Utility, innovation, and personalisation
Wearables with David Singleton

By Sam Wilkins, Senior Partner

43m smartwatches shipped in 2017 with a projected growth to 86m globally by 2021, creating a market potential of $17bn across the wider wearables landscape by 2021.

As the platform shift from desktop to mobile reaches saturation and wearables finally start to achieve consumer traction, we thought it was timely to invite David Singleton (former VP and GM of Google's Wearables Division) to breakfast at our offices with a selection of Investors and UK tech founders.

We were privileged to get a demonstration of Google's latest smartwatches, plus a deeper dive explanation of the Machine Learning algorithms powering their functionality. Below is a summary of what we learned from that discussion and presentation.

David spoke about the potential across sectors for wearables technology, the complexities of driving user adoption and educating the user on functionality, and why Google, unlike Apple, are enabling brands rather than going it alone.

CCS Insight
Global Wearables Forecast 2017-2021
Device Sales in 2021

Eyewear
2 million

Hearables
11 million

Attachable Cameras
21 million

Tokens, Clip-ons, Jewellery
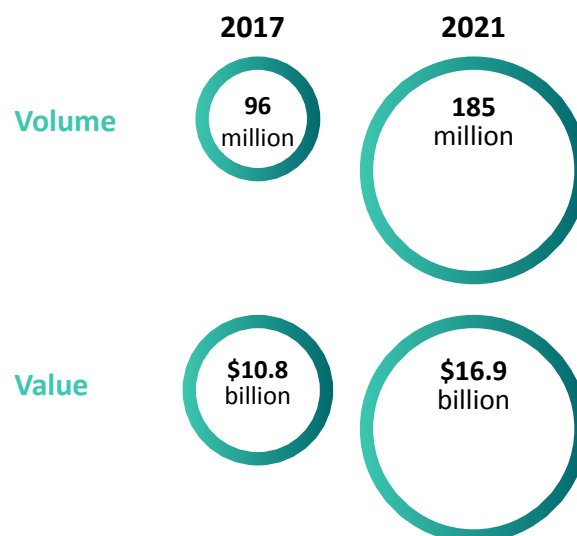2 million

Wristbands
54 million

Smartwatches
86 million

Footwear
8 million

1/3 of all units sold in 2021 will be to China
5 million pairs of smart shoes will be sold in 2020

	2017	**2021**
Volume	96 million	185 million
Value	$10.8 billion	$16.9 billion

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Brand-partnered approach and re-imagining UX

As much as our smartphones have become extensions of self, the smartwatch and wider wearables space are more outwardly visual projections of individual style.

Understanding the significance of this, Google embarked on a strategy that did not attempt to create a homogenous product but instead partnered with established watch brands seeking to add digital products. Partners TAG Heuer, Fossil Group and Louis Vuitton combine design sensibilities with Google's ML powered app platform for innovation to give their watches a 21st digital facelift – a win-win relationship, that Google's brand partners have welcomed. It is a soft form of disruption where product development and collaboration play to partner strengths and expertise.

For Google, designing a compelling smartwatch user experience focused on the device rather than iterating existing mobile/tablet UX. Just as many companies failed through simply transferring web UX onto mobile without redesign, any smartwatch that aims at a simplistic mirroring of the smartphone will fail to deliver on the nuanced requirements that will distinguish the leaders in the category.

Google's requirement was to architect a new experience for a new interface:

