

#WHO OWNS THE FUTURE ?

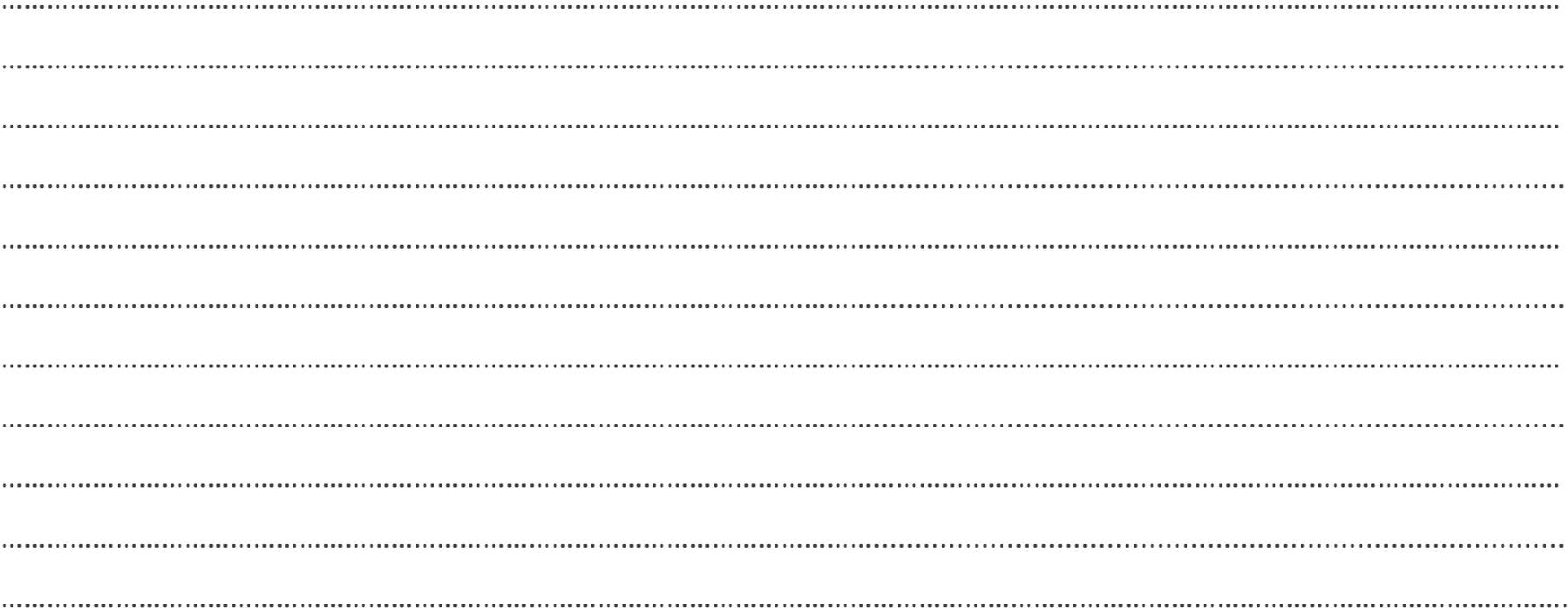
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PERSONAL FINANCE

TREND REPORT

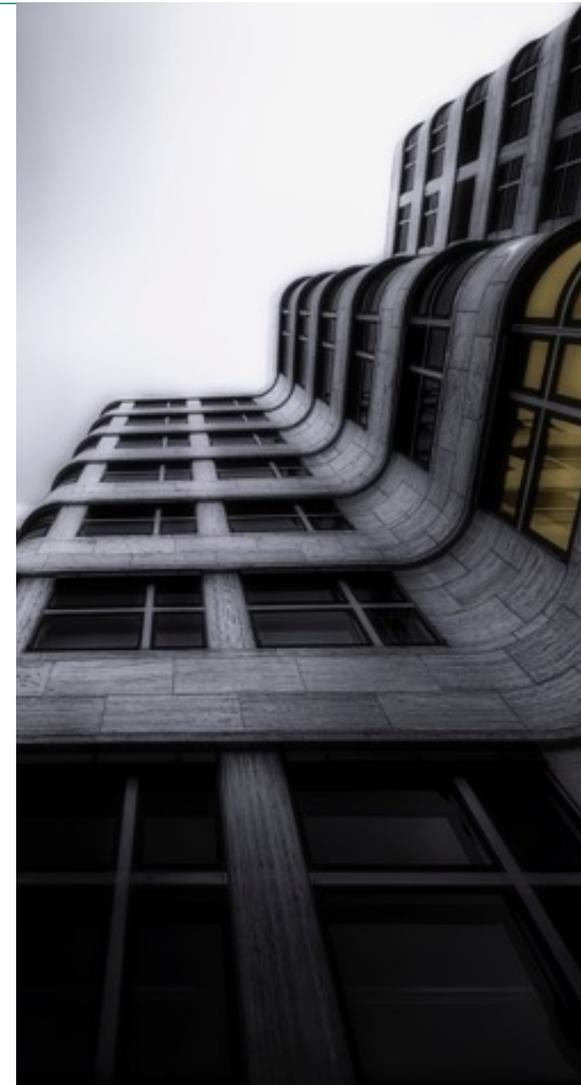


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FOREWORD



Commerce is reinventing itself and moving from the transactional world to the experiential world and vice versa. The future will be built around smart data and experiences. Command of customer knowledge will become central. The field of action is widening. It is leading to ever more significant ecosystems in our daily lives. Ultimately it is reinventing the fundamentals of commerce at a time when a shakeup is already underway.



FOREWORD

Web Summit, Shoptalk, CES and Retail's Big Show are essential sources of inspiration. At these different trade fairs the technologies that will shape an unprecedented cartography of commerce are emerging.

The Echangeur team invites you to anticipate **eight trends**, upcoming revolutions, to better understand the ongoing changes in course of the key players in commerce.

- #1 Artificial intelligence: digital black gold**
- #2 Commerce will be conversational or not at all**
- #3 The point of sale, the experiential playing field of a seamless experience**
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- #7 The Marketplaces redraw exchanges**
- #8 China, the new model for commerce?**

FOREWORD

ARTIFICIAL INTELLIGENCE, THE BLACK GOLD OF DIGITAL

Recent years have been marked by the hybridisation of previously isolated technologies. This alchemy has infinitely enlarged the field of possibilities. The recent entry of artificial intelligence into this crucible has been a seismic bomb, accompanied by its resulting shock waves. The Sophia robot, created by Hanson Robotics, and presented at the last Web Summit, crystallised the hopes and fears of humans for artificial intelligence.

The 2018 projection of artificial intelligence is finally palpable. China has overtaken Silicon Valley, with practical implementations in their local markets (face recognition for payments, real-time scoring, smart cities). While advances such as "Face ID" on the iPhone X arrived at the end of 2017, facial recognition is already used as an identifier for payments in China via Alibaba. Easily transposable, these Chinese advances are moving into other countries, crossing borders, cultures, and regulations, and reinventing our future Western ecosystems.

COMMERCE WILL BE CONVERSATIONAL OR NOT AT ALL

2017-2018 marks the advent of conversational commerce, made commonplace by chatbots and augmented by voice assistants. These are likely to spread massively over the coming years into customers' daily lives. Gartner predicts that by 2020, 85% of customer/brand interactions will take place via artificial intelligence. Allowing Amazon Alexa or Google Home to dominate voice assistants represents a critical risk for brands' visibility. Indeed, this movement, supposed to attract consumers towards products, has

been reversed. It is products that are now moving towards consumers and discreetly infiltrating themselves into their lives. Brands and companies have every interest in developing their own voice assistants in order to continue to express their values and differences, whether directly or via GAFA ecosystems. In any event, the user interface of the future is looking to be voice.

THE POINT OF SALE, THE EXPERIENTIAL PLAYING FIELD OF A SEAMLESS EXPERIENCE

Increasingly ephemeral steps, but ones still essential to new customer experiences, stores are reinventing their anchoring and links with virtual worlds to outdo one other. Stores are reinventing themselves. Store concepts are flourishing in cities such as New York, Paris, London and Shanghai. They are seeking a fluid and experiential customer experience that gives meaning to the physical store. The goal is clear: attracting different generations through unique experiences and brand showroom concepts.

There are varied illustrations. After deploying the first vendor-less stores, "Suning Sports Bju" is already planning to open more in China in 2018. Like Alibaba, Amazon is moving into the high street with its Book Stores, and more recently with their first food store in Seattle. Dyson is showcasing its products in experiential stores in New York and London. American Eagles, in Union Square, offers the most advanced approach by providing services that are totally in tune with their surrounding student clientele.

FOREWORD

RELATIONS VIA IMAGE BECOME WIDESPREAD AND SELL

As information and interactions multiply to the point of saturating our capacity for assimilating them, image and video are taking a prominent role in appealing to new generations. Driven by artificial intelligence, and spearheaded by image recognition, images are increasingly finding their way into all acts of purchase. They are also tracking customers in stores in order to optimise the customer experience.

Amazon Go is making a buzz with the automation of image recognition at the checkout, but the reality is very different! In fact it's the camera on our smartphones which will gradually turn into a "purchase" button. Images are universal and do not require translation, they are the ideal link between the physical world and e-commerce. O2O strategies (online to offline), implemented by Amazon and Alibaba, perfectly embody this seamless and totally digital commerce, driven by images.

SPACES FOR EXCHANGES BECOME VIRTUAL

Augmented reality is becoming widespread and structured around mobile, following announcements by Apple and Google on the subject. A great opportunity to bring digital content to life is opening up before us. By 2020, several million consumers will purchase via augmented reality. Not to mention volumetric video, which is opening up a field of possible infinite possibilities for brands.

Growing up in the virtual worlds of their game consoles, and armed with their smartphones, Millennials, and more especially GenZ, (the next generation), are

all the more easily attracted to these new spaces for virtual exchanges. The drivers of this field, the new generations are inciting commerce to be considered differently, extending to sponsorship by brands, focusing, for example, on E-Sports.

HYPER AUTOMATION REINVENTS VALUE CREATION

Blockchain combined with Bitcoin and other more or less fashionable crypto currencies are moving into numerous sectors of activity. It is securing and tracking merchandise in sectors such as aviation, automotive and distribution. Its technology is leading the way for a decentralisation of exchanges. It could give citizens back power over their personal data.

In parallel with the spread of the blockchain, the new wave of automation, embodied by robolution (robot revolution), is also shaking up production models. This raises the question of the future of employment, as the World Economic Forum predicts that over half of current jobs could be automated by 2050.

This evolution of production and exchange models makes it necessary to rethink value creation at all levels of the production and distribution chain.

FOREWORD

THE MARKETPLACES REDRAW EXCHANGES

While it suits administrations and States to assimilate new technologies in order to give them a collective meaning, other States are organising themselves. Powerful ecosystems are locking in their positions via service platforms (aggregation of services, technical platforms) to support logistics performance and customer satisfaction. Amazon accounts for 45% of online commerce in the US, with a capitalisation of 700 billion dollars.

While this type of player is impacting the retail world, it is also strongly challenging existing business models. Sectoral logic no longer makes sense. Automobile factories thus belong to another century, when the car is no longer the central value, and is driving the automotive world to rethink its vocation. Ford announced at the latest CES in Las Vegas: "We need to function as a platform operator and service provider partner, rather than just as a simple manufacturer".

CHINA, THE NEW MODEL FOR COMMERCE?

GAFA* (USA) platforms have never been so far behind BATX* (CHINESE) on their own territory. While Amazon has bought Whole Foods, Alibaba is multiplying interactions between its online marketplaces and the physical world. Its investment of 2.44 billion euros in Sun Art retail Group (the main hypermarket operator in China, of which Auchan is the majority shareholder) is the cornerstone, with 490 stores in China!

The increasingly close involvement of these giants with commerce, automobiles and health, is not only reinventing the cartography of marketplaces, but also that of States and their administrations.

With the recent announcement of the nationalisation of its iCloud in China, Apple is demonstrating the ability of China to prevail not only in terms of technology and economics, but also in the context of legal wrangling. This is raising China's ambitions to the world stage.

*GAFA: Google Apple Facebook Amazon – BATX: Baidu Alibaba Tencent Xiaomi

Ultimately, who owns the future?

#WHOOWNSTHEFUTURE



INTRODUCTION

INTRODUCTION

DO YOU REALLY KNOW THE CONSUMER OF TOMORROW?

For the last 3 years, marketing teams have been desperately seeking the ideal strategy for attracting Millennials to their websites and stores. As everyone endlessly discusses this generation, it may be too late to try to understand them. We have to look further ahead: the next generation is coming and it will change everything!

MILLENNIALS ...MAKE WAY FOR GENZ!

Millennials, a young generation targeted by marketers, now represents 22% of the American population. GenZ, the next generation of under-20s, now represents a crop of 24% of new green shoots. This new generation will represent 25% of US employees by 2025 (source Deloitte). It is therefore essential to anticipate their nascent aspirations and consumption habits.

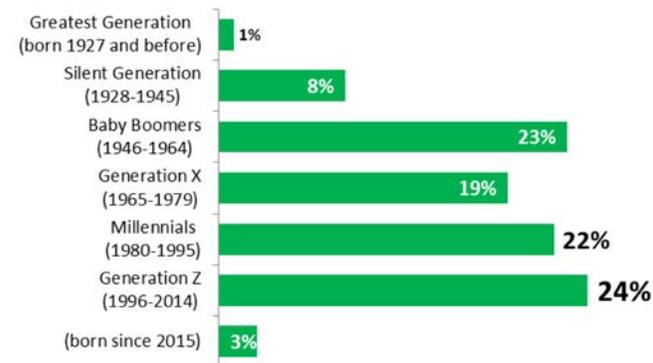
GenZs are comfortable with new technologies. 92% of them (source: pew research) connect to the internet every day via their smartphones (75% of connections via mobile).

They spend their free time online (74% of them), and more particularly on social networks such as YouTube and Instagram. In light of an ageing Facebook, the social networks that benefit from their preferences are related to video or images. 50% admit they can't live without YouTube! This dependence is partly related to the rise of young people learning via tutorial videos. And of course, for this activity, once again it is YouTube that is the reference. 85% of

GenZs search online for videos to learn new skills and knowledge. They are also very keen on the Khan Academy website, which was created from mathematics tutorials on Youtube. This made the fortune of its creator Samuel Khan, praised by Bill Gates. Youtube EDU is currently surfing this trend, and has over 10 million subscribers in the US.

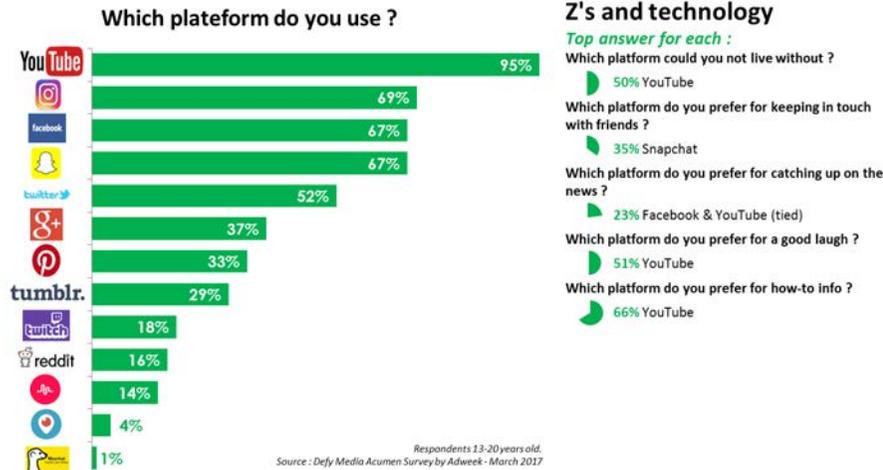
When it comes to staying in touch with their friends, 35% of them prefer Snapchat to the traditional SMS. They do not consider Facebook as a social network but as a medium. It is a source of information for this young generation. Their favourite mobile activities focus on three points: 73% on chat, 59% on entertaining content (mainly videos), and 58% on playing.

U.S. population by generation



Source : U.S. Census estimates for 2016

INTRODUCTION



In the table above, beyond the very strong penetration of YouTube in under-20s, it is the position of Twitch.TV that should arouse the most interest. On this platform, owned by Amazon, 18% of under-20s watch videos of people playing online video games. It is an attractive business for the Seattle giant, which is gaining a foothold with tomorrow's consumers by investing their favourite playground. Other brands, such as Coca-Cola and Reebok have also seen the interest in sponsoring eSports games. Perhaps they listened to l'Echangeur, which has been recommending this market for the last two years?

Even if they have no income, GenZ are proving to be influential consumers. GenZs want have a close relationship with their favourite brands. In Japan, 50% of them want to be able to leave opinions on the products they buy. In

India, over 50% of under-20s want to participate in the design of new products, while in Mexico they want to be literally involved in brands' marketing strategies.

They are savvy consumers. In the United States, 66% are very attentive to brands and the quality of their products. 46% of their purchases are influenced by their friends. While the engagement was highlighted in the last Service Centric report by l'Echangeur, 45% of GenZs also say they are very sensitive to the ecological and social commitment of the brands they buy. Nike has understood this well, with its campaign on equal opportunities widely promoted in stores. Taking it to its logical extent, Nike will soon close its store on 57th Street. The Oregon brand refuses to continue paying rent to a company owned by Donald Trump.



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An essential target for any marketing department, GenZ are key influencers in home purchases. Thus, 77% of them say they influence their homes' food purchases, and 76% their homes' furniture (source IBM/NRF). This reinforces the idea that the transaction stage is not as important as that of decision-making. Brands must increasingly target youths, beyond those who finance purchases. Their growing influence is becoming decisive for a large number of points of purchase.

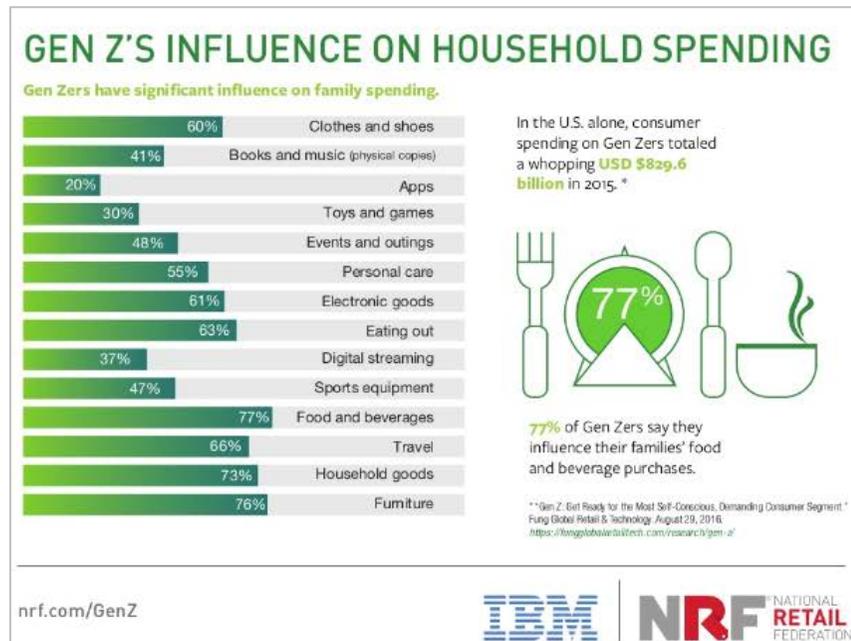
Despite this hyper digitisation, stores remain popular with new generations and even among the youngest: 98% of GenZ want to continue shopping in them. But this is a particular form of shopping, as 50% of them go to stores and then buy items on the brand's online store. In search of novelty, 56% want to have fun experiences when they visit a physical store. Although they are highly connected, 76% of them prefer to shop online directly via the website, compared to 48% via mobile apps. This behaviour explains Walmart's investment in placing showrooming at the heart of an increasingly connected experience.

But a new user universe is already attracting this young generation. This is the world of personal assistants via voice recognition. 84% of 14-17 year olds use them regularly, using either Google Assistant, Siri or Amazon Alexa... (source: Accenture).

Targeting younger generations is a challenge for brands. They have to produce creative and entertaining content, while demonstrating authenticity and social responsibility. All this in an attention span reduced to less than 5 seconds!

NEVER WITHOUT MY SMARTPHONE

The influence of the smartphone on our lives goes without saying. For the youngest, it's something organic. The mobile phone is an extension of their body.



INTRODUCTION

In a study by California State University, over 50% of students said they looked at their smartphones an average of 60 times a day for fear of missing something important (news, a friend's post, a Facebook post, etc.).

They spend 3 to 4 minutes on each interaction. In total, they spend 4 hours a day looking at their mobile phone screens. The mobile phone has turned into a source of anxiety. After 10 minutes without consulting their mobile phones, the most connected people begin to show signs of anxiety. For biologist Leah Krubitzer of the University of California, people's brains are rewiring themselves and evolving with the rise of the mobile phone:

"The human neocortex is rewiring itself over the generations, and it's clear that people in a digital environment will have brain activity that will reflect that environment." We have gone from using stone tools and eating nuts, to instant messaging. Our brains have profoundly changed."

Mobile phones are becoming the main tool for accessing digital content, especially in developing countries. In Indonesia, access to online content is via mobile 90% of the time, while in the US, China or Italy it's around 65%. And overall, 80% of time spent on mobile is on apps.

The mobile audience is giving new life to search engines, as Amazon now accounts for only 49% of information searches in 2017, compared to 55% in 2016. Over the same period of time, search engines have gone from 28% at 36%. While m-commerce currently accounts for 23% of US online commerce, some expect it to be close to 100% by 2021 (Source: Survata). This is an opportunity for search engines.

Still, loading times for a mobile web page or app are essential to survive in this ecosystem. On average, loading times are 3 seconds, and for every additional second, conversion rates reduce by 7% (source: newstore).

Given these figures, marketing and digital teams have to focus their efforts on delivering effective content in less than 3 to 5 seconds, the same time as it takes to scroll through your Facebook activity!

A world full of opportunities awaits this new commerce. With the arrival of the GenZ, the centralisation of digital content on mobile, the disruption of media (and therefore advertising) by social networks, the rise of voice assistants, and the emergence of new hyperconnected markets, players in commerce have to meet numerous challenges. They will have to innovate and rethink their digital conquest strategies!

COMMERCE HAS 3 BILLION CONSUMERS WITHIN ARM'S REACH OF A SMARTPHONE

The middle class population is booming in Asia. 50% of this segment of the population will be concentrated in Asia by 2020, and over 60% by 2030. The growth of the middle class is partly related to the GDP growth of two countries. In 2016 India saw GDP growth of 6.8%, and 6.7% in China, far ahead of the US, France, Germany or Japan, at between 1% and 1.8%. Driven by this dynamic, the rise of China and India in the world of consumption is inevitable.

INTRODUCTION

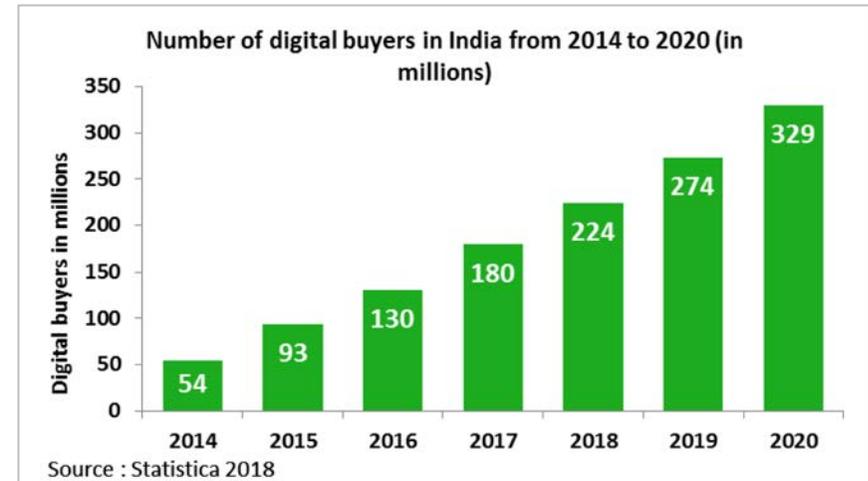
And with this idea in mind, for the first time, Retail's Big Show decided to take an overview of these emerging markets at the "Key emerging consumer markets from around the globe" conference. This is far from insignificant, as by 2019, these two countries will dominate global e-commerce. The Chinese market will account for over 57% of online sales by 2019, with 27% of the e-shopper population. China is the country of e-commerce!



