



UNIVERSITE CATHOLIQUE DE LOUVAIN  
LOUVAIN SCHOOL OF MANAGEMENT

TARKETT FLOORINMOTION SHOPS AND STORES: DATA ANALYTICS AND CUSTOMER  
ENGAGEMENT'S MARKET EXPLORATION IN THE RETAIL INDUSTRY TO IDENTIFY  
OPPORTUNITIES FOR AN INTERACTIVE FLOORING SOLUTION

CONFIDENTIAL

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| First part. Introduction |
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## Section A. Company profile

Started in 1886, the French multinational Tarkett is **“the worldwide leader company of innovative and sustainable flooring and sports surface solutions”** (Tarkett, 2016). Listed on the Euronext Paris, it is the most global player in the sector with 34 industrial sites and almost 12,000 employees. Selling 1,3 millions sqm of flooring solution every day on Housing, Education, Offices, Healthcare, Retail & Hospitality, Sports segments, Tarkett has net sales of € 2,715 million. The company intend to be a unique “Flooring Solution Provider” by delivering to its customers:

- A wide offer of diversified products, allowing for truly integrated flooring solutions;
- A breadth of expertise and technical support to customize solutions to complex spaces and specific usages;
- Advanced and innovative design to imagine and create products that improve people’s well-being, health and living environments;
- Long-term commitment to corporate social responsibility and environmental protection;
- A global presence with strong local structures to adapt products and services to customer’s habits and consumer trends.

Tarkett’s main shareholders are the Deconinck Family (50.2%), Investors (institutional, individuals, Tarkett management & employees) (28%) and KKR International Flooring 2 S.a.r.l. (21.5%), a limited liability company owned by funds managed or advised by Kohlberg Kravis Roberts & Co. L.P.

Tarkett’s vision is the following:

“Being the global leader in innovative flooring and sports surface solutions that generate value for customers in a sustainable way”

(Tarkett, 2016)

## Section B. Innovation

Innovation is the source of organic growth and one of three drivers of the Group's development, along with acquisitions and geographic expansion. The aim for Tarkett is to be the industry benchmark company offering high added value solutions to Tarkett customers. These innovative solutions could be incremental or a breakthrough.

The Group's approach to innovation seeks to leverage customer and market intimacy as well as knowledge in products, materials and industrial processes to offer flooring solutions that create superior value for customers in a sustainable way. Technical innovation in these areas is not only a source of competitive differentiation and advantage but also helps Tarkett drive improved performance standards throughout the industry.

More than 180 employees are dedicated to Research & Development and geographically spread in 24 product/process development labs. Among these, the Research & Innovation center, based in Luxembourg includes 80 people mainly focusing their activities on core and non-core business breakthrough innovations.

Tarkett innovation strategy relies on three drivers:

- Circular economy: Closed-loop circular designs based on C2C principles, combined with functional and circular economy business models;
- Unique living spaces: Create unique spaces through modular solutions and new technologies that enhance customer experience through customization and transition solutions;
- Interactive surface: Create interactive surface solutions that change and enhance the relationships between the user and its environment.

## Section C. FloorInMotion

The business unit FloorInMotion was created one year ago in Wiltz and since constantly grows. Its objectives are to develop interactive floor for numerous sectors like health, stores, museum, office, sport...

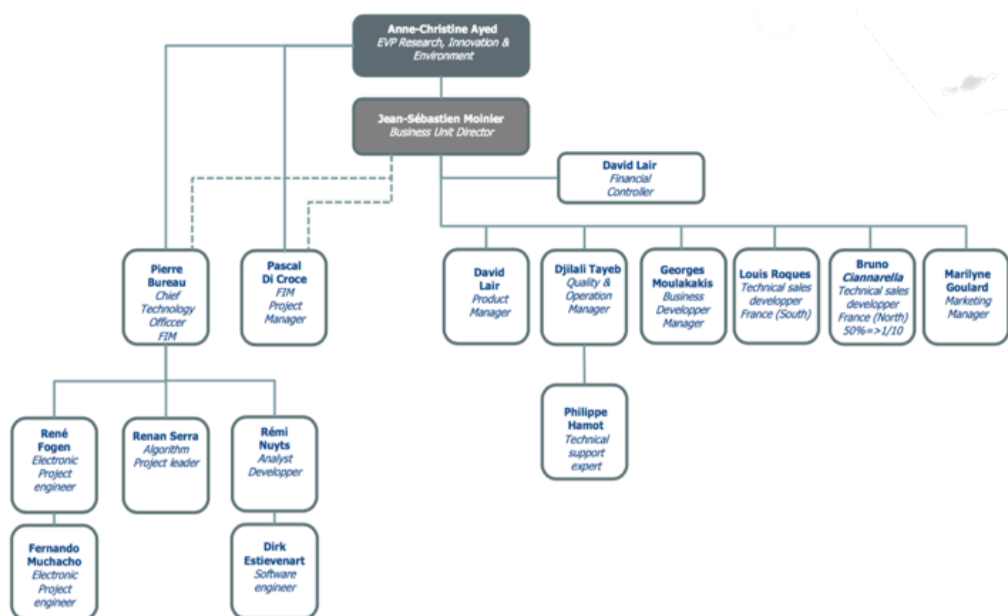


Figure 1 - Organizational chart of FloorInMotion (Tarkett, 2016)

#### Paragraph I. FloorInMotion Care

In 2060, 30% of the population will be over the age of 65 compared to 18% in 2012 (OCDE, 2016). In France, an average ratio of 46,6% about dependency as be defined, meaning that for one elderly person, nearby two 16-65 aged people must take care of him (Eurostat, 2013). Nowadays, 11,5% of French Gross Domestic

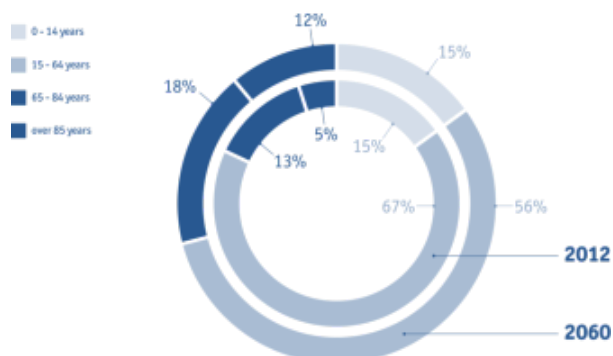


Figure 2 - Evolution of the distribution of ages from 2012 to 2060 (Reithler, 2015)

Product (GDP) is allocated for the annual health care expenditures (World Health Organisation, 2014). Moreover, a study identified that there were 424,000 fatal falls each year and that 40% of injury deaths are fall related (Carroll, Slattum, & Cox, 2005). These trends created needs such as on-time detection of falls, fugues, intrusions, maintenance and support of elderly's autonomy, reassurance of residents, patients and their families to feel safe, better care of residents, patients with increasingly complex diseases (Alzheimer's ...), easing the work of the staff for the well-being of residents, patients. FloorInMotion develops, to meet these needs, a complete and powerful solution for the health and hospital segment. From sensors

to electronics, IT architecture and software, FloorInMotion Care interact with the medical staff through a software as a service (SaaS) friendly and ergonomic dedicated user interface developed with the users to fit as best as possible the user's needs. The solution meets the user's needs by offering fall detection, exit and intrusion detection, nighttime and day time activities and finally statistical reports.

The project has been rewarded in 2014 by the health Janus. *"Enhance the work of staff in improving the care and life of resident, is the goal to be welcomed. A breakthrough innovation made by a pioneering brand"* (de Méneval, 2014).

A video of the project is available on Vimeo (Bridges, 2015).

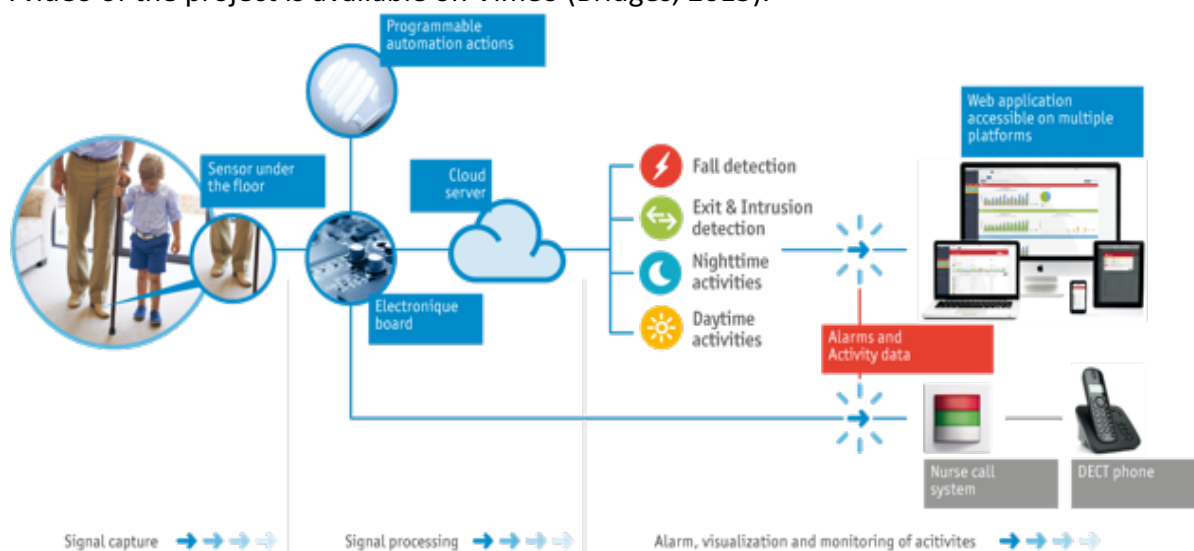


Figure 3 - The process of fall detection (Reithler, 2015)

## Chapter II. My role

Within the framework of my master's program, I have showed an interest in marketing and entrepreneurship. Therefore, joining FloorInMotion team has been a great opportunity for me to get a field experience in those two aspects.

Under the leadership of Christophe Reithler, Prospective & Opportunity Exploration Director, I have carried out, in a consultant role, an exploration study on all the aspects of an interactive flooring solution project such as trends, market analysis, technologies, regulation... in the retail market to identify opportunities of growth and give recommendations on the feasibility of the business.

In the latest years, there has been a growing curiosity in the use of channels by consumers in the retail industry. The reason is that retailers faced tough times these years. Indeed, after they have been confronted to three unprecedented crises (the financial crisis, the euro crisis and the recession), they have to handle the migration of their customers to online channel. As a result, retailer's revenues are decreasing and so is doing the number of visitors. Traditional retailers understood that they have to react.

Being aware of the impossibility to compete E-commerce with prices, retailers focus more and more on a customer-centric strategy giving an importance to customer services and in-store customer experience.

Tarkett FloorInMotion Shops & Stores project aim to offer a product and related services that would support such strategies. They want, thanks to a Wi-Fi Floor solution, to enhance the customer journey of the visitors in brick-and-mortar stores. Through Wi-Fi Floor, the retailers would collect data about customer in-store visits, paths, behaviors & insights which will enable customer engagement, predictive analytic beneficial to conversion rate and provide to shoppers' indoor location and services.

Through this report, **the reader will exercise his judgment on the feasibility of the project.** The report involves the seeking of trends to define the needs and the environment of the retail industry. Then, to perfectly understand the project, a complete business model has been developed. The topics of the markets and sectors targeted, the competitive environment and the existing technologies providing the same or related needs has been analyzed to apprehend the environment in which the project will evolve. The report also put forwards an accurate financial plan from 2016 to 2022. Afterwards, the project launch has been considered by realizing a SWOT analysis, a brief explanation of what could happen from 2018 to 2022, defining the corporate governance but also the regulation related to the project. Finally, the report concludes by the feasibility of the project and highlights the key success factors.

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<sup>1</sup> The report highlights the points that Tarkett asked me to put forwards.

## Second part. Environment analysis

### Chapter I. Trends

#### Section A. The E-Commerce

*"The history of the Internet begins with the development of electronic computers in the 1950s. Initial concepts of packet networking originated in several computer science laboratories in the United States, United Kingdom and France"* (Kim, 2005). Forty-five years later, the Internet access for the general consumer emerged enabling Web browsing and E-mails. In Augustus 1995, two surveys were carried out on the E-commerce. The first one pointed out that one fifth of browsers had already used information found on the Internet to make a purchase in a physical store and 80% thought that it would be useful if brands could have a commercial website in the near future (Institut Médiangles, 1995). The second one demonstrated the willingness of companies to invest in the Internet (France Info, 1995). At that time, the concept was already evolving in the mentality. However, some technical problems prevented the advent of the E-commerce. An example is the speed of the internet access: people had to wait a long time before the pages loading, especially when those included multimedia files. Over time, technologies improved. Brands began to develop shopping website. Visibility on research engine became the major challenge leading to big opportunities for companies such as Google, Yahoo!... After two decades of exploration and challenges, E-commerce became an inescapable pillar of our society. In fact, customers have been seduced by the convenience, the affordable prices and the wide variety of products. Nearly the half of consumers consider shopping as a chore (De Ruyver, 2006). They prefer

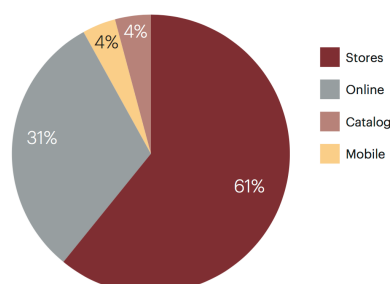


Figure 4 - Distribution of purchase channel by the amount of transaction (Brown, Farmer, & Ganenthiran, 2013)

spending their free time to their favorite activities rather than shopping. As a consequence, digital commerce becomes a huge substitute to physical store eventhough if it still remains the channel achieving the most part of sales (Brown, Farmer, & Ganenthiran, 2013) (Figure 5). As a

High disadvantage – Disadvantage – Neutral – Advantage – High advantage

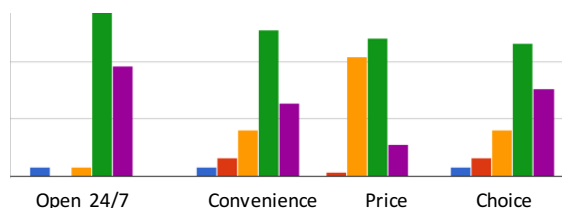


Figure 5 - Advantages of buying through online channel instead of physical store (Simon F. , 2016)

consequence, visits in store, their conversion rate and loyalty decrease and by extent their revenues collapse. Nowadays, the challenge for retailers is to keep excellence in internal processes to strengthen their position in the market and differentiate themselves in order to compete E-

commerce by attracting shoppers in the physical stores for something else than shopping. The “Retailment” or enhanced customer experience is defined as “the sum total of all the interactions a customer has with a brand during their customer lifecycle” (Gianforte, 2012).

Graph: (Beaujean, Davidson, & Madge, 2006).

Retailers have then to redefine a customer-oriented strategy to respond and create an open-ended and personalize journey.

The idea has been highly supported by three pillar of our society: Customer connected and the big data, indoor geolocation.



Figure 6 - Statistics about the importance of the customer service (Reithler, 2016)

## Section B. Customer connected

Today, 74% of EU citizens have an internet access and with an expected compounding growth rate of 6,2% per year from 2013 to

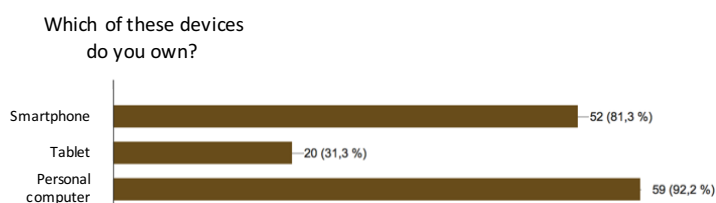


Figure 7 - Percentage of owners by mobile devices (Simon F. , 2016)

2023, the market of smartphone has a prosperous future (International Telecommunication Union, 2012) (GSA, 2015). The increasingly speed of technology development and implementation of mobile digital devices radically changed the habits of the society, especially in terms of consumption (Bain, 2012) (Neslin, Grewal, Leghorn, & Shankar, 2006). In spite of an exponential growth of consumers using mobile channels, the amount of transactions

through smartphones remains relatively low compared to in-store shopping. However, according to experts, the importance at the early stage of adoption of mobile commerce is not the amount of transactions but rather the influence that it has on the shopper's behavior (Hyde, 2015). In general, the mobile channel takes action in the extremity of the customer journey, the research and the after-transactions experience. For instance, in one hand, mobile technologies allow a myriad of services such as creating and providing targeted and customized ads to make the customer aware of a product and give him incentives to make the transactions afterwards, in the other hand, the customers have the possibility to rate the product, share their opinion on social media... The relationship between a shopper and a retailer evolved then from a physical to a digital sphere.

According to a 2012 survey, 26% of UK smartphone owners use an app for shopping purposes and 30% in the USA (Nielson, 2012). The reason is that the consumer wants to gain time by buying anytime and anywhere. According to the survey I carried out, respectively 31,3% and 35,9% use their mobile phone for banking and location-based services app. The rise digitalization constantly impacts shopper's behavior.

### Section C. The big data

Emerged only 3 years ago in the company's decision making, the concept of "*Big Data*" is already recognized as the most revolutionized business innovation of the decade. The big data can be defined as: *"a term for data sets that are so large or complex that traditional data processing applications are inadequate. It also often refers simply to the use of predictive analytics or certain other advanced methods to extract value from data, and seldom to a particular size of data set"* (Schaeffer & Olson, 2015) (Al-Hakim, Wu, Koronios, & Shou, 2016). Experts predicts more than 40 zettabytes ( $40 \times 10^{21}$  bytes) in 2020 and 50 billion of connected objects at that time (Laffargue, 2014). The Big Data has a myriad of purposes for the domain of innovation, information, connected objects... But, it has a huge impact on marketing strategy of retailers. It changes the way they get information about customers, attract them, convert them and increase the regular ones.

## Section D. The Omni-channel

Omni-channel is “a business model that implies using a variety of channels in a customer's shopping experience including research before a purchase” (Dholakia, Miao, & Dholakia, 2009).

The phenomena results from the need of improvement in customer experience and from shoppers connected trends. Omni-channel has the ability for retailer to propose a wider range of touchpoints (in-store, website, mobile phone...) to customers, enabling them a flexible and seamless shopping experience.



Figure 8 - Digital customer journey

Clearly, Omni-channel benefits to both, customers and retailers. In one hand, consumers can compare details, prices, characteristics about a product. They can opt for a wider range of products sold by a multitude of retailers. They can research, purchase and receive anywhere, anytime. On the other hand, revenues of retailers are increasing because:

- Omni-channel creates new purchases (around 25% of consumers wouldn't have bought the product in physical store).
- It enhances the transaction value (around 63% use more than one channel when they have to buy a product that costs more than 100 euros).
- The purchase frequency increases (Williams, Strusani, Aguilar, & Guthmann, 2014).

It still remains reasons to go to physical stores as being able to see, touch, try merchandise, get immediately the product and being certain about the suitability of the product

% of shoppers

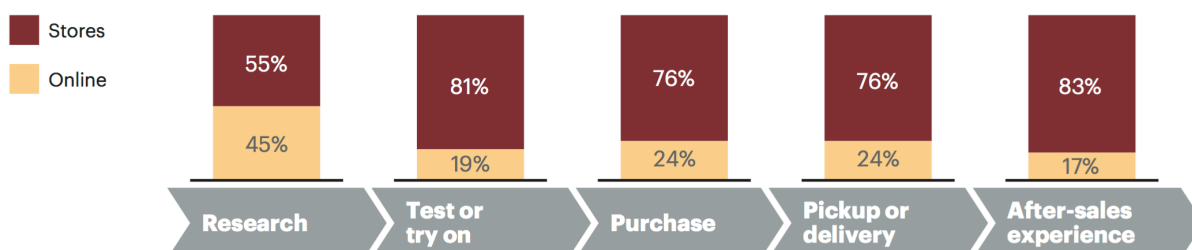


Figure 9 - The five stage of the customer journey: Stores vs Online (PricewaterhouseCoopers LLP, 2015)

(PricewaterhouseCoopers LLP, 2015). Omni-channel is present for all the five steps of the customer journey, namely research, test or try on, purchase, pickup or delivery and after-sales experience.

### Section E. Indoor geolocation

Since years, location methods have become very important as source of data for a myriad of services such as maps on smartphones. Knowing its position, its location in space has always been a concern for humans. Map and compass moved to more sophisticated technologies. The most well-known location method is the Global Positioning System (GPS), mainly used for outdoor geolocation. 90% of time is spent indoor, where indoors can be underground, and mainly with very low windows making GPS ineffective. Consequently, many companies have decided to invest in new technologies such as Wi-Fi, Beacons... Indoor geolocation has a great future since it can be source of countless services such as geo-fencing in retail, navigation in airports...

### Section F. Data analytics

Data analytics has always been at the heart of the retail industry in the purpose of creating value. For a long time, retailers analyze data with an operational focus (i.e. control stock and sales). Then, with more advanced analytical tools, retailers have been able to extent their focus on other silos like supply chain, finance... The goal of data's, however, still remains the same, namely, to be the pillars of strategic business decisions. Indeed, more and more, retailers based their decision on concrete observations (EKN, 2013). Nowadays objectives become more and more about contextual shopper's insight. After having for decades collected quantitative data to increase internal process, retailers want to go further and collect qualitative data about shopper's behavior. Behavior analytics is *"the science of studying the behavior of people"* (Max, 2013).

The Omni-channel trend plays a huge role in data analytics in the retail industry since it leverages the amount of gross data. Indeed, in the next five years, there is an expected amount of 44 zettabytes data generated in the Internet of Thing platforms (WIC, 2016) . However, retailers face the challenge of transforming the gross data in knowledge, meaning the capacity to take action based on the data gathered.

As far as privacy is concerned, the mentality of people evolves and people tend to accept that retailers use personal information about them. Indeed, in a sample of 64 individuals, 90,6% seem to be aware of the gathering of data about them. Although the emerging trends is, as you can see on figure 7, the acceptance of sharing personal information (56,3% of acceptance rate), it still remains true that retailers have to develop trust with the customers and add it to their culture. Retailers also must be clear about the benefits for the customers to provide their information. They want direct financial rewards, free products or services and discounted products or services (Combemal, 2015). I get similar results with the survey carried out. I also notice that one person on three is ready to give personal information against a commitment to donate to caritative associations.