What would work visually on a watch size screen?
What functionality made more sense on a watch than a phone?
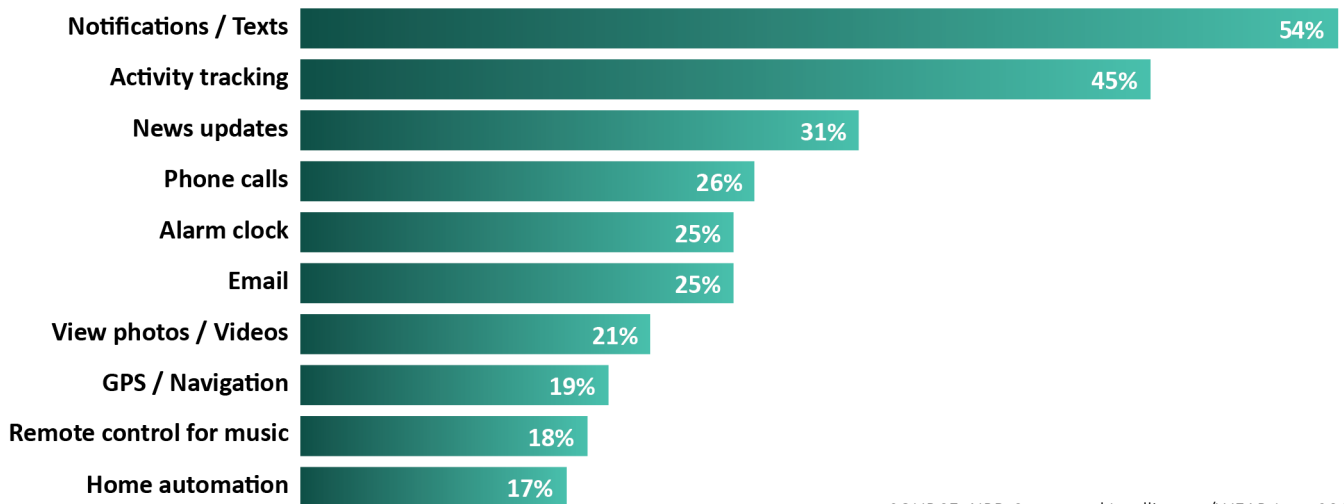*What functionality needed to stay in the pocket?*
How do you indoctrinate the uninitiated?
How do you educate the consumer to appreciate the shift change brought about by a smartwatch?

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SMARTWATCH USAGE

Percentage of smartwatch owners that use each function daily

Function	Percentage
Notifications / Texts	54%
Activity tracking	45%
News updates	31%
Phone calls	26%
Alarm clock	25%
Email	25%
View photos / Videos	21%
GPS / Navigation	19%
Remote control for music	18%
Home automation	17%

SOURCE: NPD Connected Intelligence/WEAR June 2017

Educating the user

The biggest challenge when smartphones emerged was user sophistication. Original mobile phones were still nascent devices with minimal functionality beyond mobility, texting, and rudimentary gaming.

The smartphone brought a revolution to our pockets, although many consumers failed to understand and adopt the enhanced suite of tools and capabilities.

A big bang approach to smartwatch tutorials failed to hold the attention of users. Instead, an iterative feature development approach achieved greater success in user sophistication. Bite-sized thematic tutorials, prompted by actions, ultimately increased feature awareness and understanding.

User education was also driven by sharing the operating system with app and gaming developers, boosting functionality and user engagement.

The success of the branded-partner model is also a lesson from the application partnerships on the OS. Taking these lessons into the new market, the incumbent watch brands are helping drive adoption, rather than Google being required to play in the unfamiliar territory of building a branded consumer hardware business.

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Utility, functionality, and cross-device integration

There was also the requirement to solve the problem of what functionality made sense on the new platform, what utility could actually be achieved that offered a clean UX, and what actions suited the physical space and period of engagement with a user. The questions of how you provide functionality that fits within the quick glance that a watch has traditionally demanded or how you hold your user captive for a longer period became critical considerations.

The first of these considerations has produced an interface that offers optionality and the ability to tailor the digital part of the product in the same way the partnerships allow for style variance. The user can customise the interface to capture within the blink of an eye information that is applicable to them, from FX rates of the country they are visiting, through to the time of sunrise and sunset to sneak in a run, their heart rate while beating that path, or the local weather.

The second consideration is functionality that makes sense and offers utility beyond a smartphone. Rather than replacing the phone, the watch can save you a trip to your pocket to make and answer calls, read and reply to simple messages, or pay for something on the move. It doesn't attempt to encroach upon the full functionality of the smartphone, but simply facilitate tasks that make sense.

Furthermore, with its connection to Google Assistant and Google Home, it can offer enhanced utility in a range of other areas to drive convenience. If you are in the middle of cooking a meal, the voice-activated Google Assistant can set a timer on your watch, so that your hands can focus on the task at hand. Equally, as you use the last drops of olive oil or sprinkle that final sprig of rosemary, Google Assistant can be engaged to add these items to your shopping list and when combined with location settings, can nudge you to re-stock next time you are in your local shop.

Then there's the more familiar fitness functionality, from heart rate and calories burned, distance and pace, in daily activity or exercise, to instructions and assessment of the perfect push-up technique. Wearables that offer functionality that makes sense for how we engage with a device and where it sits in our world.

Google Home- Smart Speaker & Home Assistant

There is real potential for disruption in how we understand, treat, and prevent a range of conditions, that comes from the anonymization of data and mass modelling with machine learning.

Health

The range of functions from the Google Fit suite are not the only contributions to health and well-being that wearables can bring. By pulsing a light into the wrist and measuring the reflected return, Android Wear is able to measure pulse and track heart rate.