[source: echangeur]

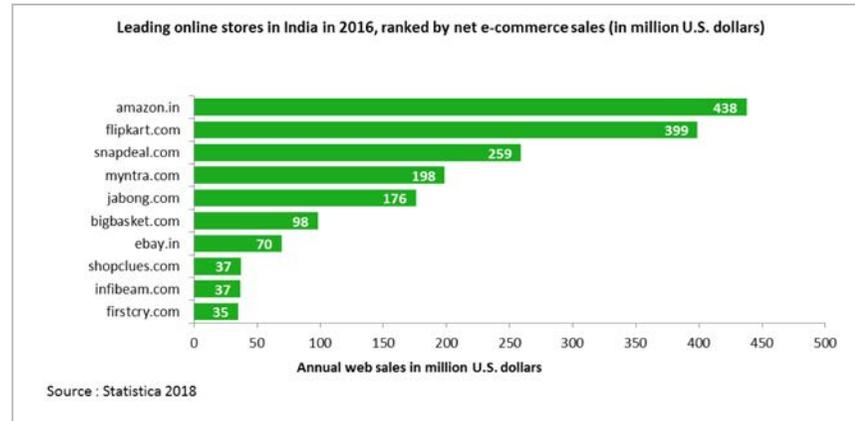
For its part, India has a young population, with 64% under 35 years old. These young people account for 72% of Indian Internet users. According to the BCG, by 2025 over 800 million Indian consumers will be connected to the internet. In the Indian market, smartphones provide internet access for 77% of internet

users, far ahead of computers at 16%. A huge digital market is opening up for brands and brands!



E-commerce there has seen average growth of 30% per year in value for the last 6 years, far ahead of China, increasing by 8%. By 2025, with such growth, some 30% to 35% of Indian commerce will happen online (source: BCG). Indian e-commerce is dominated by Amazon, which has been established there since 2013, and is fiercely fighting the Indian websites Flipkart and Snapdeal. Amazon has been a forerunner in this market, staking out its territory, although there is still room for new entrants. Certainly, thanks to India, Amazon will avoid falling behind Alibaba on the world trade stage.

INTRODUCTION



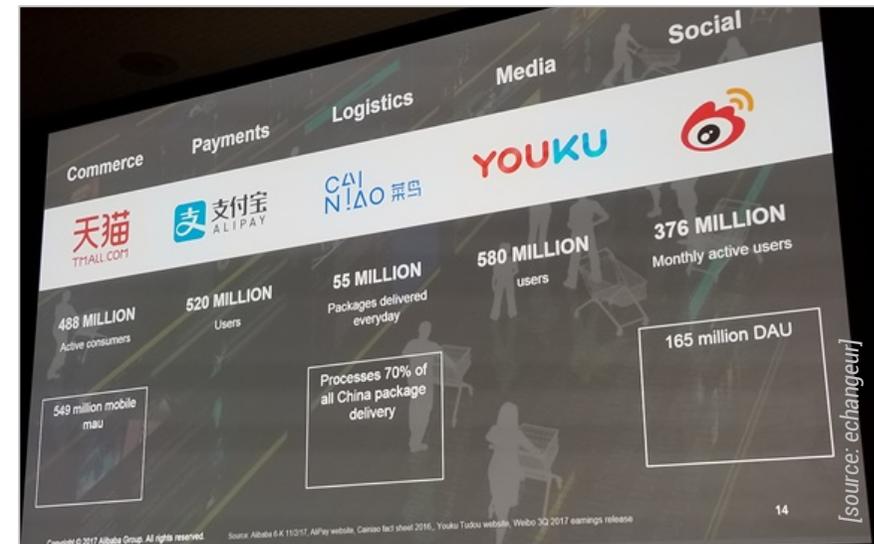
The retail market will inevitably increase to over \$1.15 trillion in 2020, compared to just \$630 billion in 2015. This is a boon for international distribution chains. On such a playing field, retailers will have to adapt and integrate a very strong cultural dimension, with some 29 states and 22 languages.

China, unlike India, has already entered the era of digital consumption over the last few years. In fact, 90% of e-commerce is done via mobile, thanks to Tmall.com (Alibaba), JD.com, and Suning.com. In 2017, Chinese e-commerce was valued at \$366 billion, with 480 million consumers. By 2020, there will be almost 900 million online consumers, boosted by the emergence of the much vaunted middle class.

Beyond quantitative consumption, it is qualitative consumption that should be expected for these countries, notably in China. For Chinese consumers, the quality of products is very important in their buying process. This is also why

the Chinese market is set to account for some 44% of luxury goods sales by 2025.

Chinese e-commerce is largely dominated by the Alibaba ecosystem. The Chinese giant, which was present at CES as well as Retail's Big Show, has attracted international brands to its ecosystem. At Las Vegas, it made a real show of technological strength, with its voice assistant, its face recognition payment solution, and its cloud service for businesses. By contrast, in New York, Alibaba flexed its muscles with ever more stunning figures, in a very "American" style.



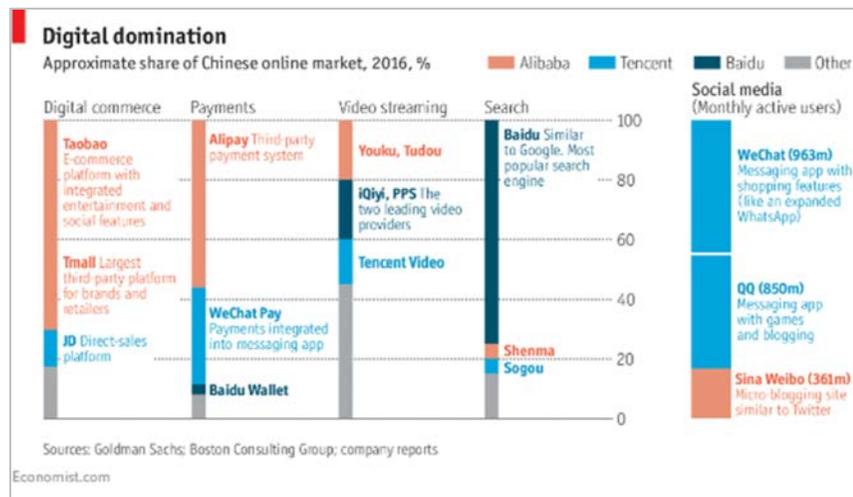
INTRODUCTION

Unlike India, and even if there are other less visible players, the Chinese digital environment is clearly controlled by local companies such as Baidu, Tencent and of course Alibaba.

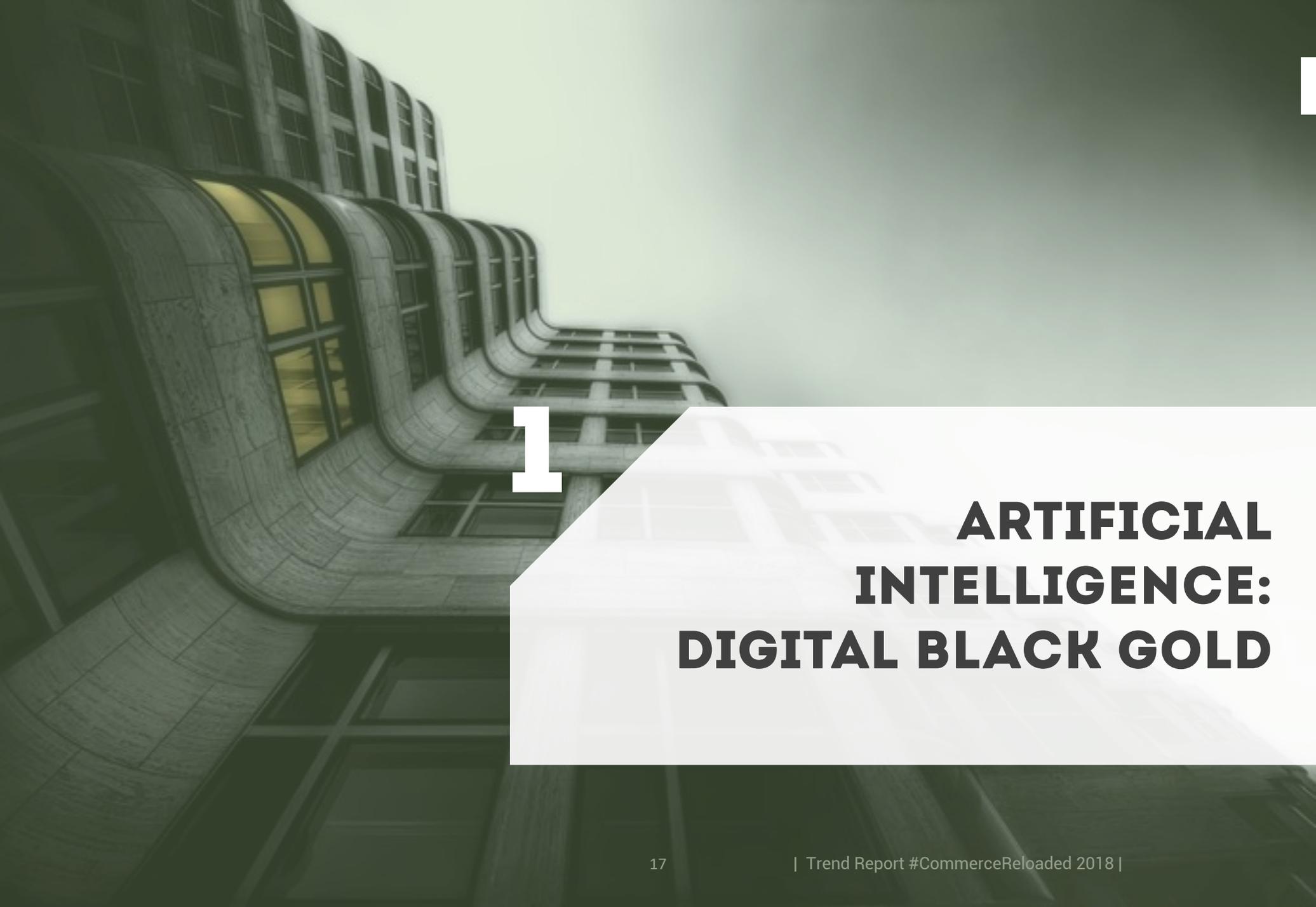
International distributors therefore have no choice: they have to integrate into these ecosystems to succeed in China.

All of them came to promote their BtoB and BtoC solutions, via the cloud, artificial intelligence and payments by face recognition.

A lot of businesses are looking to China enviously. But the future for international brands and companies may be in India.



Tencent has, for that matter, teamed up with JD.com to fight against the domination of Alibaba. Beyond Jack Ma's company, it was edifying to witness the strength of Chinese players at CES, with Baidu, Huawei and Suning.



1

ARTIFICIAL INTELLIGENCE: DIGITAL BLACK GOLD

ARTIFICIAL INTELLIGENCE

AI FIRST, THE FOUNDATION OF THE ECOSYSTEM!

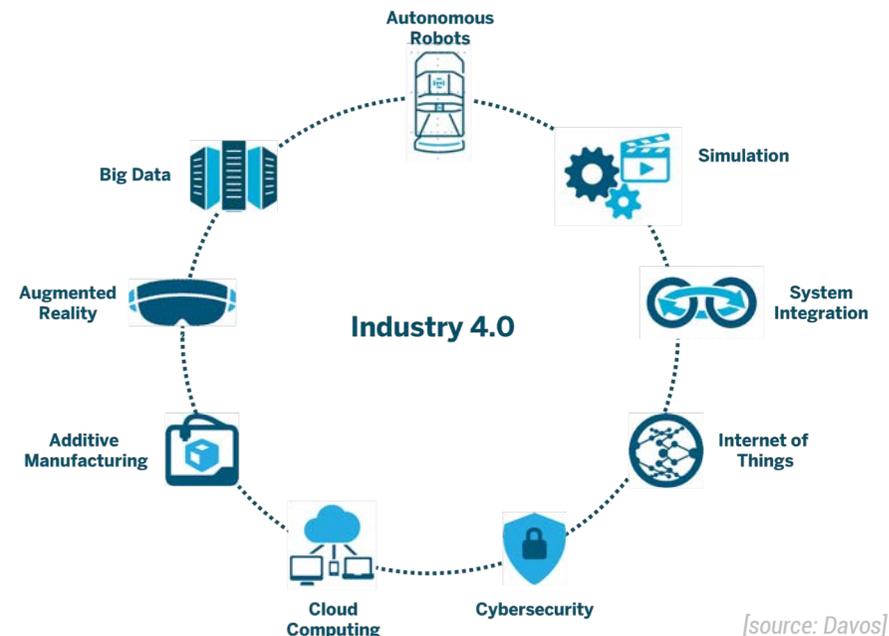
At the latest CES event in Las Vegas in January 2018, world leaders in innovation fought a merciless war around artificial intelligence (AI). In the limelight: smart homes, conversational agents, facial recognition, and autonomous cars were heavily represented.

Faced with these digital giants, and far from taking a back seat, governments are looking to modernise and for responses to the complexity of their respective countries. GAFAM (Google, Apple, Facebook, Amazon and Microsoft) and BATX (Baidu, Alibaba, Tencent and Xiaomi) are even being considered as the solution to all economic difficulties. It is an enticing idea, that is driving the political strategies of the world's major powers, such as the United States and especially China.

To do this, they agree on a common point: participating in the race for new technologies and nurturing local "Silicon Valleys". The international playing field is evolving and transforming according to the progress of artificial intelligence.

A new economic and "civilisational" model is emerging, based on an algorithmic organisation of societies. Nowadays algorithms manage, record and process our tastes, desires and preferences.

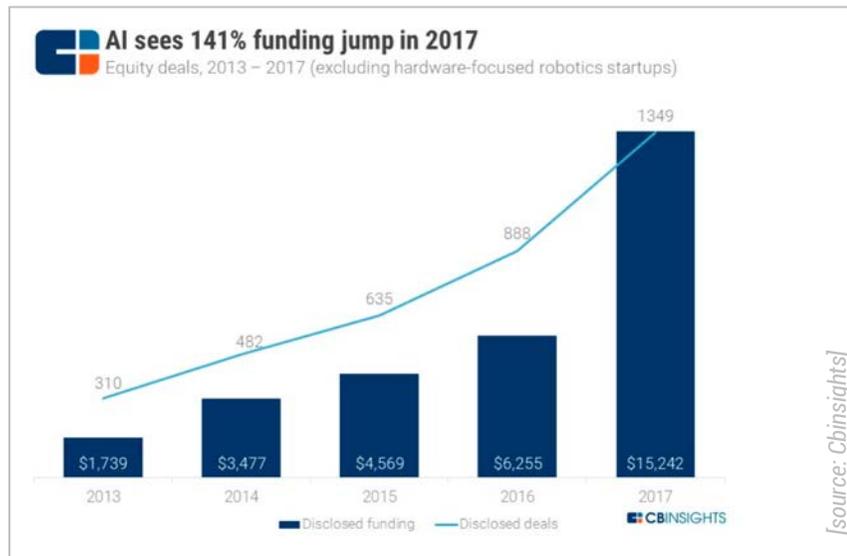
Automating tasks via machine is reminiscent of two economic concepts that man has already encountered at the beginning of the 20th century: Taylorism and Fordism. Already mentioned in Davos last year, and as cited for example by Laurent Alexandre in his book "The war of intelligences", we are in the midst of a new industrial revolution: the fourth.



ARTIFICIAL INTELLIGENCE

Two convergent movements define this new revolution: permanent mobility and artificial intelligence. Their convergence is disrupting our society. By radically changing social paradigms, this fourth industrial revolution appears to many as a threat.

The diagram below shows that AI is becoming central, with growth of 141% (between 2016-2017) in investment in this sector worldwide!



China has overtaken the US in AI investment funds in 2018. 48% of start-up investment funds have been focused on AI. This is no coincidence: on 20th July, 2017, Beijing announced the launch of a development plan for the next generation of artificial intelligence. A programme of colossal investments,

whose objective is beyond doubt: making China the world leader in the field.

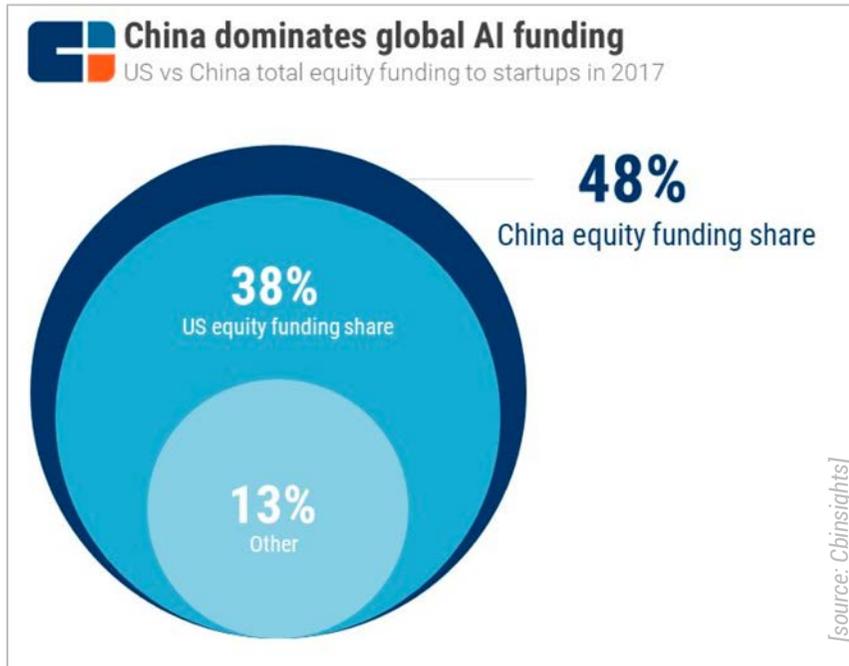
The primary interest of the Chinese state is economic. For several years, the Chinese government has been alarmed by the slowdown in national growth, from 14.2% in 2007 to 6.7% in 2016.

Through AI, they hope to revitalise economic activity, paving the way for a new technological revolution. This thinking seems fair: according to a recent study by the firm PwC, China's national wealth could grow by 26% by 2030 thanks to AI.

Alibaba plans to invest \$15 billion in R&D, mainly in the field of AI, between 2018 and 2021 (with the creation of 7 research labs around the world).

Like Amazon with its Web Services, this year the Chinese group also launched its own AI platform, DT PAI. This is intended for the developers and companies which use its online sales sites. It helps them to "predict user behaviour". By predicting purchasing trends, DT PAI will enable sellers to improve their products, as well as their management of stocks and deliveries.

ARTIFICIAL INTELLIGENCE



This year, the most representative example of AI for the general public in China is the Smart City. It took the Chinese authorities only seven minutes to locate and apprehend BBC reporter John Sudworth, using their powerful network of CCTV and face-recognition cameras in Shanghai. In Shenzhen there is even a system displaying on screens arranged on public roads the faces and the identity of pedestrians crossing while the lights are green.



[source: echangeur]

This is explained by the fact that China has the largest surveillance system in the world. Some 170 million CCTV cameras are scattered throughout the country. This figure is expected to triple to 400 million cameras by 2020.

Beyond the simple number of points of view, China is gathering information with a new interest for economic intelligence. The government is working with BATX and also with facial recognition and artificial intelligence companies. They thus become endless sources of data for extracting meaningful information, such as faces, ages, license plates and more.



2

**COMMERCE WILL BE
CONVERSATIONAL
OR NOT AT ALL**

COMMERCE WILL BE CONVERSATIONAL

CONVERSATIONAL COMMERCE BECOMES WIDESPREAD

Whether via instant messaging or via voice assistants, consumers are turning to new modes of digital interaction with brands and companies. There are over 3 billion IM service users worldwide, meaning 3 billion consumers in the digital conversational commerce era. The use of mobile voice assistants and smart speakers is becoming paramount.

While the majority of users are in the 33 to 45 age group, income levels are fairly wide, ranging from \$20,000 to \$60,000, and the other sociodemographic criteria are in fact quite varied. Voice assistants are therefore not just for a connected urban elite, but for a large number of consumers.

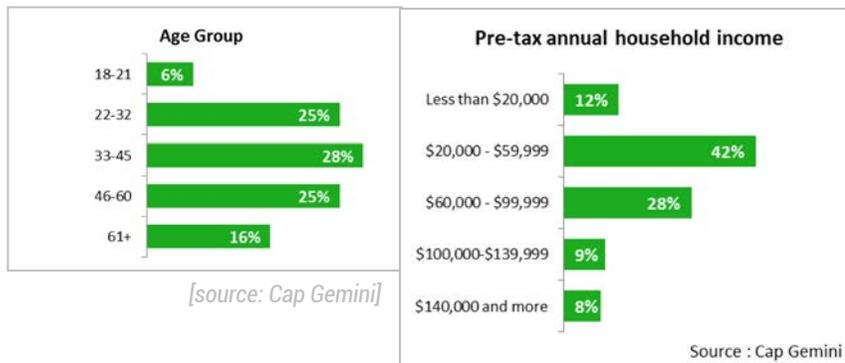
Smartphones account for 81% of interactions with voice assistants, far ahead of Amazon and Google's smart speakers. Google voice assistant is also very widespread on smartphones, thanks to its Android OS, allowing it to do battle with Amazon.

A positive experience with a voice assistant increases consumers' shopping baskets by 5%. This is even more pronounced with brand promotor customers, when they are identified by Net Promoter scores (NPS). Their spending increases by 16% on products and by 15% on services. The best example is the reinforcement of Amazon's presence with its premium customers via Amazon Echo: the voice assistant is becoming the ultimate tool for promoting ultra loyalty in customers already acquired by the brand. This ambition is also clearly demonstrated by Jeff Bezos.

This strategy makes sense for a business where there is no longer a question of confining itself to working on market share, but rather on focusing on the customer aspect: if a trusted third party has already acquired a customer, they can further increase their shopping basket by pushing a maximum of products and services via the omnipresence of their voice assistant.

WHO WANTS A VOICE ASSISTANT?

2017 saw an unprecedented number of interactions between customers and brands via chatbots and voice assistants. Facebook currently has over 100,000 chat bots on its Messenger application. During the holiday sales, Amazon sold more Amazon Echos than Kindles. The widespread popularity of smart speakers is therefore under way. The smart speaker market is booming, with 24 million units sold in 2017 (+300% compared to 2016). Half of these sales were made in the Christmas holiday season. Amazon and Google dominate the market, with 71% market share for Amazon Echo and 17% for Google Home (source: Strategy Analytics).



COMMERCE WILL BE CONVERSATIONAL

This explains the presence of Google for the first time at CES Las Vegas. Google invested \$11 million in promoting its voice assistant. There were promotions at the show, all along the Strip, and even on the city monorail.



[source: google]



Google's strategy is very clear: catching up with Amazon. Indeed, Alexa is considered as a friend by 38% of the owners of Amazon Echos! (source Prosper Insight)

Offerings are also multiplying in stores, as can be seen at Best Buy with whole store sections dedicated to smart speakers.



[source: bestbuy]

The trend is confirmed with the manufacturers of connected objects at CES, who are signing partnerships for integrating the voice assistants of the two giants. Whether robots, smartphones, watches or televisions, everything is becoming connected to artificial intelligence.



[source: echangeur]

COMMERCE WILL BE CONVERSATIONAL

The same strategy can be seen with speaker manufacturers such as Sonos, which plans to allow users to select their favourite assistant, choosing between Alexa or Google Assistant. Currently the Sonos One speaker only works with Alexa.

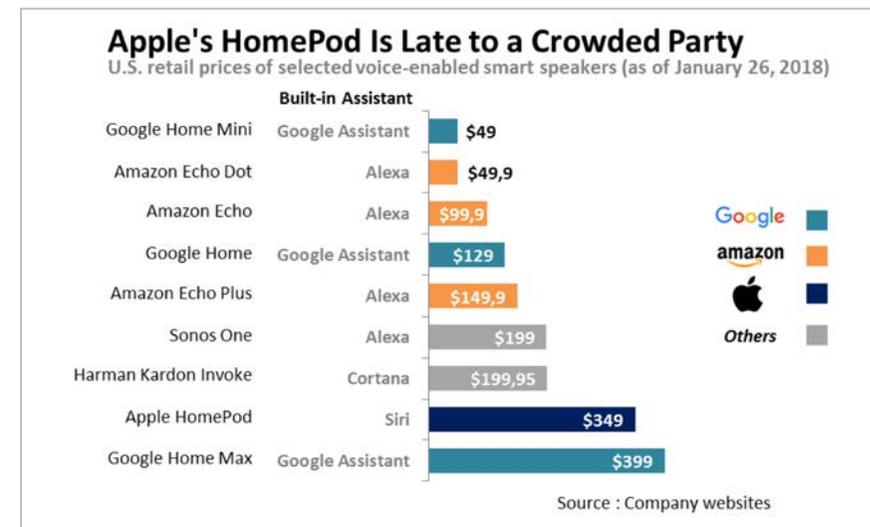
WHEN APPLE MOVES INTO INTELLIGENT SPEAKERS

For its part, Apple postponed the release of its speaker incorporating Siri until February 2018, the HomePod, while it was initially scheduled for late 2017.