In the next few years, data analytics will evolve in predictive analytics and machine learning. Predictive analytics *"encompasses a variety of statistical techniques from predictive modeling, machine learning, and data mining that analyze current and historical facts to make predictions about future or otherwise unknown events"* (Eckerson, 2007) (Nyce, 2007). Predictive analytics is born in a context of a too large amount of data. Retailers describe themselves as drowned under meaningless data while they invest in the cutting edge of data analytics technology (NOMi, 2015). They rather have concrete conclusions and automation. Retailers realized that they have to identify the most profitable shoppers, select an appropriate personalized loyalty program... in other words, having an information system that would strategically segment shoppers so that it could predict their future behavior, create automatically trigger actions for the customers purchase such as personalized offers, loyalty program...

Were you aware that the majority of stores collected personnel data and customer behavior?

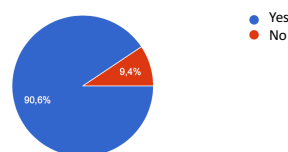


Figure 10 - Awareness of personal data gathering in retail store (Simon F. , 2016)

Do you agree with these practices?

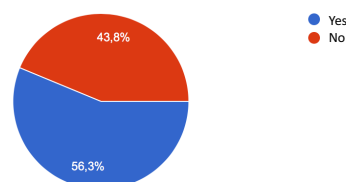


Figure 11 - Acceptance of personal data gathering in retail store (Simon F. , 2016)

## Section G. Customer engagement

Customers are increasingly involved in a digital world reshaping constantly their relation with retailers that tends to give them more control thanks to the information available online. Indeed, the sharing of opinions about products or services on any online platform such as Facebook, Twitter, TripAdvisor... drastically scales the cognitive impact on customers up. Besides, online platforms such as Amazon put brick-and-mortar stores on the bench because of the numerous advantages of buying online. By consequences, the retailer's revenues hit the rock bottom. As a reaction of defense, retailers put customer experience on the top of their priorities in terms of customer relationship management (Brunk, Morris, Nauwann, & Fisher, 2015). Indeed, customer experience is the key to engage customer in the context of a digital world. 89% of consumers have stopped doing business with a company after experiencing poor customer service (RightNow, 2014) and 70% of customers cite poor customer services as a reason for not buying from a brand. Also, customer's experience can be valued by retailers. Indeed, 86% of buyers would pay more for a better customer experience. The reason is that only 1% of customers agree that vendors always meet their expectations (Crandell, 2013). By developing a complete omni-channel journey, firms should be able to earn shopper's loyalty and gain a competitive advantage. The strategy is to attract people in-store for another reason than shopping.

## Section H. Empirical study<sup>2</sup>

The study has been carry out on 64 respondents, 19-25 and 35-50 aged Belgian mostly<sup>3</sup>. The choice of targeting two age range has been motivated by the analyze of the current generation of buyers and the future one.

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<sup>2</sup> See details of the study in annexe 1

<sup>3</sup> The survey has been carry out mainly on a Belgian audience (90% are Belgian and 10% are French respondents). Despite the fact that Tarkett target the French Market, the results of the survey are still consistent. Indeed, Strategy& and PWC led a study to rank countries on their Omni-channel retail Index. On a scale of 100 score, Belgium and France stand at respectively 41 and 39. The index takes into account the degree to which customers fulfil their retail purchases via an Omnichannel approach, the degree of digitization, the average compound annual growth rate of Internet and mobile retailing, the infrastructure dedicated to Omnichannel (Strategy&, 2015).

### Paragraph I. E-Commerce

After having asked to the respondents the advantages and disadvantages of the E-Commerce, I observed that only trust and after-sales services remain a brake for people to buy online. Indeed, see, touch, try merchandise, get immediately the product and being certain about its suitability make the physical stores stay the touchpoint where there are the most of transactions. On the contrary, convenience, affordable price, choice and the fact that the command can be made 24/7 lead more and more people on website for their purchase. E-Commerce is not a trend anymore, it became a reality that retailers have to evolve with and convert it into an opportunity of growth.

### Paragraph II. Customer connected

The findings of the study show that people are more and more connected. Indeed, 92% of respondents answered that they own their personal computer, 81% a smartphone and 31% a tablet. Clearly the 19-25 aged respondents are more connected than the other range. Nowadays, it seems that smartphones and tablets are still used to their generic uses, communication and social interactions. Indeed, send text messages or emails, explore the internet or social networks, use instant messaging are the top 5 of uses for both devices, smartphones and tablets. 19% only considered themselves as mobile shoppers. This results show the empirical study of others: *“Europe is lagging in terms of E-Commerce and M-Commerce”* (Strategy&, 2015).

### Paragraph III. Data privacy

The study confirms that people are more and more being aware of the gathering of their personal data (90%). Furthermore, 56% of them accept it. However, by looking the older cluster, one can observe that two third of them don't agree with the fact that retailers collect their personal data. There is an open-mindedness in the young audience. The acceptance forwards the right direction. For the reluctant, a large proportion would accept more easily with a counterpart. 59% would prefer a direct discount at the checkpoint. 39% would like to receive free products and 38% rather give their personal data against a guaranty of charitable donation. Privacy is not a concern anymore; even better, it could move into a way of trading.

#### Paragraph IV. Omnichannel by sectors

The fashion's monthly expenses for an individual stand at 50,78€. The fashion sector is the one the most advanced in the digitalization shopping although 64% of transactions remains in-store. The internet, the smartphone and the tablet's transactions stand respectively at 23%, 5% and 2%. As a matter of fact, 44% of respondents follow fashion's brands on social networks. My conclusions are aligned with those of Strategy& that defined the fashion's sector as the third most advanced sector in terms of Omnichannel development maturity with a score of 43 (Strategy&, 2015).

The expenses in the High-Tech sector stand at 25,23€. 53% of the transactions are in-stored. 40% are effectuated on the Internet including 2% by smartphone. This result is quiet surprising because, as explained later, trust is a brake for the growth of E-Commerce and most electronics product can be considered as an investment so that trust is an important factor for the purchase. 20% of respondents follow high-tech's brands on social networks. Again, my results are consistent with other. According Strategy&, the sector is the most developed in terms of Omnichannel with a score of 51 (Strategy&, 2015).

Cosmetics is a sector mainly for a women's audience. The monthly expenses stand at 24,06€. The sector is quite late in digital matters with a percentage of 91% of in-store transactions. Strategy& scored the sector at 35 being then the penultimate among the 8 sectors considered (Strategy&, 2015).

Finally, food & grocery sector's monthly expenses stand at 97,34€ with most of transactions effectuated in-store. The score of 31 given by Strategy& for the sector is the lowest among the 8 sectors considered (Strategy&, 2015).

To conclude, although the growth of E-commerce and Mobile shopping, brick-and-mortar stores remain the place where the most transactions are made. Besides, without putting forwards any correlation, I observed that it is in the most digitalized sectors that people are following brands on the social networks.

#### Paragraph V. Customer experience

67% of respondent esteem that they would agree to receive personalized offers based on their previous purchases. 72% would rather pay by payment card rather than smartphone.

However, it goes down till 59% when it concerned cash payment. There is then a willingness from customers to gain time during the checkout. One third of respondent esteem the housing shopping as a chore against 23% for shopping.

#### Paragraph VI. What's next?

I demanded to the respondents to imagine shopping in the next 5 years. It appears that:

- People think that there would be two kind of customers. Those who would prefer buy exclusively online and those who would be loyal to brick-and-mortar stores.
- People think that they would be more digitalization and automation in physical stores in the next few years. However, they consider it as negative for social interactions, mainly.

The results of the survey that I carried out are aligned with the findings of the biggest consulting firms. All these trends tend to the emergence of a more interactive way to do shopping especially throughout a complete Omnichannel customer experience.

### Third part. Economic model and its deployment

#### Chapter I. Tarkett solution

Tarkett FloorInMotion Shops & Stores aims at collecting data about customer in-store visits, paths, behaviors which will enable customer engagement, predictive analytics and provide to shoppers' indoor location-based services. The solution responds to the need of retailers to reshape their relation with their customers by putting them at the center of the attention by providing a renewed customer experience. The objectives are to attract more people in the store, increase conversion rate and gain shoppers loyalty.

#### Section A. How does it work?<sup>4</sup>

Typically, the project consists on a matrix of 60 by 60cm directional Wi-Fi antennas covered by a flooring surface. The floor can therefore detect and identify, at an accurate position, people through the MAC address of their smartphone or any device connected to the building antenna network.

The process starts with a mobile device entering the covered area. The mobile device then tries (automatically or upon user's action on the mobile device) to associate with an access point. The network then determines whether the mobile device's MAC address is known in its database. If the mobile device has never been registered, the mobile device is required to register. If the registration does not succeed or if the user does not want to access to the network, the mobile device cannot connect to the network and is not tracked. If the registration is successful, the mobile device connects to the network by association with the access point. After the mobile device has successfully connected to the network, the controller records the position of the mobile device in the central database. When the controller detects a change relating to a mobile device, it determines whether any access points have to be activated or deactivated as a consequence of the detected change. The network then remains in the new state until a new event (arrival or leave of a mobile device, or a handoff) is detected. If a mobile device shifts from one to another access point, association with the new access

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<sup>4</sup> See patent pictures in Annexe 2 and prototype in Annexe 3.

point is preferably done by fast transition roaming in accordance with IEEE standard 802.11<sup>5</sup>. If a mobile device leaves the covered area, the controller records the leave in the central database. IEEE standard 802.11 requires that handoffs are initiated by the mobile devices rather than by the access point or the distribution system (Tarkett, 2016).

## Section B. Why the Wi-Fi Floor Technology?

There are several reasons why Tarkett should invest in a Wi-Fi Floor Technology:

- A Wi-Fi floor technology interacts in a passive way with the customer meaning that the Wi-Fi can collect information, like MAC address, without being connected to the device. The tracking of the device by Wi-Fi can be made without connection or application;
- Compatible with Android, iOS and Windows, it allows the collection and analysis of data about customer's behavior, indoor geolocation, personalized and contextual interactions with customers (Annexes);
- The standardization of the technology and protocols well defined developed to connect devices with each other throughout Wi-Fi;
- The Wi-Fi Floor proposes a complete Wi-Fi infrastructure that the customers won't have to pay for;
- The technology would be in the most accurate of the market with a 40cm accuracy compared to the 2 to 3 meters of current Wi-Fi triangulation geo-location technologies.

Though, Wi-Fi has some disadvantages:

- Wi-Fi floor involves heavy set-up costs and infrastructure;
- In the purpose of collecting more valuable data, shoppers have to connect to the Wi-Fi, download and use the smartphone app of the store; Bluetooth Low Energy beacons could be implemented within the store to encourage the visitor to

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<sup>5</sup> 802.11 and 802.11x refers to a family of specifications developed by the IEEE for wireless LAN (WLAN) technology. 802.11 specifies an over-the-air interface between a wireless client and a base station or between two wireless clients. The IEEE accepted the specification in 1997.

download the dedicated store application store and to connect to the Wi-Fi network to take advantage of the services and offers.

## Chapter II. Business Model Canvas<sup>6</sup>

### Section A. The value proposition

*FloorInMotion* should divide its services into three gradual abonnements, namely “*Floor Collect*” “*Floor Predict*” and “*Floor Engage*”. These three services are about traffic counting and conversion rate, shopper path analysis, marketing, window & display effectiveness, operational efficiency, shopper insight, shopper engagement and security services<sup>7</sup>.

#### Paragraph I. The differentiation

To differentiate itself from its competitors, *FloorInMotion* should deliver these services through a simple and comprehensive infrastructure that will serve as media between the mobile devices and the Software as a Service interface. I recommend the business unit to invest in a highly ergonomic and convenient display so that it could be intuitive for the retailer or any other users to interact with it.

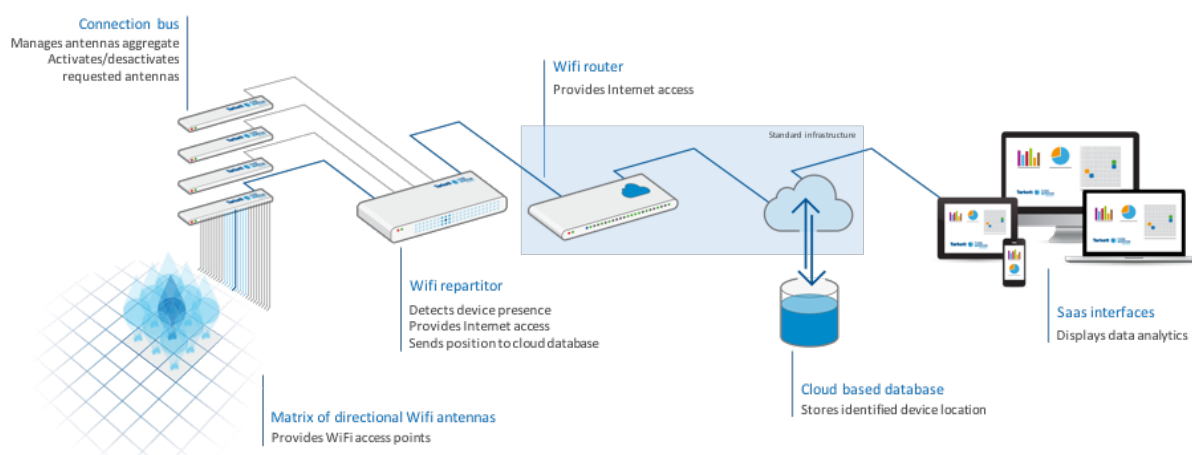


Figure 12 - Wi-Fi Infrastructure of the project Wi-Fi Floor

Unlike its competitors, *Tarkett* would offers a complete invisible and no maintenance Wi-Fi infrastructure that retailers wouldn't have to handle and pay instead. The antennas allow

<sup>6</sup> See interviews of specialist or clients in Annexes 4 and 5, Bouygues Challenger and Point Carré respectively.

<sup>7</sup> Details of services in Annexes 6.

shoppers and retailers to be always connected to a highly performing Wi-Fi network without any interruptions. Indeed, each nearby antenna of the one that is connected to the mobile device is activated. Therefore, when one goes down, the other can take over. The solution is probably one of the most innovative technologies in geo-marketing allowing an unprecedented accuracy in the tracking of people (around 40cm). Finally, what could make the project different from the other solutions is to make the services evolving with its time and meeting constantly the current retailer's needs. New features and regular updates should be part of the subscription without any charges added. The Wi-Fi infrastructure, unlike competitors, will allow the expansion of the services in the data analytics and customer engagement domain but also in other domains using Wi-Fi technology.

The differentiation is rooted in the fact that once the retailer invested in the solution, he should know that except fixed regular fees, there won't be extra charges for new features, updates...

All of these characteristics are clearly put forwards by *FloorInMotion's* salesforce during the pre-sales meetings.

## Paragraph II. Floor Collect

*Floor Collect* service package aims at providing data enabling retailers to respond to strategic operational concerns:

- What is the conversion rates in my store?
- Have my visitors already come in my store? How many times? At which frequency?
- What is the appeal of my indoor display or my window? Is my merchandising strategy working as expected? What was the impact of the event that I organized?
- Where are the hot zones? What are the patterns in shopper path?
- How much are there interactions between employees and customers? At what time? Where?
- How many employees do I need in my store? At what time?

Also, *Floor Collect* aims to provide global data analytics about in-store and online customer's behavior. Finally, in addition it could enable a benchmarking with comparable.

#### Paragraph III. Floor Predict

The Floor Predict service package, in addition to Floor Collect basics, leverages collected data to identify, validate customer trends and predict future behaviors. The subscription includes automated, packaged or customized reporting on key components of the retail commercial strategy.

*Floor Predict* could also enhance operational efficiency by making an automatic weekly workforce planning, by sending a notification to the employee the closest to a customer needing help, by proposing some display that could improve traffic flow, merchandising.

#### Paragraph IV. Floor Engage

Based on the previous packages features, Floor Engage is mainly dedicated to the provision of data enabling the enhancement of the customer experience, in regards of the brand itself, in-store, or on digital medias.

This service by leveraging visitor's location, path, habit will foster customer engagement for the benefit of retail conversion rate and customer loyalty.

*Floor Engage* uses the data previously collected and predicted to provide services such as indoor way finding. It consists on providing to the shopper a map of the store and its location. Based on what, the retailers will be able through *Floor Engage* to provide location-based services such as the shortest way to find a product... Another service is to sent customized offers that fit the most with the customer's profile. Finally, *Floor Engage* will provide a omni-channel interaction with the customers through key partnerships. We want to develop a complete gamification for each of these services to give incentives to customers to use it.

Here are the flow charts of the different category of services.

### Section B. Customer segmentation

*FloorInMotion* should focus on shops and stores as a penetration segment. The aim is to develop the *FloorInMotion Geolocation* project in a segment where trends make the market highly profitable. Clearly, according the sector, the selling area and other characteristics of

stores targeted, the needs will be different. For example, a DIY store<sup>8</sup> is less likely to subscribe the *Floor Engage* abonnement than a fashion store. For that reason, *FloorInMotion* should propose three gradual abonnements offering common needs for stores. Indeed, it will allow the business unit to offer a standardization in the services provided.

I recommend *Tarkett* to consider the retail industry as a mass market meaning that *FloorInMotion* doesn't have specific profiles of client to target even if they should have some of these characteristics:

- Willingness to create a competitive advantage through the customer experience;
- Willingness to create a competitive advantage through the collection of customer's data;
- New or in renovation stores since a heavy infrastructure must be set up;
- Having sufficient revenues to be able to invest in such a project;
- Having sufficient sales per sqm in the store since the investment in the solution is proportional to the selling area;
- Having shopper's profile familiar with E-Commerce, smartphones, interactive technologies.

### Section C. Channels

*FloorInMotion* should reach its clients through direct physical channels. The strategy is to target several key functions, lead users in big groups of retailers such as Inditex that owns Zara, Berschka, Massimo Dutti... and convince them to make an implementation plan<sup>9</sup> of the solution. This strategy was successfully executed on *FloorInMotion Care*. The salesforce should learn from this previous experience. The key functions could be marketing directors, operational managers, information technology specialists, asset managers...

Marketers of *FloorInMotion* would enhance the awareness of the product and services in fairs by showing the effectiveness of its solution by real simulation, intending conferences and getting new contacts who could leverage its position in the market.

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<sup>8</sup> The sector of DIY includes all the outdoor products store.

<sup>9</sup> The implementation plan includes the number of location where the floor will be set up, the abonnement chosen, prices negotiated, release provision...

#### Section D. Customer relationship

Through the demonstration, *FloorInMotion* will foster relationship with selected customers enabling co-creation with them.

In an increasingly world changing environment, it is important to gain constantly flexibility to match market needs by renewing ourselves. Basically, co-creation “*enhances organizational knowledge processes by involving our client in the creation of meaning and value*” (Roser, Samson, Humphreys, & Cruz-Valdivieso, 2009). By this engagement, *FloorInMotion* will first capture meaningful insights by understanding the real market needs and then by outsourcing a part of the creation process to reduce cost. In addition, the business unit needs to develop a highly performing after-sales services that will be source of important feedbacks from its clients. These feedbacks will help *FloorInMotion* to improve its services and create new ones.

#### Section E. Key resources

Concerning the resources needed, *FloorInMotion* faces several challenges. First, the business unit needs a complete funding that could be provided by *Tarkett*. Second, *FloorInMotion* needs to develop the infrastructure of the Wi-Fi Floor with experts since *Tarkett*'s core business is not about Wi-Fi antennas. Further, the business unit needs to develop a complete software and algorithms to offer powerful and performing services. Finally, salesforce needs to develop a sufficient large client database to identify and reach targets that are likely to be interesting in the solution.

#### Section F. Key activities

I divided the key activities of *FloorInMotion* in three phases: The development, the implementation and the monitoring phase.

In the first phase, *FloorInMotion* should focus on the development of a prototype including two main components: The Wi-Fi antenna and the software. On both, the business unit should work in close collaboration with strong partnerships in the elaboration of the prototype. Before the second phase, *FloorInMotion* should test its prototype with evaluation criteria and continue to develop both components with respect to the results got during the test. As far as I'm concerned I recommend to *Tarkett* to be rigorous for the Wi-Fi infrastructure criteria

and be less demanding on the software. The reason is that the software can be updated whenever. If the Wi-Fi infrastructure has any default it costs a lot for *FloorInMotion* to find the problem and solve it.

The implementation phase begins when all the evaluation criteria are fulfilled. In the first year the goal for *FloorInMotion* is to find clients that could implement the solution as a pilot test. The client pays only the Wi-Fi infrastructure and he's free of any fees for ten years. In exchange of what, the client has to give feedbacks so that the project could evolve in a co-creation loop process. The following years, *FloorInMotion* can sell the infrastructure to new clients and get revenues from fees.

In the last phase, *FloorInMotion* should monitor the system meaning effectuate maintenance of the program and bug correction, implement regular upgrades, develop new algorithms for new features & services meeting the retailer's need.

## Section G. Key partnerships

There are different major key partnerships type that *FloorInMotion* has to develop and maintain in the purpose of fulfilling the key resources needed. Indeed, since the project is a kind of isolated of *Tarkett's* core business, to lower the risk of losses and higher the expertise, the strategy that *FloorInMotion* have to follow is to grow thanks to strong partnerships.

- **Tarkett:** The parent company is the first and biggest partnership of *FloorInMotion* since they will provide the capital required each year to run the business. Moreover, Tarkett's clients and partners network will leverage the scope of action of the project to reach clients. Such a partnership is sign of trust for potential clients;
- **Software & algorithm:** To develop the technological solution, from flooring antennas to SaaS services, I recommend *Tarkett* to **leverage Silicon Valley eco-system of startups**. A Tarkett dedicated team, involving California based experts, could scout this eco-system to involve the best relevant and talented resources;
- **Wi-Fi Antenna:** To develop this key solution component, *Tarkett* could involve the **LEAT** (Laboratoire d'Electronique Antennes et Télécommunication) from Sofia-Antipolis who is providing it with appropriate competencies, expertise in development and testing of the Wi-Fi antennas.

