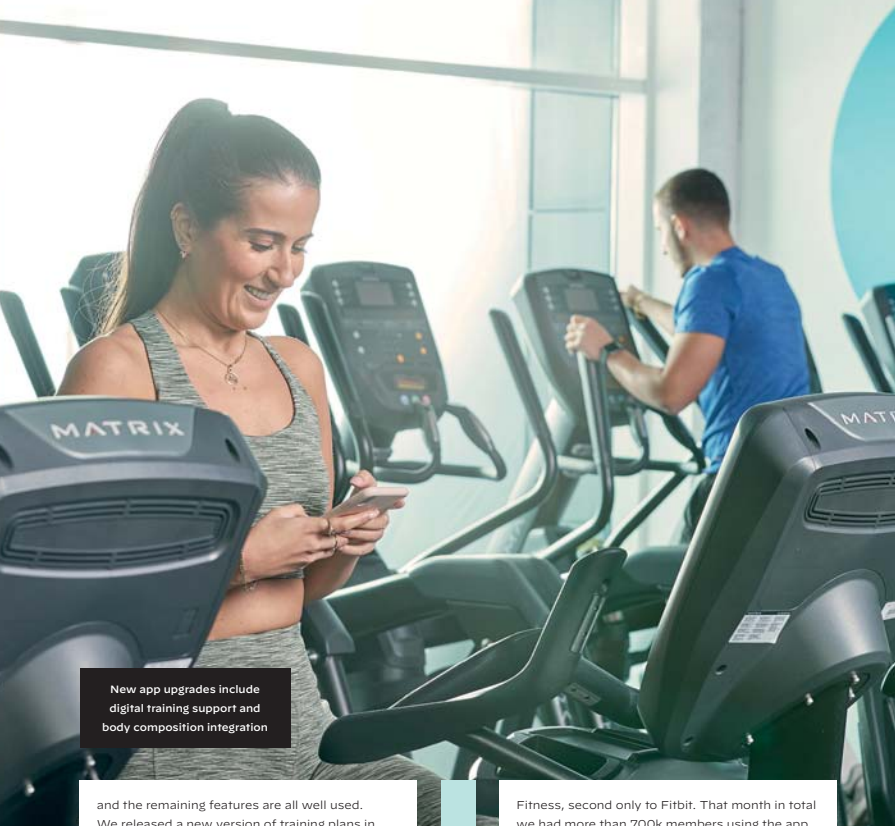
Before starting development, we conduct research via a range of channels: online groups, in the gym, focus groups and one-on-one usability testing. We then develop and release a minimum viable product (MVP) of any feature before iterating based on usage data and feedback that we receive directly through our app.

Which features are most popular?

Class management still accounts for about half of overall usage. However, it has been great how quickly we have diversified usage



Lucian Weston



New app upgrades include digital training support and body composition integration

and the remaining features are all well used. We released a new version of training plans in January, which have got off to a flying start.

Are there any features that don't get used so much?

Honestly, there aren't. The actual development is the costly, time consuming part of the process so we make sure we have as much confidence as possible before we start building. We do this through thinking strategically, conducting member research and analysing what works well in the market – as much in other industries as our own.

How do you measure success?

We set ourselves ambitious targets across a range of metrics and track our performance rigorously. First and foremost, we record usage of the app. At the start of January, we were ranked number two on the App Store for Health and

Fitness, second only to Fitbit. That month in total we had more than 700k members using the app.

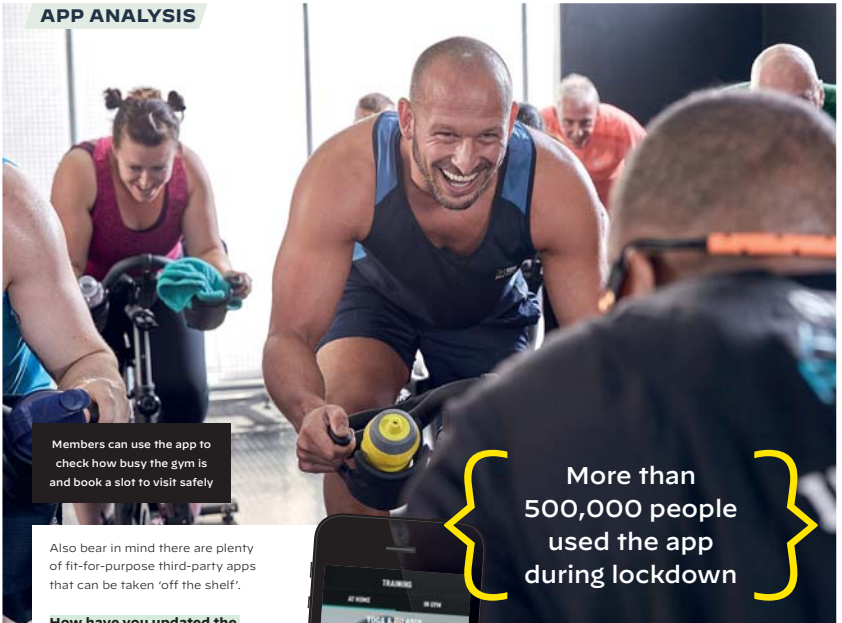
Do you plan to update it? If so, how often and with what goals in mind?