[source: lapresse.ca]

Apple will allow the HomePod to interact with Apple Music, Apple TV, HomeKit and also the iPhone to answer the phone or read messages. The first feedback from journalists who tested the HomePod in January 2018 was not very positive, and they place it behind Amazon Echo and Google Home. Interaction with the device and the buying experience via Siri is apparently lacking. While Apple has innovated with its iPhone, it could already be said that the Cupertino company has failed in its entry into the voice assistant market, against already well established competition.



[source: statistica]

COMMERCE WILL BE CONVERSATIONAL

APPLE (ALMOST) OPENS UP ITS NFC CHIP TO PLAYERS IN COMMERCE

While in June **Apple** announced the opening up of its **NFC** (Near Field Communication) **chip** to developers, the Cupertino giant came to the Retail Big Show to promote it at a conference that was highly anticipated by the participants at the New York trade fair.

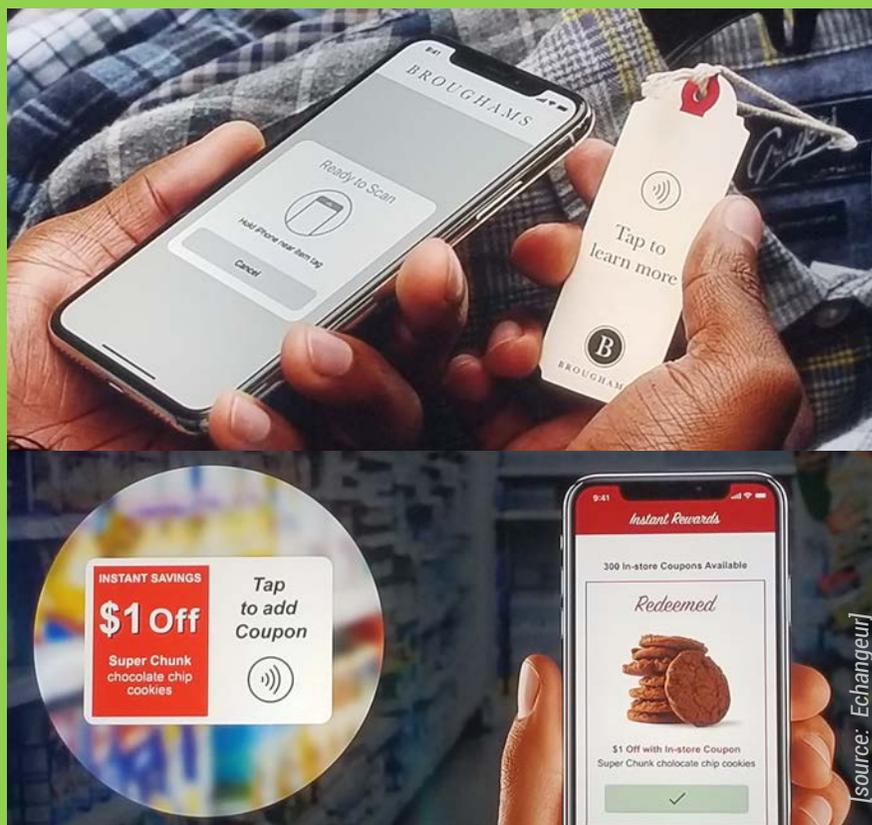
With **iOS11** (and an **iPhone 7** or later), Apple is opening up access to its **NFC chip**, which was previously limited to the **Apple Pay** payment feature. NFC allows for communication via **short-distance radio waves**.

The **NFC Core solution** will enable iPhone app developers to create functionalities for **reading the contents of NFC type 1 to 5 chips** which exchange data under the **NFC Data Exchange Format (NDEF)** standards. This news, particularly anticipated by financial institutions, will not however allow the use of contactless payment solutions other than **Apple Pay**.

Thanks to this opening up, owners of a compatible **iPhone using iOS11** will be able to access content as soon as the **NFC feature** is activated on their phone. Using a distributor's app, customers can find out **the origin of products** that interest them by placing their phones next to, for example, the product's label, itself equipped with an **NFC chip**.

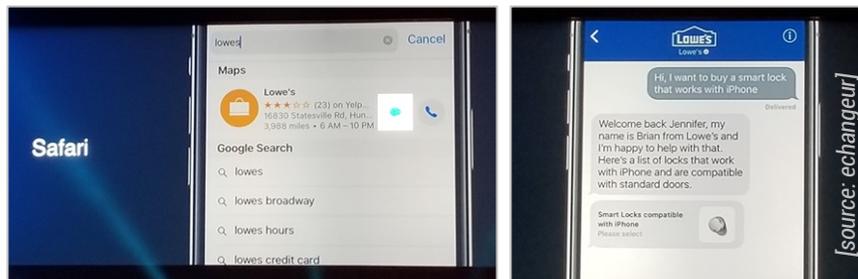
They can also find out about any **allergens** in a food by tapping the **electronic label** on the store shelf, which incorporates an **NFC chip**. This is already the case for some food stores such as **E.Leclerc, Casino and Intermarché**.

It is also possible to **activate NFC for ticketing at the entrance of stadiums or cinemas**, or even to be identified as a **loyal customer** by a salesperson via contactless.



COMMERCE WILL BE CONVERSATIONAL

Aware of its lateness in entering the conversational field, Apple has also launched Business Chat to try to aggregate conversations between consumers and brands/companies, but two years later than Facebook. The advantage for Apple is that there are over one billion iOS devices (smartphones, tablets ...) worldwide. To access Business Chat, users activate the message function directly from the Safari web browser or the Plan app, as presented by Apple at Retail's Big Show with the example of Lowe's.

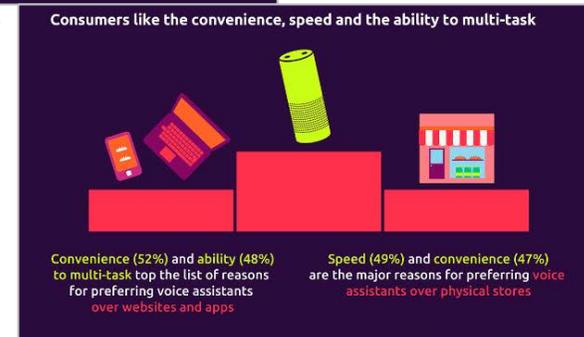


This new service is integrated directly via the Apple ecosystem, no more need for a messaging app, facilitating use and access. A simple web search can end in conversational commerce.

VOICE FINDS ITS PLACE IN DIGITAL COMMERCE

Today, smart speaker owners are getting accustomed to interacting with brands via this new communication channel. Just before Christmas, 49% of

these customers began to ask their speakers where the deliveries their Amazon orders were, worried they would not receive them in time. In 2017, 35% purchased products via their smart speaker with voice recognition. By 2020, Comscore predicts that 50% of online searches will be done using voice assistants. According to the Cap Gemini study on conversational commerce, they are even acclaimed by consumers who appreciate their speed and practicality of use. However, 81% of time spent with voice assistants is via smartphones.



COMMERCE WILL BE CONVERSATIONAL

Technology has made great progress in recent years, allowing today's voice assistants to deliver a quality user experience. Vocal bots have developed very strongly, as illustrated by the tens of thousands of "skills" accessible via Amazon Echo. Domino's Pizza has been a forerunner in this area, with its "skill" for ordering pizzas via Amazon Alexa.

Today, the insurance industry is becoming interested in this new interface. Grand Insurance offers the possibility of contacting its branches, and even getting price quotes via Amazon Echo. The insurer Aviva Canada even offers auto insurance after answering a series of questions via Amazon's voice assistant. Other insurers, such as Allianz, Allstate, Geico and Liberty Mutual have developed "skills" on the Amazon Alexa platform, while Progressive and Kanetix have opted for Google Home.

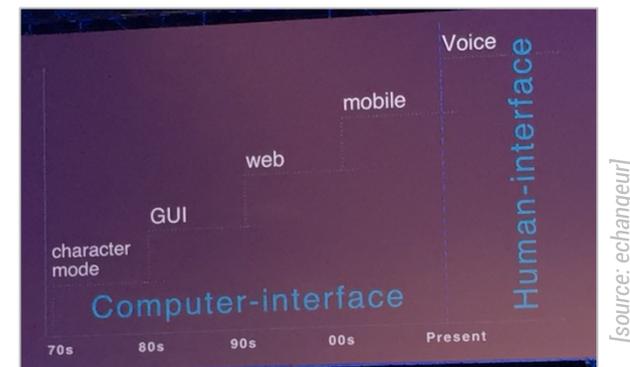
Retailers are also moving into this ecosystem, with varying degrees of success. In France, for example, Boulanger, Sephora and Monoprix have launched features on Google Home, but they are still very basic and it is not yet possible to buy products. However, making an appointment with Sephora for a makeup session is possible. Thus, we are getting closer to a true transaction.

In the United States, Walmart has formalised its partnership with Google, developing a voice-recognition shopping service on Google Home and the Google Assistant mobile app. Since September 2017, users can purchase products from Walmart via their Google Home speaker (after registering their Walmart account on the Google Express service). Other US retailers, such as Costco, Walgreens and PetSmart are also accessible via Google Home for buying their products. The purpose of these agreements is to counter Amazon's offensive in conversational commerce.

In response, Amazon, on its Prime Day, had special offers for customers buying via its Alexa artificial intelligence. The war of commerce via voice recognition has officially been declared!

VOICE AS THE USER INTERFACE OF THE DIGITAL WORLD

Thus, for Amazon, voice will be the user interface of tomorrow, rather than smartphones. This is what Werner Vogels, Amazon's CTO, said at the 2017 Web Summit. For Werner Vogels, voice has been the most natural means of communication for humans for millennia.



COMMERCE WILL BE CONVERSATIONAL

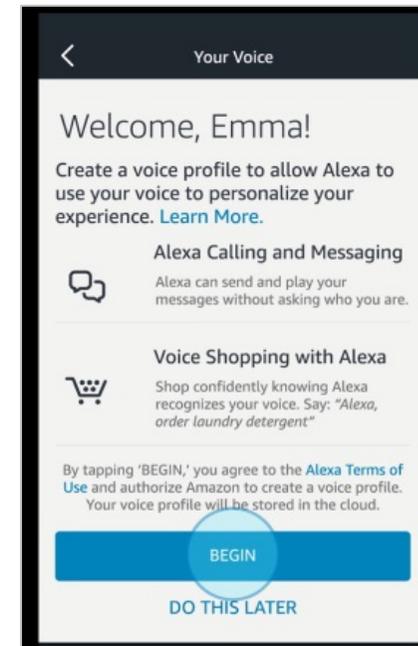


Brands are therefore being forced to position themselves around voice solutions. Today, Amazon Alexa speaks on behalf of brands and represents the trusted third party under the pretext that it "conducts the conversation". Tomorrow these same brands will have to engage customers via their own voice ecosystems. Voice must therefore be part of brands' digital marketing in order to emancipate themselves from the Amazon and Google devices already in place.

When a consumer asks Alexa to buy batteries from Amazon, its AI automatically offers Amazon's basic batteries and not Duracell or Energizer ones. Brands have thus disappeared, and in over 60% of cases the consumer approves the purchase of Amazon Basics. The visibility of brands has thus been reduced by Amazon Alexa. The US shoe seller, DSW, does not want to let Alexa speak on their behalf and sell their products in the voice of Amazon. For

DSW, "the brand does not need a translator". They want to create a voice with a personality that represents the values of DSW.

According to eMarketer, 70% of consumers expect to have a personal relationship when they interact with a merchant. To meet this expectation, voice services will also have to upgrade their abilities. And for this purpose, Alexa and Google Assistant have recently allowed customers to be able to be identified by their voices, and thus personalise their content. Each person in the household will therefore have their own voice interface along with their preferences, their means of payment, their history...



COMMERCE WILL BE CONVERSATIONAL

Voice identification can therefore provide a certain level of security for using shopping functions on these voice interfaces. But other issues remain unresolved in terms of respecting privacy. Are Alexa, Google and Siri always listening, even passively? What do they do with the collected data? Apple has talked about anonymisation of data to set themselves apart from its competitors. Siri can be disabled. But then what's the point of buying a HomePod if you disable its pseudo intelligence? These topics are beginning to be debated, and some companies are offering rather unusual alternatives, as presented at CES, for example with a cover to put on Amazon Echo.



[source: echangeur]

CHATBOTS, CHATBOTS, AND EVEN MORE CHATBOTS!

Most major brands and companies have had chatbots on Facebook Messenger since 2016. Over 80% of those who have not yet done so are planning to have them by 2020. For Julie Ask, VP of Forrester, "this is just the beginning of customer relationship via bots, this is level 1.0". According to 3C.com, 40% of Millennials interact with chatbots every day. However, while 71% of chatbot users are disappointed by the responses they receive, 88% want to continue to interact with brands via Facebook Messenger. The main uses for bots are:

- **51% for customer service**
- **48% for product searches**
- **45% to make reservations**

According to 3C.com, 83% of chatbots users are willing to be loyal to a brand if chatbots can respond to their requests via Messenger. 77% say that their interactions with bots have encouraged them to consume more than planned.

Chatbots have to continue to improve while remaining simple, so that the user experience is successful. The improvement of bots has to happen via human hybridisation.

COMMERCE WILL BE CONVERSATIONAL

Chatbots are very effective for simple and repetitive tasks, such as giving shop opening times, saving address changes, and tracking orders. These interactions account for 20 to 30% of requests to retail bots (source eMarketer) ...when it comes to real customer complaints, it is more appropriate to hand over to a human operator. Customer advisors thus only have to manage 70% of requests and complaints. For retailers, the use of bots makes it possible to reduce customer waiting times for customer service (by relieving them of 30% of repetitive questions). They also allow the brand to respond faster by being available 24/7. Ultimately, with bots, customer satisfaction increases.

The Social Client (TSC), has understood this well, hybridising customer relationship by phone and chatbots on Facebook Messenger. This recently launched innovation allows customers to juggle between channels and advisors, so as not to lose track of the customer relationship. In concrete terms, customers are able to contact customer service by telephone. Then, via the identification of their phone number, the conversation can be continued on Messenger via a bot, that will give them access to their complaint file. Customers will be able to resume the discussion with the TSC bot at any time before handing over to a human operator by phone. This innovation ensures a continuity of the relationship between phone and messaging. It is an innovation that aids the customer relationship, without rupturing channels, even if the call centre is closed.

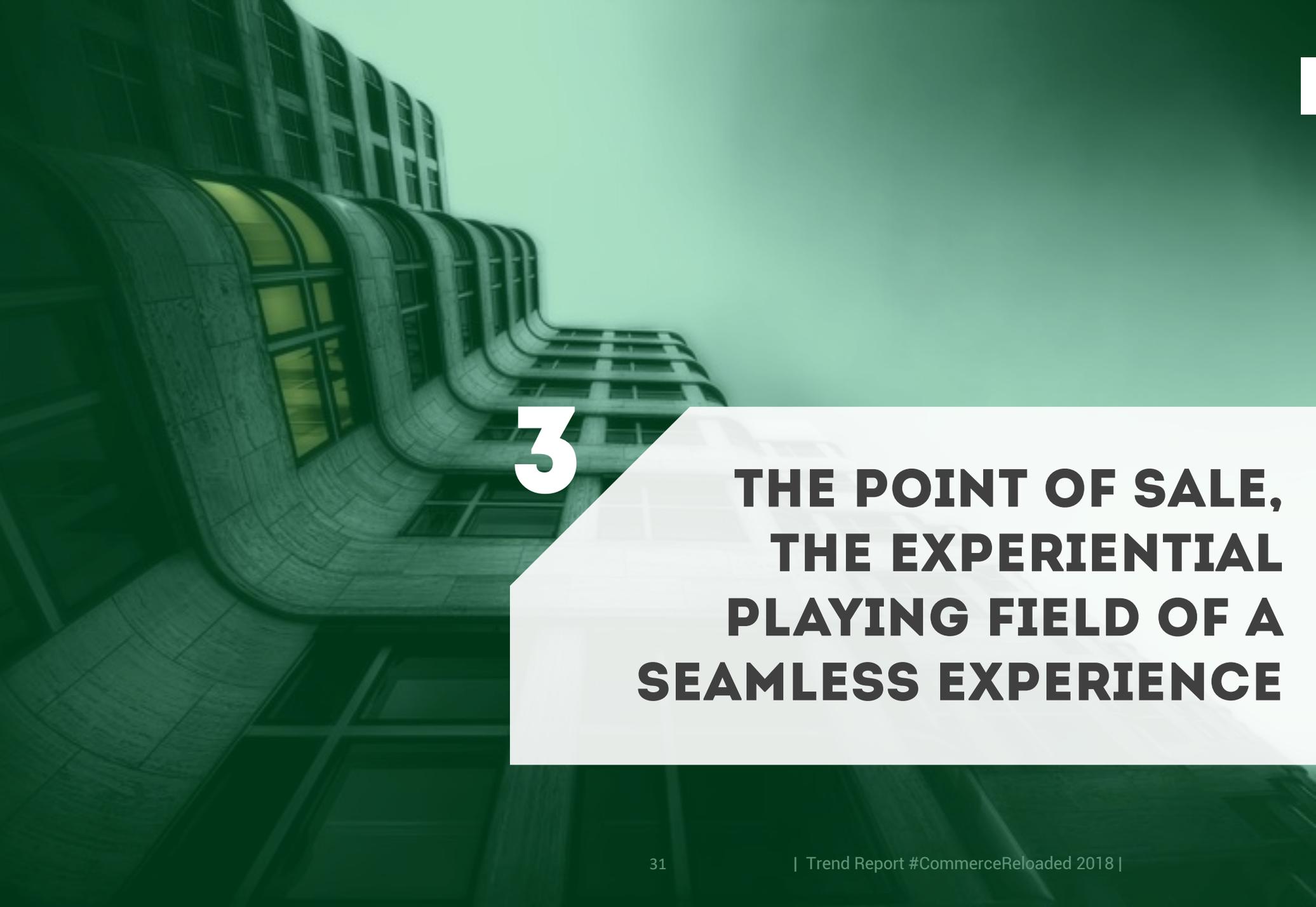
Thus, chatbots represent suitable solutions for simple, repetitive and low added value tasks. It is therefore necessary to understand their potential as well as their limits from the ground up, by anticipating algorithm/human hybridisation. It also means the possibility for brands of retaining the data exchanged with their customers via their bots.

Gartner predicts that by 2020, 85% of customer/brand interactions will take

place via artificial intelligence. This prediction bodes well for the future for automated conversational commerce. It demonstrates the rise of an ambient commerce, driven by personalised, conversational interactions, held in real time. It prefigures the automation of consumption, desired, and ultimately imposed by, the giants of technology. It thus extends the expectations of a more demanding customer, impressed by the feats of GAFA. These giants have become the kings of the CES (Consumer Effort Score), a score measuring the level of facilitation in the customer experience. And the use of automated conversational platforms is another step in their capacity to free their customers from any constraints.

However, this evolution suggests an algorithmic standardisation, and one that has its drawbacks.

Faced with the advent of commerce without smell or flavour, but formidably effective, traditional retail players might make themselves stand out by enriching and humanising the customer experience. It's up to them to reinvent their supply chains and their IT to align with the standards imposed by the new CES norms, at a time when only 30% of US distributors offer click&collect...



3

THE POINT OF SALE, THE EXPERIENTIAL PLAYING FIELD OF A SEAMLESS EXPERIENCE

THE POINT OF SALE

POINTS OF SALE: THE FUTURE BELONGS TO THOSE WHO REINVENT THEMSELVES

Stores are reinventing themselves. What role should they have? What is their vocation? How do they fit into tomorrow's customer experience? New store concepts are flourishing in cities such as New York, Paris, London and Shanghai. They are looking for the perfect model to continue giving sense to physical stores. A physical world which remains at the heart of commerce, and will continue to do so.

THE GOOD HEALTH OF THE AMERICAN INDUSTRY DOES NOT GO HAND IN HAND WITH THAT OF STORES

US retail sales grew by 5.5% for the Christmas and New Year holidays, and +3.8% for 2017 as a whole (source: retaildive). And yet the number of stores closing is steadily increasing, reaching the threshold of 10,000 closures in 2017. RadioShack filed for bankruptcy in 2017 and disappeared from the commercial scene. Macy's, JC Penney, Sears and Kmart were all part of this massacre. And it's not over yet. 1,000 additional closures are expected at Kmart, Teavana (Starbucks subsidiary), Sam's Club, J.Crew and Michael Kors. For CNN Money, this epidemic will inevitably hit shopping centres. It is expected that 25% of shopping centres in the United States will close within 5 years. However, the balance between closures and openings is still positive, with 4,000 new stores in the US over the year. Closures were offset by the opening of "discount" stores such as Dollar General and Dollar Tree, and

convenience store like 7-eleven. This is officially the end of large formats!



These closures are affecting chain stores that failed in their switch to digital, and which provide an unsuitable experience compared to new customer expectations. Many of the conferences at Retail's Big Show focused on such failures and their impacts. The expectations of shoppers have evolved, and are obliging stores to engage with digital in order to keep up. Today, 58% of American shoppers say that the ease and speed of finding the product they are looking for determines where they shop.

E-commerce is exacerbating expectations. Overall, 25% of US consumers expect free delivery when they buy online. Among Millennials this is even higher, with 40% believing that delivery should be free by default. Free delivery has become widespread thanks to Amazon Prime (which is a paid service), and has become a standard and a loyalty tool for distributors.

THE POINT OF SALE

But 59% of shoppers are willing to visit a store for an event or to have a new experience (source: NRF Consumer view). In this sense, we note that opening a new concept store generates 52% additional visits to the brand's website (in the geographical area close to the new store). The physical store is therefore still a formidable sales tool, regardless of the transaction channel.

THE STORE, PIVOT OF THE CUSTOMER EXPERIENCE

E-commerce saw growth of 1.3% compared to 2016. And in a country like France, the volume of online transactions increased by 20% between 2016 and 2017 (source: FEVAD). However, e-commerce only represents 8.7% of retail sales worldwide. It's a figure to bear in mind whenever we're tempted to minimise the impact of physical points of sale. Still, it is one that is increasingly part of a customer experience in combination with digital. Thus 30% of online purchases at Christmas 2017 in the United States ended with customers picking up products in stores.

The point of sale remains a key element in this much talked about race. A place of reassurance and socialising for traditional customers, it is first and foremost a place for experiences for Digital Natives. Being able to eat or have a coffee is becoming natural for them, as the transactional purpose no longer takes centre stage, and they are becoming real living spaces. Places such as Nike Store Soho and House of Vans in Brooklyn, are the champions of this trend!



[source: echangeur]

THE FUTURE OF THE POINT OF SALE IS AS A SHOWROOM

In this trend, the "store showroom" model is favoured by 60% of Digital Natives votes (source WD Partners). Walmart has also understood the benefits of this model. The American giant was quick to acquire chains such as Bonobos and Modcloth, to incorporate their expertise in the field. E-commerce and the showroom are in fact inseparable.

Walmart is already examining direct links between e-commerce and physical stores. For example, the brand offers discounts for all point-of-sale order pickups. Their visitor numbers increased by 1.5% in 2017, while overall physical store traffic has fallen by 10% over the last 5 years (source: PYMNTS.com).

THE POINT OF SALE



[source: nordstrom]

Nordstrom has also launched into the showroom stores, with their Nordstrom Local initiative. A store without stock, dedicated to advice and service, in order to better promote their online sales. The store allows customers to make an appointment with a stylist for recommendations. Customers can then order products online from the store, while enjoying a glass of wine or having a manicure. The store also serves as a pickup point for orders placed the same day. Initially, these showroom stores have been used by pure players such as Miliboo, Made.com, Sensee, Jack Erwin, Alibaba and even Amazon with its

Book Store. Today, brick & mortar players are launching their own showrooms. For all of them, the goal is to reduce sales space and offer ever more services and advice. In this context, a closeup experience facilitates online orders.

Between new consumer behaviours and the rise of digital, the role of physical stores is evolving. Spaces and promotions have to be redesigned to attract new generations of consumers in search of in-person experiences and showcasing, and who are also looking to facilitate their overall decision and purchase experience! The living space store is gaining ground, as we highlighted in our 2017 report!