## Section H. Cost structure

As far as the cost structure are concerned, there are several source of costs:

- Variable costs: The variable costs include the costs related to the raw materials, data storage, Amazon Web Services abonnement, installation of the floor... Note a diminishing cost of Wi-Fi Floor thanks to possible economies of scale realized by the Wi-Fi antenna manufacturer. Regarding the installation of the Wi-Fi Floor, the costs will decrease thanks to the standardization of processes;

|                                              | 2018 | 2019 | 2020  | 2021  | 2022  |
|----------------------------------------------|------|------|-------|-------|-------|
| Cost of Wi-Fi Floor per sqm                  | 40   | 35   | 25    | 25    | 25    |
| Installation of Wi-Fi Floor per sqm          | 30   | 25   | 20    | 20    | 20    |
| Cost of the upper layer floor per sqm        | 13   | 13   | 13    | 13    | 13    |
| Intallation of the upper layer floor per sqm | 7    | 7    | 7     | 7     | 7     |
| Data store, IoT abonnement (K€)              | 270  | 553  | 1.035 | 1.238 | 1.496 |

Table 1 - Summary of variable costs

- Fixed costs: The variable costs include the costs related to freight, logistics & inventory, travel, expenses, administration, marketing and R&D.

|                  | 2016 | 2017 | 2018 | 2019 | 2020  | 2021  | 2022  |
|------------------|------|------|------|------|-------|-------|-------|
| Fixed costs (K€) | 323  | 665  | 987  | 926  | 1.124 | 1.266 | 1.461 |

Table 2 - Summary of fixed costs

- Personnel costs: The personnel costs include the costs of human resources, trainings...

|                  | 2016 | 2017 | 2018  | 2019  | 2020  | 2021  | 2022  |
|------------------|------|------|-------|-------|-------|-------|-------|
| Fixed costs (K€) | 58   | 295  | 1.004 | 1.229 | 1.528 | 1.600 | 1.672 |

Table 3 - Summary of personnel costs

## Section I. Revenue streams

There are two sources of revenues in the business model of the project:

- Wi-Fi Floor: To be competitive on the market and offer the solution at a penetration price I recommend Tarkett to sell the floor without margin for the year 2018 and 2019.

From 2020, Tarkett could sell the infrastructure with a relatively low margin. The revenues coming from the selling of the floor are not the ones on which Tarkett should focus on.

|                                | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------------------|------|------|------|------|------|
| Prices Wi-Fi Floor per sqm     | 90   | 80   | 70   | 70   | 70   |
| Percentage of the gross profit | -    | -    | 27%  | 19%  | 15%  |

Table 4 - Summary of prices for the Wi-Fi Floor

- Fees: The annual fees per square meter depends on two factors. In one hand, the more packages of services are selected, bigger fees turnover is high. For the records, *FloorInMotion* offer three gradual abonnements (*Floor Collect*, *Floor Predict*, *Floor Engage*). For instance, if one decides to subscribe to *Floor Engage*, he will pay the highest fees and he will get access to the services of the three abonnements. On the other hand, the more the selling area is large, the more the fees per square meter will be low.

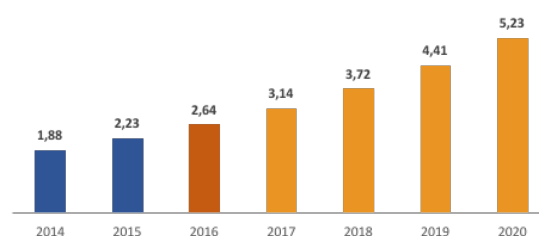
| Fees (€/sqm/year)   | Abonnement    |               |              |
|---------------------|---------------|---------------|--------------|
| Selling area in sqm | Floor Collect | Floor Predict | Floor Engage |
| <2.500              | 12            | 16            | 20           |
| 2.500 – 5.000       | 9             | 12            | 15           |
| >5.000              | 6             | 8             | 10           |

## Chapter III. The markets

### Section A. Our markets

#### Paragraph I. Data analytics

As far as data analytics providers are concerned, the retail segment becomes increasingly attractive. According to a *markettomarket* study, the annual compounded growth rate of that market would be 18,6% from

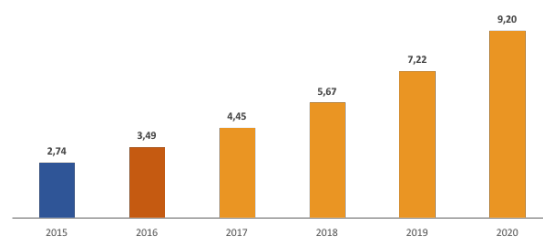


1,88 billion in 2014 to 5,23 billion in 2020 (Jurcevic P. , 2010). There is then a real opportunity of growth for data analytics providers. The reason of such an evolution is the fact that

nowadays there are an increasingly amount of data generated. The emergence of E-Commerce & smartphones and the awareness of retailers that data is highly valuable led to a growing market (Shockley & Mercier, 2015). Another reason is that the retailer need to improve the in-store traffic management to increase visibility of products, to optimize resources and maximize revenues. Retailer identifies indoor geolocation-based analytics as a real opportunity since it allows to collect information about in-store traffic, flow, hot spot... Data will help retailers to better understand customer's habits and then enhance reactivity, flexibility and performance of its business. Nowadays, only 17% of retailers consider their organization better than their competitors in terms of customer analytics uses meaning that there is a potential of 83% that could be convinced by *FloorInMotion's* solution (EKN, 2013). The fact that 62% of retailers' esteem that they will increase their investment in data analytics give comfort to this conclusion: Data analytics market is a growing market with opportunities of profit.

#### Paragraph II. Predictive analytics

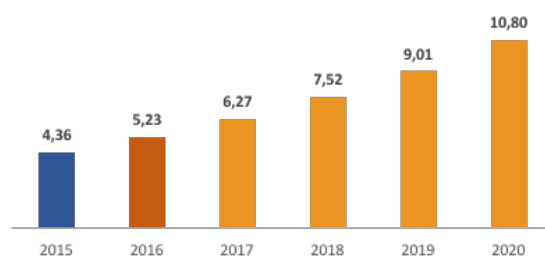
As far as predictive analytics solutions providers are concerned, the retail segment becomes increasingly attractive. According to a *markettomarket* study, the annual compounded growth rate of that market would be 27,4% from 2,74 billion in 2015 to 9,20 billion in 2020 (See figure 15) (marketsandmarkets.com, 2015). There is then a real opportunity of growth for predictive analytics solution providers. In addition to the reasons mentioned in the data analytics markets, predictive analytics attractiveness come from other drivers. Predictive analytics is born in a context of a too large amount of data. Retailers describe themselves as drowned under meaningless data while they invest in the cutting edge of data analytics technology (NOMi, 2015). They rather have concrete conclusions and automation. Retailers realized that they have to identify the most profitable shoppers, select an appropriate personalized loyalty program... in other words, having an information system that would strategically segment shoppers so that it could predict their future behavior, create automatically trigger actions for the customers purchase



such as personalized offers, loyalty program... 45% of organizations currently use predictive analytics for customer services and 55% to create new revenue opportunity (SAP, 2015). Finally, 86% assert that predictive analytics will have a major positive impact on their business and 33% of them indicate that it would enabling them to do things they couldn't do before (SAP, 2015). Predictive market is probably the market to invest in nowadays since it could be the natural evolution of the data analytics market.

### Paragraph III. Customer engagement

As far as customer engagement solutions provider are concerned, the retail segment becomes increasingly attractive. According to a *markettomarket* study, the annual compounded growth rate of that market would be 19,9% from 4,36 billion in 2015 to 10,8 billion in 2020 (See figure 14)



(marketsandmarkets.com, 2015). There is then a real opportunity of growth for customer engagement solution providers. Digital world decreased visits in stores. Concerning convenience and prices, online platforms like Amazon put brick-and-mortar stores on the bench. By consequences, their revenues hit the rock bottom. As a reaction of defense, retailers put customer experience on the top of their priorities in terms of customer relationship management (Brunk, Morris, Nauwann, & Fisher, 2015). Indeed, customer experience is the key to engage customer in the context of a digital world. 86% of buyers would pay more for a better customer experience. The reason is that only 1% of customers agree that vendors always meet their expectations (Crandell, 2013). By developing a complete omni-channel journey, firms should be able to earn shopper's loyalty and gain a competitive advantage. The strategy is to attract people in-store for another reason than shopping.

### Section B. The market targeted

*FloorInMotion's* project responds to the need of retailers from different sectors to increase their revenues for several reasons such as E-commerce substitution. Most of retailer changed their strategy and adopted a customer centricity approach. For them, the solution offers a tool to support this kind of strategy. besides, the solution responds to the need of

retailers to have more visibility in their store through data analytics and predictive analytics. Finally, the project Wi-Fi Floor delivers a tool for retailers that would like to enhance their operational processes such as queue management... In a general manner, the solution of *FloorInMotion* should help physical store owner to increase their revenues and compete by differentiation with E-commerce, especially by enhancing the customer experience.

#### Chapter IV. The sectors<sup>10 11</sup>

##### Section A. Automobile

Although the automobile sector doesn't suffer from the booming of the E-Commerce, it still remains true that they have difficulties to get the same level of *ante* crisis revenues (Euler Hermes, 2015). The strategy of automobile retailers is to enhance customer experience to increase the conversion rate (Arthur D. Little, 2013). Indeed, the former is very low in the industry. By using our solution, retailers will have a suitable tool to support their strategy.

| Automobile<br>(5 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|--------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                          | 4.177                               | 38.250              | 174.000.000          | 1.736                            | 7.251.000                                      |

Table 5 - Sample of the automobile sector and its size in 2016 (Simon f. , 2016)

##### Section B. Health & beauty

In 2014, the sector of health & beauty reached an annual revenue of 949 million euros. The French households spend on average 0,88% of their budget in that sector (Comeos, 2014). Compared to ten years ago, more than half of consumers decrease their budget for health & beauty product, especially men (Comeos, 2014). By consequences, the sector faces real challenges to increase the conversion rate, the amount of transaction and attract people in physical stores (Comeos, 2014). For instance, the customer is seeking a better customer service in-store. For instance, the number of customers checking the product availability online doubled from 2015 to 2016 (Accenture, 2016). To face all the challenge some actors in

<sup>10</sup> All the details about volume by store in Annexe 7

<sup>11</sup> All the brands in the samples has been selected based on their willingness to develop an omnichannel strategy, digitalization of the customer journey, customer engagement strategy and to gather datas. See Annexe 8.

the sector are looking for enhance the customer experience in-store such as Sephora (mcorp.cx, 2016).

| Perfumes & cosmetics<br>(1 store) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|-----------------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                                   | 1.500                               | 1.900               | 2.850.000            | 290                              | 435.000                                        |

Table 6 - Sample of the Health & Beauty sector and its size in 2016 (Simon f. , 2016)

### Section C. DIY & furniture

The DIY sector revenues are relatively stable since 2011 after several years of regular growth (Statista, 2014). In a DIY store, most customers give importance to advices and services provided by employees (Comeos, 2014). The sector traditional brands are quite late in the domain of E-commerce, although the customers are waiting for a long time its development. As a consequence, more and more, they are shifting towards E-commerce platform (Comeos, 2014). Also, DIY retailers are looking for more analytics since the statistics in the sector are difficult to find (Comeos, 2014). To bring back the customers in the physical stores, DIY retailers are seeking solutions. I think that the solution can enhance the customer experience and by consequence, attract people in the store, increase conversion rate and loyalty.

| DIY<br>(7 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|-------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                   | 3.948                               | 7.249               | 53.264.170           | 1.220                            | 4.816.800                                      |

Table 7 - Sample of the DIY sector and its size in 2016 (Simon f. , 2016)

| Furniture<br>(2 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|-------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                         | 3.809                               | 593                 | 8.531.250            | 297                              | 1.131.250                                      |

Table 8 - Sample of the DIY sector and its size in 2016 (Simon f. , 2016)

### Section D. Electronics and culture

The electronics and culture sector revenues declined by 4% since 2014 and stands at 5,5 billion euros (Statista, 2014). Nowadays, around 25 percent of electronics products are

sold online (Comeos, 2014). The profitability of the sector is then one of the main challenges. Indeed, since the price decline, retailers have to sell more and more to keep a sufficient level of net sales (Comeos, 2014). By offering a complete new omni-channel journey to the customers, physical store brands would be able to take profit of the online customer but also to bring some of those in-store. Then, conversion rates and the amount of transaction would increase by supporting a customer-centric strategy by our geo-marketing and data analytics solution.

| Culture & electronics<br>(1 store) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|------------------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                                    | 2.400                               | 199                 | 477.600              | 113                              | 271.200                                        |

Table 9 - Sample of the electronics & culture sector and its size in 2016 (Simon f. , 2016)

## Section E. Fashion

Fashion sector's revenues stand at 38,6 billion euros in France (Statista, 2014). It represents 5,2% of the household's budget (Comeos, 2014). Online sales in the industry increased from 11% in 2014 to 17,2% in 2016 (Gara, 2014) (Intelligence Node, 2016). In the survey that I carried out, one fourth of the respondent esteem to by regularly buy online. Therefore, revenues in physical stores are decreasing. Retail market face two mains issues: maintaining brand loyalty and providing a quality multichannel offer (RetailWeek, 2014). According RetailWeek, the most successful sector's brands in the future would be those that have catered to tastes and needs of customers (RetailWeek, 2014). Also, the personalization would be the key of customer experience (RetailWeek, 2014). There is then an opportunity for Tarkett to target the fashion sector.

| Fashion<br>(17 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France<br>in sqm |
|------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                        | 1.195                               | 23.855              | 34.936.900           | 2.834                            | 3.386.750                                      |

Table 10 - Sample of the fashion sector and its size in 2016 (Simon f. , 2016)

## Section F. Food and grocery

Food and grocery sector's revenues stand at 37,5 billion euros in France. It represents 14,7% of the household's budget compared to 20% in 2005 (Consales, Fesseau, & Passeron, 2010). Revenues are decreasing due to the consequences of the financial crisis, the awareness of the value of money and the high competitive market. Retailers try then to gain a competitive advantage by gathering data about consumers and provide a complete, personalized and endless omni-channel customer journey. Indeed, the market face the challenge of digitalization and E-commerce. They want to take advantage of this threat by making it an advantage for them (Nielsen, 2015). *FloorInMotion* responds to that need.

| Food & grocery<br>(26 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France in<br>sqm |
|-------------------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                               | 3.032                               | 38.166              | 158.516.724          | 8.744                            | 26.511.323                                     |

Table 11 - Sample of the food & grocery sector and its size in 2016 (Simon f. , 2016)

## Section G. Sport

Sport sector's revenues stand at 10,8 billion euros in France. It represents 0,82% of the household's budget. However, 64% from these revenues come from subscriptions to sport halls (Comeos, 2014). Indeed, people are increasingly subscribing to an abonnement instead of investing in sport equipment. Again, E-commerce gains power in the sport sector. Around two third of people have already bought sport product online (Reinecke, 2015). By consequences, revenues of physical retailers are decreasing. So, the challenge for them double. First, they have to attract more people in store. Twice, they have to align themselves with the digitalization trend. The solution proposes an answer for such needs. *Tarkett* should aim at providing useful and valuable data to allow a personalized omni-channel journey.

| Sports<br>(2 stores) | Average size<br>in sqm in<br>France | Number of<br>stores | Total area in<br>sqm | Number of<br>stores in<br>France | Total area<br>estimated<br>in France in<br>sqm |
|----------------------|-------------------------------------|---------------------|----------------------|----------------------------------|------------------------------------------------|
|                      | 3.000                               | 1.570               | 5.320.000            | 300                              | 900.000                                        |

Table 12 - Sample of the sport sector and its size in 2016 (Simon f. , 2016)

## Chapter V. Competitive environment

### Section A. Actors in the market<sup>12</sup>

#### Paragraph I. Direct competitors

##### RetailNext

RetailNext consider themselves as the “*leader in applied big data for physical retail*”. They deliver real-time analytics that enable retailers and shopping centers to collect, analyze and visualize in-store data. Their patented solution uses various technologies such as video analytics, Wi-Fi detection, beacons... to automatically report to retailers on how to engage shoppers. They also developed a fully integrated platform. So far, they sold more than 65,000 sensors in retail stores and analyzed trillions of data annually. They are active in 40 countries (RetailNext, 2016) (Crunchbase, 2016).



#### Value proposition<sup>13</sup>:

| Sensor | Collect | Predict | Engage |
|--------|---------|---------|--------|
|--------|---------|---------|--------|

Table 13 - Services provided by RetailNext

#### Strengths:

- RetailNext is considered as the worldwide leader in its domain (Crunchbase, 2016);
- It has a wide offer of services for reasonable prices (RetailNext, 2016);
- It provides a fully integrated software (RetailNext, 2016);
- It is active in the market for 10 years cumulating expertise and experience in the market (Crunchbase, 2016);
- The company has a strong financial support (Chapman, 2015);
- It is present in numerous sectors (RetailNext, 2016);
- The monthly fee, varying from 50€ to 250€, depending on features, is very attractive (Chapman, 2015).

<sup>12</sup> To avoid a too large competitive analysis, I decided to analyze the best in class of each similar proposition. So, only the more dangerous competitors are cited in this report. For more information about the other actors see Annexe 9.

<sup>13</sup> The value proposition sensor – collect – predict – engage is a simplification and standardization of the services in the market. The reason is that actors in the market propose so many services that it is too difficult to compare with each other.

## Weaknesses

- The cost infrastructure is quite expensive (20€ to 60€/sqm) (Chapman, 2015).

### Walkbase

Walkbase consider themselves as the “Europe’s leading in-store retail  analytics provider”. They provide retailers a hardware and software solution to measure and improve the marketing efficiency in stores and the customer experience. Walkbase uses Wi-Fi, beacons, cameras and beam counters sensors (Crunchbase, 2016) (Walkbase, 2016).

### Value proposition:

| Sensor | Collect | Predict | Engage |
|--------|---------|---------|--------|
|--------|---------|---------|--------|

Table 14 - Services provided by Walkbase

### Strengths:

- Walkbase is considered as the European leader in its domain (Crunchbase, 2016);
- There is no cost of infrastructure and it proposes a diversified wide of services for reasonable monthly fees (400€) (Walkbase, 2016) (Artic StartUp, 2012).

## Weaknesses

- They accumulate only 6 years of experience;
- It is not active in the predictive analytics sector that will represent the most valuable part in the analytics market.

### IndoorAtlas

IndoorAtlas is a growing start-up founded in 2012 using built-in magnet  in smartphones to offer location-based services through a platform. They have a 2 meters’ accuracy without using any hardware, beacons or Wi-Fi.

### Value proposition:

| Sensor | Collect | Predict | Engage |
|--------|---------|---------|--------|
|--------|---------|---------|--------|

Table 15 - Services provided by Indooratlas

### Strengths:

- IndoorAtlas uses inertial sensors embedded in smartphones that allow a 2 meters’ accuracy (Indooratlas, 2016);

- The company is considered as having a huge potential of growth thanks to their technology used (Horwitz, 2014);
- It is present in four different sectors: Retail, transportation, healthcare and Public venues (Indooratlas, 2016).
- There is no infrastructure required (Indooratlas, 2016).

### Weaknesses

- They accumulate only 4 years of experience (Crunchbase, 2016);
- The monthly fees are quite expensive for the value proposition presented;
- It is not active in the data and predictive analytics sector that could be a real opportunity for the company (Indooratlas, 2016).

### Beacon Inside

Beacon Inside offers two kind of services, namely, Beacon Engage and Beacon Manage. The first one aims at increasing customer engagement by targeting their mobile, the other is a platform that aims at managing beacons used for the former.



### Value proposition:

| Sensor | Collect | Predict | Engage |
|--------|---------|---------|--------|
|--------|---------|---------|--------|

*Table 16 - Services provided by Beacon Inside*

### Strengths:

- The cost of infrastructure is relatively low because the solution uses beacons (Beacon Inside, 2016);
- It is present in several sectors (Beacon Inside, 2016).

### Weaknesses

- They accumulate only 3 years of experience (Beacon Inside, 2016);
- It is not active in the data and predictive analytics sector that could be a real opportunity for the company
- The monthly fees are quite expensive for the value proposition presented.

## Paragraph II. Potential competitors

### Estimote



Estimote is a designer of sensors based on BLE. They are used to locate nearby smartphones and communicate with them. Thanks to a specific platform, retailers can use the analytics gathered from multiple Estimote sensors for marketing, customer engagement... purposes.

#### Value proposition:

| Sensor | Collect | Predict | Engage |
|--------|---------|---------|--------|
|--------|---------|---------|--------|

*Table 17 - Services provided by Estimote*

#### Strengths:

- The cost of infrastructure is relatively low because the solution uses beacons;
- The design of the solution.

#### Weaknesses

- They accumulate only 4 years of experience (Crunchbase, 2016);
- It is not active in the data and predictive analytics sector that could be a real opportunity for the company;
- It focuses only on the selling of beacons;
- Its beacons are the most expensive in the market.

## Paragraph III. Conclusions

To conclude, there is a multitude of actors in the market. The six cited above represents the leaders among their competitors offering similar value propositions. Pricing strategies are various, from fixed set up cost to variable fees or freemium...

## Section B. Pricing position

Since the pricing strategies of the actors in the market are all different, I've computed the price that a retailer had to pay during ten years, that corresponds to the guarantee of Tarkett's solution, for each provider cited above. The price corresponds to the complete offer of the provider.

| Provider<br>sqm | RetailNext <sup>14</sup>      | Walkbase <sup>15</sup> | Beacon Inside <sup>16</sup> | Indoor Atlas <sup>17</sup> | Estimote <sup>18</sup> |
|-----------------|-------------------------------|------------------------|-----------------------------|----------------------------|------------------------|
| <2500           | 80.000 + 30.000 <sup>19</sup> | 192.000                | 3.000 + 240.000             | 420.000                    | 3.000                  |
| 2500-5000       | 150.000 + 30.000              | 384.000                | 5650 + 450.000              | 960.000                    | 5.650                  |
| >5000           | 200.000 + 30.000              | 480.000                | 7.500 + 600.000             | 1.272.000                  | 7.500                  |

Table 18 - Pricing position of competitors in euro

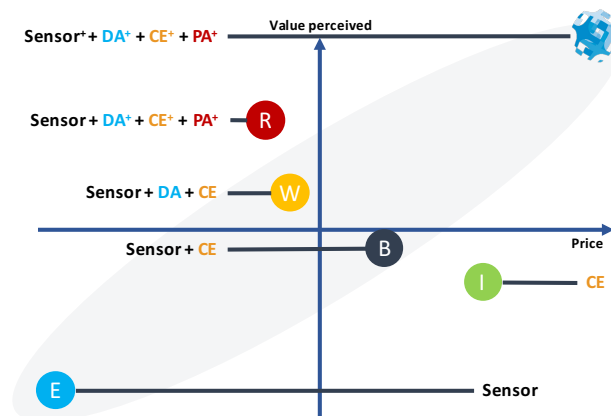


Figure 13 - Graph price/value perceived of competitors compared to FloorInMotion

From all my competitive researches (see annexes), I recommend *Tarkett* to create a premium strategy<sup>20</sup>. There is a gap in the market that responds perfectly to the retailer's needs. Nowadays, retailers are offered a large choice of different services with different tools and technologies. Tarkett has the technology to fulfil the gap by offering a complete integrated solution meeting at the perfection the retailer's need by keeping a healthy commercial relationship with them, gaining flexibility and exploiting the value of a co-creation process.

