

CONSUMER GOODS & RETAIL
**INTERNET OF THINGS IN THE FASHION
AND LIFESTYLE INDUSTRY**

Wearables Revolution White Paper



SUMMARY

The objective of this report is to explain what IoT means for the fashion and lifestyle industry, with a particular focus on wearables. We aim to describe the concept, explore the market and its main players and finally, share Dassault Systèmes' vision and offering for companies developing these kinds of products.

1. “Internet of Things”, “Smart Products” and “Wearables”: clarifying concepts

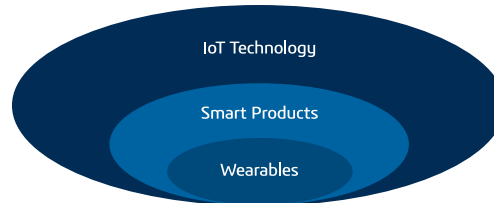
We often hear people use the concepts of Internet of Things, smart products and wearables indistinctly and many times incorrectly... the following definitions are included to help clarify each concept:

Internet of Things

The concept of Internet of Things (well known by its acronym IoT) refers to the interconnectivity of objects via the Internet thanks to embedded computing technology built inside the products. This technology enables things to be connected, to communicate and share information between them and with end users.

Smart products

Smart products are any products embedded with these technological components and connectivity for the purpose of delivering new functionalities that go beyond traditional and physical product boundaries. Sensors, microprocessors and software are added to the physical components to provide “intelligent capabilities” like processing and communicating data, to react to external conditions or interact with other products and users. Any consumer product can potentially be a smart product, from a connected refrigerator in the kitchen to a connected bicycle or tennis racket.



Wearables

Wearables are considered one category of the above-mentioned smart products. They can be worn by consumers or attached to clothes or accessories like, for instance, bracelets, smart watches or smart footwear and apparel (see figure below).

Business Insider¹, states that IoT in wearable technology is “one of the greatest applications of the Internet of Things” capable of transforming the way people live. They have the power to transform different industries such as insurance, healthcare, fitness and wellness, fashion and apparel, advertising or entertainment with a wide range of new applications.

According to analysts from IDTechEx, the wearable tech market will be worth over \$150bn by 2026, up from \$30bn in 2016.³

2. A closer look into wearables in the fashion and lifestyle industry

The fashion and lifestyle industry (which also takes into account sportswear and accessories) is turning to IoT to enhance the consumer experience by embedding technology in products that include watches, t-shirts, shoes or just about any article of clothing.

In this industry, there are two main areas where wearables have the most impact:

- Sports and fitness hard goods with a high rate of penetration such as smart bracelets or watches that act as fitness or activity trackers and personal trainers.
- Fashion soft goods and accessories such as smart clothing and textiles or connected glasses or earrings, which can play an aesthetic (such as changing color when the temperature changes) or other useful role.

Information Box

According to Gartner, there would be 8.4 billion connected things in use in 2017, up 31% from 2016, with a total spending on endpoints and services reaching almost \$2 trillion in this same year. They also forecast that this number will reach 20.4 billion by 2020.²

Two groups of players and one successful solution

In the wearables market, and more specifically in the area concerning fashion and lifestyle, we find two different groups of players offering wearables and addressing this market from different angles:

- Technology firms (hardware and software firms): they consider wearables as the latest evolution of computer technology and technological devices. These include major players such as Apple®, Google®, Garmin®, and Samsung®, among others. For them the wearable sector is just an extension of their traditional market. Nevertheless, they often lack the knowledge and skills related to style and fashion.
- Fashion, sports and accessories companies: they see wearables as the evolution and next generation of textiles, garments and accessories. This group includes firms such as Tag Heuer®, Fossil®, Michael Kors®, Safilo®, Ralph Lauren®, Nike®, Adidas® or Under Armour®. For this group of players, the market is not simply an extension of the one they already cover, but more like a new blue ocean for which they need to acquire new capabilities and technological knowledge if they want to succeed.

As a result, what we are seeing in the wearables market - addressing fashion and lifestyle - is that both visions are already converging to find joint solutions by means of alliances and collaborations. In the end, the market's challenge is to attract today's tech-savvy consumers who seek technical capabilities and functionalities, without sacrificing design, aesthetics and other stylistic aspects of their fashion items.

3. The Dassault Systèmes Consumer Goods Industry vision and offering for wearable tech market players

The Internet of Things opens up new perspectives for Dassault Systèmes, the **3DEXPERIENCE**® company, and its customers who wish to design, develop and manufacture products that deliver combined experiences to their consumers: style and aesthetics along with function and service. While there is an intimate relationship between consumer goods and high tech, a third actor has emerged in recent years: life sciences.

Dassault Systèmes is interested in whether companies that market consumer goods will choose to enhance their products with health or medical technologies or if companies that develop medical devices will forge alliances with wearable tech and fashion players to propose, thanks to IoT, high added value services in health or outpatient care. *"At this stage, we believe it is the medical device companies that will establish the link between wearables and fashion to propose a new generation of IoT-based products,"* said Jerome Bergeret, Senior Director of Dassault Systèmes' FashionLab.

In this duality of fashion and health found in wearable tech, two major axes are considered:

- Fashion and lifestyle items that have "basic" features, for example, to measure the number of steps taken in a day or to monitor heart rate, etc.
- High value-added and medically-certified items that detect the needs of a patient and, for example, dispense the right dose of medicine or inject the right amount of insulin when needed.

Today, Dassault Systèmes is focusing on the following areas with special emphasis on providing experiences with 3D to offer and deliver solutions to customers in the fashion and lifestyle industry:

- Developing end-to-end business solution experiences covering design, manufacturing and commercialization (retail) of soft goods (clothing, shoes, handbags) with 3D and virtual simulation. All these goods are potentially impacted by IoT and transformed into wearables as previously mentioned. In the wearable tech market, many initiatives are launched by ready-to-wear and luxury brands in collaboration with IoT-based technology companies.
- Developing a system approach that allows companies to design the embedded technology in order to use IoT data to optimize, in a predictive manner, certain product components or services attached to the product. As an example, for certain soft goods like shoes, IoT plays a major role analyzing a consumer's behavior. Brands can use this data to optimize their designs to provide their consumers with a better fit, more comfort or to enhance the shoe's performance. All the data collected could be ultimately analyzed with artificial intelligence in order to create more personalized experiences in the future. Eventually, clothes will contain more and more sensors and processors that offer consumers intelligent smart grid-like services, like sending and receiving messages or ordering goods on line.

4. Fossil Q® Watch, an example of a wearable product conceived with Dassault Systèmes' technologies

FOSSIL's Q Watch⁵ is a smart watch that blends design and technology. You can receive smartphone notifications, use it as an alarm clock, track your daily activity and fitness goals or remotely control your music. Apart from its functionalities, this watch is also a fashion item with interchangeable straps in a large choice of materials, colors and styles. You can also change the look of the smart watch's touchscreen to match any outfit (see below).



With the **3DEXPERIENCE** platform and its My Collection industry solution experience, FOSSIL can provide its internal and external ecosystem with a unified digital platform and a single source of product information that enables the group to make rapid and concerted decisions during product development while boosting innovation.

References

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Our **3DEXPERIENCE**® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE**® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 220,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.