[source: dnainfo]



4

RELATIONS VIA IMAGE BECOME WIDESPREAD AND SELL

RELATIONS VIA IMAGE

IMAGE AT THE HEART OF COMMERCE

Artificial intelligence was the buzzword throughout 2017. And it will continue this momentum in 2018, if the trends emerging at trade shows such as Web Summit, CES, or Retail's Big Show by the NRF are to be believed. At these three trade shows, artificial intelligence solutions for image recognition have been multiplying over the past year. It can also quite easily be said to have been the common thread of the 2018 New York show.

Image recognition involves teaching algorithms to recognise, analyse and understand images. These images are often made up of several elements such as objects, people, clothes, places, etc. It is therefore necessary that algorithms can separate each of these elements. This is called detection. Then, they have to be isolated by segmentation to analyse their content. Different elements of the human body can thus be identified and analysed in order to analyse behaviours or actions. These analyses can be used by marketing teams to rethink their strategies or simply to create new ways of making purchases.

These are the techniques that are used by in-store consumer video tracking software, stock taking software, and product recognition, such as the Amazon app for identifying book covers. An image requires no translation, unlike voice recognition. It is easier, from a marketing point of view, to work with images rather than voice, and as a picture is worth 1000 words, everything is much simpler...

Image is the keyword for the future of commerce, for the management of warehouses, stores, and the customer experience of tomorrow.

VIDEO TRACKING FROM THE STREET TO THE STORE

For over 10 years, video tracking software for analysing consumer behaviour in stores has been present at the NRF show. Many brands use it to better identify the hot and cold areas of a store, to understand the flow of customers in a supermarket, or to analyse the profile of the people entering a store (age, gender, style...). The objective of this data collection is to understand the behaviour of customers in a physical store, just as is done for websites. Over the years, these solutions have become standard, such as those from Intel, Microsoft, IBM, Cisco and SAP, just to name the most well-known ones.

RELATIONS VIA IMAGE



[source: echangeur]



[source: Huawei]

This tracking can begin in the street with the public cameras of cities. In China, for example, Huawei offers cities video surveillance solutions coupled with image recognition. The system then systematically takes pictures of the license plates of all vehicles driving around and photos of all the passers-by walking in the city. All these photos are then analysed, and individuals and their behaviour in public spaces are identified. This data is also used by local authorities when needed. It can also be monetised with retailers, providing information about the flows of passersby on a given street. This can validate store opening projects. This has already been done in New York, with the start-up Placemeter, presented three years ago by Echangeur.

In the era of the Smart City, these video analysis solutions will most certainly widen their scope to analyse car traffic and better evaluate urban real estate. Unlike China, in Europe and the USA this video data is anonymised for privacy reasons. However, the concepts evoked in the famous Netflix series, Black Mirror, are not too far from becoming very real.

In terms of stores, at NRF Intel demonstrated a concept which aggregates all video tracking, WiFi and Bluetooth data. It analyses a dynamic map of customer flows. This mapping makes it possible to reorganise stores and their promotions. By isolating target customers it is also possible to redesign purchase experiences more finely.

RELATIONS VIA IMAGE



[source: echangeur]

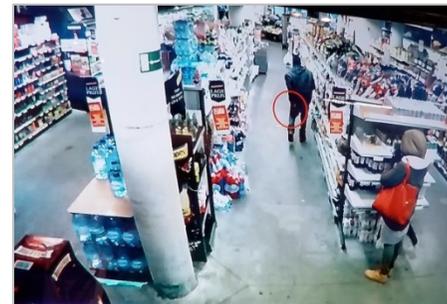


This tracking tool opens up an inexhaustible field of possibilities.

Algorithms can also identify inappropriate behaviours. This is what the French startup Group xxii offers. Its video tracking solution makes it possible to identify violent behaviours, or accidents in stores and quickly alert security or the services. All of this is made possible by breaking down the segments of the human body and analysing gestures. This analysis is done via the development of algorithms combined with image recognition. The solution can therefore identify a person hiding products under their jacket.

On Intel's stand there was an alternative to automated video tracking, the Spot Crowd startup. This company offers a crowd-based video surveillance solution. Here, no algorithm identifies thieves, but rather people (spotters) around the world, who watch streaming feeds from security cameras in thousands of stores. In the live streaming security videos, the name of the brand is erased from the advertising media in the store and the faces of the customers are blurred. This anonymisation is necessary in order to avoid any

bias on the part of the spotters. When a theft is spotted on a video stream, the spotter launches an alert, and if it is validated within seconds by 3 other spotters, the act of theft is then validated. The store security team is then alerted, with a photo of the thief to detain them. Each spotter earns \$5 per identified and validated theft. This "informer" solution may be shocking, but it can respond to the financial issue of inventory shrinkage, namely the share of a large retailer's turnover corresponding to the cost of stolen products. The cost of shrinkage amounts to over 3.5 billion euros in France, while 1 thief out of 48 is arrested for shoplifting (Source: Spot Crowd).



[source: Spot Crowd]

Beyond security or behavioural analysis for marketing purposes, image recognition and video analytics are shaking up the functioning of physical stores, with the launch of Amazon GO, an automated checkout-free concept, in Seattle. The concept is now official after several months of testing.

RELATIONS VIA IMAGE

AMAZON GO SHAKES UP THE CHECKOUT EXPERIENCE

After just one year, Amazon opened Amazon Go to the public on 22nd January, 2018. While the promotional video of the test phase used the buzz words of 2017: "deep learning", "algorithms" and "computer vision", initial feedback was not very conclusive. The technology could only manage around fifteen clients simultaneously. Suffice to say that with the opening to the general public, Amazon has made great progress in managing large flows of customers. Amazon's communication department is to be congratulated, as the opening of the store made headlines worldwide.



The 160m2 shop is located on the ground floor of Amazon's Day 1 building. To access you just need the Amazon app on your phone, select a payment method and scan the QR code generated on the entry gate. Then, the store's cameras and various sensors do the rest, helped by data augmented algorithms. The system identifies and analyses products when picked up, those put in the basket, and then those taken away by customers. No more endless checkout queues. Customers leave with their purchases and are billed directly via their Amazon accounts. It's a frictionless customer experience that could almost make you want to go supermarket shopping on a Saturday afternoon... Unlike in the Amazon Books stores, here prices are displayed. There are of course common points between the two store concepts. In Amazon Books stores, you can also pay with your Amazon account by signing in with a QR code generated by the mobile app. This code is presented at the cash desk to be identified, and benefit from Prime discounts, then pay for your purchases (via the means of payment registered on the app).



[source: echangeur]

RELATIONS VIA IMAGE

Amazon Go can also accumulate an astronomical amount of data on consumer behaviour in stores. Similarly, there are a good number of sensors on the ceilings of Amazon Books stores to track customers.

It remains to be seen whether this checkout solution will be transposed into concepts for small retail spaces for Whole Foods 365, which Amazon also owns. Moreover, the technological building blocks behind Amazon Go have a strong chance of being marketed to third parties, as with their web services, cloud and Amazon Rekognition.

But Amazon is not alone in developing this type of technology. From CES to Retail's Big Show, numerous companies came to show off similar automation concepts. The most polished of these are Aipoly, Lab xxii, and even Mastercard (in partnership with AVA Retail).

These technology suppliers already offer simple and mature solutions, principally targeting small sales areas of around 100m2. Devices seen at both shows are similar in terms of equipment. To offer a comparable solution to Amazon Go, it is necessary to install a camera every 3 metres on average. Surveillance cameras or simple webcams can suffice, as the determining factor concerns the angles covered by all the cameras and not to the number of pixels.

Beyond the technological solution, Amazon is not the first to automate their physical points of sale. You only have to look at the Bingo Box small grocery stores. The Auchan group is behind this initiative in China. Here, automation is done via RFID. Each product is identifiable thanks to a chip in its label. Products are deposited on a "checkout" that scans the chips and calculates the total cost of purchases. Payment is then made via mobile payment solutions such as Wepay, Alipay and Bingobox.



RELATIONS VIA IMAGE

Also in China, the Swedish startup Wheelis goes even further with Mobi Mart, its autonomous and mobile "bus" store. This concept is currently being tested on a university campus in Shanghai. Thanks to it being mobile, the store adapts itself and moves around the campus according to the flows of students.



[source: usine digitale]

In response to Amazon's threat, Walmart is also working on a checkout-less store project, based on computer vision technologies. The Kepler project is under development at Walmart's innovation unit, Store No 8. But Walmart is not releasing any further news to the media. The project is being managed by the former CTO and co-founder of Jet.com (acquired by Walmart).

At Retail's Big Show last year, the startup, Focal Systems, presented an automatic scanning solution using image recognition on shopping trolleys. Currently it is having trouble developing its solution. The principle of automated checkout of products deposited in shopping trolleys is still far from the beta stage. However, this solution, directly integrated into shopping trolleys could offer an alternative to the Amazon Go concept in the quest for a

frictionless payment experience. There is also the checkout solution from Mishipay (partner of l'Echangeur) which is multiplying experiences with numerous retailers. This solution makes it possible to pay for purchases by self-scanning whilst at the same time deactivating the RFID chips, once the payment is made via the consumer's mobile.

The checkout is evolving, whether via self-scanning or image recognition! This change will permit the arrival of stores with fluid customer experiences! An experience that e-commerce is also trying to develop, via image recognition. The goal is to be just one photo away from an act of purchase.

WHEN IMAGE RECOGNITION BECOMES PART OF THE ACT OF PURCHASE

Product searches by image recognition are not new, whether via Google, Goggles or the Tineye app (launched in 2008). Retail players such as Macy's, Neiman Marcus, Zalando, Amazon, and The Home Depot are always looking for easy solutions to push customers towards consumption. For the last four years they have been testing and deploying a multitude of features for shopping by image recognition.

The concept is simple: taking a photo of a product that is recognised by an algorithm so that consumers can make a purchase in one click. These solutions were very much present at the two North American trade shows, including a much better performing solution by IBM Watson than the one presented at the last Euroshop.

RELATIONS VIA IMAGE

At the IBM booth at the NRF, visitors' dress style was analysed via a simple photo. IBM Watson then came up with similar and complementary products to the identified style. The results were very accurate. A shopping solution in one photo!



At another show, Fashion Week 2017 in Los Angeles, Tommy Hilfiger also launched a remarkable app, Snap: Shop. Visitors to its Tommyland Fashion Show could buy the products worn by the models in one click. This app was

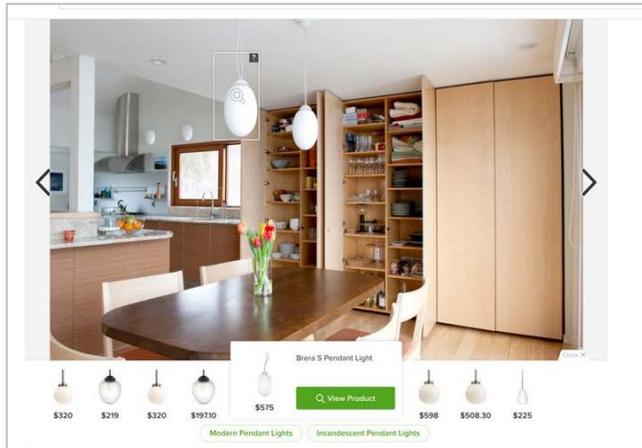
made with the help of Slyce, whose ambition is to provide a "buy" button for the camera of every smartphone. The app, integrating their image recognition solution, achieved a recognition success rate of 93%.

During the summer of 2017 in England, Asos also tested a similar feature for recommending products based on photos. From the photo of a nearby person or a star in a magazine, the solution then draws upon some 85,000 fashion items to select those closest to the style that the user would like to wear. According to Rich Jones, head of user experience at Asos, the goal is to understand how Millennials might use images in their purchasing experiences.

There is a similar line of thought at John Lewis, with the FindSimilar image recognition solution by Cortexica. This solution analyses over 1,500 points per photo. It then finds corresponding products on the John Lewis website. FindSimilar was rolled out to all users over the course of 2017, after over 90% satisfaction ratings from beta testers about the new feature.

For home improvement, decoration and design, the American website Houzz has also had its app with image recognition since 2016. By curating interior decoration photos, the site's "visual match" feature can fetch similar products in its database of 8 million products. Customers can of course buy the products identified on the site.

RELATIONS VIA IMAGE



[source: houzz]

Even chatbots are getting into image recognition! This is what Selectionnist offers brands, with its bot on Messenger. Users send the picture of a product, an advertisement, a magazine page or packaging, and the chatbot replies with the corresponding information. This content can take multiple forms: access to an e-commerce site to buy the product, video presentations, the price of the product or directions to the nearest store. And of course the bot works 24 hours a day. According to Selectionnist, the opening rate of the contents sent by the bot is over 70%.

Social networks have also moved into image recognition. Pinterest launched its "Lens" feature in the US in 2017. Lens allows, for example, a social network

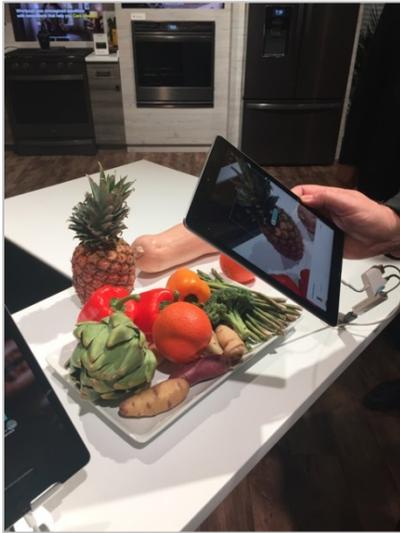
user to take a picture of food and have the recipe for cooking it pinned to the site. A user can also take a picture of a jacket in a store window and see similar models on Pinterest.



[source: pinterest]

And, surfing this trend for images, the home appliance manufacturer Whirlpool has partnered with the Yummly recipe site. The consumer can take a picture of the food that they have in their fridge and in their cupboards. These are recognised by Yummly's algorithm, which then comes up with corresponding recipes.

RELATIONS VIA IMAGE



[source: echangeur]



The application can also order any missing products for making the selected recipe. Then, thanks to the connected Whirlpool appliance, the Yummly mobile app takes control of the oven to set the thermostat according to the recipe and required temperatures. A simple photo thus "decides" the diet of its users and helps them cook the recipe. Digital content delivered on a plate!

Amazon also uses image recognition in its mobile app. It essentially recognises book covers. Once the recognition is done, users can then find the price of the book on Amazon and buy it in one click.

This usage is widely promoted in the Amazon Book Store as no prices are displayed and all books are arranged with the cover facing customers.

Image recognition artificial intelligence is multiplying in numerous retailers at a time when communication by image is a vector for generating engagement, notably with Millennials and GenZ. The brain assimilates information transmitted by an image three times faster than text, and only 20% of a text is likely to be memorised.

When our brains have been processing 10 times more information over the last 10 years, there is a question of assimilation of this information. When the ease of access to information becomes decisive in a customer experience, the question of interfacing arises. Everything that simplifies the assimilation and processing of information is becoming crucial in the face of endless demands and a multiplication of the potential interactions between a brand and its customers in everyday life.

Image or voice processing thus represent a priority angle of attack in the new purchasing paths. These new speech and image recognition techniques combined with artificial intelligence are opening up promising and differentiating opportunities.

Image recognition is everywhere in commerce, whether for analytics, customer information, creating new purchasing paths, creating new store concepts, creating new digital interfaces, and even new sports activities. The world is revolving around the image. Images that will also redefine modes of transport for individuals, as they are at the heart of autonomous vehicles!



5

SPACES FOR EXCHANGES BECOME VIRTUAL

SPACES FOR EXCHANGES BECOME VIRTUAL

REAL OR VIRTUAL. GET READY FOR TOMORROW'S WORLD!

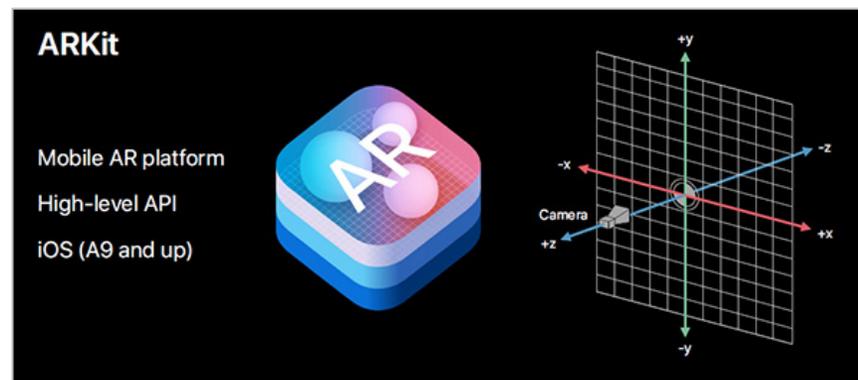
For some years now, virtual and augmented reality has filled the halls of digital trade fairs. For too long limited to a field of experts, these technologies are now spreading to the general public thanks to the technological power of smartphones and computers. These technologies will revolutionise interactions between the physical world and the digital world. This is why Google, Apple, Facebook, and Alibaba are investing in this new digital ecosystem.

AR, THE NEW PARADIGM FOR E-COMMERCE

Augmented reality (AR) has been booming for the last two years. This year everything is accelerating with the release (in 2017) of Apple and Google's Augmented Reality development platforms: Apple's AR Kit and Google's AR Core.

Google is a pioneer in the field. It created the first weapons of this technological war, with Google Glass in 2013, then in 2014 with the Tango solution, allowing for high-precision augmented reality (AR).

Apple has waited a long time before moving into the field, but at its last developer conference, their ARkit was announced for iOS 11. The ARkit is a feature which allows AR solutions to be offered to the general public (available on the iPhone from the 6S onwards), to offer a new user experience that



[source: Apple ARkit]

Google was quick to follow Apple's lead with the launch of ARCore (a framework similar to that of ARkit) which is already available on the Samsung Galaxy S8 and on the Pixel Phone with the Android operating system, Nougat 7.0.

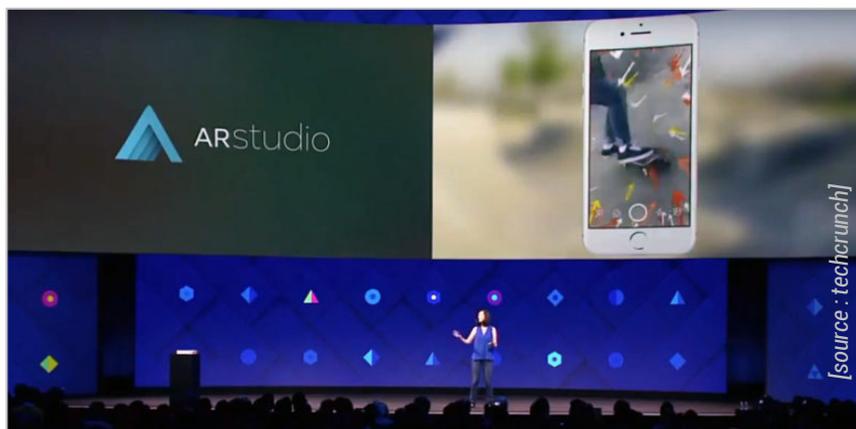


[source: Google Android]

SPACES FOR EXCHANGES BECOME VIRTUAL

These two announcements should allow augmented reality to finally take off as a useful technology for the general public. For Apple, over 500 million phones will be able to use content developed with ARKit. For Google, the figure is around 100 million smartphones (even though 2 billion Android smartphones are currently in circulation).

Facebook has also opened up its Augmented Reality offering to developers. AR Studio allows AR content to be created directly from Facebook's social platform.



Augmented reality is becoming widespread and structured around mobile. A great opportunity to bring digital content to life is opening up to retailers, and more especially, furniture retailers. Visualisation of furniture via augmented reality will become essential.

Ikea has understood this very well. The Swedish brand is pioneering the use of ARkit in the USA. This allows users to view furniture in their living rooms in almost perfect dimensions (98% accuracy). These solutions also make it possible to take measurements, such as ceiling height or even the surface of a wall in order to buy the right amount of paint. Augmented reality is thus bringing websites into consumers' homes.



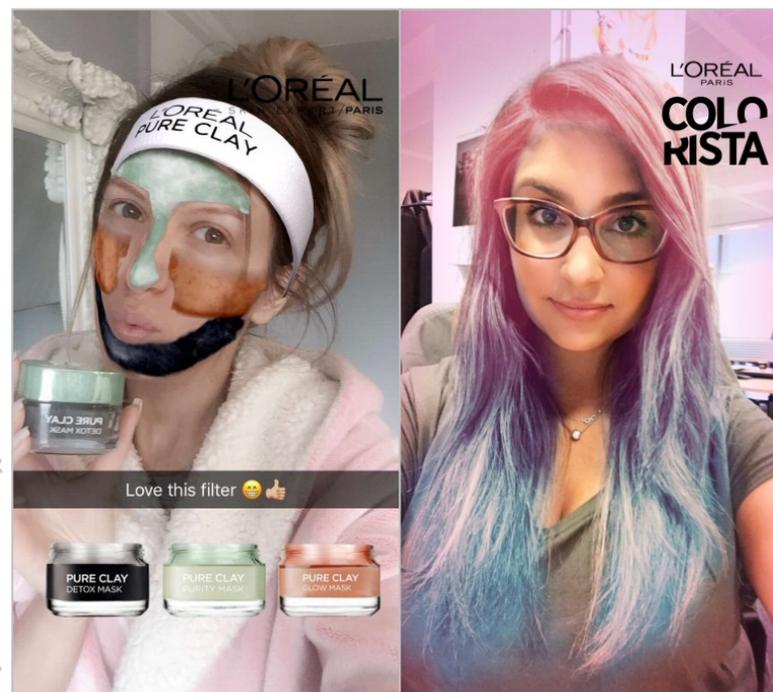
SPACES FOR EXCHANGES BECOME VIRTUAL

In the beauty sector, L'Oréal and Sephora are also major users of augmented reality solutions. For example, these brands offer the opportunity of virtually trying out hair colouring and makeup effects via their mobile apps. At Sephora's new store on 34th Street in New York, augmented reality is at the heart of the customer experience, with virtual makeup tryout kiosks, like "Virtual Artist". These kiosks were already tested a few years ago in Duane Reade stores in the US, but the rendering was not very realistic, unlike the solution that Sephora has been able to deploy.



[source: Echangeur]

These AR solutions are obviously integrated into where the audience is, that is, on social networks. For this purpose, L'Oréal and Urban Decay have sponsored filters on the Snapchat app. These AR filters simulate the use of their products for the 100 million daily users of the app.



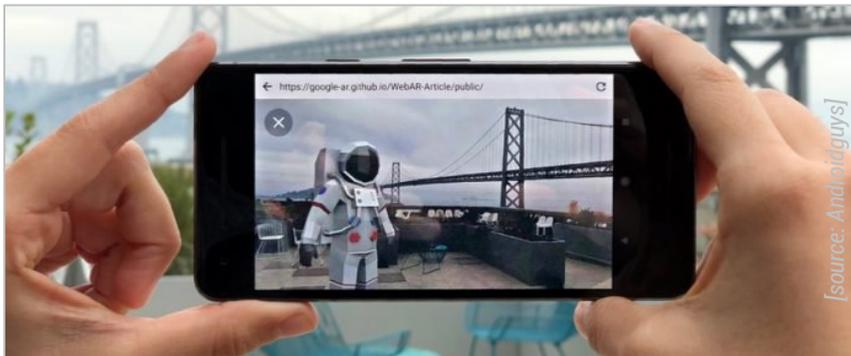
[source: Vickis_beauty]

[source: L'Oréal Paris UK]

SPACES FOR EXCHANGES BECOME VIRTUAL

On Facebook Messenger, the Modiface chatbot (used by Estée Lauder) will also offer virtual make-up to facilitate purchases, from the messaging app.

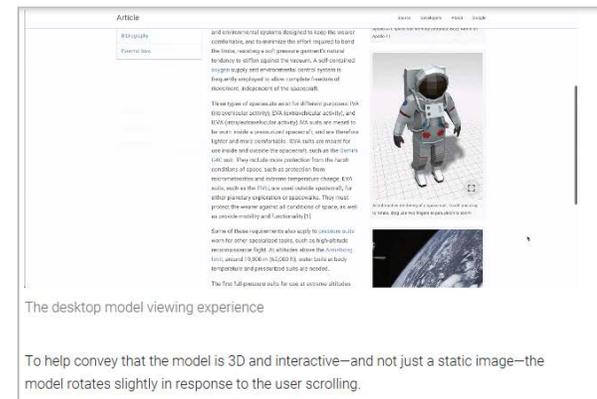
But beyond apps, terminals or social networks, AR can come directly to websites! This is what Google introduced in January 2018 with their "Article" feature. Article allows part of a website's content to be viewed in 3D, via a computer or a smartphone. The web browser, if compatible, recognises that AR content is available, and clicking a button enables 3D visualisation. The user then views the content via their smartphone's screen and camera. Thanks to this feat, Google has freed itself from mobile apps for accessing content in augmented reality. The internet is coming to life! Returning to the case of Ikea, tomorrow's consumers will arrange furniture in their living rooms via the Swedish giant's website. No more need to download a mobile app...