<sup>14</sup> The prices vary from 20€ to 60€/sqm with a monthly fee of 250€ for the complete solution (Chapman, 2015).

<sup>15</sup> The pricing strategy is to provide devices for free and offer the services for 100€/devices/month per services. It proposes four services (Analytics, Campaign, Engage, Advertising). A device covers 500m<sup>2</sup> (Walkbase, 2016) (Artic StartUp, 2012).

<sup>16</sup> Beacon Inside uses beacons that cost around 30€/unit. For accuracy matters, I decided to dedicate a beacon for 20 sqm (Beacon Inside, 2016).

<sup>17</sup> Indoor Atlas offer its services with a freemium strategy. Until 100 users, the solution is free, then it becomes 100€ per month and fees increase in a logarithmic way. I considered that there is a traffic in retail of 2 people per day per sqm and that only 1% subscribe to the app. I divided then per 7 which is the days in a week and the average period between two visits in a store. Finally, I multiplied it by an average rate of loyalty (35%) since the public that would download and use the app tends to be loyal to the brand. It represents then around 2,74 people subscribed per year per sqm (SDIS, 2016) (Le journal du web, 2013) (Indooratlas, 2016).

<sup>18</sup> Same reasoning that Beacon inside (Estimote, 2016).

<sup>19</sup> The blue numbers represent the CapEx and the gold ones the OpEx.

<sup>20</sup> The premium strategy involves to sell at a high price a product of high quality.

### Section A. Wi-Fi Positioning system

The Wi-Fi Positioning System is used when GPS is not adequate. It can locate a device using detection of a Wi-Fi network by calculating the intensity of the received signal and the method of "fingerprinting" (Bahl & Padmanabhan, 2000) (Chen & Kobayashi, 2002). It is mainly used for positioning in public places (railway station, shopping centers, and museums) by tracking people thanks to MAC address<sup>22</sup>. This location-based mode is well suited for indoor localization since many infrastructures are already dedicated to Wi-Fi technology and have a range of 70 meters.

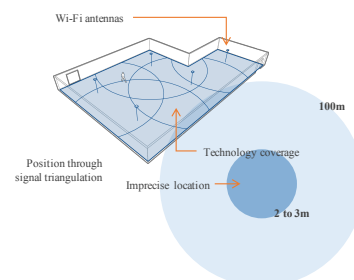


Figure 14 - How Wi-Fi positioning system works

However, Wi-Fi is not sufficiently accurate ( $\pm 10$  meters) to be used for geo-fencing and

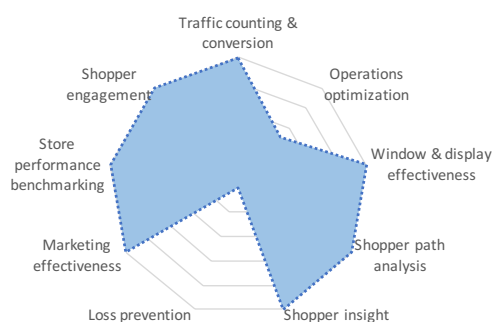


Figure 15 - Services that can be provided by a Wi-Fi technology (Simon F., 2016)

location based services. it also drains the battery life of the receiving device. These technological limitations do not make it useful for marketing purposes (WIC Group, 2016). Finally, it is heavy to maintain since if the arrangement of a store is changed, a robot needs to measure the new signal intensity everywhere in the store (WIC Group, 2016).

<sup>21</sup> See details of benchmark on the Annexe 10.

<sup>22</sup> unique identifier assigned to network interfaces for communications on the physical network segment. MAC addresses are used as a network address for most IEEE 802 network technologies, including Ethernet and WiFi.

## Section B. Near Field Communication

The Near Field Communication is a short-range communication, high frequency wireless technology, allowing the seeming less exchange of information between devices only at a distance of about ten centimeters or less. It is an extension of proximity cards using radio frequency

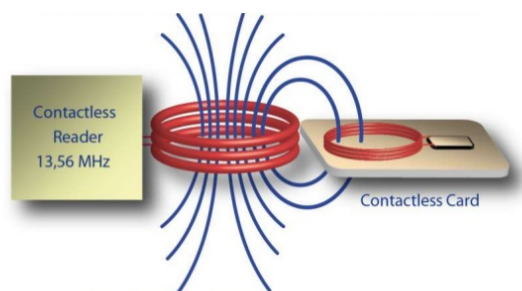


Figure 16 - How NFC works

identification (RFID) (Kasavana, 2012). This technology is used for contactless payments, opening door with contactless secure locks, and the connection to computers... In short, NFC is particularly well adapted to micro-location services but does not allow real geolocation and geo-fencing (WIC Group, 2016).

The advantages are that it is costless, it does not require an app and is suitable with any mobile operating system. However, they are huge security issues and the range, even if it's deliberately done, is too short. (WIC Group, 2016).

## Section C. Bluetooth Low Energy

Version 4.0 of the Bluetooth specification, BLE or beacons is a wireless transmission technology differentiating from its older version with a ten times lower energy consumption (WIC Group, 2016). It has been developed to deliver small amounts of data. Retailers strategically place beacons around their store. The beacons connect to a customer's Bluetooth enabled smartphone



Figure 17 -  
Estimote's beacon

app. It sends a signal to the phone and the app is open. The retailer then can provide the customer with a wealth of information. Beacons do not seem to be real competitors to the NFC technology but rather a complementary technology that takes over where the NFC is technically limited, geo-fencing for example. The BLE tags are currently not designed to be used for mobile payments (WIC Group, 2016).

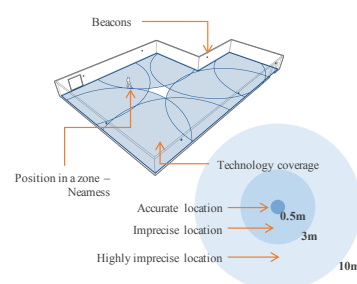


Figure 18 - How location through  
Beacons works

The advantages are that it saves user's battery terminal. It is easy to set up, program and use. The range of a signal can reach 70 meters. The receiving notifications error is almost nil. However, it requires that the Bluetooth on the receiver's device to be turned on. The range of the beacon does not fit the micro-location. It usually requires internet connection for correlating the identity of the user to the marketing information since beacon is only a push up technology and can't receive any information of nearby devices (WIC Group, 2016).

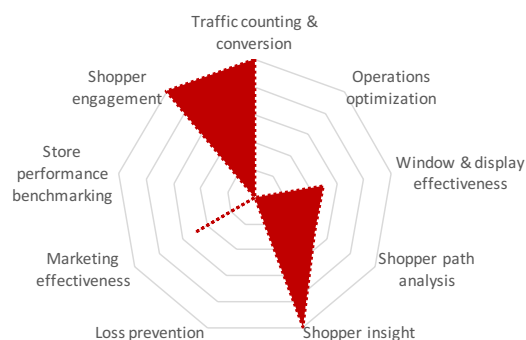
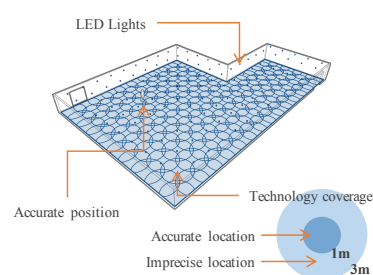


Figure 19 - Services that can be provided by a BLE technology (Simon F. , 2016)

#### Section D. Li-Fi

Li-Fi is “similar to Wi-Fi in the sense that it is a bidirectional, high speed and networked wireless communication technology” (Cuthbertson, 2015). Li-Fi uses LEDs to emit light by switching in on/off mode at various frequency levels, sufficient high to not be noticed by the human eye (Huang, Li, & Shaurette, 2014). The customer has to download an app to be able to use the technology. The location data's is then collected by sending a unique frequency code. The position is detected with accuracy. The advantage is that it is easy. Each LED works as a pseudo satellite GPS sending its geographic coordinates. Also, it is safe for the customers since there is no radio waves. However, the process works as long as the customer actively uses his mobile device (Wright, 2014) and the technology is at its premises which makes it not reliable.



#### Section E. Audio

“Audio-based localization uses sound signals transmitted from known locations. They can determine the position of a moving sensor through the analysis of the received sounds from these sources. Passive sound fingerprinting uses ambient sound to generate position

estimates, whereas active fingerprinting approaches emit and then record a specific sound pattern for the positioning” (Washington Patentnr. 8,660,581, 2014).

#### Section F. Camera++

The technology only uses hardware already present in the device such as gyro, camera. In a first instance, there is a mapping effectuate by the platform company of the different places selected. Then, it has to create a large database of pictures of the place to reconstitute indoor display. Finally, when the smartphone owner uses the camera to locate himself, the algorithm of the software recognizes the place where he stands.

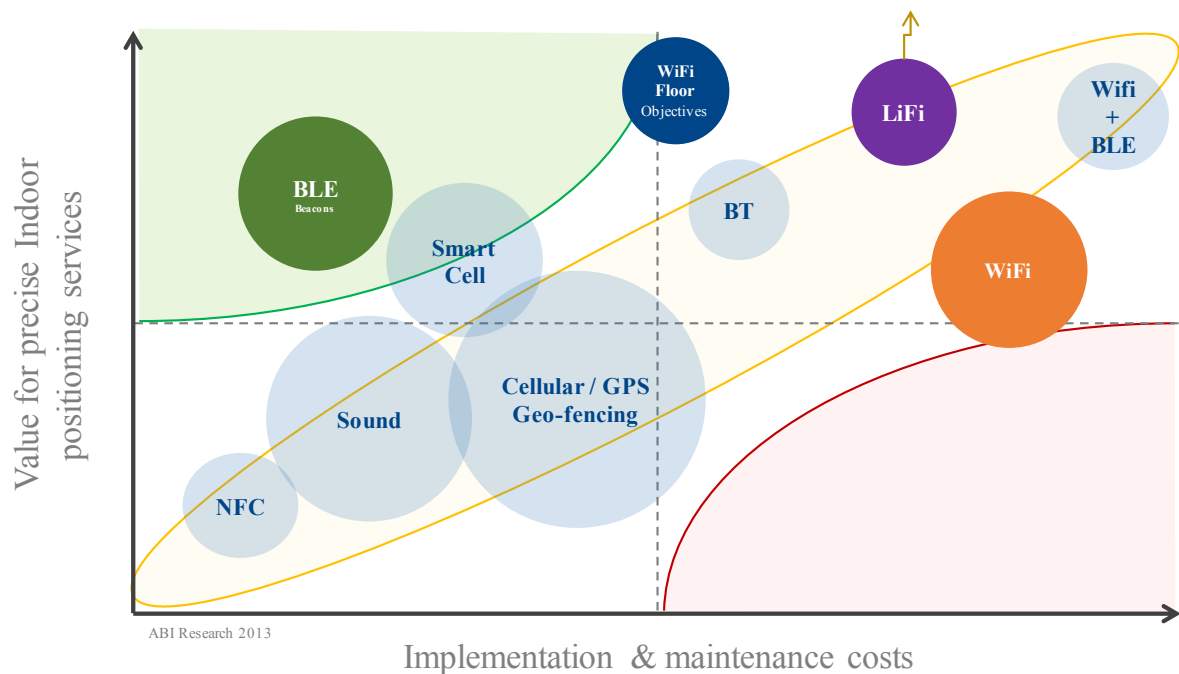
#### Section G. Magnetic field

Magnetic field is *“an indoor positioning system solution that enables to locate objects or people inside buildings, such as retail stores, hospitals, malls... thanks to smartphone’s magnetic sensors”* (Haverinen & Kempainen, 2009). Indeed, smartphone are able to detect and respond to magnetic field anomalies. Basically, each building has its own magnetic “fingerprint” determined by its materials and location on the earth. This technology seems to be the most complete and the most cost effective in terms of indoor positioning system in the market (Wroble, 2015). In addition, it allows an accuracy of 2 meters in real-time by using a low power magnetic sensor. Concerning the building owner, he has no infrastructure to invest in, except beacons if he has the willingness to enhance the services desired. As a disadvantage, it may occur some errors when there are interactions with conductive and ferromagnetic materials or objects (Wroble, 2015).

#### Section H. Benchmarking value/costs of the different technologies

It seems that three technologies stand out from the other ones: BLE; Li-Fi; Wi-Fi. Nowadays, Bluetooth Low Energy technology has been democratized leading to a simple and affordable solution. Wi-Fi by triangulation or fingerprinting remains the reference in terms of indoor geolocation. Having its advantages and drawbacks, both will represent the technologies used by *FloorInMotion*’s competitors with a few exceptions. Li-Fi represents for *FloorInMotion* a threat. The business unit should explore and monitor what is going on with the evolution of this technology as well as other emerging ones such as inertial sensor

(Magnetic anomalies detection). Indeed, the market in which *Tarkett* should implement its solution is growing and very attractive. Many big groups or start-ups invest and work on new indoor geolocation technologies in the purpose of being at the state of art. Partnership or venture capital with these kind of companies should beneficiate to *Tarkett* by increasing the quality, the accuracy and the price of its solution.



## Fourth part. Financial plan

### Chapter I. Volume sales and profitability

#### Section A. Volume

##### Paragraph I. How many stores reached?

I have estimated with the project leader the number of store reached based on the ability of *FloorInMotion* to get clients. We expect the following number of stores:

|            | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|------------|------|------|------|------|------|------|------|
| # of store | -    | -    | 14   | 35   | 80   | 122  | 181  |

Table 19 – Estimation of the number of store reached from 2016 to 2022

##### FloorInMotion Wi-Fi Floor addressed market

I have estimated, validated with FloorInMotion business manager, the yearly distribution of sales in number of stores by sector. The following parameters have been taking into account:

- Building construction lead time: 18month from project to delivery.

|              | Automobile | Culture and electronics | DIY | Fashion | Furniture | Health & beauty | Food & grocery | Food & grocery (>5000m <sup>2</sup> ) | Sports |
|--------------|------------|-------------------------|-----|---------|-----------|-----------------|----------------|---------------------------------------|--------|
| Distribution | 5%         | 9%                      | 5%  | 35%     | 5%        | 11%             | 15%            | 3%                                    | 13%    |
| 2018         | 1          | 1                       | 1   | 5       | 1         | 1               | 2              | 0                                     | 2      |
| 2019         | 2          | 3                       | 2   | 12      | 2         | 4               | 5              | 1                                     | 4      |
| 2020         | 4          | 7                       | 4   | 28      | 4         | 9               | 12             | 2                                     | 10     |
| 2021         | 6          | 11                      | 6   | 42      | 6         | 13              | 18             | 4                                     | 16     |
| 2022         | 9          | 16                      | 9   | 63      | 9         | 20              | 27             | 5                                     | 23     |

Table 20 - Estimation of the distribution of store reached by sector from 2018 to 2022

##### Paragraph II. How many square meters sold by year?

To estimate the number of square meters sold by year, I, first, have decided to compute the average selling area by sector in France. To do so, I gathered information about 73 brands present in the 8 sectors targeted such as total selling area, average selling area and number of store in France. For each sample of sector, I compute the average selling area by sector in France as follow:

$$\text{Estimated store avg. selling area in the sector X (in France)} = \frac{\text{Total selling area of the sector X in the sample (in France)}}{\text{\# of store in the sector X in the sample (in France)}}$$

I have obtained:

|                        | Automobile | Culture and electronics | DIY   | Fashion | Furniture | Health & beauty | Food & grocery | Food & grocery (>5000m <sup>2</sup> ) | Sports |
|------------------------|------------|-------------------------|-------|---------|-----------|-----------------|----------------|---------------------------------------|--------|
| Avg selling area (sqm) | 4.175      | 2.400                   | 3.950 | 1.200   | 3.800     | 1.500           | 1.729          | 8.590                                 | 3.000  |

Table 21 - Estimation of the average selling area per sector

Then, I have computed the number of square meters sold per sector per year as follow:

$$\begin{aligned}
 & \text{Estimated square meters sold in the sector } X \text{ in France in year } Y \\
 &= \text{Estimated store avg. selling area in the sector } X \text{ (in France)} \\
 & * \text{estimated \# of store reached in the sector } X \text{ in year } Y \text{ (in France)}
 \end{aligned}$$

Finally, I have calculated the number of square meters sold per year as follow:

$$\text{Estimated square meters sold in France in year } Y = \sum_{i=1}^8 \text{Estimated square meters sold in the sector } X_i \text{ in year } Y$$

I have got:

|                          | 2018   | 2019   | 2020    | 2021    | 2022    |
|--------------------------|--------|--------|---------|---------|---------|
| Volume (m <sup>2</sup> ) | 31.283 | 80.685 | 179.528 | 281.332 | 409.958 |

Table 22 - Estimation of the number of square meter sold from 2018 to 2022

### Paragraph III. Distribution of subscription among the abonnements

I have estimated the distribution of subscription by taking into account the evolution of the importance to have data analytics, predictive analytics and customer engagement solutions. Retailers will tend to invest in the two formers since it is source of more revenues than only basic data analytics (EKN, 2013). I have obtained:

|               | 2018               | 2019 | 2020 | 2021 | 2022 |
|---------------|--------------------|------|------|------|------|
| Floor Collect |                    | 50%  | 40%  | 30%  | 20%  |
| Floor Predict |                    | 30%  | 30%  | 40%  | 40%  |
| Floor Engage  | 100% <sup>23</sup> | 20%  | 30%  | 30%  | 40%  |

Table 23 - Estimation of the distribution of subscription among abonnements from 2018 to 2022

Then for each year and each sector, I estimated the number of new store subscribing an abonnement as follow:

$$\begin{aligned}
 & \# \text{ of new store subscribing the abonnement } W \text{ in the sector } X \text{ in year } Y \\
 &= \text{Estimated \# of store reached in the sector } X \text{ in year } Y \text{ (in France)} \\
 & * \text{Estimated percentage of distribution of the abonnement } W \text{ in year } Y
 \end{aligned}$$

Finally, to know how many square meters are dedicated to an abonnement for a given year, I have multiplied the number of stores subscribing a given abonnement in a sector by the

<sup>23</sup> We aim to deliver to our first year clients, our complete wide of services free of fees for 10 years. Indeed, the objective is to develop with them, a co-creation process to enhance the performance of our solution.

average selling area of the same sector. Then, it remains to sum all the numbers of square meters dedicated to an abonnement by sector.

## Section B. Source of revenues

### Paragraph I. FloorInMotion Wi-Fi Floor infrastructure business plan turnover

To estimate the revenues, I have multiplied the estimated volume of square meters sold per year by the price per square meter of the Wi-Fi Floor. I have got:

|                     | 2018  | 2019  | 2020   | 2021   | 2022   |
|---------------------|-------|-------|--------|--------|--------|
| Price/sqm           | 90    | 80    | 70     | 70     | 70     |
| Floor revenues (K€) | 2.815 | 6.455 | 12.567 | 19.693 | 28.697 |

Table 24 - Estimation of the revenues coming from the flooring solution from 2018 to 2022

### Paragraph II. FloorInMotion Wi-Fi Floor service fees business plan turnover

The fees revenues were estimated by multiplying the estimated volume of square meters sold a given year dedicated for each services by the corresponding price per square meter of the abonnement. The new subscriber table was obtained:

| In K€         | 2018                  | 2019         | 2020         | 2021         | 2022         |
|---------------|-----------------------|--------------|--------------|--------------|--------------|
| Floor Collect | 0                     | 455          | 794          | 814          | 814          |
| Floor Predict | 0                     | 441          | 916          | 1.671        | 2.680        |
| Floor Engage  | 0                     | 164          | 732          | 1.086        | 2.144        |
| <b>Total</b>  | <b>0<sup>24</sup></b> | <b>1.061</b> | <b>2.443</b> | <b>3.572</b> | <b>5.639</b> |

Table 25 - Estimation of the revenues coming from fees from 2018 to 2022 for new subscribers

As revenue of fees are cumulative year after year, I obtained:

| In K€         | 2018 | 2019  | 2020  | 2021  | 2022   |
|---------------|------|-------|-------|-------|--------|
| Fees revenues | 0    | 1.061 | 3.505 | 7.077 | 12.717 |

Table 26 - Estimation of the revenues coming from fees from 2018 to 2022

### Paragraph III. FloorInMotion Wi-Fi Floor cumulated business plan turnover

I have got the following net sales:

| In K€     | 2018  | 2019  | 2020   | 2021   | 2022   |
|-----------|-------|-------|--------|--------|--------|
| Net sales | 2.815 | 7.516 | 16.072 | 26.771 | 41.415 |

Table 27 - Estimation of net sales from 2018 to 2022

<sup>24</sup> We aim to deliver to our first year clients, our complete wide of services free of fees for 10 years. Indeed, the objective is to develop with them, a co-creation process to enhance the performance of our solution.