A graph similar to the one below waves across the interface allowing the wearer to capture critical data. The insights from such data speak to the general health of the wearer and can flag potential health complications in time for preventative care. Whether it is the respiratory rhythm demonstrated by the wave across the peaks, the distance between peaks that tracks heart rate variability, or the distance between the peak and dicrotic notch, which shows how fast the blood is flowing through your veins and so enables the tracking of blood pressure.

As Google partners with start-ups and incumbents in the space, the opportunity for increased functionality and health care utility is both notable and not wholly tangible at present. However, device functionality is not the only boon from wearables to be offered to the health sector.

There is real potential for disruption in how we understand, treat, and prevent a range of conditions, that comes from the anonymization of this data and mass modelling with machine learning. Wearables offer the chance for greater data sets across a more balanced set of situations. By capturing the 'healthy' and the 'ailing' data across full activity and situation periods, modelling becomes easier and the outcomes more robust. The value of this data in patient care and clinical studies cannot be underestimated. There is an obvious value too for the insurance sector, as richer data sets offer a significant opportunity.

Now that sophistication around UX has been achieved, the potential for growth of wearables and their impact across sectors is beginning to dawn on the many, not just the few, with the best to be achieved in partnership.

See also:
The Age of Assistance: David Singleton
Latest Forecasts on Wearables

Heart Rate Trace

TIME (Seconds)
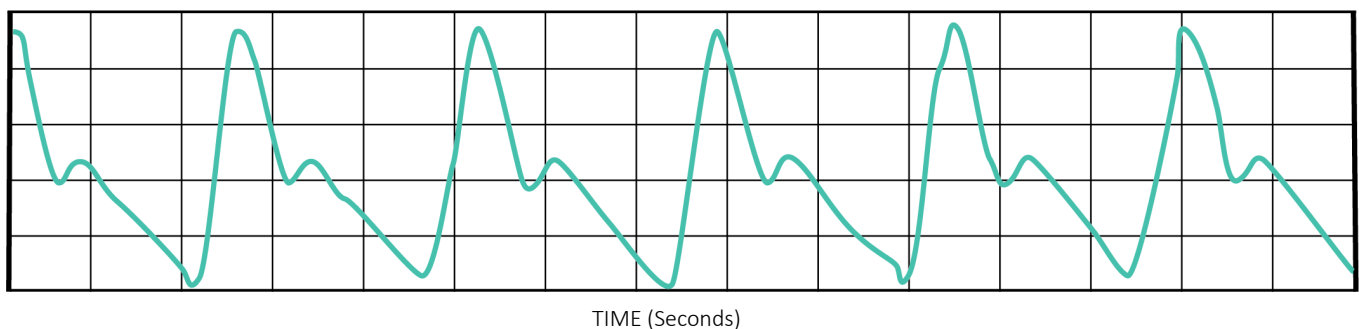
About the author

Sam is a Senior Partner at Erevena with over 17 years' experience in executive search.

Working across the Erevena portfolio Sam builds Executive and Non-Executive teams of VC/PE-backed and public companies experiencing hyper-growth or significant transformation. His functional specialisms are the office of the CTO across all consumer and B2B industries and Commercial Leadership in scaling B2B SaaS, where he has a long track record and deep international network across Europe and the US.

The office of the CTO increasingly covers scaling engineering or establishing R&D functions where clients seek to solve complex problems by building products that interact with almost limitless data sources with supervised and unsupervised learning algorithms to improve Consumer or B2B services. Occasionally they have a more profound desire to improve our health or that of our planet.
Prior to joining Erevena in 2013, Sam had co-founded three executive search boutiques, one of which was sold to Kenexa Inc in 2008.

Executive Assistant: Adelle Gayadeen

Sam Wilkins
Senior Partner

About Erevena

At Erevena, we help to hire senior people into companies that are trying to do things differently. We work with CXOs and shareholders to solve complex senior hiring challenges. We focus on your future.

We think that Search should be an advisory process. In solid-state organisations where it's 'business as usual,' companies understand their own needs and don't normally need to hire external advisors to help.

In venture-backed companies, entrepreneurs are doing things that have never been done before. We have a long track record of working with founders to shape strategies for how they hire the most situationally relevant executives to make their plans a reality.

The majority of industries are in a state of violent transition and many face threats that they don't understand and are not structured to withstand. Our work in venture has given us a lens into the future of many industries. We use this to work with executive teams to help them understand how best to adapt so that ultimately they can endure.

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