[source: Androidguys]

For Google's Daydream teams, this will accelerate the spread of AR. Whatever the OS used by smartphones, "in a few months there will be hundreds of millions of Android and iOS devices capable of providing

augmented reality experiences." This announcement is therefore a significant advance for general public's use of AR, well beyond our old friends, the Pokémons.



[source: Google Blog]

Gartner predicts that by 2020, over 100 million consumers will be shopping via augmented reality. If there is one feature that retail has to work on in 2018, it is the integration of augmented reality! AR brings digital content to life in the real world with disconcerting ease, and all from a simple smartphone. It is therefore within the reach of everyone!

SPACES FOR EXCHANGES BECOME VIRTUAL

WILL THE DISRUPTION OF THE TACTILE INTERFACE COME FROM MIXED REALITY?

The next step for augmented reality is mixed reality (MR) or hybrid reality. This reality is "between" augmented reality and virtual reality. It is the ability to project virtual content that interacts and coexists with your real environment. For example, this is what Microsoft's HoloLens headset offers. The MR industry is in its infancy, but the different glasses from Microsoft, ODG, Meta and Magic Leap are heralding what our digital interface of tomorrow will be. An interface interweaving the real and the virtual which could make smartphones and computers obsolete in their current uses. So tomorrow will everyone have smart glasses like in Kingsman?



[source: Magic Leap]

If we compare it to the explosion of smartphones over the last 10 years, we could all be equipped with these glasses in 10 to 15 years time. This time scale is not so far-fetched. It should be remembered that in February 2006 Jeff Han presented a multitouch tablet at a TED conference, causing great excitement among technophiles. One year later the first iPhone was released. Today, even mobiles costing less than 100 euros are equipped with this type of technology. So we can take the risk of defining the year 2018 as the "Jeff Han" phase for mixed-reality headsets... they will therefore be coming soon.

TOWARDS A VIRTUAL REALITY (VR) RELEASED AND FREED FROM ITS CABLES

Microsoft, having failed in the technological shift to smartphones, does not want to miss out on that of virtual reality and mixed reality. Microsoft has partnered with 6 manufacturers (Asus, Acer, HP, Dell, Lenovo and Samsung) to collaborate on their VR headsets. Microsoft has also made its VR ecosystem compatible with the Steam platform. The giant has also put VR at the heart of the Windows 10 operating system.

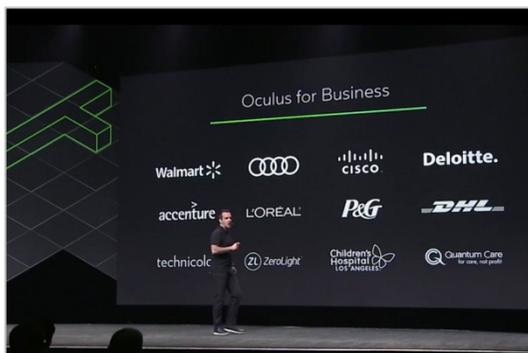


[source: Microsoft]

SPACES FOR EXCHANGES BECOME VIRTUAL

Beyond the problems of quality content on VR headsets, the main obstacle for virtual reality for the general public is that the user is not really free. These headsets are often connected to a computer by cables. This is the reason why Facebook focused so heavily on its Stand Alone (wireless) headset, Oculus Santa Cruz. The headset will be put in the hands of developers in 2018. These autonomous headsets will be very different from mobile headsets such as the Samsung Gear or the Odyssey, because they will offer six levels of freedom of movement (left, right, up, down, forwards and backwards). These levels make it possible to reliably transcribe desired movements in the virtual world, while considerably reducing motion sickness. To obtain these 6 levels, the headsets use four cameras to orient themselves. This will allow them to stand out a little more from the competition. Microsoft's headsets only use two.

Beyond the competition in headsets, Oculus stands out first and foremost by its B2B product, for which Walmart, DHL and Audi are among the first partners.



[source: Oculus]

DHL will use it as a training tool for its teams in the field. It raises awareness of safety instructions when loading and unloading goods. Audi will use its virtual reality helmets as vehicle configurators at certain concessions. The headset will allow cars on sale to be viewed both from the exterior as well as from the interior. It is also the opportunity to nostalgically rediscover old models by the German brand. This experience also incorporates the precursors of a new video technology, volumetric video (see next chapter).

With its B2B headset, Oculus is targeting training, marketing, new product design, and data visualisation...

Walmart, for its part, is working in Store N°8 with different immersive 3D content for virtual reality. According to the Washington Post, the concept allows consumers to try on clothing virtually. To do this, the customer takes a 3D picture and their avatar is modelled. Then the avatar goes to a virtual store to get recommendations and advice from vendors who are also avatars. And finally, once selected, the user tries on clothes which they can then buy.

Germany's Saturn (a subsidiary of Mediamarkt) is also testing out the virtual store concept with its customers in 20 real-life stores. In this virtual store, visitors can see products in 360° and talk with "virtual" sales assistants, but cannot yet make purchases. As for Walmart, this concept is still far from what Alibaba has been offering since late 2016, with Buy+. However, Saturn has also tested the HoloLens mixed reality headset in stores. The headset supports customers with the help of a virtual assistant. The avatar assistant, in the form of a robotic octopus, appears in the augmented reality headset when a customer wants information on the product they are looking at.

SPACES FOR EXCHANGES BECOME VIRTUAL



Saturn's goal with these two experiments is to get the maximum possible customer feedback. The German brand wants to measure the impact of these technologies on its customers before launching a true virtualised store experience in 2019.

VR has a future in B2B and most certainly training, while the virtual store experience may not happen quite so soon for technological reasons of mobility and quality of experience. However, VR can be a game changer in the video ecosystem, with the concept of volumetric video. The concept has already been tested, in simplified manner, by Audi. Disney is investing heavily in this immersive technology for its theme parks, as well as for its future animated films.

GET READY FOR THE ARRIVAL OF VOLUMETRIC VIDEO

An experience via a virtual reality headset is always very impressive, especially for 360 degree videos. And what if in the future we could move around in the video content, and no longer follow the story being told from a fixed point, as dictated by the director? This is the promise of volumetric video for total

immersion. We will move from video that is watched to video that is visited, and which will completely change the market for virtual reality headsets and their uses.

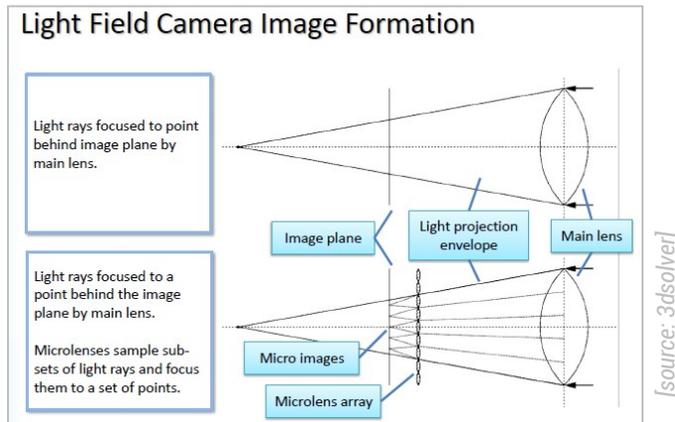
At the Lisbon Web Summit in November, Steve Raymond, CEO of 8i talked about the technology developed by his company for making the first volumetric videos.



Volumetric video will literally allow viewers to move around within the content of a video. This experience will greatly surpass what is on offer currently by 360° videos and by virtual reality.

Technically speaking, volumetric video is made possible by using the photon cloud of the "light field" of plenoptic photographic systems. This originates from the theory of the physicist Michael Faraday, which was mathematically modelled at the end of the 1990s. This allows all the light rays in a scene to be analysed and dissociated in real time (characters, furniture, nature, etc.).

SPACES FOR EXCHANGES BECOME VIRTUAL



Steve Raymond is currently working with Disney studios to produce their upcoming first cartoon in which children will no longer be obliged to follow the hero, but where they can experience their own story by moving around within the animated film.

Facebook also announced, at its last F8 conference, the launch of two cameras (Surround 360 X6 and X24), filming both in 360° as well as in 3D. More accessible cameras than that of Lytro, which will permit movement, though limited, within a video based on a capture from a fixed point, via computer processing.

The announcement of Facebook Cameras makes perfect sense. We may be witnessing a revolution in video content. In the future, if this capture technology is integrated into smartphone cameras, everyone will be able to film in 360° 3D. Users will be able to move around within videos, and the entire production of video content that will be shaken up. In addition, online video accounts for the majority of time spent on the web, with over 60% of time spent online watching videos (source McKinsey). Content creators will have to

rapidly re-imagine the storytelling of tomorrow, offering freedom and creativity.



Video will change within a few years, and advertisers will have to closely follow the technological developments of volumetric video. It's a topic that is already showing up at trade shows such as CES, with an excellent conference by Intel on the subject at the last event.

Whether is is virtual, augmented or mixed, the reality in front of our eyes will transport us to a new world. A real virtual and virtual world offering a new user interface, thanks to voice recognition and gesture tracking.

SPACES FOR EXCHANGES BECOME VIRTUAL

eSPORT: THE FUTURE OF ENTERTAINMENT IS HERE!

Beyond AR or VR, eSports brings together new generations around virtual worlds. Thousands are filling football stadiums for every international competition, with an average of 42000 spectators. In 2016, 63 million viewers watched eSports live on different platforms. This activity is growing in popularity with Millennials, and will certainly become a major focus of interest for genZ. 18% of this young generation regularly watch Twitch videos. Twitch is the leading platform for streaming video games, with 45 million unique visitors per month and 15 million per day. Teenagers love it! The number of players paid according to their audience on the platform, "Twitch affiliates", multiplied by 6 in 2017. Over 150,000 play while commenting on their actions to attract the greatest audience.

And Twitch belongs to ...Amazon!

Facebook, for its part, has acquired the rights to broadcast the competitions of the international league of eSports, the ESL (eSport League) on their social network. And Google, via Youtube, has also launched its streaming platform with YouTube Gaming. But Google wants to go further, and plans to compete with Sony and Microsoft, with an offering of video games by subscription, via streaming. The project is called Yeti and would free users from the hardware constraints inherent to gaming.

GAFAs are moving into the era of eSports and gaming!

At Websummit 2017, the CEO of the ESL cited some very interesting numbers for brands. For example, the cost of acquiring a fan on the ESL is only \$3, compared to \$30 on average for any other professional sports

league (NBA, NFL, Liga, Premiership...)



The ESL is been considered one of the most influential brands in sport. It is ranked in 23rd place, behind Nike (18th) and Adidas (19th). The ESL now has over 150 million fans. Winnings in competitions are around the one million dollar mark. Many investors in the world of traditional sports, such as ex stars from the NBA (Shaquille O'Neal and Baron Davis), are increasingly investing in this form of entertainment. In parallel with the last Olympic Winter Games, the IOC and ESL held eSport demonstrations at the Olympic Village.

SPACES FOR EXCHANGES BECOME VIRTUAL

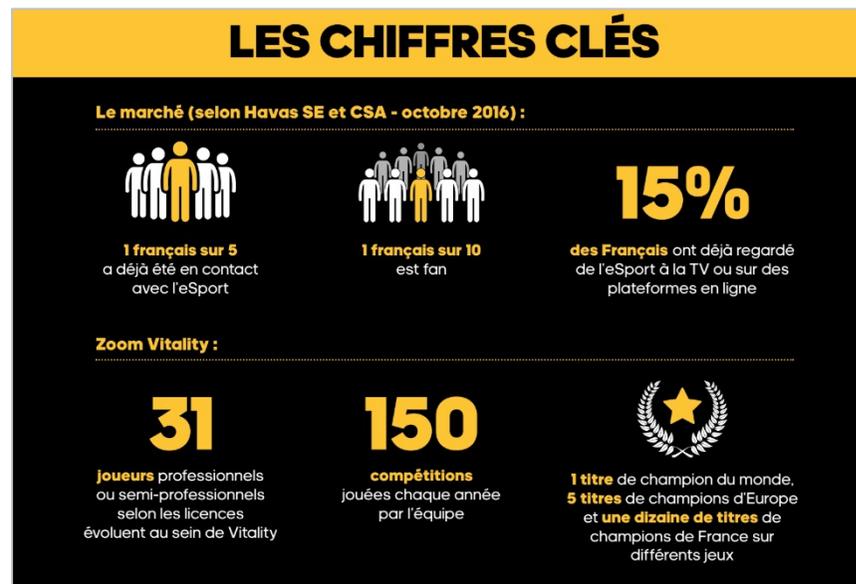
In France, 10% of the population says they are fans of eSport, and 15% have seen it on television. The Gameone and Bein channels regularly broadcast eSports competitions and magazine programmes. As a result, Orange, Canal+, FDJ and EDF are actively investing in the field.

The FDJ organises eSports tournaments. For Alexandre Boulleraud, head of sports sponsorship at EDF:

"It's natural for EDF to support the development of eSports, with electricity being essential in the practice of video games. It's also a way for us to show that EDF is a company that innovates and knows how to address a young audience. This approach is perfectly complementary to our historic commitment to sport."

EDF has two ambassadors of this new activity, having recruited:

- Pierre "Steelback" Medjaldi to the EDF team, among the Olympic champions. He is one of the best French players of League of Legends, a game that brings together 100 million players every month worldwide. Today, 4 million French people say they play this game, and 43 million unique spectators watched the League of Legends World Championships in 2016.
- Fabien "Neo" Devide, manager of Team Vitality, one of the most successful French professional teams, has obtained sponsorship for his team from brands such as Adidas and Canal+. Vitality has over 30 professional players who play in 150 competitions per year.



[source: vitality]

SPACES FOR EXCHANGES BECOME VIRTUAL

The football clubs of France's beloved Ligue 1 have also created their own teams of professional players, for the video game FIFA 18. A veritable parallel French championship is held. PSG has created an entity dedicated to eSports, and not just for football games.



[source: PSG]

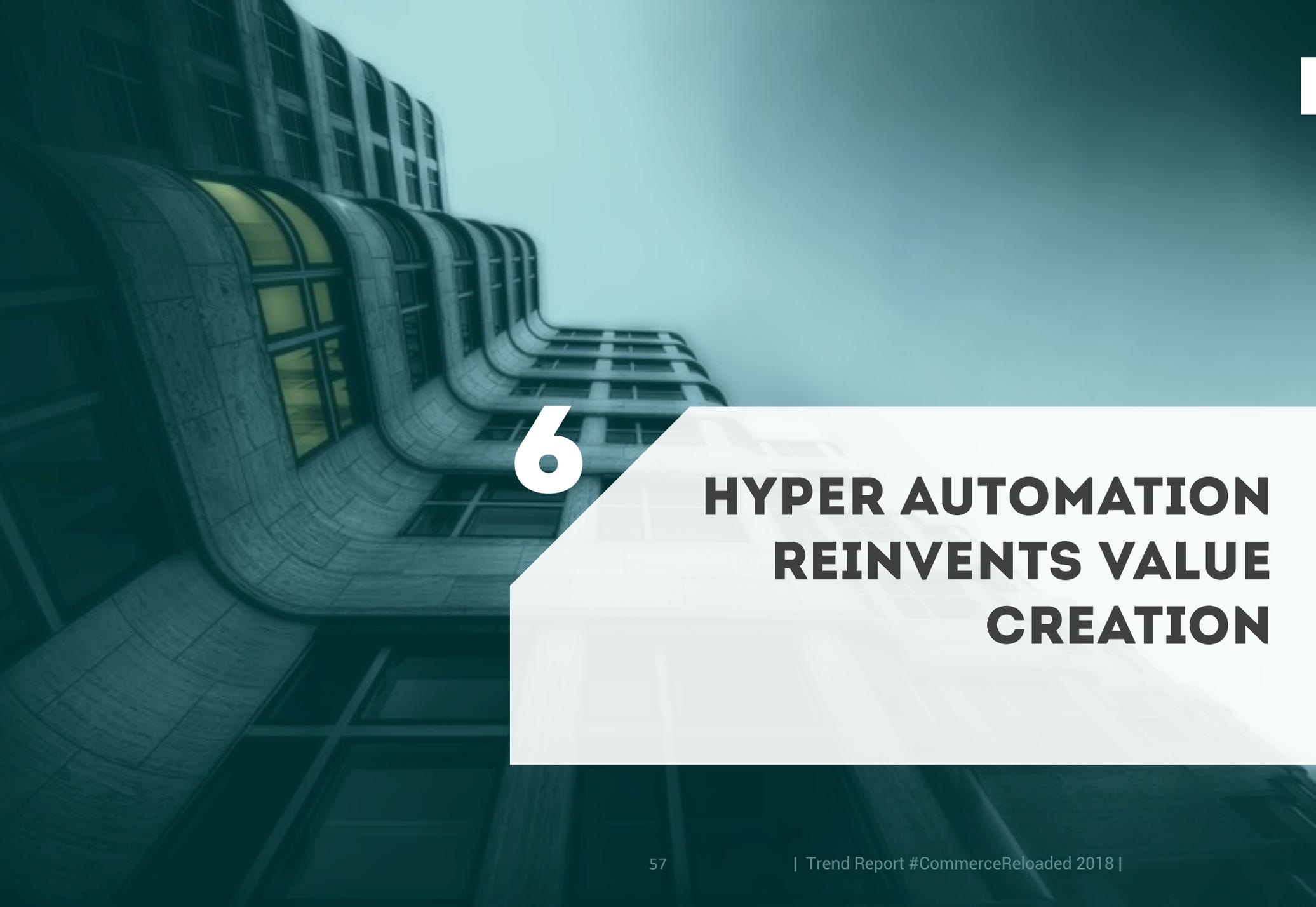
By 2020, revenues generated by eSports are estimated at \$1.5 billion, of which \$1.2 billion is for TV rights, advertising and sponsorship alone. There is even a political will by cities to invest in hosting eSport competitions.

According to Fabien Culié and Charles Lapassat (aka Chips and Noi), star commentators for the game League of Legends, the city of Paris even has a unit dedicated to the development of competitive video games. The French capital wants to draw its inspiration from the Polish city Katowice. That city hosts eSport world competitions and thus new tourists. These

competitions have helped to make the city famous around the world with GenZ.

Brands have to quickly position themselves in this activity, which attracts the youngest audience, such as Coca-Cola, official partner for 5 years of the most popular video game with League of Legends (LOL). Coca-Cola, with its entertainment marketing division, has organised partnerships with cinemas around the world so that fans can come together and share their passion for video games in international competitions. It's quite simply a copy and paste of the famous "fan zones" found at soccer world cups.

Buzz or not, one thing is certain: the future of entertainment is in eSports!



6

HYPER AUTOMATION REINVENTS VALUE CREATION

HYPER AUTOMATION

WHAT DO YOU WANT YOUR BLOCKCHAIN TO DO?

Everyone is talking about the blockchain, everyone wants to get involved, but nobody really knows what's behind it. Obviously associated with virtual currencies, the blockchain is moving into numerous sectors of activities, be it aviation, automobile, distribution...

Last year, in the latest Innovent Service Centric report, we talked about the blockchain as an accelerator of disintermediation.

"Among the notable opportunities for its use, the blockchain allows the users to be part of circular consumption. A motorist can thus be assured, when purchasing their car, that they will be entering a cycle of use where their product is only a car for the time being, but fulfil other functions afterwards, once recycled?

It will be possible to find out beforehand, the environmental impact of their consumption and their contribution to future production. This could revolutionise commerce and transform the way that consumers choose their goods, by providing evidence via blockchain technology that their products have completed their life cycle.

CRYPTO CURRENCIES (VIA TOKENS) AND LOGISTICS TRACEABILITY ARE ALREADY IN USE

The blockchain for logistics transparency

Carrefour uses this technology to combat the loss of its steel transport trolleys that can cost thousands of euros every year. To do this, the French giant is

working with the startup Ledgeys. Logistic operators record, via blockchain, the transfer of each trolley. As a result, they pass on the responsibility for them. This allows Carrefour to know in real time who is responsible for its trolleys in order to reduce losses and theft. All actors in the chain are made into responsible actors.

At the industrial level, Boeing has also chosen blockchain technology to combat malfunctions in the GPS systems of its aircraft. The goal is to prevent any hacking attack on its aircrafts' GPS systems. To do this, it provides alternative GPS data to aircraft as soon as an attack is identified by the security system. This secure system is entirely based on blockchain technology.

Even cars are getting in on the blockchain. Toyota is working with MIT on using the blockchain to secure the data generated by its autonomous car projects. Toyota also wants to use the collected data to set up a ridesharing service and even sell insurance products related to its use. Porsche has also held a blockchain competition to work on its future uses in the automobile sector.

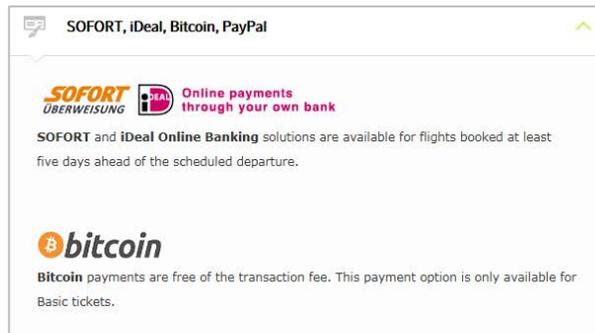
The use of the blockchain is unlimited when a transaction takes place, either to authenticate, secure, provide transparency, or to make a payment. The impact of blockchain technology is still poorly evaluated. It is a safe bet that its use in logistics is one where it is developing the fastest, far ahead of loyalty or payment solutions.

Virtual currencies for buying everything.

The evolution of Bitcoin, so controversial, is edifying, as Japan recognised it as legal tender in 2017 and accepted it as a means of payment, while it was still in its infancy.

HYPER AUTOMATION

In terms of airlines, many companies are beginning to accept Bitcoin payments. In Japan, Peach Aviation will soon accept Bitcoin payments for airline tickets and services on board. The Japanese airline even plans to install a Bitcoin ATM with the help of the company Bitpoint Japan. The project is still on course, despite recent crashes in February 2018 and rumours of banning by the government. Peach Aviation joins Airbaltic in the circle of airlines accepting Bitcoin payments.



Also in the field of tourism, Brisbane Airport in Australia accepts cryptocurrencies as a means of payment. In the airport's shops travellers can pay for their purchases (shops, restaurants, and bars) with several virtual currencies: Bitcoin, Dash, Steem, Litecoin and Ethereum. The objective of using virtual currencies, according to the airport's management, is to eliminate confusion around the exchange rates used by banks for international travellers. It is an approach that follows the decision of the Australian Stock Exchange to use blockchain technology to certify orders for buying or selling shares.

In France, Caisse des Dépôts has been investing in the blockchain since 2015, with the LaBChain programme, open to banks, insurance companies and startups, with the aim of structuring the French blockchain ecosystem. This technology is not limited to finance and can become a support to any transaction.

THE BLOCKCHAIN: REALITY OR FANTASY OF ABSOLUTE LOYALTY?

The blockchain for an optimised loyalty programme

Giving loyalty points to customers that they can spend where they want, is much appreciated by retailers' customers. The concept of using cryptocurrency as a universal loyalty tool could allow customers to gain a form of purchasing power. Distributors would no longer give out points, but rather virtual currency. To develop their own monetary economy and be in control, brands and companies have to use their own IT resources to carry out the "mining". This is this operation that produces the currency. This is what the Elements startup is offering, which aims to get merchants to develop their own cryptocurrencies and thus offer a universal and controlled loyalty program.

However, despite the buzz around crypto-currencies, the universal loyalty program is not yet ready to make its debut! Indeed, while the Elements solution needs to recruit distributors in order to attract users, it also needs to recruit users in order to attract merchants...

HYPER AUTOMATION

In the meantime, players in commerce are using blockchain technology for their own loyalty programs.

Burger King has launched a loyalty program in Russia based on the blockchain and the creation of a virtual currency. A currency named Whoppercoin has been created on the open source platform, Waves. Customers can then buy this virtual currency which is used to pay for their meals in fast food restaurants. The most loyal customers are also rewarded with Whoppercoins in their wallets.