## Section C. FloorInMotion Wi-Fi Floor overall solution costs

### Paragraph I. FloorInMotion Wi-Fi Floor Infrastructure Business plan costs

There are three categories of costs in the flooring solution:

- Cost of goods: It represents the cost of raw materials such as antennas...;
- Wi-Fi Floor installation: It represents the cost of delivery and installation of the Wi-Fi Floor Infrastructure, the dedicated software...;
- Flooring & installation: It represents the cost of the upper layer floor such as PVC floor...

| €/sqm                    | 2018         | 2019         | 2020          | 2021          | 2022          |
|--------------------------|--------------|--------------|---------------|---------------|---------------|
| Cost of goods            | 40           | 35           | 25            | 25            | 25            |
| Wi-Fi Floor Installation | 30           | 25           | 20            | 20            | 20            |
| Flooring & installation  | 20           | 20           | 20            | 20            | 20            |
| <b>Total</b>             | <b>90</b>    | <b>80</b>    | <b>65</b>     | <b>65</b>     | <b>65</b>     |
| <b>Total (K€/year)</b>   | <b>2.815</b> | <b>6.455</b> | <b>11.669</b> | <b>18.287</b> | <b>26.647</b> |

Table 28 - Estimation of costs coming from the flooring solution from 2018 to 2022

### Paragraph II. FloorInMotion Wi-Fi Floor service fees business plan costs

The variable costs related to fees concern only the storage data on Amazon's server.

| In K€      | 2016 | 2017 | 2018 | 2019 | 2020  | 2021  | 2022  |
|------------|------|------|------|------|-------|-------|-------|
| Fees costs | 22   | 67   | 270  | 553  | 1.035 | 1.238 | 1.496 |

Table 29 - Estimation of costs coming from services from 2016 to 2022

### Paragraph III. FloorInMotion Wi-Fi Floor cumulated business plan costs

I get the following net total costs:

| In K€           | 2016 | 2017 | 2018  | 2019  | 2020   | 2021   | 2022   |
|-----------------|------|------|-------|-------|--------|--------|--------|
| Net total costs | 22   | 67   | 3.085 | 7.008 | 12.704 | 19.525 | 28.143 |

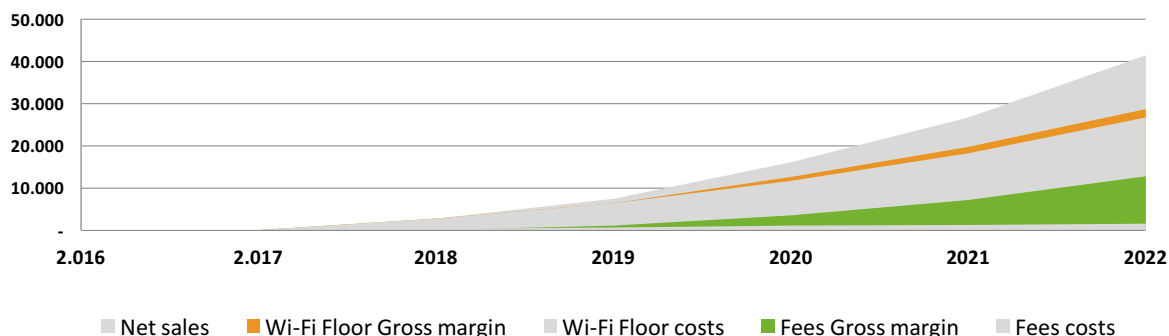
Table 30 - Estimation of total costs from 2016 to 2022

## Section D. FloorInMotion Wi-Fi Floor business plan Gross Profit

By subtracting the net total costs to the net total sales, I obtained:

| In K€        | 2016 | 2017 | 2018  | 2019 | 2020  | 2021  | 2022   |
|--------------|------|------|-------|------|-------|-------|--------|
| Gross profit | (22) | (67) | (270) | 508  | 3.368 | 7.246 | 13.272 |

Table 31 - Estimation of the gross profit from 2016 to 2022



One can clearly see on the graph that the majority of gross profit come from fees. Indeed, in one hand, the margin of the flooring solution is low if not nil the first two years. On the other hand, fees allow revenues with high margin since the costs related are low. Besides, by negotiating implementation plan with big groups, revenues with fees could become regular and exponential.

## Chapter II. How to maximize profitability?

I identified several solutions to maximize profitability by:

- As I defined scalable package subscription, the objective for *FloorInMotion's* salesforce is clearly to give incentives to retailers to subscribe more services. Which services retailers are interest in? For sure, Predictive analytic and ultimately Customer engagement are considered by retailers as the most potentially rewarding services and the costliest provided by the services offered;
- Reducing the costs relative to the Wi-Fi Floor and its installation and selling still at cost price or a few margin. The price of the infrastructure being high, it represents a brake for retailers to invest in. By reducing it, *Tarkett* still takes zero profit on the selling of the floor but increase the number of retailers that could invest in the solution. This should increase then the number of fees receives in the following years.
- Maximize customer sales potential. The strategy to apply here is to target big group that owns several brands. Indeed, it is easier, then, to develop an implementation plan across the different brands for the following years rather than meet each time a new store owner;

- Increasing commitment. *FloorInMotion* could also sell the floor at lower prices in exchange of what the store engage itself to commit a reasonable period to the services. It is a win-win situation in which the retailers can afford for lower costs such an investment and *Wi-Floor* can assure a security in regular cash-flow.

### Chapter III. Funding needs

The future needs in cash should be funded out by *Tarkett*, the mother company of *FloorInMotion*. Each year, *Tarkett* should provide an amount of cash sufficient to run the project. The table summarizes the capital requirement per year<sup>25</sup>.

| In K€                      | 2018  | 2019  | 2020  | 2021 | 2022 |
|----------------------------|-------|-------|-------|------|------|
| <b>Capital requirement</b> | 4.192 | 1.794 | 1.143 | 0    | 0    |

Table 32 - Estimation of the capital required from 2018 to 2022

The requirement in capital as been calculated as follow:

$$\text{Capital requirement}_n = \text{Capital}_n - (\text{Capital} + \text{Profit})_{n-1}$$

with the assumption that the value of the account “Cash & Bank account” is 0. Indeed, if this account is positive, the capital is sufficient, if not, the society goes bankrupt.

### Chapter IV. Provisional profit and loss account

Note that taxes concerning the project are taking in charge by *Tarkett*<sup>26</sup>.

| In K€                                  | 2016        | 2017        | 2018         | 2019       | 2020         | 2021         | 2022          |
|----------------------------------------|-------------|-------------|--------------|------------|--------------|--------------|---------------|
| <b>Net sales</b> <sup>27</sup>         | 0           | 0           | 2.759        | 7.387      | 15.821       | 26.377       | 40.841        |
| <b>Cost of good sold</b> <sup>28</sup> | (22)        | (67)        | (3.283)      | (7.287)    | (13.113)     | (20.081)     | (28.884)      |
| <b>Gross profit</b>                    | <b>(22)</b> | <b>(67)</b> | <b>(524)</b> | <b>101</b> | <b>2.708</b> | <b>6.296</b> | <b>11.956</b> |
| <b>Selling costs</b> <sup>29</sup>     | (15)        | (55)        | (840)        | (992)      | (1.316)      | (1.403)      | (1.489)       |

<sup>25</sup> Note that all the R&D cost in the year 2016 and 2017 are considered as R&D cost of Tarkett. After 2018, R&D cost is funded out by the spin off *FloorInMotion*. Also, in 2018, the R&D cost in the year 2016 and 2017 are added to the balance sheet of the spin off to take it into account in the need of fundings.

<sup>26</sup> Taxes are centralized in Tarkett’s account. Therefore, *FloorInMotion* doesn’t have to take it into account in its financia statement.

<sup>27</sup> Less than in the chapter I because I subscribed “Customer incentives and rebates” and “Claims on sales”.

<sup>28</sup> More than in the capter I because I added costs related to “Production/Quality/Logistic personnel”, “Depreciation of Capital Expenditure” and “Freight/Logistic and Inventory”.

<sup>29</sup> Selling costs include sales personnel cost, marketing/advertising cost, marketing personnel cost and travel and expenses.

|                                  |       |         |         |         |       |       |       |
|----------------------------------|-------|---------|---------|---------|-------|-------|-------|
| Operating expenses <sup>30</sup> | (366) | (905)   | (1.833) | (929)   | (977) | (962) | (963) |
| Earnings                         | (403) | (1.027) | (2.357) | (1.821) | 415   | 3.931 | 9.505 |

Table 33 - Provisional profit and loss account from 2016 to 2022

## Chapter V. Provisional balance sheet

The following balance sheets have the assumptions that there have no cash on hand or in bank accounts.

| Business Plan                              |                               |
|--------------------------------------------|-------------------------------|
| Indoor Location Startup Balance sheet 2018 |                               |
| in €                                       |                               |
| ASSET                                      | LIABILITIES                   |
| R&D at acquisition costs                   | 1.200 K€                      |
| Inventories                                | 562 K€                        |
| Accounts receivable                        | 690 K€                        |
| Cash on hand and bank accounts*            | -                             |
| <b>Total</b>                               | <b>2.452 K€</b>               |
|                                            |                               |
|                                            | <b>Capital</b>                |
|                                            | <b>4.192 K€</b>               |
|                                            | Net income/(loss) of the year |
|                                            | (2.357 K€)                    |
|                                            | Account payables              |
|                                            | 617 K€                        |
|                                            | <b>Total</b>                  |
|                                            | <b>2.452 K€</b>               |

| Business Plan                              |                               |
|--------------------------------------------|-------------------------------|
| Indoor Location Startup Balance sheet 2019 |                               |
| in €                                       |                               |
| ASSET                                      | LIABILITIES                   |
| R&D at acquisition costs                   | 200 K€                        |
| Inventories                                | 1.289 K€                      |
| Accounts receivable                        | 1.662 K€                      |
| Cash on hand and bank accounts*            | -                             |
| <b>Total</b>                               | <b>3.151 K€</b>               |
|                                            |                               |
|                                            | <b>Capital</b>                |
|                                            | <b>3.629 K€</b>               |
|                                            | Net income/(loss) of the year |
|                                            | (1.821 K€)                    |
|                                            | Account payables              |
|                                            | 1.343 K€                      |
|                                            | <b>Total</b>                  |
|                                            | <b>3.151 K€</b>               |

| Business Plan                              |                               |
|--------------------------------------------|-------------------------------|
| Indoor Location Startup Balance sheet 2020 |                               |
| in €                                       |                               |
| ASSET                                      | LIABILITIES                   |
| R&D at acquisition costs                   | 200 K€                        |
| Inventories                                | 2.331 K€                      |
| Accounts receivable                        | 3.164 K€                      |
| Cash on hand and bank accounts*            | -                             |
| <b>Total</b>                               | <b>5.695 K€</b>               |
|                                            |                               |
|                                            | <b>Capital</b>                |
|                                            | <b>2.951 K€</b>               |
|                                            | Net income/(loss) of the year |
|                                            | 415 K€                        |
|                                            | Account payables              |
|                                            | 2.329 K€                      |
|                                            | <b>Total</b>                  |
|                                            | <b>5.695 K€</b>               |

<sup>30</sup> Operating expenses include R&D cost, R&D personnel cost, administration personnel cost and human resources costs.

## Business Plan

### Indoor Location Startup Balance sheet 2021

in €

| ASSET                           |                 | LIABILITIES                   |          |
|---------------------------------|-----------------|-------------------------------|----------|
| R&D at acquisition costs        | 200 K€          | Capital                       | 1.064 K€ |
| Inventories                     | 3.652 K€        | Net income/(loss) of the year | 3.931 K€ |
| Accounts receivable             | 4.396 K€        | Account payables              | 3.254 K€ |
| Cash on hand and bank accounts* | -               | Total                         | 8.248 K€ |
| <b>Total</b>                    | <b>8.248 K€</b> |                               |          |

## Business Plan

### Indoor Location Startup Balance sheet 2022

in €

| ASSET                           |                  | LIABILITIES                   |            |
|---------------------------------|------------------|-------------------------------|------------|
| R&D at acquisition costs        | 200 K€           | Capital                       | (1.866 K€) |
| Inventories                     | 5.322 K€         | Net income/(loss) of the year | 9.505 K€   |
| Accounts receivable             | 6.807 K€         | Account payables              | 4.690 K€   |
| Cash on hand and bank accounts* | -                | Total                         | 12.329 K€  |
| <b>Total</b>                    | <b>12.329 K€</b> |                               |            |

## Chapter VI. Cash flows

To calculate the cash flows, I used the following formula:

$$\text{Cash Flows} = \text{Earnings} * (1 - \text{Tax rate}) - (\text{Capital Expenditure} - \text{Depreciation}) - \text{change in working capital}$$

The project generates positive earnings after 3 years, positive discounted cash flow after 4 years and have a payback of 5 years.

| In K€                               | 2016  | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    |
|-------------------------------------|-------|---------|---------|---------|---------|---------|---------|
| EBIT                                | (403) | (1.027) | (2.357) | (1.821) | 415     | 3.931   | 9.505   |
| Taxes                               | -     | -       | -       | -       | -       | -       | -       |
| Capital Expenditure                 | -     | (400)   | (50)    | (50)    | (50)    | (50)    | (50)    |
| Change in Working Capital           | -     | -       | (635)   | (973)   | (1.558) | (1.629) | (2.644) |
| Cash Flows                          | (403) | (1.427) | (3.002) | (2.799) | (1.143) | 2.307   | 6.870   |
| Discounted Cash Flows <sup>31</sup> | (403) | (1.399) | (2.885) | (2.637) | (1.056) | 2.131   | 6.347   |
| Cumulated Discounted Cash Flows     | (403) | (1.801) | (4.687) | (7.324) | (8.380) | (5.846) | 1.900   |

<sup>31</sup> The cost of capital is a cost of debt. Nowadays, interest of debt are relatively low, around 2%.

Table 34 - Estimation of Cumulated Discounted Cash Flows from 2016 to 2022

Here is a graph that shows the evolution of net sales, EBITDA and Cumulated Discounted Cash Flows from 2016 to 2020. One can observe the exponential net sales curve, EBITDA and cumulated DCF, consequence of the regular yearly cash flow of subscription.

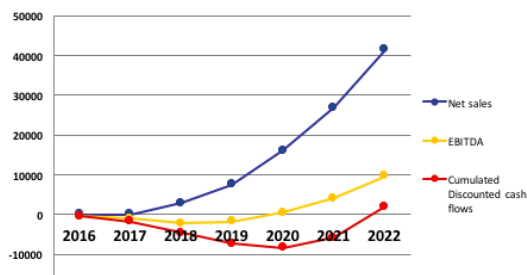


Figure 20 - Graph: Evolution of net sales, EBITDA and Cumulated DCF from 2018 to 2022

## Chapter VII. Risk and uncertainty management

I decided to apply two investment decision making tools, namely, the cost-volume sensitivity analysis and the break-even analysis.

The first one enables to compute the *“impact of changes in project variables on the base-case (most probable outcome scenario)...and help to identify the key variables which influence the project cost and benefit streams.”* (Iloiu & Csiminga, 2009). The second one can be *“used to analyze problems of investment project evaluation under conditions of uncertainty”* (Jovanovic, 1999). Both methods are complementary tools for risk and uncertainty management and investment decision making.

### Section A. EBITDA

The choice of the EBITDA as value of criteria for decision making is justified by its importance for investors. Indeed, this indicator is generally used to analyze and measure the profitability of a project or companies.

|       |               | Sales volume |               |           |
|-------|---------------|--------------|---------------|-----------|
|       |               | -15%         | Business Plan | 15%       |
| Costs | +15%          | (697 K€)     | 5.343 K€      | 11.383 K€ |
|       | Business Plan | 3.525 K€     | 9.565 K€      | 15.604 K€ |
|       | -15%          | 7.746 K€     | 13.786 K€     | 19.826 K€ |

Table 35 - Sensitivity analysis of the EBITDA in 2022

Break-even point

| In K€        | $\Delta 1\%$ | Breakeven point |
|--------------|--------------|-----------------|
| Sales volume | 402,63       | -23,76%         |
| Costs        | 281,43       | 33,99%          |

Table 36 - Estimation of the breakeven point for the EBITDA

The project's EBITDA is slightly sensitive to changes in sales volume and costs with approximatively a 4,2% and 2,9% decrease for each percent that tends to the worst case scenario for sales volume and costs respectively. However, *Tarkett* could afford a 23% decrease in sales volume or a 34% increase in costs of raw materials, which is a comfortable position.

## Section B. Cumulated discounted cash flows

The choice of the cumulated discounted cash flows as value of criteria for decision making is justified by its meaning. Indeed, when it equals zero, the funds expended in the project's investments are considered as recouped (Farris, Bendle, Pfeifer, & Reibstein, 2010).

|       |               | Sales volume |               |           |
|-------|---------------|--------------|---------------|-----------|
|       |               | -15%         | Business Plan | 15%       |
| Costs | +15%          | (19.793 K€)  | (7.989 K€)    | 3.815 K€  |
|       | Business Plan | (9.905 K€)   | 1.900 K€      | 13.704 K€ |
|       | -15%          | (16 K€)      | 11.788 K€     | 23.592 K€ |

Table 37 - Sensitivity analysis of the cumulated DCF in 2022

Breakeven point

| In K€        | $\Delta 1\%$ | Breakeven point |
|--------------|--------------|-----------------|
| Sales volume | 786,97       | -2,41%          |
| Costs        | 659,24       | 2,88%           |

Table 38 - Estimation of the breakeven point for the cumulated DCF

The project's cumulated DCF is highly sensitive to change in sales volume and costs with approximatively a 41% and 34% decrease for each percent that tends to the worst case scenario for sales volume and costs respectively. Further, *Tarkett* could afford only around a 2% decrease in sales volume or costs of raw materials to have positive cumulated discounted cash-flow. Otherwise, the payback will be delay.

## Section C. Payback

The choice of the payback as value of criteria for decision making is justified by its meaning. Indeed, it represents the number of years need to recoup the funds expended in the project's investments are considered (Farris, Bendle, Pfeifer, & Reibstein, 2010).

|       |               | Sales volume |               |     |
|-------|---------------|--------------|---------------|-----|
|       |               | -15%         | Business Plan | 15% |
| Costs | +15%          | 10,5         | 6,5           | 4,5 |
|       | Business Plan | 7,0          | 5,0           | 4,0 |
|       | -15%          | 5,0          | 4,0           | 3,5 |

Table 39 - Sensitivity analysis of the payback in 2022

The payback in the basic scenario is 5 years. One can clearly see that for each new percent that tends to the worst case scenario, the payback increases in an exponential way. Besides, for each new percent that tends to the best case scenario, the payback decreases in a logarithmic way.

## Section D. Conclusion

From a financial point of view, the project is viable. However, *FloorInMotion* should monitor its volume sales and costs so that they could maintain the project plan. Indeed, even if there could be a margin of error and remain positive in terms of sales volume, it is still true that the cumulated discounted cash-flow and, by extent, the payback is highly sensitive to change that tends to the worst case scenario.

## Chapter VIII. Summary

| In K€          | 2016 | 2017 | 2018   | 2019   | 2020    | 2021    | 2022    |
|----------------|------|------|--------|--------|---------|---------|---------|
| # of stores    | -    | -    | 14     | 35     | 80      | 122     | 181     |
| Volume         | -    | -    | 31.283 | 80.685 | 179.528 | 281.332 | 409.958 |
| Floor revenues | -    | -    | 2.815  | 6.455  | 12.567  | 19.693  | 28.697  |
| Fees revenues  | -    | -    | 0      | 1.061  | 3.505   | 7.077   | 12.717  |

|                                     |       |         |         |         |         |         |         |
|-------------------------------------|-------|---------|---------|---------|---------|---------|---------|
| Floor costs                         | -     | -       | 2.815   | 6.455   | 11.669  | 18.287  | 26.647  |
| Fees costs                          | 22    | 67      | 270     | 553     | 1.035   | 1.238   | 1.496   |
| Gross profit                        | (22)  | (67)    | (270)   | 508     | 3.368   | 7.246   | 13.272  |
| EBIT                                | (403) | (1.027) | (2.357) | (1.821) | 415     | 3.931   | 9.505   |
| Taxes                               | -     | -       | -       | -       | -       | -       | -       |
| Capital Expenditure                 | -     | (400)   | (50)    | (50)    | (50)    | (50)    | (50)    |
| Change in Working Capital           | -     | -       | (635)   | (973)   | (1.558) | (1.629) | (2.644) |
| Cash Flows                          | (403) | (1.427) | (3.002) | (2.799) | (1.143) | 2.307   | 6.870   |
| Discounted Cash Flows <sup>32</sup> | (403) | (1.399) | (2.885) | (2.637) | (1.056) | 2.131   | 6.347   |
| Cumulated DCF                       | (403) | (1.801) | (4.687) | (7.324) | (8.380) | (5.846) | 1.900   |
| Capital requirement                 | -     | -       | 4.192   | 1.794   | 1.143   | 0       | 0       |

Table 40 - Summary of the financial plan

<sup>32</sup> The cost of capital is a cost of debt. Nowadays, interest of debt are relatively low, around 2%.

## Fifth part. The launch of the project

### Chapter I. SWOT

#### Section A. Strengths

The project “Wi-Fi Floor” can benefit of huge strengths:

- The technology used. Tarkett proposes a complete invisible solution demanding no maintenance. Besides, the accuracy of 60cm makes the project one of the most ambitious of its generation. Then, Wi-Fi is probably the technology the most used for internet connection and indoor geo-location. Retailers are familiar with it and for simplification purposes, standardization of the technology and protocol well defined has been developed to connect devices with each other. There is then a convenience to adopt Wi-Fi. Finally, the solution provides to the retailers the Wi-Fi infrastructure that he won't have to invest in;
- The partnerships and the geographic area in which the project evolves. *Tarkett* have the possibility to work with successful start-ups in the Silicon Valley, land of experts for the software and algorithms development. *FloorInMotion* will take care of the selling, marketing and installation of the solution in the French market. The business unit is located nearby, in Luxemburg. Finally, *Tarkett* will support mostly by funds *FloorInMotion* in the project of Wi-Fi Floor and is situated in the same site.
- The **brand** of Tarkett is an asset in the domain of flooring solutions. Indeed, they are the “**worldwide leader of innovative and sustainable flooring and sports surface solutions**” (Tarkett, 2016). It means that they are strong and financially stable but also selling a wide range of product of high quality.
- A focused area of selling. French retailers are constantly investing in CRM. The French market is well-known by Tarkett's salesforce and is close to the business unit.

#### Section B. Weaknesses

*Wi-Floor* has several weaknesses that they should pay attention on.

- *FloorInMotion* aims to enter into the market in 2018. Nowadays, the **market** is **highly competitive**, especially because of the multitude of actors in the market. The project

will then **penetrate the market with a few year delay**. In a such moving environmental market, it could be a real weakness. Moreover, the late entrance in the market could lead to a **lack of experience** in the domain of analytics, software and algorithms. Indeed, the core business of *Tarkett*, the parent company is totally different.