We release a new version of the app every two weeks, so it's always evolving and improving over time. We're committed to it as a long-term investment, with the goal of it being the centre of a member's experience.

There are lots of exciting developments coming up this year, including digital training support, body composition integration, home workouts and intelligent messaging.

What advice do you have for other operators?

Think carefully about your business goals and how an app will help you achieve them. Be clear on your return on investment model.



Members can use the app to check how busy the gym is and book a slot to visit safely

Also bear in mind there are plenty of fit-for-purpose third-party apps that can be taken 'off the shelf'.

How have you updated the app since COVID-19?

After we closed our gyms on 20th March, we focused on expanding our home and outdoor workouts.

To continue supporting our members, we added tailored nutrition information, mindfulness and exercise guidance and made connecting with PTs for online training easier.

These were features of the app that we were already in the process of developing, however, the impact of COVID-19 has massively accelerated their rollout.

How has the app helped you to engage with members during this time?

Alongside our social media channels, it has been our primary engagement tool with members.

Since our sites closed, more than 500,000 members and former members have used the app to support their mental and physical wellbeing. There are now more than 100 free workouts across cardio, strength, yoga, mindfulness and running, which have been highly popular and received great feedback.

More than 500,000 people used the app during lockdown

How do you hope to use the app going forward?

The app is central to our digital strategy.

As we begin to re-open sites, members can use it to check how busy the gym is, and book a slot to visit safely. It's also providing key information updates and being used to capture real-time feedback from members.

Meanwhile, tailored content is guiding members on getting back into their gym routine. The home and outdoor content will continue to be crucial for users in order to stay fit and healthy when they can't make it to the gym. ●

About the Puregym app

The app currently has the following features and the PureGym team is adding to them all the time:

- Access: check how busy any gym is at any time
- Activity tracking: track gym visits and earn badges
- Training plans: workout plans tailored to fit members' goals and experience levels
- Class management
- PIN entry reminder
- Manage your membership function

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The as-yet-unnamed material combines a stretchable polymer film with silver nanowires, making it flexible but highly conductive (above)

Functional wearables

A new ultra-thin, stretchable electronic material that allows a product to “breathe” could have the potential to help create more functional wearable tech.

Created by a team of engineering researchers at North Carolina State University (NCSU), the as-yet-unnamed material combines a stretchable polymer film with silver nanowires, making it flexible but highly conductive.

Allows sweat to evaporate

Being gas permeable, the material allows sweat and organic compounds to evaporate from the skin – making it more comfortable for users, especially for long-term wear.

Designed specifically to be used in wearable tech solutions, the product is only a few micrometers thick – allowing for better contact with the skin and giving the electronics a better “signal-to-noise ratio”.

“The resulting film shows an excellent combination of electric conductivity, optical transmittance and water-vapor permeability,” said Yong Zhu, professor of mechanical and aerospace engineering at NCSU.

“The gas permeability is the big advance over earlier stretchable electronics – and because the silver

Could ‘breathable’ electronics pave the way for the next generation of wearable tech?

nanowires are embedded just below the surface of the polymer, the material also exhibits excellent stability in the presence of sweat and after long-term wear.”

To demonstrate its potential for use in wearables, researchers tested prototypes for two representative applications:

The **first prototype** consisted of skin-mountable, dry electrodes for use as electrophysiologic sensors.

These have multiple potential applications, such as measuring electrocardiography (ECG) and electromyography (EMG) signals.

“The sensors were able to record signals with excellent quality, on a par with commercially available electrodes,” Zhu says.

Human:machine interface

The **second prototype** demonstrated textile-integrated touch-sensing for human-machine interfaces. The authors used a wearable textile sleeve integrated with the porous electrodes to play computer games, such as Tetris.











“If we want to develop wearable sensors or user interfaces that can be worn for a significant period of time, we need gas-permeable electronic materials,” Zhu added. “So this is a significant step forward.”

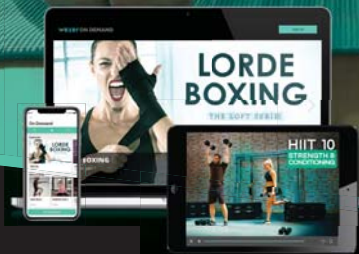
● Find out more: www.FitTechGlobal.com/breathe

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