[source: rappler]

Singapore Airlines will launch a wallet for its KrisFlyer loyalty programme, which will use a private blockchain. Loyalty points can thus be used at stores in partner airports. Singapore Airlines will, therefore, in a way be creating its own virtual currency. Everything will be operated, authenticated, and stored via blockchain technology.

At a minimum, the blockchain can ensure post purchase tracking via guarantees.

Beyond the loyalty aspect, which is still under-explored, above all the blockchain is a lever for accompanying a guarantee. Manufacturers have made significant investments in the field. eWarranter offers buyers the opportunity of registering the guarantees of their electronic products (TVs, cameras, etc.) These guarantees can be retroceded when the products are resold. In addition, this registration allows push notifications to be received when the end of the guarantee is approaching, to offer an extension. The blockchain thus becomes a lever for sales. If a guarantee can be registered, then why not create an authenticated and secure digital identity based on blockchain technology to give back control to consumers!

BLOCKCHAIN: A PANDORA'S BOX OF A NEW DEMOCRACY OR A NEW TECHNOCRACY?

The blockchain can give consumers back control over their data. This is a solution adopted by the Estonian government for decentralising its administration. France is closely observing the Estonian e-government, as the French prime minister recently revealed. And what if the blockchain could transform democracy by giving citizens back control over their personal data?

"If it grows and spreads, crypto-currency could be a real challenge for States, who would struggle to regulate these exchanges. If they allowed consumers to use a currency that they do not control, then governments would gradually be dispossessed of their monetary policies and therefore of their political power. More globally, a tokenised economy could thus feed into a peer-to-peer exchange system via platforms created by and for users, establishing its credentials within a potential civil society, where the local level is once again unavoidable.

HYPER AUTOMATION

More worryingly, States themselves may one day feel overwhelmed by the tokenisation of an economy centred around economic giants, generating their own ecosystems in closed loops.

At a time when GAFAs are establishing their own campuses which operate as independent cities, and are offering interoperable services, we could easily imagine Google or Amazon tokens emerging to provide access to the services offered by these digital giants.

We could witness a fragmentation of the world, no longer based around territories, belonging, or nationalities, but around closed communities: joining the Google system, holding tokens, and using them to pay for your living costs, would mean becoming a kind of Google citizen, within a community offering a range of services wide enough to cover all your needs. The State would gradually fade away, in favour of businesses and the interoperability of systems: by offering a variety of services, they would be able to create their own currencies.

The only limit to blockchain technology is that of energy resources. Currently, Bitcoin mining uses over 35 Terawatt hours (TWh) per year. This consumption is greater than the consumption of over 150 countries in the world. Energy expenditure is increasing with the growing number of Bitcoin miners. Every day, 450 Gigawatt hours are consumed, the annual consumption of a country such as Haiti. For Eric Holthaus of Grist, "The growing number of Bitcoin miners is a source of danger to global stability. Faced with its electricity requirements, the blockchain could widen the gap between the richest and the poorest. We have to find a more energy-efficient technology, otherwise it will be the end of crypto-currencies, or even humanity."

ROBOLUTION, BETWEEN EMANCIPATION AND ALIENATION

Robots evoke fantasies, they scare, they intrigue, and they never fail to impress. The world of robotics is very much driven by Japan. Its prime minister, Shinzo Abe, has also announced plans to organise the Olympic Games of robotics by 2020. This ambition makes sense, with the robotics market estimated at over 52 billion dollars by 2025 (including 10 billion for humanoid robots alone).

ARE ROBOTS A THREAT TO EMPLOYMENT?

While the industrial sector has been using robots on production lines for many years, it is only three years since they arrived in retail. These new tools are arriving in warehouses, shops, restaurants and even offices. Robots are not limited to humanoid robots as seen in science fiction films. First and foremost, automation lies behind robots. This automation can already be seen with the Amazon Go concept. Algorithms are appearing and encroaching everywhere, even threatening associated jobs. They are subjects that are causing worry and provoking debates, right up to the highest political spheres.

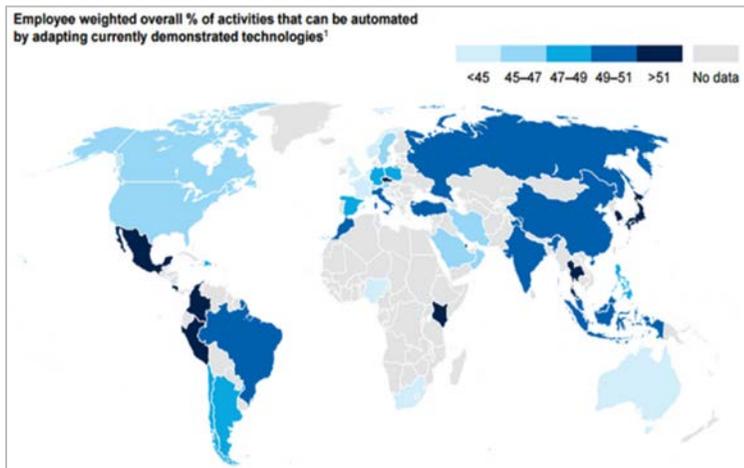


[source: echangeur]

HYPER AUTOMATION

In New York, a study by the Center of Urban Future shows that 10% of jobs in the city can be automated. This represents over 465,000 jobs automated by 80% and 7000 automated by 100%. This is a real threat to the economic and social stability of New York's population. It also threatens the jobs of accountants, auditors, servers and storekeepers. Automation is attacking the middle class, as 41% of automated jobs are for salaries between \$40,000 and \$80,000, according to the study. In fact, US trade industry lost 170,000 jobs in 2017, while Amazon "recruited" 75,000 robots for its warehouses. In France, automated order preparation solutions from Scallog are used by Géo and L'Oréal.

"The digital revolution is challenging the place of work in society."



According to the World Economic Forum, over half of current jobs could be

automated by 2050. An OECD survey in 2016 estimates current percentage of jobs susceptible to suffering from the "robolution" in member countries at 9%. Yet, robotisation is boosting productivity by 0.8% to 1.4% per year, by eliminating human errors caused by fatigue, while speeding up the completion of tasks. Overall, tasks are being automated, rather than jobs.

For some, the gradual disappearance of employment would be good news: thankless delegated tasks to machines would develop "care" in human relations, and lead to a refocusing on voluntary activities, currently undervalued as they are considered unproductive. Robotisation could in fact prevent the automation of spirit, and could be more of a source of emancipation than of alienation. For others, it could cause a widening of inequalities between insiders and outsiders, in an ever more competitive jobs market."

ROBOTS IN THE WORLD OF COMMERCE

However, robots used in physical stores are still far from being able to replace human beings. Their tasks are varied but fairly basic. Currently, robots can perform the following tasks in retail:

- Stock management and inventories, with Simbe, Bossa Nova, and Scallog.
- Customer experience, with Pepper, Nao, Fellowrobot and Tikki.
- Delivery and retrieval of products, with Hointer, Chloé, and Starhip.

HYPER AUTOMATION

At Lowe's, robots greet customers with Oshbot, developed by Fellow robots. However, it does not seem that Oshbot has gone beyond the test phase. This explains its presence for the first time at the NRF trade fair. Unlike Bossa Nova, this robot, in addition to surveying store shelves, can guide customers in stores and give a first level of information in a sales context. It also works as an advertising medium.



[source: echangeur]

The deployment of robots in all stores is not yet a reality, and even less close to replacing human beings. The cost of acquisition remains high overall, compared to the performance of these robots, for complex tasks such as sales and consulting. However, Amazon and Alibaba have demonstrated that for the back office tasks and order preparation, robots have a real usefulness. At Amazon the use of robots has increased the efficiency of order preparation by over 50%.

But robots also mean drones and autonomous cars. Solutions that meet the

ever-increasing demands of consumers to receive their online purchases as quickly as possible. Domino's pizza is testing delivery by autonomous cars along with Ford. Amazon, Alibaba and JD.com are investing in the field of drones for deliveries in under 30 minutes.

ROBOTS: LIFE COMPANIONS

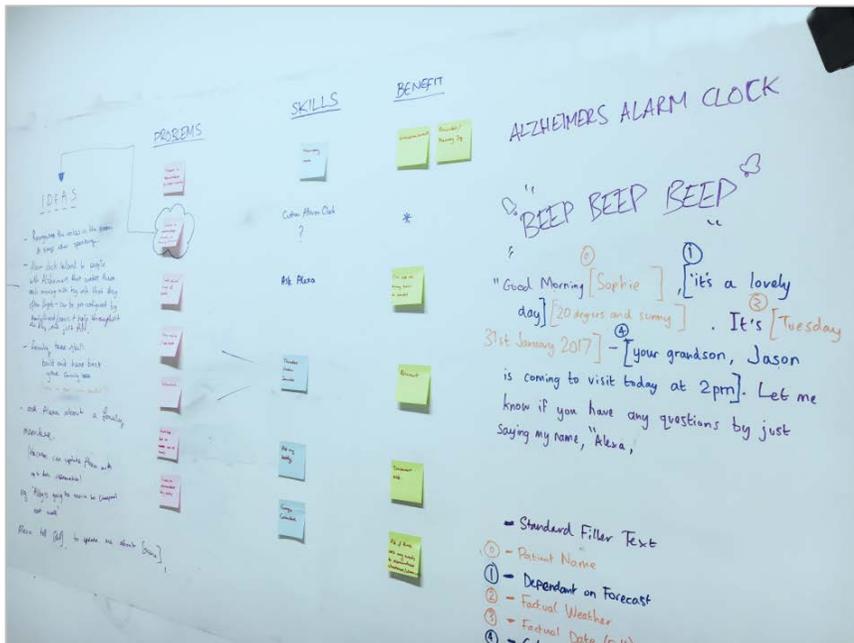
Beyond retail, robots will also arrive in consumers' homes. These domestic robots will not be simple vacuum cleaners, but rather the assistants of the future. These assistants will be able to supplant smart speakers. Currently, Alibaba is investing millions in artificial intelligence and robotics to better serve its customers. Alibaba signed a joint venture with Sofbank and Foxconn in 2016 for robotics.

Alibaba eventually wants its robots to be deployed in its customers' homes, while integrating its "Tmall Genie" assistant. For Jack Ma, these robots will help older people remain in their own homes for longer. Thus, they will continue to consume within the Alibaba ecosystem. In view of the recent problems at French EHPADs (Accommodation Facilities for Dependent Older People), robotics could be a solution for reducing care staff numbers.

Robots can provide access to telemedicine and video conferencing solutions. They can provide memory exercises, speech therapy and also reestablish links with increasingly geographically distant families. Their sensors can also identify falls and call for emergency help.

HYPER AUTOMATION

Caring robots are not so far away. Smart speakers are already palliative tools for people with brain diseases. For example, Amazon Echo is used with Alzheimer's and dementia patients.



[source: medium]

Alexa never gets tired and never gets annoyed. You can ask her the same questions 50 times a day, she reminds patients to take their medication, and warns them of upcoming appointments... A patient recently said that he told Alexa where he put his things. Then he can ask her where they are. This saves

him from disturbing his wife, who has trouble answering her husband's constantly repeated questions. Managing these pathologies is a real test for patients and families. Technology is transforming into a solution for comfort of life.



Alexa, tell me about Laura

Laura is your granddaughter, she is 18 and lives in Newcastle. Here's an update from Laura...

Plays recording which Laura has recently recorded and saved

Alexa, do I have any more updates from my family or friends?

Plays recordings which have been recorded by family and friends



[source: medium]

While the success of smart speakers is being hailed in the press, the future of personal assistants is in companion robots!

The Buddy robot will soon be produced industrially. We will follow its first steps and its his life in its adopted homes very closely. Buddy is certainly the first step in the robotisation of personal assistants!



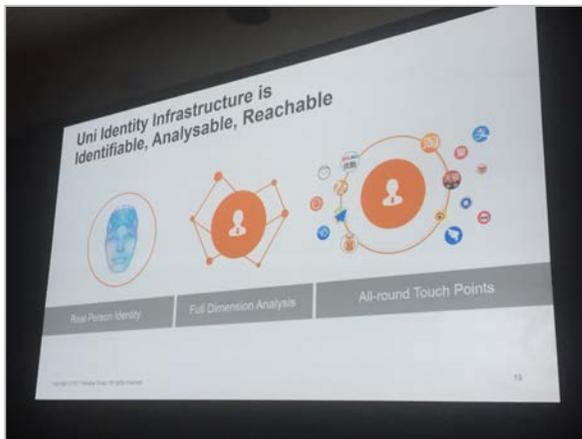
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THE MARKETPLACES REDRAW EXCHANGES

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DIGITAL ID OR THE HEART OF THE SYSTEM

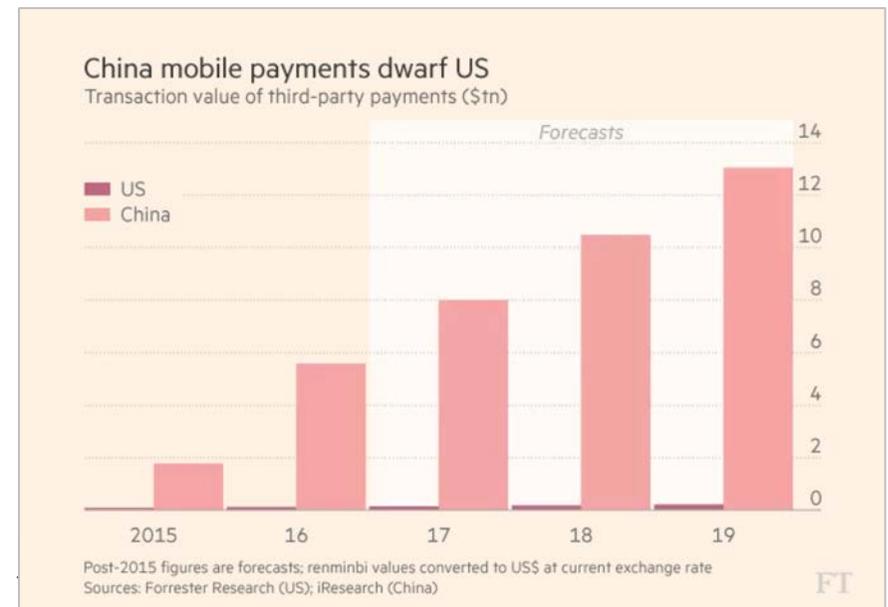
The diagram below presented by Alibaba at the NRF Big Show 2017 shows Alibaba's ambition of popularising its digital ID in order to better navigate within its merchant ecosystem!



Last year, Alibaba's payment subsidiary, Alipay, tested its own digital identity card system in Wuhan, the capital of central China's Hubei Province.

One of China's largest cities will allow residents to connect their national ID Cards with WeChat's mobile messaging and social media app, using facial recognition, further locking Chinese consumers into the Tencent ecosystem.

This functional and secure identification is one of the pillars of mobile payment growth in China compared to the US.

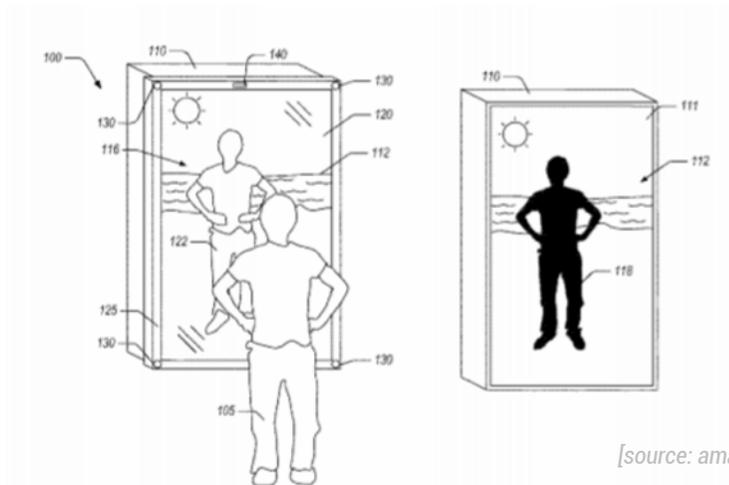


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Amazon, in a more liberal framework, has also integrated face recognition technology, recently launching a real-time technology called Amazon Rekognition. BtoB clients using AWS can integrate it into their own applications, for identity verification use cases.

This technology will improve the identification of customers in physical retail, notably in the Amazon Go store.

Last but not least, Amazon's "Blended reality systems and methods" patent, granted in January 2018, gives an insight into the future potential of fitting rooms. The patent is for a mirror that projects different images (using a screen behind it), giving the illusion that customers are wearing different outfits.



The guarantor of these ecosystems is thus digital identification. It is at the centre of the matrix of ecosystems that aim to cover the entirety of our daily lives.

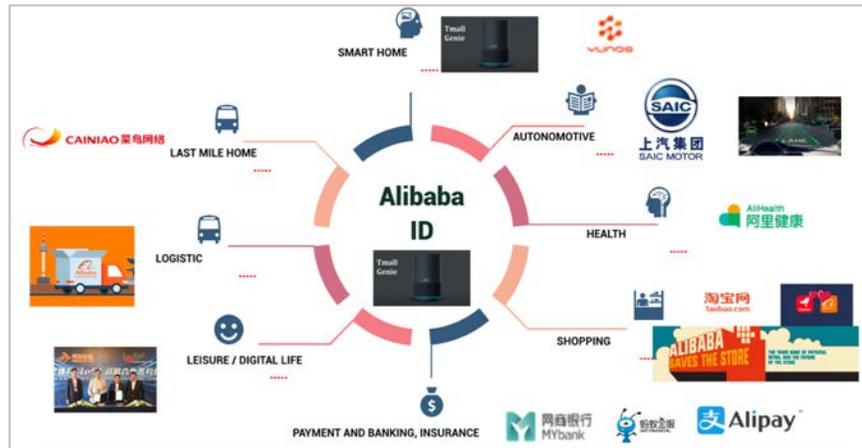
The ecosystems of Amazon and Alibaba already cover many areas of our lives, namely:

- Smart homes
- Cars
- Health
- Retail
- Payment and banking
- Leisure
- Logistics
- The last mile

Access to all these services is facilitated by voice assistants being ubiquitous: Amazon Echo for Amazon, Tmall Genie for Alibaba. The latter already consolidates all the latest innovations in biometric identification!

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THE ALIBABA ECOSYSTEM



[source: echangeur]

Alibaba, like Amazon, is diversifying and globalising.

Prospects for the future go beyond our expectations and our fears. They pose many questions, both because of their incursions into the strictest privacy of every individual, and their impact on the balance of organisations overall. Technological innovations are redefining our daily lives thanks to technologies which are increasingly less solitary, and ever more autonomous and connected, whether it is virtual reality, robots, chatbots, connected cars, smart homes, or even facial and voice recognition.

THE AMAZON ECOSYSTEM



[source: echangeur]

TOWARDS AUTOMATIC PLATFORMING?

Retail at the scale of Walmart is obviously concerned about the gargantuan appetite of these web giants which extends beyond day to day life!

E-commerce giants like Amazon and Alibaba will become an ever greater threat as they move out of their traditional territories. Armed with huge amounts of consumer data in their arsenals, and advanced technological capabilities, these digital giants are able to experiment and adapt to the ecosystem of the physical world.

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[source: amazon]

Walmart has 4700 stores in the United States. 90% of people live within 10 miles of a Walmart store, compared to 30 miles for an Amazon warehouse.

With such a distribution, physical outlets are a real asset in establishing a bridge with e-commerce. That is why Walmart is entering the world of e-commerce, with four acquisitions of online fashion sites: Bonobos, ModCloth, ShoeBuy and MooseJaw. Walmart also has a stake in JD, Alibaba's main Chinese competitor in online commerce. In August, the brand also signed a partnership with Google to provide access to Google Express via smartphone or Google Home.

In response to PrimeNow and to continue to fight for the "last mile", Walmart has also acquired Parcel and Shipt, two startups specialising in express deliveries.

[source: cnbc]

Walmart wants to eliminate all points of friction. Two major problems remain to be solved:

- waiting at the checkout.
- unavailability of products.

To address this, Walmart has launched Scan & Go, Pick-up Tower, Endless Aisle, Walmart Pay, the Bossa Nova inventory robot, Pick-up to Store, and Pickup Discount, via its No.8 Store incubator.

The aim is to provide a fluid consumer experience and an even wider range. To do this, the brand has begun work on a true O2O transformation (Offline to Online)! Its latest project, Keppler, is the creation of a 100% automated store, utilising AI.



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Currently, artificial intelligence is also used in three main sectors:

- risk management, preventing fraud and identifying high risk customers
- supply chain, guaranteeing fast and optimal delivery
- recommendations, offering the right products at the right time.

The Walmart platform is first and foremost based on the automation of retail tasks! (see diagram)



[source: echangeur]

JD.COM OR AI LOGISTICS AT THE HEART OF "RETAIL AS A SERVICE"

JD.com, the number two Chinese e-commerce company, has the largest logistics infrastructure in the Chinese e-commerce sector. JD.com's logistics network in China has 7 distribution centres and 405 warehouses in 2,691 counties and regions.

JD.com, the second largest online retailer in China after Alibaba, has closed a \$2.5 billion round of finance to develop its logistics arm, JD Logistics. "This funding will allow us to extend our leadership in the industry, focusing on automation, drones and robotics," says their CEO, Richard Liu.

JD.com is planning the deployment of 185 drone airports, intended to serve both the cities and the isolated countryside regions of China.



[source: echangeur]



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On 2nd February, 2018, JD.com announced its partnership with Fung Retail, a major Chinese retailer with over 3,000 stores. This alliance aims to integrate artificial intelligence into distribution processes, in order to transform and improve the customer experience. The main objective is then to open up the platform to other retailers with the "Retail as a service" model, already discussed at Shoptalk 2017!

This partnership is in the form of an AI-controlled Marketplace. It integrates online and offline sales platforms. It is developing a system for managing products, storage, pricing, ordering and payment. JD.Com adds that the development of facilities, checkout free stores, and smart assistants is also part of the joint project.

On this basis JD.com has created a new store, 7Fresh. It uses smart logistics technology to serve consumers in the same way as shoppers in Alibaba's Hema supermarket chain.

JD.com is building its ecosystem based around AI, but supported by logistics. They are offering a veritable toolbox to their new partners. And let's not forget that Walmart is one of them!



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WHO OWNS THE SMART CITY?



[source: vconmexxo]

From autonomous vehicles with serviced ecosystems, presented at the CES in Las Vegas, to outsized vehicles at the Detroit Auto Show, the gap is growing between these two shows. While these two events were held only a few days apart, they presented two visions of the automotive industry, two visions of future mobility, and almost two visions of the world.

Put simply, the discussions in Detroit focused primarily on the tangible artefact, i.e. the vehicle itself, but much less on what will change beyond the car.

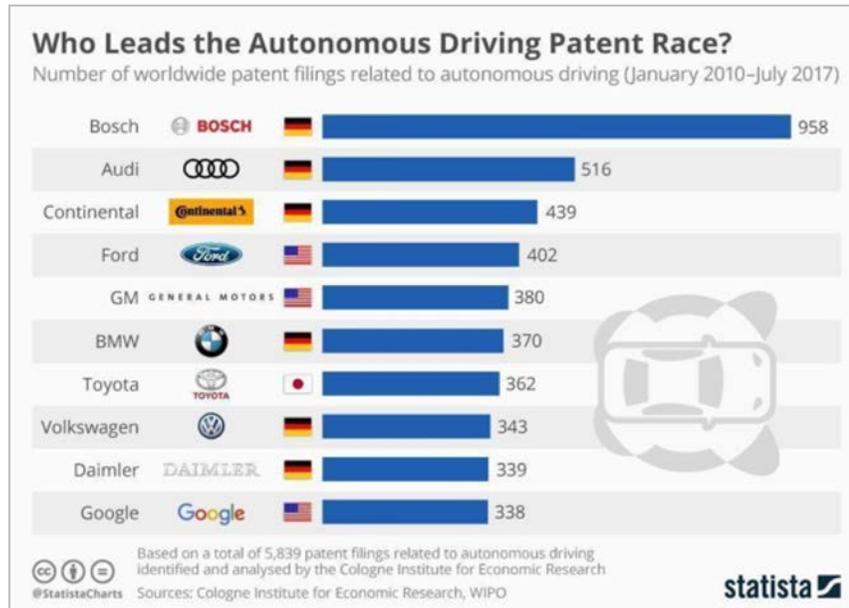
"In the past, the automobile world was simple, very pyramidal: the manufacturer was the client who worked with suppliers. Today, with the revolution of connectivity, autonomous car and mobility services, partitions are being knocked down, and it's impossible for a manufacturer to control everything," says Rémi Cornubert, of AT Kearney.