- The project involves a **high cost and heavy infrastructure**. Compared to other in the market, *FloorInMotion*'s solution is expensive even if it opts for a "*Premium offering*" strategy<sup>33</sup>. The infrastructure constraints the business unit to focus mainly on new or in renewals stores.

### Section C. Opportunities

*Wi-Floor* has several opportunities to grasp:

- **The market** of analytics and customer engagement in the retail industry is **booming**;
- A Wi-Fi floor has the advantage that it could be easy used to **develop other services** either in data analytics, predictive analytics and customer engagement or in other domain such as supply chain management, point of sales optimization...
- A Wi-Fi floor also has the advantage that it could be **extent to other sector** such as museum, offices, airports, hospitals, malls, restaurants...

### Section D. Threats

The project of Wi-Fi Floor faces several threats:

- The appearance of new emerging technologies such as Li-Fi or Magnetic anomalies sensors. The evolution of the geo-location and communication technology grows increasingly. Therefore, there is the threat that new technologies would appear and be costless, faster, more convenient, more accurate... Consequently, there is constantly a threat relative to new entrance. *FloorInMotion* will never be protected against new innovative product or start-ups;
- The evolution of cellular connection<sup>34</sup>. Telecommunication companies are constantly decreasing their prices and increasing the offer. There is a threat that in a few years,

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<sup>33</sup> The premium strategy refers to the selling of a highly valuable product at a high price.

<sup>34</sup> EDGE, 3G, 4G...

cellular connection will be faster than Wi-Fi and available anywhere. Therefore, it will be difficult to give incentives to the customer to connect the retailer's Wi-Fi network;

- In terms of data gathering, the project will always face **regulation challenges**. Personal data about customers become more and more an attractive market and European Union want to protect them against dishonest actors.

## Chapter II. Organization

### Section A. Human resources

Concerning the recruitment plan, the organization is split in 5 departments: R&D, Sales, Production/Quality/Logistic, administrative and marketing. The table below summarizes the number of employees working by department.

|                                | 2016              | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------------------|-------------------|------|------|------|------|------|------|
| R&D <sup>35</sup>              | 1,5 <sup>36</sup> | 3    | 6    | 7    | 7    | 7    | 7    |
| Sales <sup>37</sup>            | 0                 | 0,5  | 2    | 3    | 5    | 5    | 5    |
| Prod./Qual./Log. <sup>38</sup> | 0                 | 0    | 1,5  | 1,5  | 1,5  | 1,5  | 1,5  |
| Administrative <sup>39</sup>   | 0                 | 0,5  | 1,5  | 1,5  | 2    | 2    | 2    |
| Marketing <sup>40</sup>        | 0                 | 0,5  | 1    | 1    | 1    | 2    | 3    |
| Total                          | 1,5               | 4,5  | 12   | 14   | 16,5 | 17,5 | 18,5 |

The increase in employees for the year 2018 is explained by the launching of the project. Note that although in the first year, the demand is exponential, the number of employee grows steadily since we expect automation and maximization of processes.

## Chapter III. The launch of the project for the year 2018, 2019, 2020

Tarkett should create its spin-off as soon as possible to gain time while *FloorInMotion* should seek the appropriate partnerships to manufacture the antenna, develop the software... At the same time, the employee in charge of the sales and the marketing on the project will look for clients and sign contracts. At the beginning of 2018, the project is launched

<sup>35</sup> The major part of R&D will be part of *Wi-Floor* (Data monitoring, application updates...)

<sup>36</sup> ,5 represents part-time job.

<sup>37</sup> Sales will be part of *FloorInMotion*.

<sup>38</sup> Production will be part of *Tarkett* except for the Wi-Fi Antennas, externalized to a specialized manufacturer.

<sup>39</sup> Administrative personnel will be part of *Tarkett* and *FloorInMotion* regarding the job description.

<sup>40</sup> Marketing will be part of *FloorInMotion*.

and several pilot can be installed in a few stores. The objective is to propose the entire services for free in exchange of what the retailers would give feedbacks and create a co-creation process. In 2019, *Wi-Floor* would launch its version 2.0 with a more consistent software align on predictive analytics and machine learning. During that year, there will be a second co-creation process with retailers. In 2020, *Wi-Floor* could aim to expands themselves to other geographic area such as Holland, Germany and Belgium. These three countries are familiar to *Tarkett* so the project will benefit. From 2016 to 2022, there is a recruitment plan to respect.

#### Chapter IV. Perspectives for 2021 and 2022

As far as the perspectives of 2021 and 2022 are concerned, *FloorInMotion* could work on these three points:

- Expand itself in other countries. *Wi-Floor* should expand their market in Italy and Spain that are both fashion countries;
- Expand the Wi-Fi Floor solution in other market such as museums, airports, desk offices, hospitals and households. Indeed, there is an increasingly amount of connected devices in all of these sectors. The solution is suitable in a large amount of market evolving in the Internet of thing.

#### Chapter V. Regulation

##### Section A. Protection of individuals concerning personal data

In France, the 6 January 1978 law about informatics & liberty has been completely changed in the new 6 August 2004 law. The goal was to be align with the directive 95/46/EC of the European parliament and of the council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and to adapt the law to the technologic revolution and stakes (INSA, 2015). The law empowered the CNIL (Commission National de l'Informatique et des Libertés) created in 1978. Its goal is to inform people concerned about their rights and the obligation of the people that process data (CNIL, 2016).

Personal data can be defined as “any data relating to a living individual who is or can be identified either from the data or from the data in conjunction with other information that is

in, or is likely to come into, the possession of the data controller” (Data Protection Commissioner, 2015).

Concerning the obligations, the conservation of data is limited with respect to the goal of its process. Afterwards, it has to be archived or deleted. Besides, data can’t be consulted by a third party. There is then a confidential and security dimension. Finally, people concerned has to be informed about the gathering, processing and finality of data.

Concerning the rights, people has the right, without charges, to oppose to the process of its data except for legal issues. And, they have the right to refuse target marketing linked to personal information (INSA, 2015).

With the increasingly data market evolution, European Union decided to review the directive 95/46/EC that they considered has obsolete. They want to empower people concerned in terms of control of their personal data through an easier access to it, the right to delete data collected and create a parental control (European Commission, 2016).

In terms of data gathering, the project will always face regulation challenges. Personal data about customers become more and more an attractive market and European Union want to protect them against dishonest actors. *FloorInMotion* should be careful in the gathering and analyze of customer’s personal data. At the selling of its infrastructure and software, *Tarkett* should warn the retailer that their application that use *FloorInMotion*’s algorithm to create customer engagement should get along with the CNIL regulation. The customer should accept then conditions when using the app of the retailer.

## Section B. Protection against electromagnetic waves exposure

There is no explicit law about the exposure of electromagnetic waves in public. According to the International Omission on Non-Ionizing Radiation Protection (ICNIRP), High Frequencies (100 kHz to 300GHz) have no significant effect on health (Miller, 2007). The reason is that the higher the frequency is, the lower is the penetration depth (Wells, 1977). Wi-Fi routers emit 2,4 or 5 GHz frequency waves. Nevertheless, above a temperature threshold, the heat generated can generate health effects on exposed tissues (Nyborg, 2001). Below, there are no conclusive evidence of adverse health effects except a small effect on brain activity (Wu, Sajad, Syed, & MacKay, 2009).

In terms of electromagnetic waves exposure, Tarkett shouldn't be worried by any authority because the project implies only 5 GHz frequency waves.

|             |            |
|-------------|------------|
| Chapter VI. | Governance |
|-------------|------------|

*Tarkett* being the parent company of the *FloorInMotion*, the governance is related to *Tarkett*<sup>41</sup>.

## Section A. Supervisory board

The supervisory Board is the controlling body of the company. It ensures that Tarkett's business strategy is strictly applied by the Management Board. In a complement to the Supervisory Board meetings, Board members meet every other month with the Management Board for a detailed review of the Group's financial performance, operations and strategic initiatives.

The supervisory Board is composed of nine members: four members representing the Deconinck family, two representing Kohlberg Kravis Roberts & Co. L.P (KKR), and three independent members. Didier Deconinck is the Chairman of the Supervisory Board and is supported by Jacques Garaïalde (KKR) as Vice President. In accordance with Company's Bylaws and Internal Regulations, two observers of the Board were appointed.

In line with standard governance practices, the supervisory Board has set up two committees which focus on specific and complex aspects of its supervisory responsibilities. These committees have an advisory role.

- The Audit Committee is composed of three members (Guylaine Saucier, Françoise Leroy, Josselin de Roquemaurel) and chaired by Guylaine Saucier, independent member of the supervisory Board;
- The Nominations and Compensation Committee, is composed of four members membres (Gérard Buffière, Françoise Leroy, Bernard-André Deconinck, Jacques Garaïalde) and chaired by Gérard Buffière, independent member of the supervisory Board.

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<sup>41</sup> In the interest of coherence and accuracy of terms, all the explanations about Tarkett's Governance come from their official sources.

## Section B. Management board

The Management Board ensures the administration and the management of the Company. The Management Board is overseen by the Supervisory Board and is composed of three members:

- Michel Giannuzzi: Chief Executive Officer and Chairman of the Management Board;
- Fabrice Barthélemy: Chief Financial Officer;
- Vincent Lecerf: Executive Vice President Human Resources.

## Section C. Executive management committee

The Executive Committee is the Group's steering body. It includes: the Chief Executive Officer, the four Division Presidents (EMEA, Eastern Europe, North America and Sports), five functional Vice-Presidents (Finance, Human Resources, Operations, Research Innovation & Environment, Legal) and a Senior Strategy Advisor.

## Sixth part. Conclusion

### Chapter I. Feasibility and key success factors

The project of *Wi-Floor* could be considered as sustainable with a high potential of growth and return on investment for Tarkett and its shareholders. There is a payback of 5 years which is relatively rapid compared to other start-up in the same domain. However, Tarkett has to well manage this innovation by taking into account these factors:

- To focus on the development of an excellent Wi-Fi infrastructure design during 2016 and 2017. Indeed, being the media, it is the core of the interaction between the shoppers and the retailers. By launching a complete finished solution of the Wi-Fi Floor infrastructure, *Wi-Floor* will avoid additional costs in maintenance;
- To build strong partnerships with respect to the area where each activities of the project is implemented. The software and algorithms in the Silicon Valley. *FloorInMotion* and *Tarkett*, in Europe;
- To not focus on the excellence of the software and the algorithm during 2016 and 2017. It would be too costly. Instead, *FloorInMotion* should launch a beta version of the software and develop an efficient co-creation process with the retailers reached in 2018. By doing so, the cash not used in the development of the software in 2016 and 2017 could be used to improve it with respect of retailer's feedbacks and launch a version 2.0 in 2019. This second version, unlike, the first one should be perceived by the retailers as the state of the art;
- While the seeking of new clients, the salesforce should look for big groups that own a multitude of brands. By setting up an implementation plan on the different brands of the group, *FloorInMotion* will have guarantee of sales volume. Besides, it would be easier to reach a large amount of store. For the record, revenues increase exponentially with the number of store reached;
- Foresee the future trends. The marketing force should seek the future trends to take them into account in the development of future services, upgrades...

- *Tarkett* should provide a full financial support to the project;
- *FloorInMotion* should be careful in the gathering and analyze of customer's personal data. Lawyers and specialists should be consulted to define a complete conditions pact that would protect *Tarkett* from any lawsuits;
- The business unit should explore and monitor other emerging technologies such as inertial sensor (Magnetic anomalies detection) or Li-Fi. Indeed, the market in which *Tarkett* should implement its solution is growing and very attractive. Many big groups or start-ups invest and work on new indoor geolocation technologies in the purpose of being at the state of art. Partnership or venture capital with these kind of companies should beneficiate to *Tarkett* by increasing the quality, the accuracy and the price of its solution.
- Marketing force should carry out other studies to assess other potential segment such as offices, museums, home, hospital... It may find out a better or future potential opportunity to develop the business.

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## Eighth part. Annexes

### Chapter I. Survey about trends

See USB Key: "Annexe 1 - Survey about trends"

### Chapter II. Patent

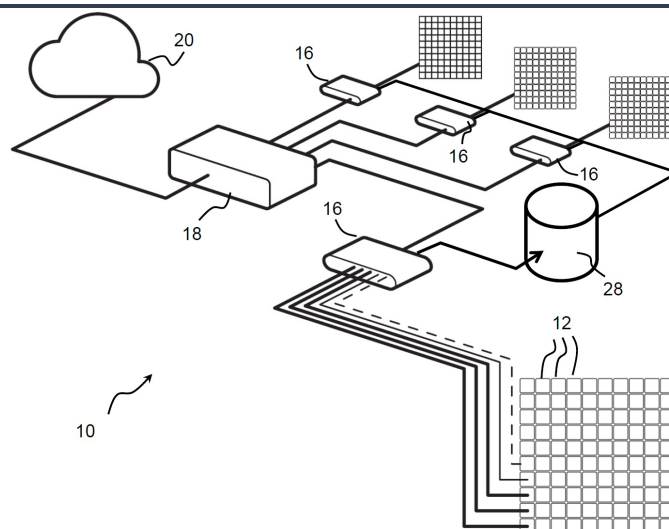


Figure 21 - Schematic illustration of a communication system according to an aspect of the in-floor antenna system

