THE DISRUPTORS OF SPORTS: SMART SPORTS EQUIPMENT

- Digitalization looks set to drive future growth in the sports equipment category. Smarts sports equipment enables athletes and amateur sports participants to monitor, track, analyse and improve their athletic and fitness performance.

- While the market for sports goods equipment is expected to grow at a compound annual growth rate (CAGR) of 3% from 2016 to 2020 globally, smart sports segments are likely to grow much faster. For example, the market for platforms that integrate sports equipment with coaching software is expected to grow at a CAGR of 51% globally from 2014 to 2021.

- Smart sports equipment is expected to account for around 7.5% of the total sports equipment market by 2020, up from an estimated 2.9% in 2015.

- Research and development departments of sports goods companies have been very active in launching new products or in embedding digital technology in their existing range, in order to capitalize on the growth of the smart sports market.

- In the years ahead, improvements in technology and an increase in competitiveness with more companies offering smart sports products should drive down prices and encourage more widespread adoption among amateur sports participants.
THE DISRUPTORS OF SPORTS: SMART SPORTS EQUIPMENT

Digitalization has become so important within the sporting goods industry that Adidas, in its 2015 annual report, referred to it as one of the main trends currently affecting the sector. The smart sports category—which includes equipment and wearables integrated with digital technology—has become the field on which industry players compete, and the focus of much of their R&D efforts.

Smart sports is part of the broader phenomenon of the Internet of Things (IoT), Internet-enabled objects that connect to a network, gather and share data, and interact with their surroundings. Other reports from Fung Global Retail & Technology have covered the use of IoT technology in the home (The Connected Home Series), in automobiles (Connected Cars) and in baby products (The Boom in Baby Tech).

This report focuses on connected sports equipment, which includes everything from smart footballs, baseballs, soccer balls and tennis rackets to smart gym equipment to smart fitness trackers. Connected sports wearables will be covered in depth in our forthcoming report, Wearables: A Market in Transition.

The smart sports sector is expected to grow rapidly. WinterGreen Research, a market intelligence firm, estimates that platforms that integrate sports equipment with coaching software will grow at a compound annual growth rate (CAGR) of 51% globally from 2014 to 2021, reaching a market value of $864 million. Meanwhile, the total sports equipment market is expected to grow by just 3% from 2016 to 2020, to $83 billion, according to research firm Technavio.

Connected sports wearables are also expected to show strong growth: WinterGreen Research forecasts that category sales will be four times larger in 2021 than they were in 2014.

Smart sports products range from gym machines to running shoes, but what makes them “smart” is their ability to track users’ athletic performance data and provide information and analytics that can help users optimize their training.

ATHLETES TRACK PERFORMANCE, MARKETERS TRACK CUSTOMERS

The data gathered through smart sports equipment is a precious resource for athletes and trainers, and can also be used by companies to track consumer behavior. Fitness and athletic data can be used for:

**Monitoring and improving performance:** Data are essential for measuring athletic performance, and smart sports technology allows users to capture and track their performance data. The equipment and devices collect and transmit information to smartphone apps or cloud systems that can then analyze it and provide diagnostics.

**Virtual coaching:** Such data can also be used to create personalized virtual coaching programs. Smart gym equipment can be integrated with coaching software, for example, to create virtual coaching programs and personalized workout schedules.
Marketing purposes: Companies can gain intelligence on consumers through the individual fitness data collected by smart sports equipment, and that information can be used to tailor marketing to individual customers. Such data often reveal insights about the user’s health status, and companies that own the information could share it with third-party firms. Insurance companies, for example, could use it when deciding how much to charge policyholders, or for promotional activities. In the US, a number of insurance companies, including UnitedHealth Group, Humana, Cigna and Highmark, already offer discounts to policyholders based on fitness data gathered through the policyholders’ wearable devices.