The needs and expectations of consumers are changing (the desire for immediacy, the growth of online sales via smartphones), with, in parallel, a real technological transformation (platforms like Uber, sharing services like Drivy, guidance applications like Citymapper...).

Lyft was even offering an autonomous ridesharing service at the CES show.

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While manufacturers are the leading filers of patents for autonomous cars (see diagram below) the web giants are making no secret of their appetite for this sector.



[source: statista]

Thus, Google is continuing its partnership with Fiat-Chrysler by integrating the latest version of Android into the manufacturer's new integrated system, allowing various onboard features to be introduced (Google Assistant, Waze, Maps...).

For its part, Amazon has integrated its Alexa home automation system in cars by Ford, Hyundai and Chrysler. This will allow owners to control connected objects in their houses from their car, and vice versa. Microsoft is bringing Skype to Volvo cars, and its Cortana voice assistant to BMW and Nissan.

THE AUTONOMOUS CAR: MORE THAN JUST A PROMISE!

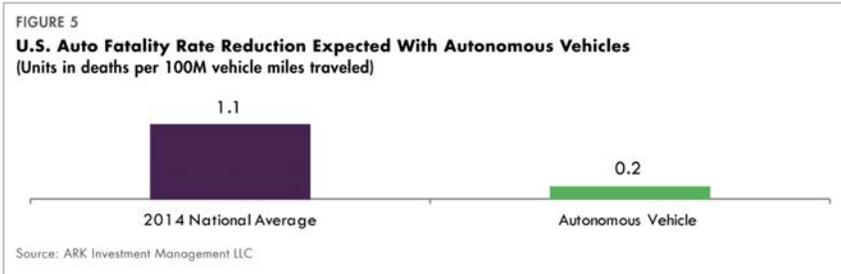
All the major car manufacturers are promising their first completely autonomous models for 2020 or 2021. Similarly, according to the Observatoire Cetelem, 71% of motorists believe that 100% autonomous cars will be a reality in 10 years.

Indeed, today's cars are already connected and smart. Onboard cameras, radars and lidars ("light detection and ranging" or "laser detection and ranging") analyse vehicles' environment in real time. Start-ups such as Luminar Vedolyne, Quanergy and Innoviz are focusing, for example, on lidar technology, a sensor that measures the car's immediate environment by analysing light beams.

Innovations in the coming years will therefore focus on the ability to transfer large volumes of data. This will positively impact security and improve support.

Globally, the ARK predicts that 5.5 million fatalities will be avoided by 2035. In the United States alone, self-driving vehicles could save an estimated 140,000 lives by 2035, mostly young drivers.

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This is why traditional car manufacturers such as BMW, Nissan and Volkswagen are using components from big names in technology. To run autonomous cars, it is necessary to use sensors to detect obstacles, 5G for vehicles to communicate with each other and manage to process all the data they will generate and which they will need.

As an example, the PSA group and Qualcomm Technologies will carry out the first demonstration in France of cars equipped with C-V2X technology ("Cellular Vehicle-to-Everything"). This technology allows direct communications between vehicles via the telephone network.

Finally, mapping will also be one of the key issues of the future. This explains the heavy presence of certain chip manufacturers, such as Intel and NVIDIA, whose products will be used in vehicles.

For example, in October 2017, Nvidia trained an AI system to create fictitious human faces by feeding in celebrity photographs. With this type of process, autonomous vehicle AIs could create images of pedestrians themselves to practice recognising them without having to go out on the road.

"The market for automated driving will represent 35 billion euros in 2025,"

says Elmar Degenhart, CEO of Continental. Connected cars open up a wide range of applications, from parking assistance to the provision of innovative services.

In reality, technology never comes so suddenly or in such an isolated way: an entire ecosystem is gradually developing to make everything work.

In the case of autonomy and autonomous driving, technology will have many impacts.

ROBOMART AND RETAIL IS COMING TO YOU!

The American start-up Robomart has unveiled a new concept for the autonomous vehicle: a mobile and autonomous grocery store that can bring products directly to customers.



[source: robomart]

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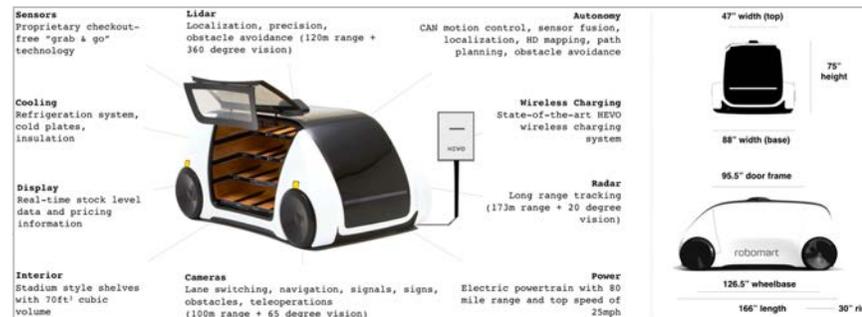
Robomart aims to disrupt the market for fresh products. Based on a Kantar Worldpanel study (presented on the website), the fresh products market is worth \$600 billion worldwide. Currently, only 5% of purchases are made on the web (Kantar Worpanel).

This market has already been preempted by numerous actors behind the shopping delivery services, such as Postmates and Instacart. Amazon launched Amazon Fresh, a home delivery service in less than an hour in 2013, and has bought Whole Foods to build on physical outlets.

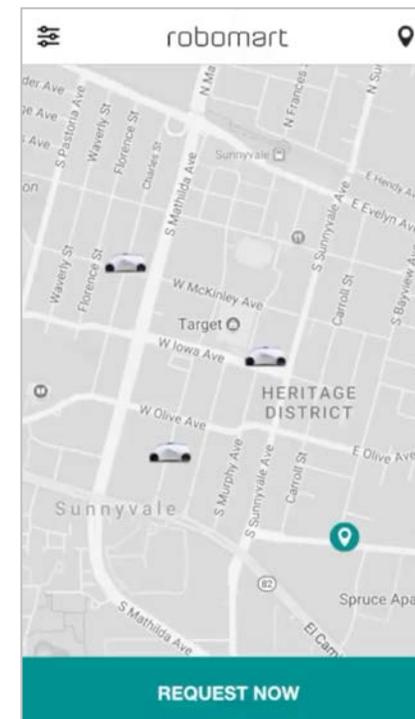
More recently, Target bought a competitor of Instacart, Shipt, in December 2017. Nevertheless, they are not yet positioned in autonomous vehicles.

Robomart was developed by NVIDIA, equipped with a refrigeration and heating system, Robomart is a level 5 autonomous vehicle (on this level the on-board computer takes control over all the car's functions), which uses an onboard computer developed by Nvidia (Nvidia Drive PX).

For users, like Uber, all they have to do is press a button in an app to ask the nearest Robomart to come to them. According to their manager "Just like Uber did for taxis, we're doing for retail"



[source: robomart]



[source: robomart]

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Once the vehicle arrives, the customer does their shopping while its internal AI (image recognition similar to the Amazon Go system) calculates the price of their shopping basket, chosen in real time, hence the slogan "grab and go". Like an Uber, users are charged automatically.

Shanghai also seems to be the breeding ground for the era of retail automation, with the new Wheelys by Moby-Mart, that launched its employee-free connected store in March 2017, named Wheelys 247, which moves around throughout the day according to demand!



TOYOTA MOBILITY AS A SERVICE OR AUTONO-MAAS (AUTOMATED MOBILITY AS A SERVICE).

Akio Toyoda, president of Toyota, the second largest car manufacturer in the world, made this statement during his keynote address:

"The automotive industry is clearly in the midst of its most radical phase of development, at a time when electrification, connected driving, and autonomous driving are making leaps and bounds. Constant vehicle improvement remains a priority for Toyota. But we are also seeking to develop mobility solutions that will help everyone to enjoy life, and we're participating, at our own level, in the improvement of society for the next hundred years. This announcement marks a great step forward for sustainable mobility, proving that we're continuing to diversify beyond conventional cars and vans, by adding value, notably in customer service."

It is in this context that Toyota launched E-Palette, a multi-service platform (Automated Mobility as a Service) between consumers and businesses, within the framework of the smart city.



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Completely autonomous, the vehicle will transport people from their homes to stores, as well as bringing stores to people, like Robomart or Wheelys.

To answer the famous question "How will free time be spent in a self-driving vehicle?" e-Palette will be both a shuttle (a shared travel service, a travelling office), and the future of Mobile Retail (for the transport, delivery and sale of goods).

Akio Toyoda explains: "We want the car to be a personal assistant on wheels, able to anticipate your needs thanks to a predictive artificial intelligence" or "to shift Toyota from being a car company to a mobility company". (see below)

While the vision is focused on the service, it is of course driven by Artificial Intelligence, the mother of all ecosystems.

For this, numerous commercial partnerships have been signed, such as with Amazon, Uber, DiDi (Chinese taxis), Pizza Hut and Mazda.

According to Toyota, retailers will be able to turn the vehicle into stores of all types. Anything is possible, including mini co-working spaces.

Ford has also presented a pizza delivery trial, via a stand-alone car with Domino's Pizza and the Postmates food delivery app. In these three cases, the point of sale comes to the consumer.



[source: wheellys]



[source: echangeur]

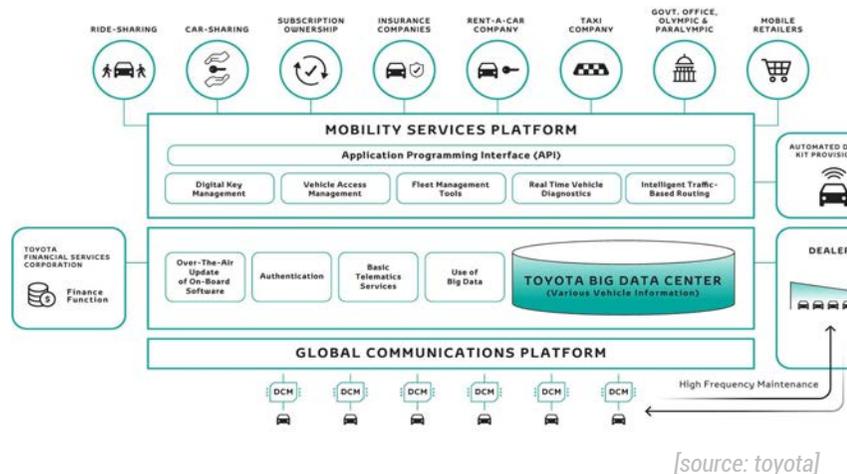
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Toyota hopes to be able to conduct its first real-world tests in the early 2020s. The pilot project is expected to be deployed at the 2020 Tokyo Olympics.

And like the giants of the American web, according to its head, Toyota is diversifying "to help everyone to make the most of their lives."

The diagram below, presented by Toyota, reflects the ambitions of their president! It is a genuine ecosystem, where all the points of contact during the day are addressed: car sharing, payments, authentication, retail, office, and all under the umbrella of their AI and financial unit, somewhat like a lower level version of an Amazon or Alibaba.

Toyota has clearly understood, the future is in a platform of services!



FORD AS A SERVICE

Henry Ford, the father of the American giant, once said about developing his first car: "If I had asked people what they wanted, they would have said faster horses."

Like Toyota, Ford Smart Mobility's goal is to provide a wide range of products and services that will improve all levels of the transportation network in order to improve transportation in cities and embrace the Smart City. The vehicle itself is only a pretext for innovation in services!

According to Marcy Klevorn, president of Ford Mobility, "We believe that transportation, done correctly, as part of a systemic approach, can bring our cities back to life."

Ford Mobility can be summarised in 5 phases:

- **Transport management and operation system:** Ford's open platform is cloud-based to integrate and manage all the transportation information of cities. This platform will be open beyond Ford, to include other automakers, partners and cities.
- **Connectivity:** Ford is committed to achieving 100% connectivity in new vehicles in the United States by 2019, and to achieving the goal of 90% connectivity worldwide by 2020.
- **Carpooling:** dedicated to the development of shared transport services, such as Ford's Micro Transit Solution. This year the latter will see an acceleration of launches in several cities around the world.

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- **Non-urgent medical transport:** taking advantage of the expansion of the medical transport market, Ford Mobility will expand its non-emergency medical transport operations as part of a pilot project in southeastern Michigan.
- **Vehicle management as a service:** a management solution for corporate fleets. Founded in 2017, "Ford Commercial Solutions" leverages vehicle communications to provide fleet data and optimisation services.

To support this shift towards Ford mobility, Ford has announced the acquisition of two start-ups developing transport software: Autonomic Technologies (implementation of an open and cloud-based platform for integrating and managing all the transportation information of cities) and TransLoc (providing software to cities to help them manage and plan their transit systems).

Unlike Toyota, Ford wants to be more of a major player in the smart city, rather than a central player in the daily lives of consumers!



[source: ford]

NO PARKING NO BUSINESS: WILL THIS STILL BE THE ADAGE OF MAJOR RETAILERS IN THE ERA OF AUTONOMOUS CARS?

Faced with the explosion of e-commerce, whose global growth is 15-20% per year (CB Insights) and the new expectations of consumers, logistics, including their topographic translation, is surely one of the most impacted by the Smart City.

China is the best case study. According to Terry von Bibra, Alibaba's European general manager, while the US has 10 cities with over one million inhabitants, and Europe 18, China has 102 such cities. The number of Internet users in China (731 million) is almost that of Europe (739 million), but is far ahead of that of the United States (326 million).

Pleonasm or not, the informed urban consumer, but also one who is demanding, wants everything: quality, low price and quick availability.

For this consumer, access to the point of sale is a real point of friction in the customer experience.

According to Stefan Hartung, member of the board of directors of Bosch, during his keynote at CES, "American motorists spend over 40 hours a year in traffic jams: this costs \$160 billion in time and energy, including one third looking for a parking spot".

To solve this problem, Bosch has developed a solution called "valet parking", with an app that identifies empty spaces by vehicles equipped with sensors, and sending information to motorists looking to park. This system is currently being tested in Stuttgart, and will be extended to 20 other cities in 2018, in the United States and Europe."

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As urban consumers go to points of sale less and less, home delivery is a real prize!

Density in logistical terms is strategic! Urban logistics are becoming ever more important in the centres of cities, and currently take up between 10 and 20% of public space, solely for the distribution of goods.

Smart cities and logistics have common goals and can cooperate! On the digital front, deliveries are perfectly optimised. The result: it's better to bring the goods to the consumer than the opposite!

Amazon has fully understood this! At Shoptalk, Amazon put showcased its Amazon Prime Now service (urban delivery in less than 2 hours), which, according to Mariangela Marseglia (director Amazon Prime Europe), went from idea to implementation in only 111 days! "Test and learn" is very much the

motto at Amazon.

In an era when time is becoming digitalised and accelerating, it is essential to optimise citizens' time, "to give them the time they need to live their life, rather than drive around town for their grocery shop". According to eMarketer, nearly half of Americans live within 30km of an Amazon warehouse. The launch of the Prime Now offer has shaken up market standards in terms of delivery, and encouraged historic players to innovate in order to stay in the race (see part 1).

Amazon Prime Now is opening warehouses in the heart of the world's largest cities (see below) to keep its promise! We are witnessing a real "logistification" of our cities in order to respond faster to more demanding customers!



[source: amazon]



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With the disappearance of stores' car parks, the ideal thing would be to develop urban logistics centres supported by autonomous vehicles from Toyota or Robotics going directly to consumers.

Artie Starrs, president of Pizza Hut (involved in all autonomous car projects) is moving in this direction: "in our relentless quest to own and define the modern pizza experience for our customers, we are focusing on technological solutions which allow our team members and drivers to deliver an even better customer experience."

If this is the case, we are moving towards a true spatial and temporal reinterpretation of our cities! Who will do this?



[source: toyota]

SMART CITY BY ALPHABET AND MICROSOFT

Until now, the intervention of the web giants in architecture and urban planning was limited to the development of their headquarters, such as Facebook in Menlo Park, Apple in Cupertino and Amazon in downtown Seattle.



Sidewalk Labs, a subsidiary of Alphabet, has much higher ambitions, with its slogan 'Reimagining cities to improve quality of life', proof that GAFAs want to make their mark in the physical world.

**Sidewalk Labs is
reimagining cities to
improve quality of life.**

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Sidewalk Labs aims to imagine the city of the future based on a large number of Google driven sensors. Long considered a thinktank, it will at last become a reality.

In September 2017, the City of Toronto commissioned an industrial zone reformation project, combining urbanism and new technologies to create a new neighbourhood, Quayside. This is the first time a city has entrusted it with a real-scale urban redevelopment project.



Sidewalk Labs will implement its vision of urban development, by covering the area with thousands of sensors to obtain accurate data on flows of people, the use of buildings and points of sale, the improvement of the points of friction, with the aim of continuously improving the city through data analysis.

Sidewalk Labs wants to design the first smart city from start to finish.

The initial findings from the American giant are as follows:

- reserving less space for personal cars, in favour of walking, cycling and public transport.
- promoting more flexible buildings (with shared spaces) to reduce the cost of housing.

That's all very well, but their ambitions are much higher!

Sidewalk is based on all the services of Alphabet, like their latest start-up acquisition, 'Cityblock', whose objective is to radically improve the health of urban communities! Alphabet wants to provide us with a real city based on algorithms where the slightest problem is notified and rectified!

For his part, Bill Gates, the founder of Microsoft, says he has bought a 100-square-kilometre plot in the Arizona desert. It is an \$80 million purchase in order to build a smart city named Belmont.

According to its founder, "Belmont will be a forward-thinking city, equipped with state-of-the-art communications and infrastructure tools, built around ultra high-speed digital networks, data centres, autonomous vehicles and autonomous logistics platforms".

This totally new urban model will provide tomorrow's city-dwellers with the opportunity of benefitting from a multitude of goods and services in the right place at the right time. A sort of Truman show!

THE MARKETPLACES

WHO OWNS THE SMART CITY?

It can be seen that a new cycle is opening up for the automotive industry via autonomous vehicles. Beyond a simple technological breakthrough, it is a complete shake-up of modes of value creation, which necessitates new strategic relationships. Manufacturers, retailers, IT providers, mobility operators, insurers... All lower-level manufacturers are aware of the implications of these ongoing changes.

Toyota, along with Ford, is the best example in terms of building service platforms.

In a world that promises to be more complex than ever, the competitive positions of players are increasingly blurred. Especially since new entrants might be able to capture a large part of the value generated by autonomous vehicles and smart cities.

All these giants of the web, whether from the USA or China, are investing in the world of cars in the guise of great advances in AI (see part 1). China is surely the most dangerous.

Baidu, China's largest web search engine, in July 2017 launched its "Apollo project", an open platform for autonomous cars, with some 50 partners. Ford, Daimler, Bosch and Continental are already in the game.

Alibaba is working with SAIC, and has already released a connected car whose slogan is 'car is your ID'. Based around Alipay (integrated into the vehicle) it's possible to pay for purchases without leaving the vehicle.

Ford took the lead by announcing a partnership in China with Alibaba to sell cars via the latter's platform. The goal is to take advantage of a dynamic market and a 100% internet based sales channel.



[source: alibaba]

Ford and Alibaba are even planning a new vehicle distribution system. The latter has planned to launch auto vending machines in 2018 in collaboration with Ford, where the purchase path will be of an unprecedented fluidity. From Alibaba's mobile app Taobao, the consumer scans a vehicle (via image recognition) which interests them in the street.

The app identifies the vehicle (model, brand), offers the consumer the chance to add available options (colour, bodywork, etc.) and if they (after facial recognition) have a convincing score (based on their multiple transactions on the Alibaba platform), they can schedule a test drive of the vehicle at the distributor of their choice.

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On the day of the test, the user goes to the automatic distributor, named Tmall Auto Vending Machine. Facial recognition then releases the reserved car, which can be used for three days. The automation of the pleasure of purchase is becoming a reality.

Tencent has invested in the startup Nio, which wants to become the new Tesla. The group even bought 5% of Tesla's capital in 2017, after investing in the map company, Here, earlier that year. Tencent also has a stake in Didi taxis, which drove Uber out of China. Last summer, Tencent also created a structure called "Future Mobility", with the manufacturer Foxconn and the dealer Harmony, with the goal of getting autonomous cars on the road as quickly as possible.

Simply put, BAT (Baidu, Alibaba and Tencent), with the help of the Chinese government, want to become the country of the car of tomorrow.

The holistic vision of the Smart City is still the prerogative of Google and Microsoft, but the government, supported by BAT, is advancing along the same path!

WHEN HEALTH BECOMES THE ENTRY POINT FOR ECOSYSTEMS BY STRENGTHENING THEIR POSITIONS

At the CES, innovations in health care had pride of place. While up to now, health technology was mostly about activity tracking, its latest uses have moved towards a much more medical level.

The connected toothbrush is, amongst others, representative of this evolution. It can report inflammation of the gums, enamel degradation, and suggest, for example, toothpastes suitable mouthwashes, or consultations at a dental clinic.



THE MARKETPLACES

A child's dummy equipped with sensors, connected to the child's health record, can proceed a continuous saliva examination, recommend a more suitable milk, food or paramedical products, under the watchful eye of the US Food and Drug Administration.

Beyond its intrinsic interest, this marked tendency towards self-care, might ultimately combat medical deserts and unclog hospitals!

By moving into the industry of life, the Marketplaces are not seeking to reproduce the characteristic patterns of large historical conglomerates. While the latter were based on the proliferation of unrelated industrial and commercial activities, the Marketplaces are weaving convergent ecosystems where health will occupy a central role!

An official US document promoting the interdisciplinary programme of convergence research between nanotechnology, biotechnology, information technology and cognitive science in 2002 was premonitory: 'When the technologies of the 21st century converge, humanity will finally be able to reach a state marked by world peace, universal prosperity and the march towards a higher degree of compassion and fulfilment'.

The extension (or even integration) of sensors to our bodily, domestic and professional surfaces, combined with the power of AI, is the major objective of our giants. There is no limit to transforming the world into data and the uses that can be created from it!

Elon Musk, president of SpaceX and Tesla, has created a new company called Neuralink, whose mission is to develop new human machine interfaces implanted in the brain. According to him, it is urgent to hybridise our brain with electronic chips before the AI turns us into pets! This company is still at the recruitment stage!



Neuralink is developing ultra high bandwidth brain-machine interfaces to connect humans and computers.

We are looking for exceptional engineers and scientists. No neuroscience experience is required: talent and drive matter far more. We expect most of our team to come from other areas and industries.

We are primarily looking for evidence of exceptional ability and a track record of building things that work.

All positions are full time and based in San Francisco.

[source: neuralink]

This post-traumatic humanism is also being driven by another industrialist, Bryan Johnson. He is the founder of Kernel, a company similar to Neuralink. Last but not least, the US Army has launched DARPA's brain prosthesis integration programme!



In the last century, we greatly expanded the notion of what it means to be human. Remarkable innovations in both science and technology brought us to the moon, laid the foundation of the Internet, and cured many of the most pressing diseases that plagued us for eons.

What's next?

To further explore our own human boundaries, a wave of new technologies needs to emerge that can access, read, and write from the most powerful tool we have—the human brain.



[source: kernel]

THE MARKETPLACES

Amazon is now seeking to position itself in the healthcare industry by setting up a laboratory under the secret code name a1.492. Job offers during the summer of 2017 explicitly stated that these were jobs related to special projects.

Among the job offers was a machine learning specialist, with experience in health and medical data technology. This suggests that the team in question would be working on the subject of connected health. This ambition is not surprising for Amazon!

"1492" is said to have acquired Grail, a cancer start-up, and is hiring a director of health care and life sciences.



[source: grail]

In an interview with CNBC in February 2018, CEO, Warren Buffett, said a joint venture with Amazon CEO Jeff Bezos and JP Morgan Chase CEO Jamie Dimon, was aiming beyond simple changes in healthcare costs.

He added: 'Compared to other industrialised countries, the United States is at a competitive disadvantage'. In fact, healthcare costs in the United States are said to be around 18% of gross domestic product (GDP), with all indicators pointing towards an increase, while in other countries it accounts for about 11% of GDP.

"I like the idea of tackling what I consider to be the major problem in our economy," Buffett told CNBC. That is, a true attack against the government in place!

Last year, Microsoft also went full-force into the world of health, by launching the Healthcare NExT laboratory. It is based on collaboration with health professionals. The aim is to find a solution together for defeating cancer within the next 10 years, with projects such as HealthVault Insights, Microsoft Genomics, and InnerEye.