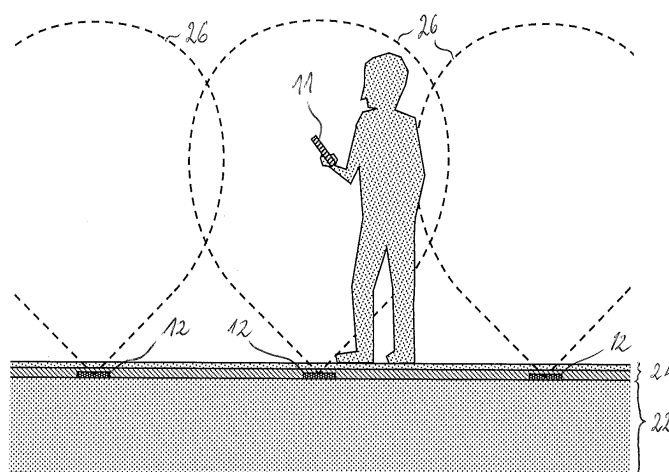


Figure 22 - Schematic illustration of a floor structure comprising WLAN antennas

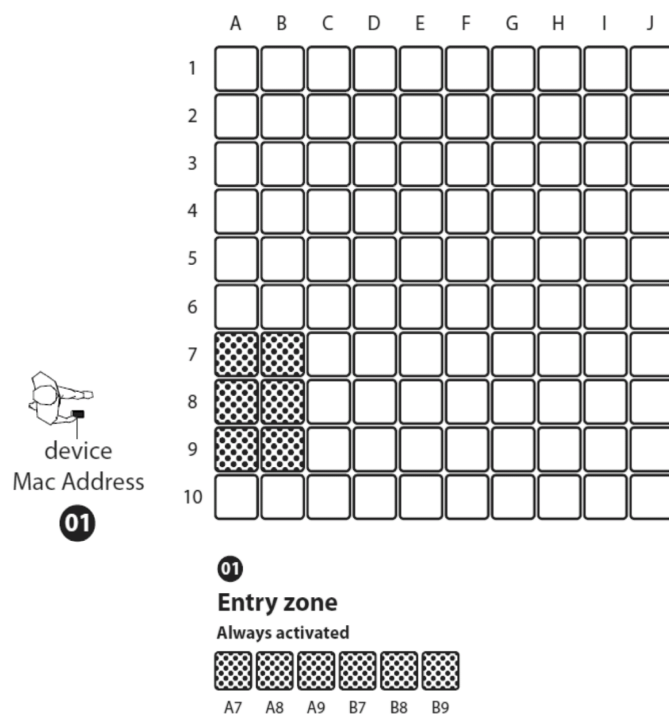


Figure 23 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

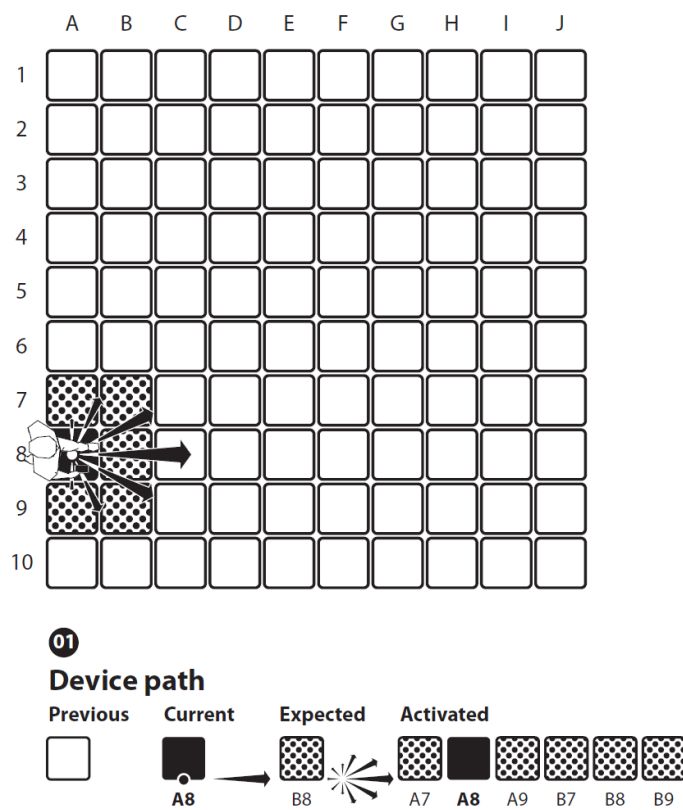


Figure 24 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

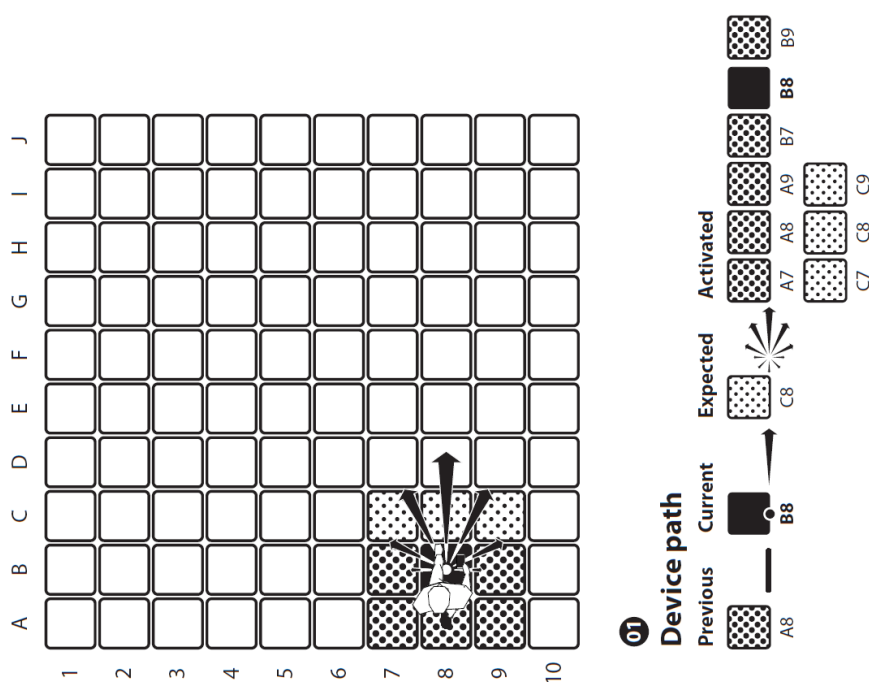


Figure 25 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

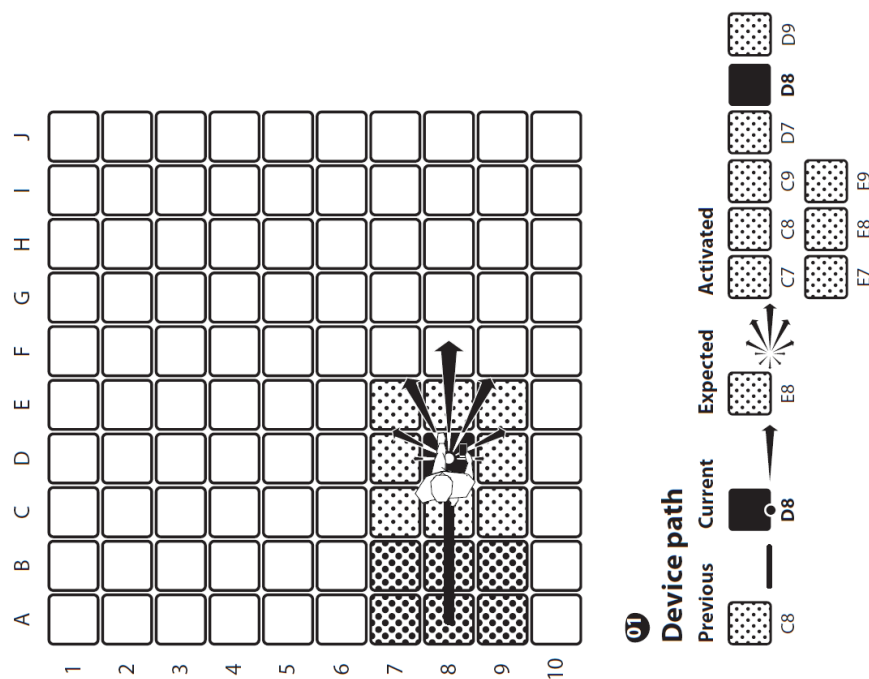


Figure 26 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

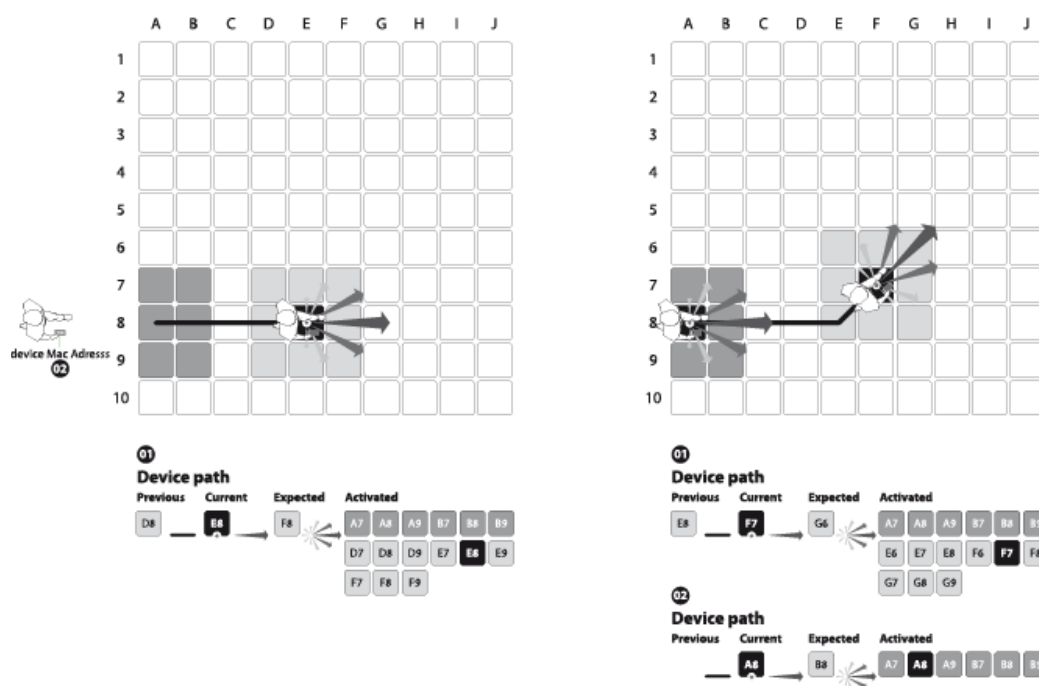


Figure 27 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

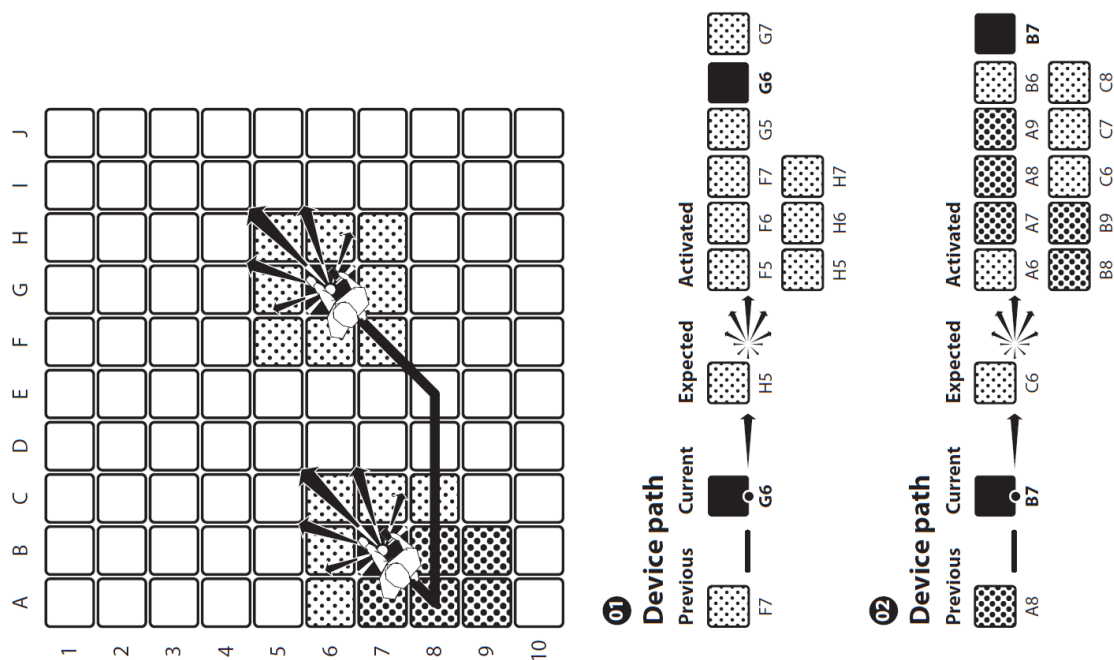


Figure 28 - Schematic illustration of the tracking of mobile devices using a distributed antenna system according to an aspect of the invention

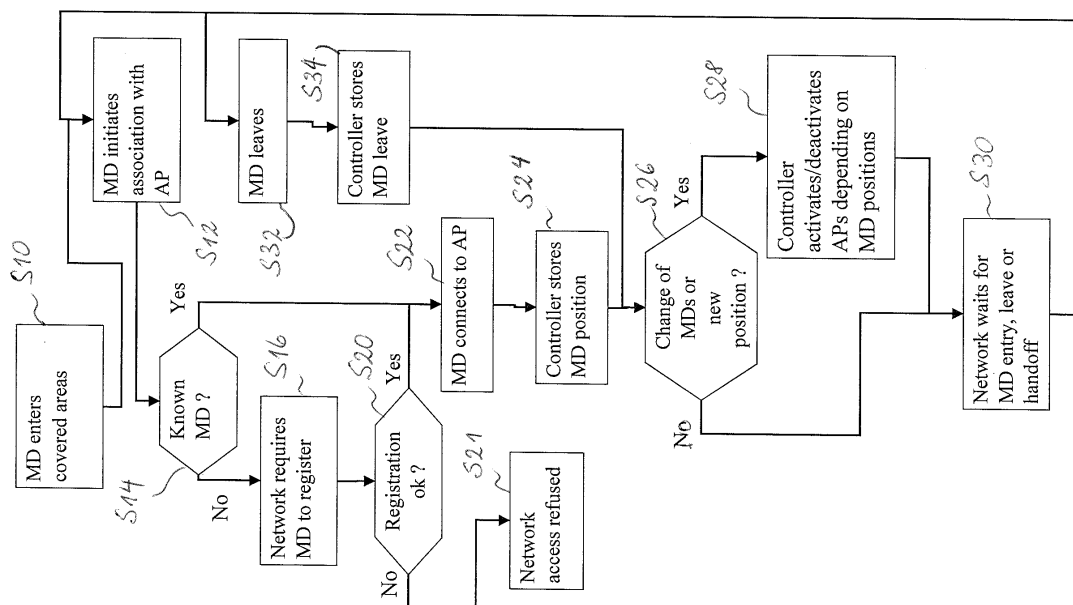


Figure 29 - flowchart of a preferred embodiment of the tracking process

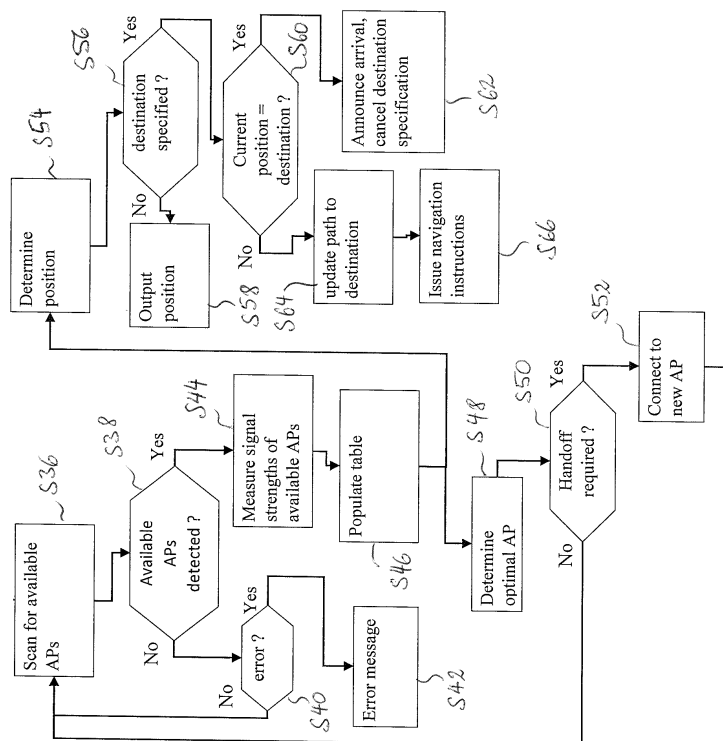


Figure 30 - a flowchart of a preferred embodiment of a process carried out by a mobile device when using a communication system according to an aspect of the invention

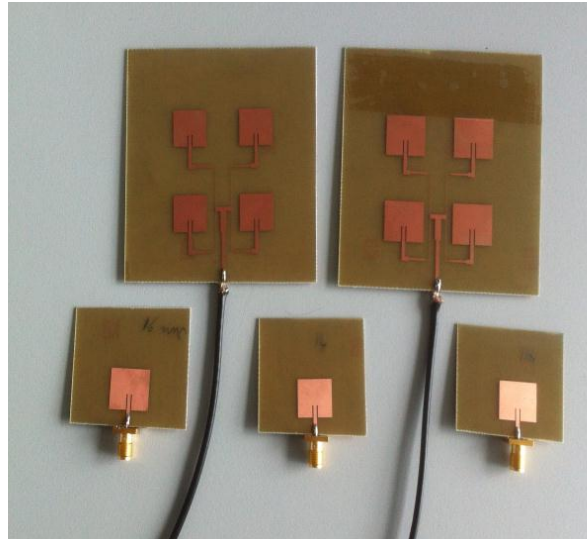


Figure 31 - Wi-Fi 4 patches and unique patch antenna prototypes

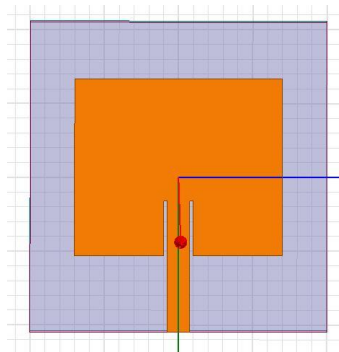


Figure 32 - Wi-Fi unique patch antenna scheme

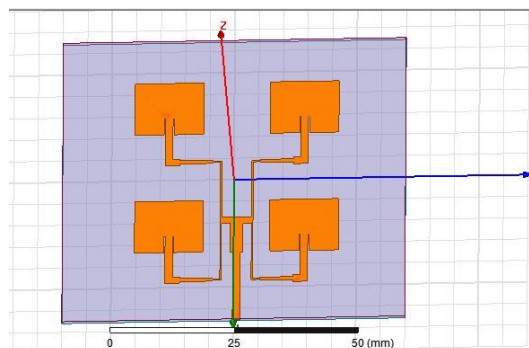
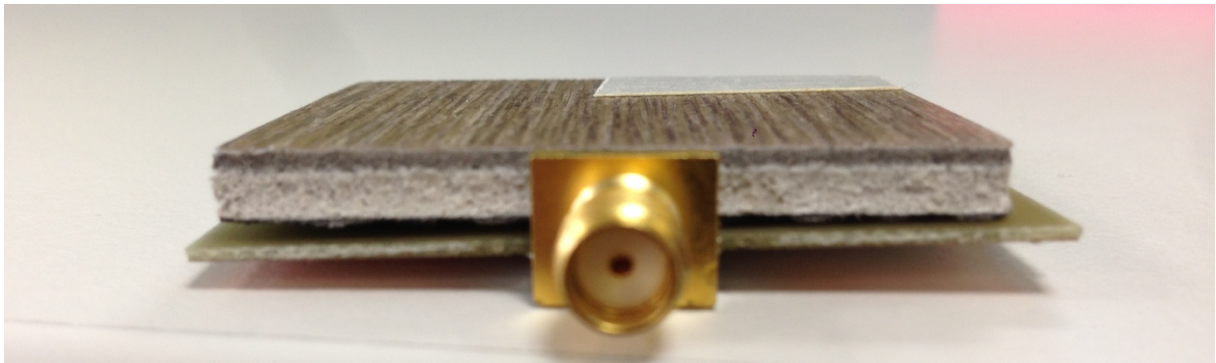
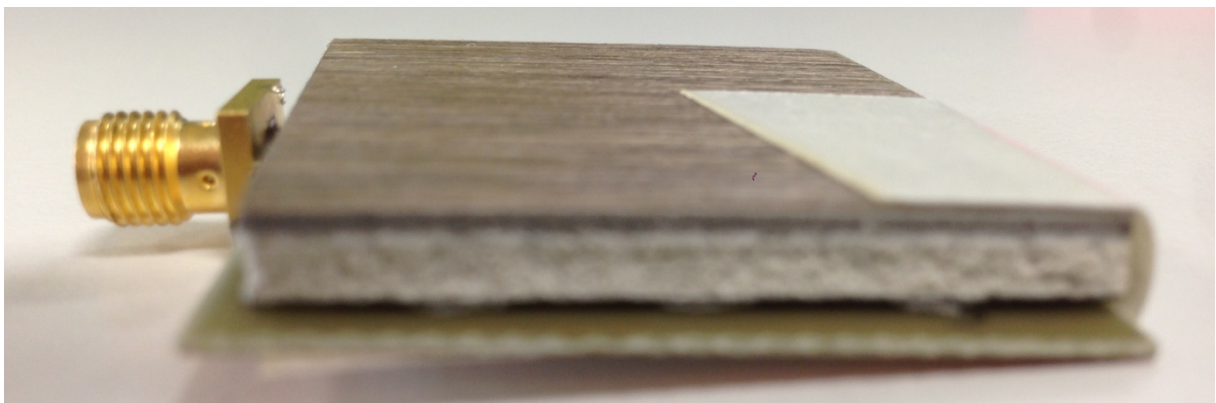


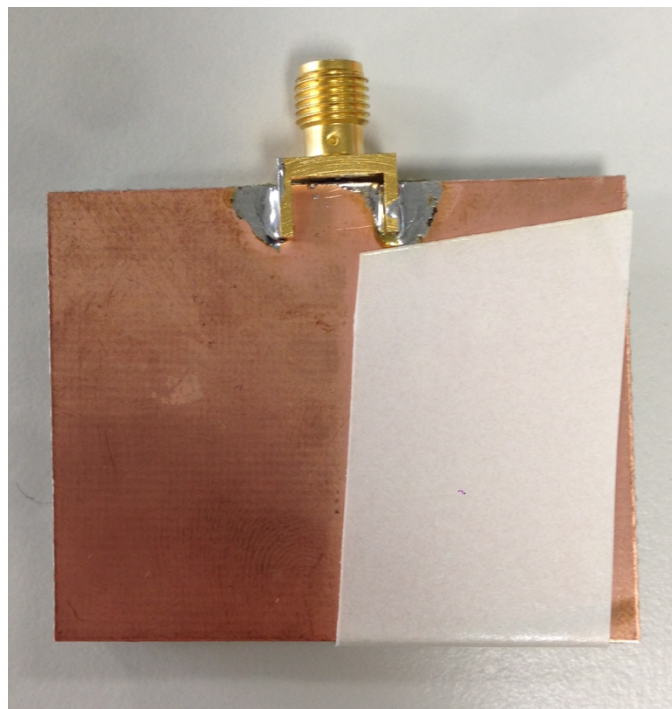
Figure 33 Wi-Fi four patches (or Array) antenna scheme



*Figure 34 - Facial picture of a unique patch antenna combined with a upper layer*



*Figure 35 - Profile picture of a unique patch antenna combined with a upper layer*



*Figure 36 - Down side picture of a unique patch antenna*

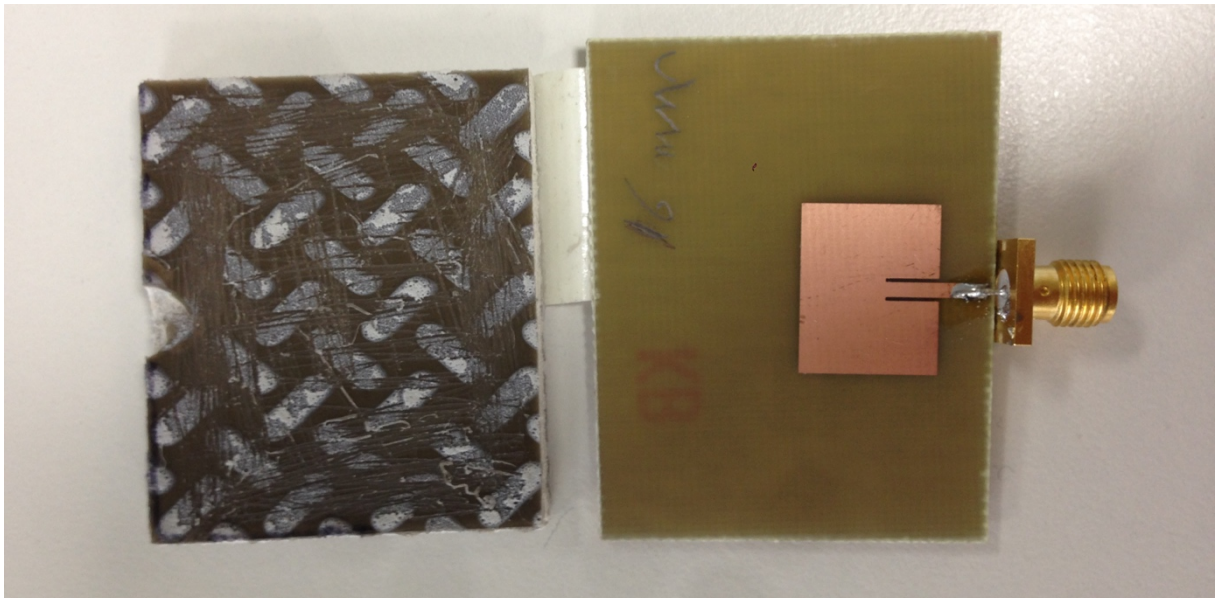


Figure 37 - Picture of the two layer, the upper layer (left) and the unique patch antenna (right)



Figure 38 - Up side picture of a unique patch combined with an upper layer

|                                           |
|-------------------------------------------|
| Chapter IV. Interview Bouygues Challenger |
|-------------------------------------------|

In the purpose of having the point of view of a pillar in the construction market, Christophe and I went to the headquarters of Bouygues Challenger, in Paris. We met Isabelle Grillaud-Labaeye and Michel Bardou, respectively Employee for the “direction Technique” department and director of the connected building R&D Cluster in the group. Being experts in the construction of buildings dedicated for open spaces or offices, they pointed out several remarks aligned with this sector. Note that the pricing strategy has not been communicated at that time because it didn’t exist yet.

*“There is no doubt that the need that you want to fulfill exists. Nowadays, the Internet of Things become more and more a priority, in all domains. Your solution is one among a thousand existing already in the market. However, I think that a Wi-Fi Floor is as brilliant that it’s simple. Clearly, the services that you can develop and offer are innumerable.”*

Both were intriguing by the solution especially about the application in the offices.

*“Obviously, you have a myriad of sector in which you can be active in with such a project... and I have no doubt on that. But, let’s talk about my sector, the construction of offices and open space.”*

We explained them what our solution would be able to offer once set up in offices such as the management of meetings, the optimization of space... and tell them an idea of general price<sup>42</sup>.

*“Well, it seems really interesting. I find the price a bit expensive and as a potential client, I would buy some slabs to set up at isolated but strategic places. It is clearly not necessary to create a matrix in offices.”*

|                                  |
|----------------------------------|
| Chapter V. Interview Point Carré |
|----------------------------------|

In the purpose of having the point of view of an entrepreneur, I decided to interview Xavier Goebels, CEO of “Point Carré”, owner of a supermarket, adventure park, chocolate and tea room, toy store. He pointed out several remarks. *“Digitalization in physical stores become more and more essential to compete with E-commerce but also to modernize shopping. I created Point Carré in 1995 and I consider myself, owner of a small entity. And even if I’m a*

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<sup>42</sup> At that time, the pricing strategy had not been developed so the general price was around 90-100€/sqm.