DIGITALIZATION SUSTAINS SPORTS EQUIPMENT GROWTH

Smart sports equipment shows more dynamism than the broader sports equipment category, and we expect the smart segment to drive category growth in the near future as the technology becomes more mainstream, and as competition among manufacturers increases and products become more affordable. Consumer adoption should accelerate as more athletes and recreational sports enthusiasts decide to use data to track their progress and to create personalized virtual coaching programs.

WinterGreen Research estimates that the global market for sports coaching platforms—which integrate digital sports equipment with coaching software—will grow from $49 million in 2014 to $864 million in 2021. And the global connected fitness tracker market is forecast to grow from more than $2 billion in 2014 to $5.4 billion by 2019, according to research company Parks Associates.

Meanwhile, the global sports equipment market—which includes both traditional and smart equipment—is expected to grow from $71.6 billion in 2015 to $83 billion by 2020, according to Technavio.

Figure 1. Forecast Growth of Sports Equipment Segments

<table>
<thead>
<tr>
<th>Segment</th>
<th>CAGR</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Sports Coaching Platforms</td>
<td>51%</td>
<td>2014–2021</td>
</tr>
<tr>
<td>Smart Sports Fitness Trackers</td>
<td>22%</td>
<td>2014–2019</td>
</tr>
<tr>
<td>Sports Equipment</td>
<td>3%</td>
<td>2015–2020</td>
</tr>
</tbody>
</table>

Source: WinterGreen Research/Parks Associates/Technavio/Fung Global Retail & Technology

By 2020, smart sports equipment will account for an estimated 7.5% of total sports equipment sales.

Figure 2. Global Smart Sports Equipment Sales as % of Total Sports Equipment Sales

- **2015**: 2.9%
- **2020E**: 7.5%

Smart sports equipment includes sports coaching platforms and connected fitness trackers.

Source: WinterGreen Research/Parks Associates/Technavio/Fung Global Retail & Technology
Among mature markets, the US is the largest sporting goods market.

Figure 3. US and Europe Sporting Goods: Sales (Left Axis, 2015) and CAGR (Right Axis, 2010–2015)

Source: National Sporting Goods Association/Association of the German Sport Goods Industry/Fung Global Retail & Technology

INDUSTRY PLAYERS DIGITALIZE THEIR PRODUCT RANGES

Attracted by the growth prospects of the smart sports category, sporting goods manufacturers are investing in digitalizing their product ranges. Since 2013, sporting goods companies have been in a buyout frenzy, acquiring fitness apps developed by third-party companies, as the app technologies can be embedded into the software, equipment and wearables that the manufacturers make. For example, Under Armour spent a total of $560 million to acquire Endomondo and MyFitnessPal in February 2015 and Adidas paid €220 million (US$239 million) to acquire Runtastic in August 2015.

Below, we present some case studies of how sports equipment companies are integrating digital technology into their product ranges, which we divide into three categories: small sports equipment, gym equipment and connected fitness trackers.

Small Sports Equipment

Adidas miCoach Smart Ball

Adidas launched its miCoach Smart Ball in May 2014. The smart soccer ball is the result of R&D efforts designed to provide the German national soccer team with a system to help them train smarter, rather than harder. The ball has a built-in sensor that detects speed, spin, strike and flight path, and it communicates the data via Bluetooth to the player’s or coach’s smartphone. Users can see the diagnostics via the Smart Ball app. The system uses the data to analyze the player’s performance and provide advice on how the player can improve his or her soccer skills. For example,
the app provides kick tips and training programs, and allows users to track their improvement.

The built-in sensor relies on a battery that needs to be charged for about one hour; a single charge lasts for about 2,000 kicks (about two hours’ worth of practice time). At the time of writing, the miCoach Smart Ball was priced at $184.79 on Amazon.com.