THE MARKETPLACES

DeepMind (an AI company), acquired by ALPHABET in 2015, develops other applications with its algorithms within the framework of partnerships with universities. For example, University College London Hospitals focuses on radiotherapy scans, and Imperial College London invests on the field of mammograms. Artificial intelligence facilitates the detection of pathologies and saves precious time for patients while limiting the examinations to which they are subjected.

Unprecedented actors are entering in the field of health. Their know-how is opening up a whole field of possibilities in terms of aiding diagnosis and the treatment of numerous diseases. Nothing seems to stop the new masters of the space!

"Is there anything so fragrant, so sparkling, so intoxicating, as the possible" as Søren Kierkegaard said.

This intoxicating ambition is no longer the prerogative of Silicon Valley!

ALIBABA OR ALIHEALTH

In February 2018, Germany's Bayer AG and Alibaba's AliHealth entered into a strategic partnership to make Bayer's products and self-care solutions more accessible to Chinese consumers.

According to the agreement, Bayer will use data provided by the Alibaba platform to track health trends among the Chinese and better meet their self-care demands.

"We will form a global partnership in marketing, promotion and operation within Alibaba's medical ecosystem," says He Yong, vice president of marketing and innovation, Bayer Consumer Health, China.

AliHealth's ability to manage and analyse large data volumes will provide an accurate and in-depth understanding of each consumer. Bayer will then be able to tailor products and self-care solutions to better satisfy Alibaba's healthcare division.



[source: alibaba]

This type of manoeuvre ultimately serves the government's 'Healthy China 2030'. "This plan aims to provide equal access to health services for all citizens by 2030. And self-care will be one of the key drivers of the overall medical system for achieving this goal," says Celina Chew, president of the Bayer Greater China group.

Alibaba also opened its first joint research institute outside China at the beginning of this year. It is located in Singapore, in collaboration with Nanyang Technological University (NTU).

The institute will explore technological breakthroughs and artificial intelligence (AI) solutions in areas such as health, ageing and lifestyle.

THE MARKETPLACES

TO CONCLUDE ON MARKETPLACES

'Code is law', the rules no longer come from the public universe but from digital platforms. How will public health law fare against the algorithms of Deepmind-Google, Alibaba's Alihealth, et al?

The law will have to reinvent itself to cover AI and our lives by the same token! Governance, the regulation of emerging platforms boosted by AI will occupy the lion's share of parliamentary work and open up a real public debate!

On July 20th, 2017, Beijing took a lead on its competing countries by announcing, with great fanfare, the launch of a development plan of the next generation of AI.

The investment seems enormous, even provocative, with a clear objective: becoming the leading world power in the field and overtaking the United States. And the strategy? Breaking into promising areas such as Big Data, artificial neural networks, enhanced hybrid intelligence, and intelligent autonomous systems.

In France, "Hub France IA", was established in December 2017. The project, set up as a digital platform, aims to unite and unify work that is too often scattered among companies, start-ups, universities and research institutes, around the same body. As Nathanaël Ackerman, general manager of Hub France IA explained in early 2018: "it is important to mobilise all these actors so that

they can get to know each other better and above all act in concert at a time when the sector is so effervescent." "This exchange platform, a "French branch of AI", has attracted some heavyweight supporters, such as SNCF, Air France, France Télévisions and Société Générale, as well as some fifty start-ups and eight technological research institutes (IRTs).

Centralised by a handful of American and Chinese elected officials whose appetite is insatiable,

the world is therefore becoming completely connected, and is driving every actor and State to take action in order to find their own place within it.



8

CHINA, THE NEW MODEL FOR COMMERCE?

CHINA, THE NEW MODEL FOR COMMERCE?

MARKETPLACE OR WHEN THE CHINESE MODEL DESIGNS THE WORLD OF TOMORROW!

The old adage of the founders of Carrefour, "find everything under one roof", may seem sadly amusing in the context of the crisis that is unfortunately shaking up the group (the announcement of 2,400 job losses at Carrefour) and similar stores. The exponential explosion of digital Marketplaces, where unlimited supply and record delivery times are shifting commerce under a digital roof of which it represents only a tiny part of the offering.

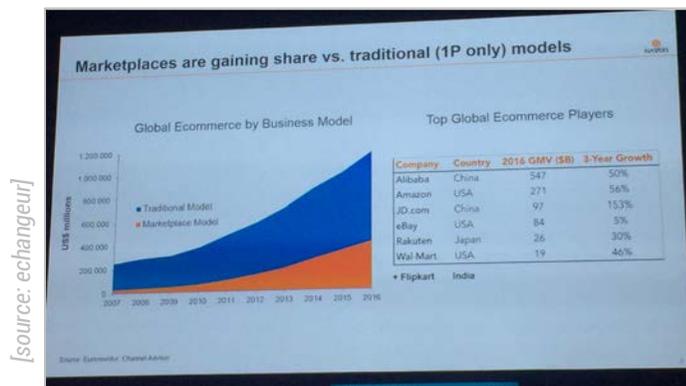
GRANDEUR AND GROWTH!

With an exponential growth in their sales over the last 3 years, Alibaba (+50%), Amazon (+56%) and JD.com (+153%, source: Euromarketer), are redrawing a new form of consumption.

For China, online commerce hit 701 billion euros in 2016, up +26.2% from 2015 (National Bureau of Statistics of China).

China has become the world's largest market for online commerce, followed by the United States at 360 billion euros (US Department of Commerce figures).

In 2010, China had 140 million online shoppers, like the USA. In 2020, there will be 891 million in China compared to 270 million in the USA!



CHINA, THE NEW MODEL FOR COMMERCE?

According to Euromarketer, Amazon and Alibaba will account for 39% of global online commerce by 2020!



[source: cbinsights]

One of the challenges of this profound evolution in the economy is time. Like Amazon and Alibaba, the other giants of the web and AI are vigorously deploying their business models. With their ability to aggregate services, thanks to the power of infrastructure and web services, boosted by artificial intelligence, they are leaving many historical players by the wayside.

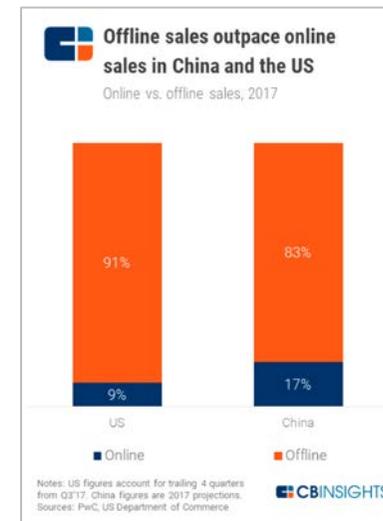
Retail is becoming ambient and service based, but logistics are still the crucial issue! The Marketplaces have fully understood this. They are investing heavily and at supersonic speed! For Rona Harris of Google UK, the "customer is a

channel", this client channel must be accessible everywhere and all the time!

The year 2017 marked a turning point for strategic changes.

O2O THE NEW CHINESE ELDORADO?

According to PwC, e-commerce accounts for only 17% of total consumption in China. In the United States, this figure is even lower: only 9% in the third quarter of 2017, according to the US Department of Commerce.



[source: cbinsights]

CHINA, THE NEW MODEL FOR COMMERCE?

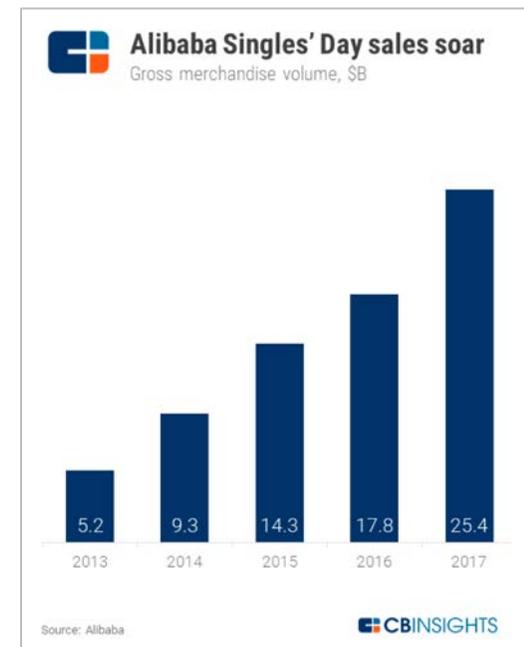
This explains the appetites of the Marketplaces for the Old World. With the help of partnerships with historical retailers, they have brought the term online to offline (O2O) into the lexicon of commerce: Amazon has acquired Whole Foods for \$13.7 billion; Walmart is using Google Home to market its products through the Google Express interface; Alibaba invested at the beginning of the year in the furniture chain Beijing Easyhome Furnishing. This announcement is in line with the insatiable appetite for the physical world by the Chinese giant. In less than 2 years, Alibaba has acquired 20% of the Chinese home appliance distributor, Suning. The Chinese Marketplace has also launched its own chain of points of sale, via Hema Fresh, a brand specialising in the distribution of fresh products and totally digital (it currently has about thirty points of sale).

By acquiring an 18% stake in the supermarket chain Lianhuan (3,600 points of sale in China) in 2017, and by franchising 10,000 convenience stores as of next year under the name Tmall, Alibaba is demonstrating that e-commerce is not enough for it. The Marketplace also plans to open a shopping centre in Hangzhou City. This contrasts with the marked increase expansion in mall closures in the US.

Alibaba is striving to multiply the interactions between its online marketplaces and the physical world. Its investment of 2.44 billion euros in Sun Art Retail Group (the main operator of hypermarkets in China and of which Auchan is the majority shareholder) is the cornerstone, with its 490 stores in China.

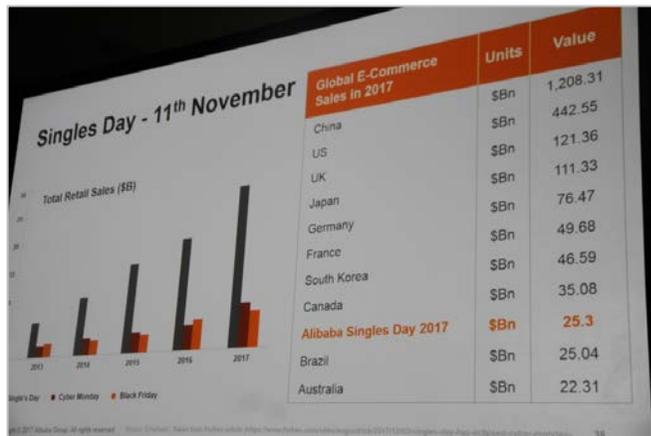
Alibaba has already seen the benefits of merging offline and online. On Singles Day in 2017, Alibaba's sales exceeded \$25 billion, reaching 43% year-on-year growth (compared to 24% between 2015 and 2016).

Alibaba has attributed some of this success to the work it has done on integrating offline and online.



CHINA, THE NEW MODEL FOR COMMERCE?

This \$25 billion one-day figure in China represents the 9th highest online sales for all of 2017 worldwide! (see graph below).

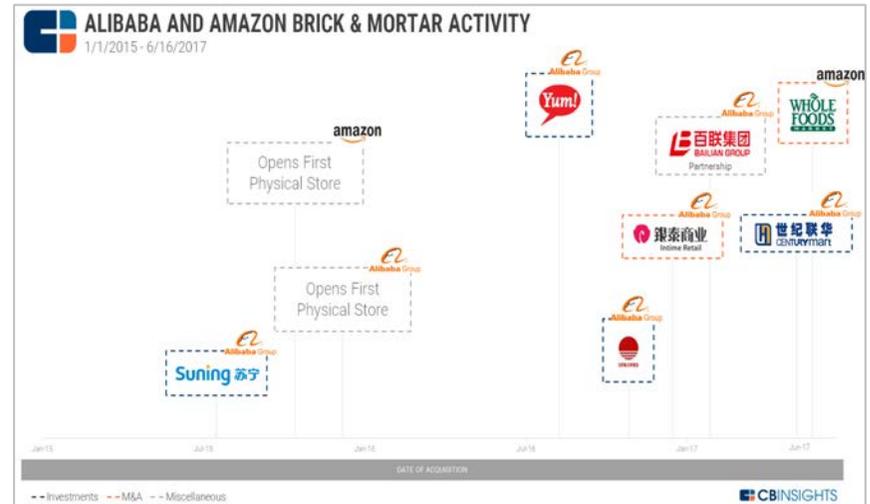


[source: echangeur]

In the light of the graph (opposite) Amazon looks like a baby compared to Alibaba in terms of O2O!

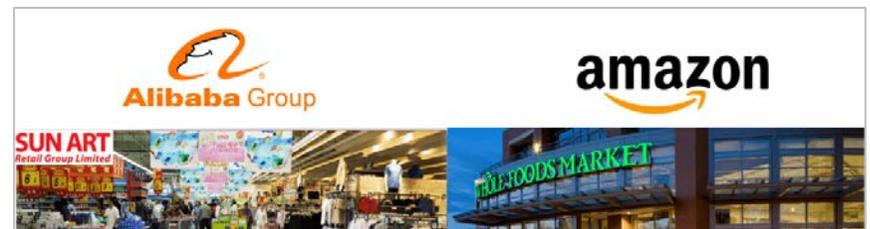
Amazon, beyond its own 'Amazon Go' store and its acquisition of Whole Foods, is only just beginning its investment of the physical world, while its Chinese twin began in 2015.

Alibaba is affirming its desire (expressed at Shoptalk 2017) to combine physical retail and online commerce. The goal is to offer an uninterrupted experience based on Alipay wallet and its various technological features (AR, VR and biometrics...).



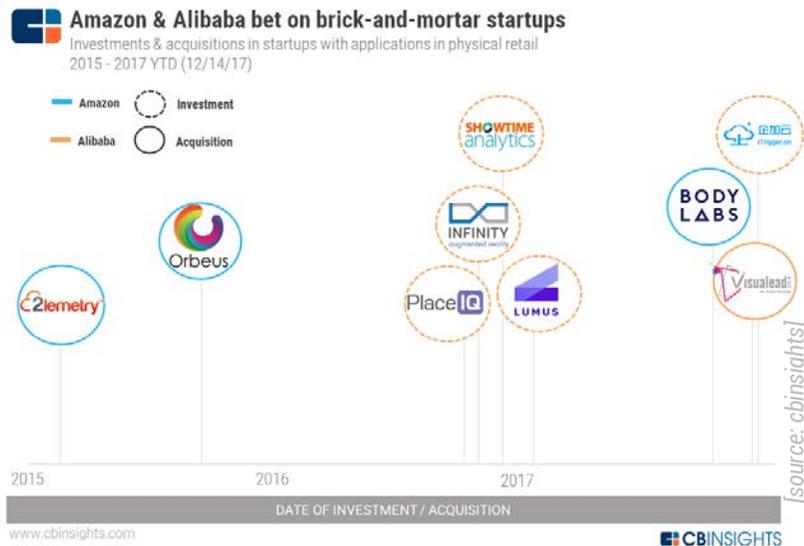
[source: cbinsights]

This situation is characterised by the insatiable appetite of Alibaba for acquiring digital start-ups specialising in physical stores, above that of Amazon (a factor of 5 to 3), between 2015 and 2017.



[source: l2]

CHINA, THE NEW MODEL FOR COMMERCE?



Amazon has made a number of acquisitions in the Internet of Things (IoT), and 3D digitisation of the body:

2lemetry/(acquired in March 2015): customer tracking technology that uses sensors and facial recognition to track shoppers in stores.

Orbeus/(acquired in October 2015): shape and motion recognition technology capable of recognising products and faces.

BodyLabs/(acquired in October 2017): 3D body scanning technology that helps customers find better-fitting clothes.

For its part, Alibaba has been focusing heavily on augmented reality, with its investments in an augmented reality platform (AR), Infinity AR, and in an AR glasses manufacturer with applications for the offline retail, Lumus.

In November 2017, Alibaba also acquired Visualead, a start-up in personalised QR codes, which increases the interaction between offline and online customers. This technology is an integral part of the Hema fresh food chain.

Alibaba is not alone in China in deploying the O2O strategy: Tencent has headed a consortium that will acquire 14% of China's leader in shopping centres, Wanda, for 5.4 billion dollars.

The consortium also includes the e-merchant JD.com, the electronics distributor Suning Commerce Group (of which Alibaba holds shares), and Sunac China Holdings.

Wanda operates 235 Wanda Plazas in China. In 2017, these attracted 3.19 billion visitors. For the Wanda Group this represents one of the largest strategic investments in the world between internet companies and the giants of physical business.

This Chinese power is also being felt in Paris!

The RATP and Aéroports de Paris, welcome Chinese visitors with posters reminding them that they can use their Wechat app and find French partner stores.

CHINA, THE NEW MODEL FOR COMMERCE?

Galleries Lafayette and Printemps, with their large numbers of Chinese tourists, now accept payments via WeChat and Alipay, while in the past this would have been inconceivable! The effects of mass and the frenetic use of these apps were the reason for this institutional shift.

This payment facility and its success has thus triggered numerous initiatives in France. Messenger, the Facebook chat app, now includes payments in France. Franprix has signed a partnership with the payment application Lydia; Monoprix has launched its Monop'Easy app, allowing products to be scanned with mobile phones for users to pay as they go.

In China the advances are instructive. In 2017, the cash machines at China Construction Bank, one of the eleven state banks, allow money to be withdrawn via facial recognition.

The first facial recognition payment tests are being conducted in-store by Alibaba. The American fast food chain KFC has deployed payment terminals at a restaurant in Hangzhou City that incorporate this technology. To validate the transaction, the control terminal compares the faces of the customers with the picture on their Alipay accounts, Alibaba's payment service. The software uses a 3D camera to ensure that users do not attempt to hijack an account using a simple photograph.

Terry Von Bibra, (European manager for Alibaba) is convinced that the use of their digital wallet, 'Alipay wallet', will break down codes with a greater fluidity in the customer experience (no more checkouts, 'scan pay and go') and interaction with products (use of AR, product recognition). In conclusion, he does not hesitate to redefine the consumer: "The consumer does not care

about online and offline"; "No customer in the world gets up in the morning and says *"I am going to buy some shoes online."*



[source: ratp]



[source: alipay]

CHINA, THE NEW MODEL FOR COMMERCE?

Thus, digital innovation is at the heart of an accelerated transformation of retail. The confrontation of the initiatives of the two giants Alibaba and Amazon confirm three trends:

- 1/ The distinction between online and offline is fading, being replaced by O2O.
- 2/ Logistics still occupies a central role and is being updated in the omnichannel strategy of distributors (as we will see in the example of JD.com).
- 3/ The identification of people is being increasingly digitalised. The development of facial recognition in China is symptomatic of its central place in payment systems.

In this neck and neck race, Alibaba is multiplying interactions between its online marketplaces and the physical world. This frictionless and closed journey is an ideal way of attracting and knowing your customers from A to Z! Thanks to the plethora of customer data on its platforms, Alibaba is even better placed to develop personalised services in physical stores.

The digital revolution is accelerating thanks to the advent of sensors of all kinds, connected objects and artificial intelligence that seems to be taking shape in China, now starting to put Silicon Valley in the shade.



CONCLUSION

CONCLUSION

Although the shakeup is still ongoing, commerce has been crystallising its new leaders over recent years: the American GAFAM and Chinese BATX.

Each edition of Commerce Reloaded focuses on all the key areas of our daily lives. Dominant models of commerce in ferment and the playing field for a multitude of actors, they are contributing to completely redrawing the map of commerce and its vocation.

A re-enchanted world is coming into view, for those who want to see.

"Tell ordinary people what they want to hear." Sun Tzu, *The Art of War*.



[source: film her]

Disappearing chores People are being freed up by a new wave of hyper automation. It is no longer a question of suffering, but rather creating, as many chores and repetitive tasks can be done by robots, while ones that are too complex can be carried out by artificial intelligence. Work promises to bring out our talents and the creation of value will be redistributed more equitably in an era when machines are considerably optimising production costs.

Taking back individual rights The blockchain is relentlessly securing all our exchanges and freeing transactions from intermediaries. These more direct relationships provide the opportunity for each individual to assert their personal rights. This is heralding the advent of new production and distribution ecosystems. On these foundations, the added value of each person is tracked and rewarded. A new economic and social order is emerging, to serve other trading systems and a new democracy.

Easy life A frictionless world is on the way. Everything is being done to simplify our lives as customers, to the point where interaction via a keyboard is disappearing in favour of image processing. Voice assistants are dematerialising contacts, and offering a fluid and unconstrained experience. Interactions are generating new forms of dialogue, cooperation and ultimately value creation in day to day life. Fluidifying and automating the act of purchase both removes the checkout and the product's brand!

Escaping from the real world The interface of tomorrow is taking shape via virtual content with the rise of augmented reality. Currently confined to mobile, AR will take off in the future with smart glasses. Glasses which will supplant computers and mobiles to broaden our vision of the world, diluting it, even sanitising it, under the auspices of the major technological players.

CONCLUSION

Pleasure in day to day life This new relationship can all the better be expressed in dedicated spaces. The physical world is reinventing itself in favour of experiential spaces where the transaction disappears. It is no longer a question of selling but rather of advising. It is no longer a question of buying but of responding to needs for experience, socialisation or reassurance. The store as a living space is no longer a medium for buying a product, but rather an end in itself. People feel good there because, now, time becomes useful and fun. It is worth living.

Life companions Artificial intelligence is getting involved with our deepest selves. It is learning from us every day and is eager to meet our needs. A mirror of our desires, it presents a world in our image and satisfies unexpressed, even embryonic desires. It is becoming our closest confidante, concierge of our daily life, in a sort of convivial and gentle complicity, where each ambient offering will take the appearance of a benevolent act towards the person.

For eternity? The lever of all hopes, the desire for well-being and immortality becomes an unstoppable argument. The Internet of Things captures our substantial existence, algorithms analyse and anticipate, nano and biotechnologies accompany us on an improved quality of eternal life. There is no limit to the datafication of the world and the uses that can be created for the common good!

This enchanting world comes at a price. The cost of privacy and freedom, in return for choice, facility and pleasure.

But who benefits from the situation?

Intelligence, the new digital black gold, pulling the strings of a society governed by flattering algorithms. The future belongs to those who are able to capture and transform smart data to maintain the customer interface.

This digital sovereignty is not claimed, it is taken. While Europe politely has been politely asking American platforms not to do whatever they like with our data for many years, China has just demonstrated that might is right.

The recent decision to store iCloud in China is symptomatic of this. While Apple has a reputation for being a strong advocate for privacy and security, GAFAM has just prioritised its economic interests and values. They have accepted that Beijing no longer has to ask permission from US authorities to access messages, emails and photos in Chinese clouds.



[source: the register]

CONCLUSION

This posture contradicts the famous letter sent personally to all Apple consumers, explaining the importance of privacy. This acceptance is inconsistent with their radical refusal to help the FBI decrypt phones, in an era when terrorism is worrying the United States. And yet, it is the price to pay to for making inroads into the Chinese market, when actors like Facebook and Google have completely renounced setting up there for reasons of censorship.

At the same time, BATX are happily taking advantage of the blocking of their international rivals on the Chinese market in favour of domestic competition. The authorities have a policy of favouring their national champions at the expense of the services of the American web giants.

This interference of the Chinese policy with the activities of the Marketplaces is a move away from the American tradition of independence.

As early as 1996, at the Davos Economic Forum, John Barlow, co-founder of the Electronic Frontier Foundation in 1990, advocated the independence of cyberspace.



A Declaration of the Independence of Cyberspace

BY JOHN PERRY BARLOW

Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather. *[source: EFF]*

islands to evade rights on the ground, the Chinese manoeuvres are calling this into question.

Are we witnessing a porosity between nation states and ecosystems? A new order is potentially on the way.

For Eric Schmidt, CEO of Alphabet, and advisor to the Pentagon, the US Department of Defence cannot set up an ambitious programme for research and technological development by itself, let alone within a reasonable time. Therefore, the best solution for the government would be to rely on innovative companies in the private sector (i.e. GAFAM).

And in terms of health, the situation is similar. How will public health law fare against the algorithms of Deepmind-Google, Alibaba's Alihealth, which are making huge strides in medical AI?

It is obvious that these Marketplaces are building their new ecosystems around AI. The economics of data, and its algorithmic interpretation, are becoming the integral economy of integral life.

In this movement, the advent of exponential technologies means that boundaries in place until now no longer have a reason to exist. Sooner or later, all of these boundaries will be crossed.

To set the framework for AI and thus our lives, the governance and regulation of AI platforms could ultimately account for the majority of the work of governments.

TO EXPLORE FURTHER

BEST OF TECHNOS 2018

A summary of the most innovative startups identified at the four flagship shows.



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