*small entity, I have to invest in customer experience tools, collection of data machine, CRM... It is quite important to be up-to-date. When we analyze the trends and solutions for such needs with my business developer, we can say that all the solutions whether provided by big companies or smaller ones tends to a fully integrated system from the sensor to the point-of-sales machine."*

*"Concerning your invisible solution using the floor, I would say that the concept is quite intriguing and original. And the fact that you want to give real meaning to data collected bring value because it takes time to understand, when you look on a screen data, the conclusions to take from and the decision to make. The accuracy of the solution is important. Indeed, other technologies could be really imprecise and mislead the retailer."*

*"However, I have some issues concerning the price of the solution. For the value proposition that you deliver to the retailer, 90€/sqm is quite expensive, at any rate, for small entity as mine. A solution could be to propose the selling of isolated antenna which could reduce the price. For example, sell only four isolated antennas to set up at the entry of the store to count the entrance and the exit of the customers. Or, for the price asked, you could propose more client services. Indeed, free Wi-Fi become more and more universal in physical store and Belgium (Orange) want to catch up in terms of internet access by cellular. So, it could be great to insist on what the retailers have to put forwards so that the customers would make the step to connect to the Wi-Fi. In short, they have to understand what they gain in addition of the free Wi-Fi."*

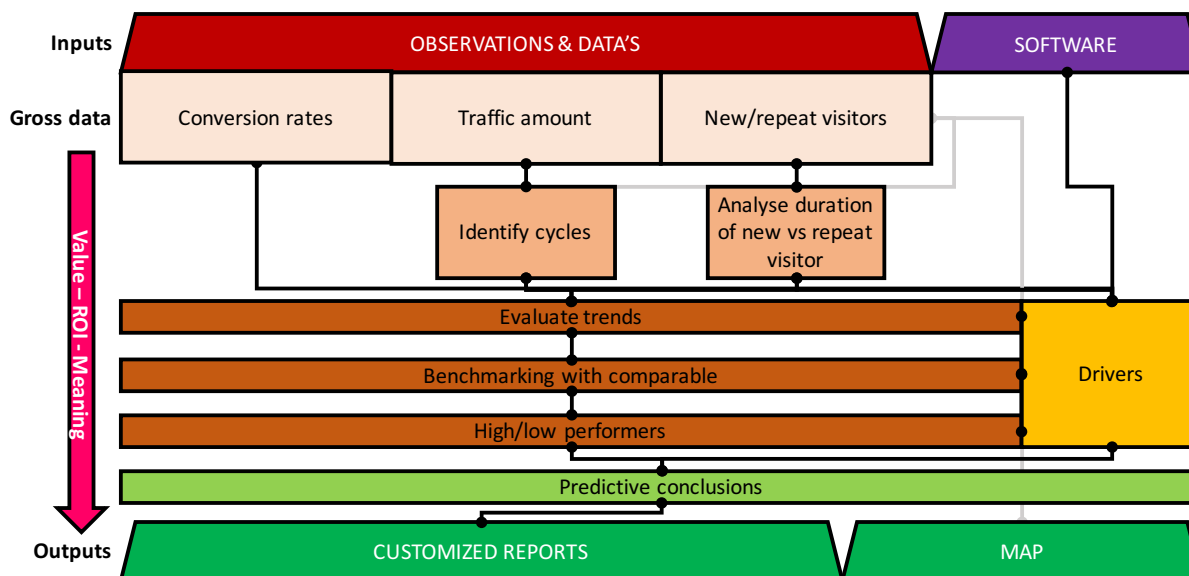
*"Clearly, I think that your solution is more appropriate for big people flow and big store as H&M or Zara that have the resources to invest in this kind of performant but expensive solution".*

## Chapter VI. Services provided

### Section A. Traffic counting & conversion services

| Picto | Services                                      | Description                                                                         | purpose                                                                              | Wi-Fi Flooring solution |                                                                 |          |                                                                 |
|-------|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------|----------|-----------------------------------------------------------------|
|       |                                               |                                                                                     |                                                                                      | Possible                | How?                                                            | Possible | How?                                                            |
|       | Conversion rates                              | Identify the rate at which a visitor become a buyer                                 | To know how much the retail store is attractive for a visitor to buy                 |                         | Identify the customer at the entrance and the exit of the store |          | Identify the customer at the entrance and the exit of the store |
|       | New vs repeat                                 | Identify new and repeat customer                                                    | Analyse their behaviour to understand what are the drivers that influence both types |                         | Identify the customer at the entrance and the exit of the store |          | Identify the customer at the entrance and the exit of the store |
|       | Traffic analysing                             | Identify traffic                                                                    | To better manage traffic flow                                                        |                         | Detect the traffic in the store                                 |          | Detect the traffic in the store                                 |
|       | Identify norms, trends and outliers + Drivers | Identify what are the trends in the retail store in terms of traffic and conversion | To know how well will be the business in the near future                             |                         | Use of dedicated software                                       |          | Use of dedicated software                                       |
|       | Identify high/low performers + Drivers        | Identify what are the best and worst performers in terms of traffic and conversion  | To know the drivers of performance                                                   |                         | Use of dedicated software                                       |          | Use of dedicated software                                       |
|       | Benchmarking by regions for any time range    | Identify and compare performance with comparable                                    | To know the drivers of performance                                                   |                         | Use of dedicated software                                       |          | Use of dedicated software                                       |

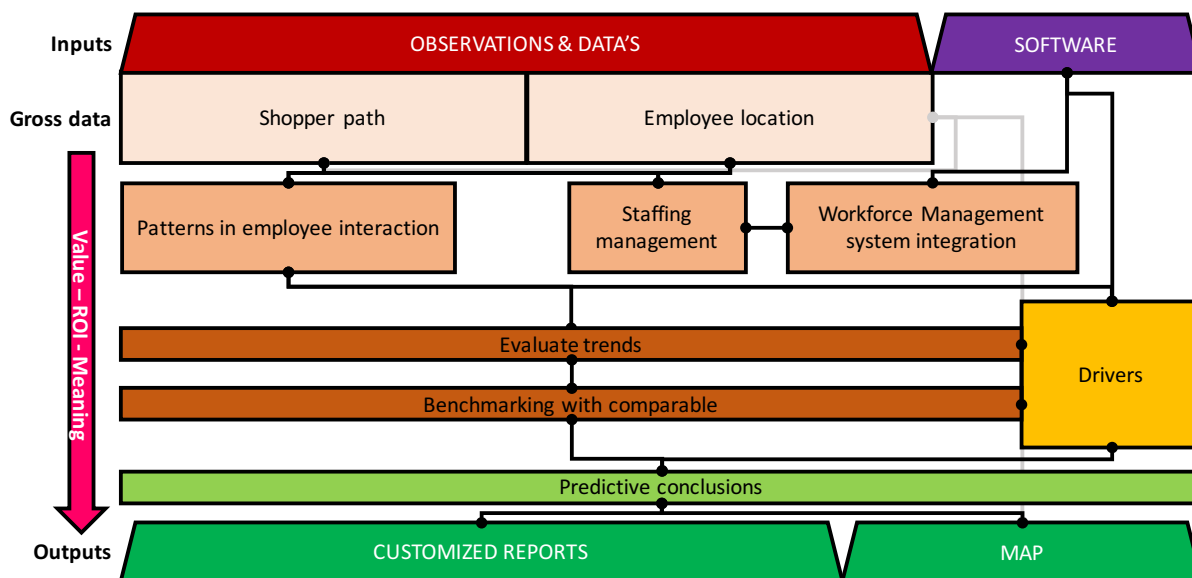
Data analytics services – Customer engagement services – Predictive analytics services – Other services



## Section B. Operational efficiency services

| Picto | Services                                | Description                                                                                          | purpose                                                                                           | Wi-Fi Flooring solution |                                                                          |          |                                                                          |
|-------|-----------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------|----------|--------------------------------------------------------------------------|
|       |                                         |                                                                                                      |                                                                                                   | Possible                | How?                                                                     | Possible | How?                                                                     |
|       | Staffing management                     | Manage staff in terms of peak and slow traffic periods                                               | To decrease the queue time, increase assistance                                                   |                         | Traffic detection in the store                                           |          | Traffic detection in the store                                           |
|       | Permissioning                           | Personalized access in the IT System for employee                                                    | To keep control on employees                                                                      |                         | Use of dedicated Software                                                |          | Use of dedicated Software                                                |
|       | ROI                                     | Define the ROI for the solution                                                                      | To know the return on the investment done for the data collection and customer behaviour analysis |                         | Use of dedicated Software                                                |          | Use of dedicated Software                                                |
|       | Workforce management system integration | Solution integration in the IT System                                                                | To beneficiate of the Workforce management system synergies with the data's collected             |                         | Use of dedicated software                                                |          | Use of dedicated software                                                |
|       | Patterns in employee interactions       | Identify the context in which employee's and customers interact (When, for what, where, how long...) | Enhance customer experience by understand the needs of customers                                  |                         | Use of dedicated software and involvement of the employee in the process |          | Use of dedicated software and involvement of the employee in the process |

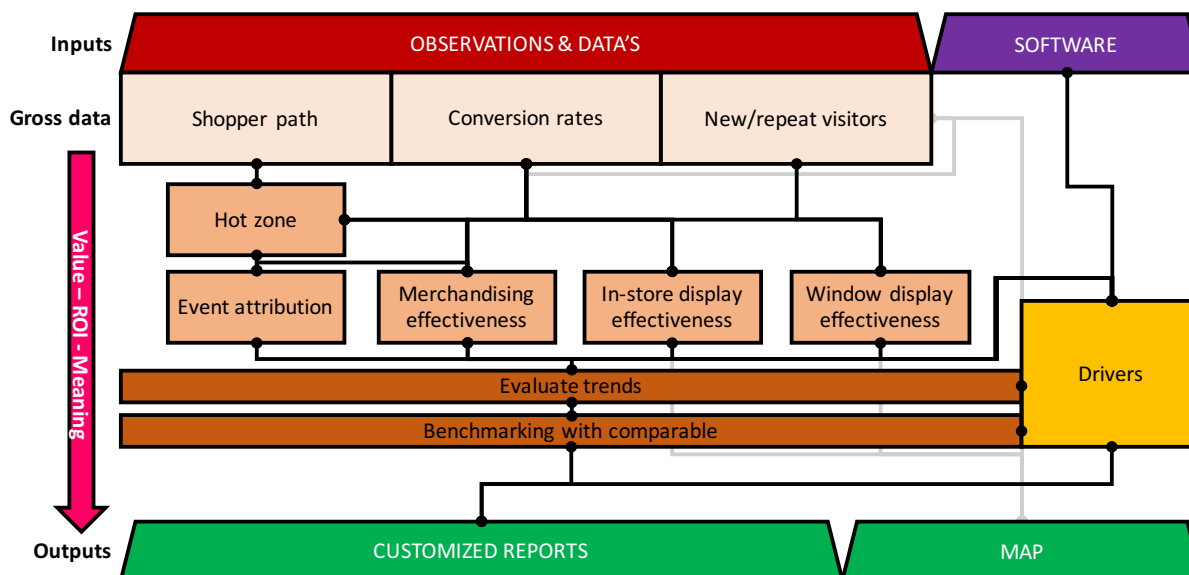
Data analytics services – Customer engagement services – Predictive analytics services – Other services



## Section C. Marketing, window & display effectiveness services

| Picto | Services                                      | Description                                                                             | purpose                                                                                                | Wi-Fi Flooring solution |                                                |          |                                                |
|-------|-----------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------|----------|------------------------------------------------|
|       |                                               |                                                                                         |                                                                                                        | Possible                | How?                                           | Possible | How?                                           |
|       | Event attribution                             | Identify the hot zone, the rise of revenues attributed to the event                     | To know how well an event in the store (taste introduction, discount period) boost the store revenues. |                         | Detect the hot zones and identify the customer |          | Detect the hot zones and identify the customer |
|       | Evaluate the appeal of the in-store display   | Evaluate the attraction and the hot zone near some specific area, section in the store. | To know the attractiveness of each area in terms of display.                                           |                         | Detect the hot zones and identify the customer |          | Detect the hot zones and identify the customer |
|       | Evaluate the merchandising effectiveness      | Evaluate the effectiveness of the merchandising by area, section in the store.          | To know high/low merchandising's strategy performance.                                                 |                         | Detect the hot zones and identify the customer |          | Detect the hot zones and identify the customer |
|       | Evaluate the appeal of the window display     | Evaluate what is the rate of customers visiting the store after looked the window.      | To understand the drivers that attract customers in the store.                                         |                         |                                                |          | Identify the customer                          |
|       | Identify norms, trends and outliers + Drivers | Identify what are the trends in the retail store in terms of traffic and conversion     | To know how well will be the business in the near future                                               |                         | Use of dedicated software                      |          | Use of dedicated software                      |
|       | Benchmarking by regions for any time range    | Identify and compare performance with comparable                                        | To know the drivers of performance                                                                     |                         | Use of dedicated software                      |          | Use of dedicated software                      |

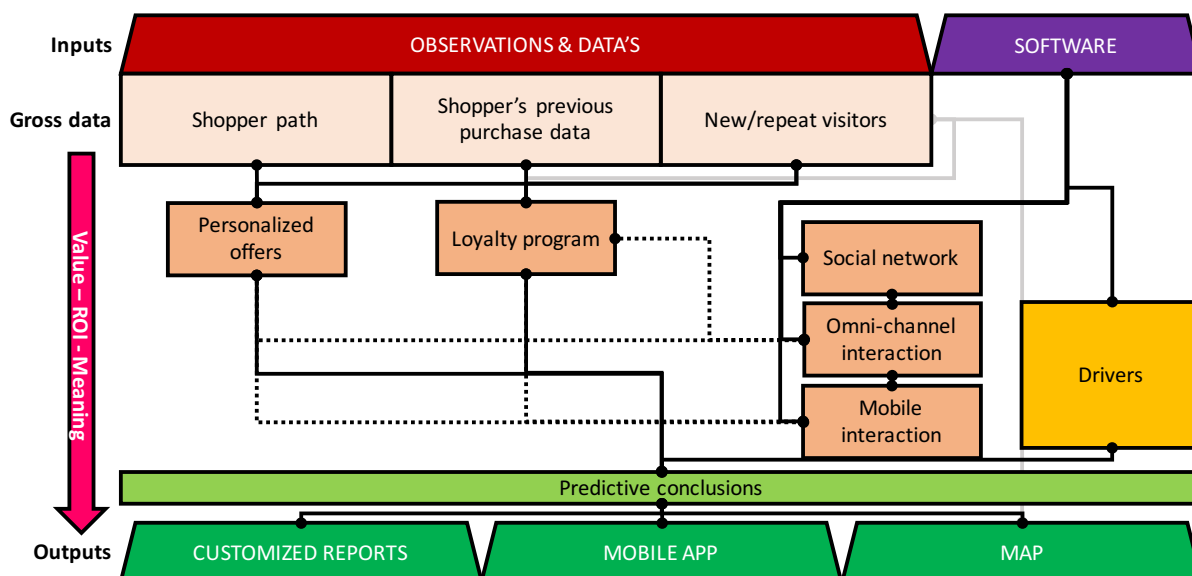
Data analytics services – Customer engagement services – Predictive analytics services – Other services



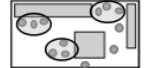
## Section D. Shopper engagement services

| Picto | Services                 | Description                                                                                                   | purpose                                                                            | Wi-Fi Flooring solution |                                                              |          |                           |
|-------|--------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------|----------|---------------------------|
|       |                          |                                                                                                               |                                                                                    | Possible                | How?                                                         | Possible | How?                      |
|       | Omni-channel interaction | To combine channel to interact with customers.                                                                | To keep a healthy relationship with customers and enhance the customer experience. |                         | Use of dedicated software                                    |          | Use of dedicated software |
|       | Personalized offers      | To send personalized offers to the customers.                                                                 | To keep a healthy relationship with customers and enhance the customer experience. |                         | The customer can find personalized offers on the application |          | Push notifications        |
|       | Gamification             | To create a funny atmosphere in all the action of the customers from the entry to the leaving from the store. | To enhance the customer experience.                                                |                         | Use of dedicated Software                                    |          | Use of dedicated Software |
|       | Social network           | To create an interaction between social networks, customers and the retailers.                                | To enhance the customer experience and create viral marketing phenomena.           |                         | Use of dedicated software                                    |          | Use of dedicated software |

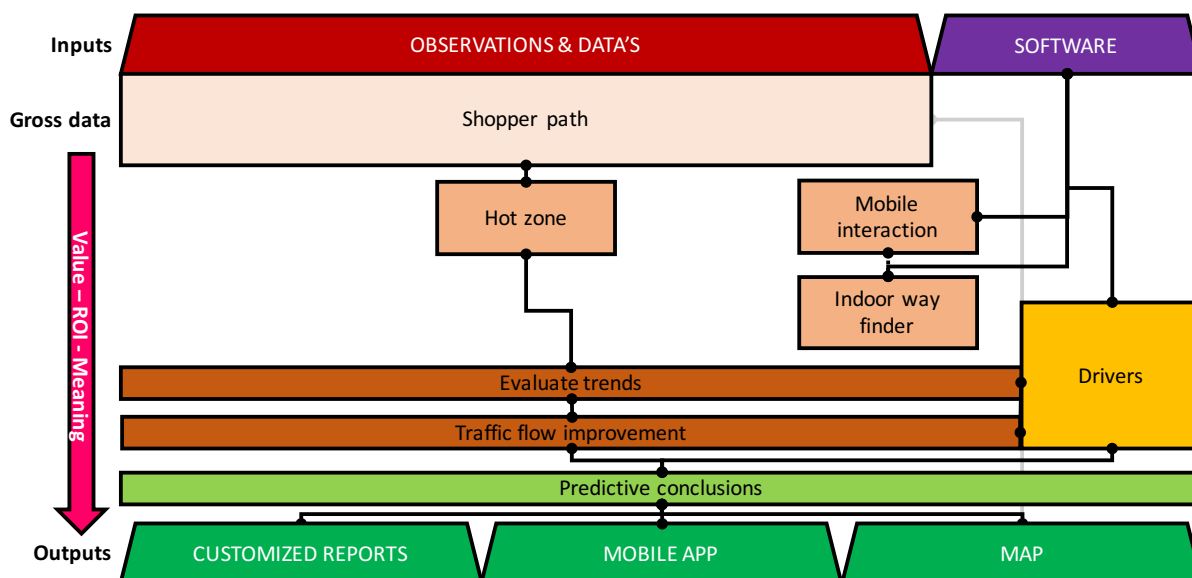
Data analytics services – Customer engagement services – Predictive analytics services – Other services



## Section E. Shopper path analysis services

| Picto                                                                             | Services                                      | Description                                                                         | Purpose                                                                              | Wi-Fi Flooring solution |                                                                        |          |                                                                        |
|-----------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------|----------|------------------------------------------------------------------------|
|                                                                                   |                                               |                                                                                     |                                                                                      | Possible                | How?                                                                   | Possible | How?                                                                   |
|  | Shopper path                                  | Track customer during their journey in the store (path, duration...)                | Increase traffic flow, display layout,...                                            |                         | Identify the customer in the store and track him via their smartphones |          | Identify the customer in the store and track him via their smartphones |
|  | Hot zone                                      | Identify which areas, products are the most frequented.                             | Increase traffic flow, decrease queue management...                                  |                         | Identify the customer in the store and track him via their smartphones |          | Identify the customer in the store and track him via their smartphones |
|  | Traffic flow                                  | Improve traffic flow, decrease queue management...                                  | Decrease waiting time for customers and enhance, by consequence, customer experience |                         | Identify the customer in the store and track him via their smartphones |          | Identify the customer in the store and track him via their smartphones |
|  | Indoor way finder                             | Provide Indoor way finder services to customers                                     | Enhance customer experience                                                          |                         | Geolocation through Wi-Fi can guide the customer indoor                |          | Geolocation through Wi-Fi can guide the customer indoor                |
|  | Identify norms, trends and outliers + Drivers | Identify what are the trends in the retail store in terms of traffic and conversion | To know how well will be the business in the near future                             |                         | Use of dedicated software                                              |          | Use of dedicated software                                              |
|  | Benchmarking by regions for any time range    | Identify and compare performance with comparable                                    | To know the drivers of performance                                                   |                         | Use of dedicated software                                              |          | Use of dedicated software                                              |

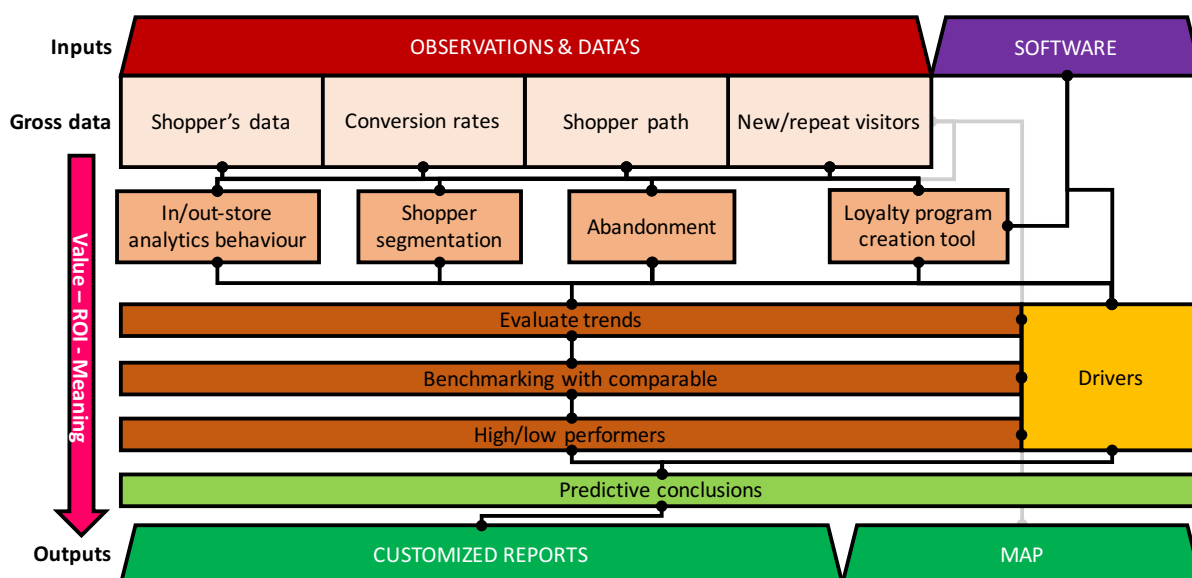
Data analytics services – Customer engagement services – Predictive analytics services – Other services



## Section F. Shopper insights services

| Picto | Services                                                     | Description                                                                                   | purpose                                                                                     | Wi-Fi Flooring solution |                                                                                                              |          |                                                                                                              |
|-------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------|
|       |                                                              |                                                                                               |                                                                                             | Possible                | How?                                                                                                         | Possible | How?                                                                                                         |
|       | Customers segmentation                                       | Identify category of customers by different characteristics (age, mood, ethnicity, gender...) | Better target customers in terms of discount, offers, merchandising...                      |                         | Identify the customer via their smartphones                                                                  |          | Identify the customer via their smartphones                                                                  |
|       | Abandonment                                                  | Identify the drivers of abandonment.                                                          | To create a strategy to decrease abandonment and increase, by consequence, conversion rate. |                         | Identify the customer via their smartphones and the use of dedicated software                                |          | Identify the customer via their smartphones and the use of dedicated software                                |
|       | In-store and online shopping behaviour analytics combination | Combine customer behaviour analytics from online and in-store shopping.                       | To define more relevant conclusions from behaviour analytics.                               |                         | Identify the customers and may be integrated to the IT system that already has the online shopping behaviour |          | Identify the customers and may be integrated to the IT system that already has the online shopping behaviour |
|       | Loyalty programs                                             | Personalized loyalty programs creation.                                                       | Better manage customer relationship management and enhance customer experience.             |                         | Identify the customer via their smartphones                                                                  |          | Identify the customer via their smartphones                                                                  |
|       | Identify norms, trends and outliers + Drivers                | Identify what are the trends in the retail store in terms of traffic and conversion           | To know how well will be the business in the near future                                    |                         | Use of dedicated software                                                                                    |          | Use of dedicated software                                                                                    |
|       | Benchmarking by regions for any time range                   | Identify and compare performance with comparable                                              | To know the drivers of performance                                                          |                         | Use of dedicated software                                                                                    |          | Use of dedicated software                                                                                    |

Data analytics services – Customer engagement services – Predictive analytics services – Other services



Chapter VII. Details of the volume by sectors

See USB key "Annexe 7 - Volume"

Chapter VIII. Potential market details

See USB key "Annexe 8 – Potential market details"

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| Chapter IX. Competitive analysis |
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See USB key “Annexe 9 - Competitive analysis” & “Annexe 9bis – Competitive analysis”

|                                       |
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| Chapter X. Technologies in the market |
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See USB key “Annexe 10 – Competitive technology assessment” & “Annexe 10bis – Competitive technology assessment”