Source: Soccerbible.com

Wilson X Connected

There are many other smart balls on the market for use in other sports. Wilson released a connected smart basketball in September 2015—the Wilson X Connected—and announced the release of a connected football at the CES 2016 trade show in Las Vegas in January. The Wilson X Connected has features similar to the Adidas miCoach Smart Ball, such as the ability to track performance and provide coaching analytics via a smartphone app. The product’s big limitation is that its battery is not rechargeable. So, once the battery dies—which would happen after about a year if the user took an average of 300 shots per day, according to the company’s website—the ball ceases to be smart and turns into a regular basketball. The Wilson X Connected basketball currently sells for $199.99 on Amazon.com, while a regular Wilson NCAA Official Size Basketball sells for $68.86.

FWD Powershot and Sportscard

FWD Powershot is a sensor for hockey sticks that allows the user to track and analyze how the stick has been used in games and training. The device interacts with the FWD Sportscard smartphone app, which compiles the data and serves as a virtual coaching system, providing the player with advice on how to improve his or her technique. The sensor is powered by a rechargeable battery that lasts four hours. Canadian startup Quattrium launched the system in 2013 and the sensor currently sells for $149.99 on the company’s website.
Game Golf Live

Game Golf Live is a system that enables players to track, analyze and share data related to their performance during a round of golf. The solution helps amateur players improve their skills, compare their performance against other players’ and compete against opponents all over the world by creating challenges.

Game Golf Live consists of two components, a tag that is applied on the top end of the golf club and a tracking device that is mounted on the player’s belt. Before each shot, the player taps the tag against the tracking device, enabling the system to gather data. The information can be transmitted in real time though Bluetooth to an app installed on the player’s smartphone, or it can be transmitted after the game to a smartphone, tablet or computer, if the player prefers to analyze the stats later. Game Golf Live currently sells for $309.99 on Amazon.com.

Babolat Play Pure Drive and Zepp

Similar products include the Babolat Play Pure Drive ($199 on Amazon.com) and the Zepp devices ($99.99–$149.99 on Amazon.com).
The Babolat Play Pure Drive is a connected tennis racket that allows players to track their performance via a sensor in the racket that collects and transfers data to a diagnostic app. The Zepp is a sensor that can be attached to baseball and softball bats, tennis rackets, and golf clubs. The sensor tracks the user’s swing and strength, and provides diagnostics for virtual training.

**What we think:** While many athletes and sports enthusiasts love the idea of being able to track and improve their performance, connected sports equipment is still very expensive compared to traditional equipment. Small smart sports equipment is often bought by individuals for personal training purposes; owners may be reluctant to use such items during games due to their high cost and limited battery life and the necessity of connecting them to an individual smartphone.

**Gym Equipment**

**Technogym Ecosystem**

In April 2016, Technogym, a leading manufacturer of fitness equipment, introduced its Technogym Ecosystem, an integrated fitness system that connects fitness equipment, apps and wearable devices to a cloud-computing platform called Mywellness. The system allows users to monitor and manage their fitness activity wherever they are, in or out of the gym. Part of Technogym Ecosystem is the Skillmill treadmill, which enables users to track their performance and store their workout parameters via Mywellness, and to access training programs by scanning a QR code with their smartphone.

Technogym has a long history of R&D aimed at integrating technology with gym equipment. The company launched the first fitness software in 1996, integrated screens and enabled web connectivity in its equipment in 2003 and 2007, respectively, and launched the Mywellness platform in 2012.

*Source: Technogym.com*

**Life Fitness**

Life Fitness, another major manufacturer of gym equipment, allows users to connect its gym machines to their smartphones or wearable devices via a USB cable, allowing the machines to automatically recognize the user’s profile. The integration enables the user to see the data from an outdoor workout—a run, for example—and reproduce the same conditions, such as elevation and slope, on the Life Fitness treadmill at the gym.
Users can also log in by scanning a QR code through a Life Fitness app installed on their phone, and then connect the device to the gym equipment via Bluetooth. Or they can log in without a smartphone by simply typing in a personalized code. The Life Fitness console can also be integrated with third-party apps, such as MyFitnessPal or Paofit, an iPad app that lets users race other users from around the world. Owners of Fitbit and Jawbone wearable devices can log into their account on the machine’s console, and then select the wearable’s app on the screen. The console enables users to transfer workout statistics from their wearable to the gym equipment and vice versa. Life Fitness introduced its first connected consoles back in November 2011.

**Source:** Lifefitness.com

**What we think:** Connected gym equipment appears to be a natural response to the needs of modern gym-goers. Global smartphone ownership rates are high, and fitness apps have become very popular; research firm Nielsen found that about one-third of smartphone owners in the US were using fitness apps in January 2014. Fitness enthusiasts are attracted to the possibility of connecting their smartphone or wearable to gym machines in order to track their performance, and they like having personalized virtual workout schedules that allow them to maximize their time and effort at the gym. Therefore, we expect gym equipment companies to continue to integrate digital technology into their machines, and we predict that smart gym equipment will gradually replace traditional machines.

**Connected Fitness Tracker**

**Under Armour HealthBox**

At the January 2016 CES trade show in Las Vegas, Under Armour introduced its HealthBox connected fitness system, a tracker that connects with all other Under Armour smart wearables and devices, allowing users to access all their health and fitness data from one place.

The system integrates wearables such as smart wireless headphones, smart shoes, wristbands and activity trackers, including the UA Heart Rate, a chest band that monitors the wearer’s heartbeat. The user can see all the data gathered by the devices on the UA Record smartphone app, and can
share that data with friends, doctors or other users. HealthBox’s suggested retail price is $400, and it includes the fitness tracker, heart monitor and a scale.

Source: Under armour.com

Under Armour plans to become the leading company in connected fitness, and it has invested heavily in fitness technology. Aside from its 2015 acquisition of Endomondo and MyFitnessPal, the company also purchased the MapMyFitness app in 2013 for $150 million. In 2015, Under Armour integrated these into a digital fitness community called UA Record, which gathers all the data in one place. At CES 2016, the company launched some other new connected fitness devices, too, including two models of headphones, smart shoes and an activity tracker. Under Armour aims to offer a range of integrated products that all function with each other, making life easier for users.

Source: Under armour.com

What we think: The HealthBox’s recommended selling price of $400 looks quite high to us, given that the system is intended for individual private use and that there are cheaper solutions on the market, such as Nike+, an activity tracker that relies on sensors in wearables and integrates with Nike smartphone fitness apps. Therefore, it is likely that the product will be
relegated, at least initially, to a niche market. It is also possible that more companies will launch similar products in the future, which should drive the HealthBox’s price down. At a more affordable price, the product may become very appealing to consumers, since it enables them to integrate all their Under Armour smart devices into one system.

OUTLOOK

• The smart sports equipment category is expected to grow rapidly. We estimate that digital sports equipment will account for 7.5% of the total sports equipment market in 2020—up 4.6 percentage points from its 2015 level. Athletes and recreational sports enthusiasts are likely to increasingly adopt connected fitness systems, and smart sports solutions should become more affordable as the technology reaches maturity.

• Manufacturers of gym equipment are likely to incorporate some form of digital technology into all their products eventually. For companies such as Technogym, outfitting fitness equipment with digital technology that enables gym-goers to access personalized training programs will be crucial to maintaining competitiveness.

• Sports equipment such as soccer balls and tennis rackets will likely see less digital integration. Smart versions of these products have higher price points than conventional versions do, and their limited battery life and their need to be connected to a smartphone make them more suitable for individual training than for use in competition. That may change, though, as the technology improves, as more competitors enter the market and as prices come down.

• Connected fitness systems such as Under Armour’s HealthBox are expected to remain a niche segment, given their relatively high price points, but they should gain momentum once competition increases and prices become more affordable.