

NOTE RAPIDE

DE L'INSTITUT D'AMÉNAGEMENT ET D'URBANISME - ÎLE-DE-FRANCE N° 687



Benjamin Boccais, Collaborative Urbanism

ECONOMY

June 2015 • www.iau-idf.fr/en

THE DIGITAL TRANSFORMATION OF THE PARIS REGION'S ECONOMY

500,000 jobs
IN THE DIGITAL ECONOMY

€9 billion
FOR THE BIG DATA MARKET
IN FRANCE, IN 2020

DIGITAL TECHNOLOGY IS HAVING A SUBSTANTIAL IMPACT ON SOCIETY AND ECONOMIC SYSTEMS. IT IS TRANSFORMING OUR DAILY LIVES AS WELL AS THE ORGANISATION OF STRUCTURES AND THEIR MARKETS WHILE ALSO QUESTIONING HOW WE SHOULD ORGANISE WITH A VIEW TO BUILDING THE FUTURE. THIS RADICAL CHANGE REPRESENTS A MAJOR OPPORTUNITY AND CONCERNS THE ENTIRE ECONOMY OF THE PARIS REGION.

Digital technology is no longer just a sector-specific issue. It is already renewing the functioning of a broad spectrum of activities, such as tourism, the media, insurance and commerce, etc. Ultimately, the whole economy will be impacted by this change. Île-de-France, a region where digital start-ups are emerging and which hosts numerous competitiveness clusters, such as Cap Digital or Systematic, the leading national financial marketplace, offers all the resources necessary to the development of these new economic models.

THE TRADITIONAL ECONOMY, DISRUPTED BY DIGITAL TECHNOLOGY...

A factor for growth and a source of employment, the digital transformation is accompanied by disruptive innovations (see «Lexicon»), customised innovative services which are collaborative or more practical, entailing a redistribution of wealth creation and restructuring of value chains. It combines the effects of automation (productivity improvement), dematerialisation (new communication and distribution channels) and reorganisation of intermediation schemes, with the arrival of newcomers such as the GAFAs (Google, Apple, Facebook, Amazon) between traditional businesses and their customers. This innovation process requires the reinvention of business models centred on individuals and the use of data.

... AND RENEWED BY PRACTICES

Digital transformation is driven by new practices, with increasingly significant effects on individuals, citizens, consumers, users, and even patients, as well as on private and public organisations. Practices are changing the place of individuals by repositioning them in the centre of society and the economy (e-government, e-governance, participatory budgeting) and making them players (sharing opinions, contributions). The last decade saw information technology become commonplace and the spread of Web 2.0 (participation in the Internet by the greatest number) then its mobile use through the widespread adoption of smartphones and their applications from the 2010s onward.

IAU

INSTITUT
D'AMÉNAGEMENT
ET D'URBANISME

IledeFrance

cap-digital
Paris Region



Benjamin Boccas

From left to right: innovations village - Futur en Seine.

Since the opening up of the Web to the public in 1994, practices have developed at an accelerated pace. In France, the one million mark for broadband users was broken through less than ten years ago. It took eight years for the Internet to jump from 1 to 10 million subscribers and two years for its mobile version. In the Paris region, the process whereby the vast majority of households got online occurred over a period of almost a decade.

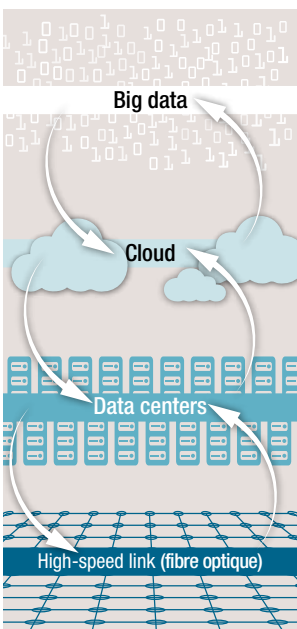
These new practices also transform regions: smart cities, connected city, collaborative urban planning, etc., are becoming widespread. Digital technology influences areas via four channels: mobility, energy efficiency, network management and circulation of information.

DATA, THE RAW MATERIAL OF THE DIGITAL REVOLUTION

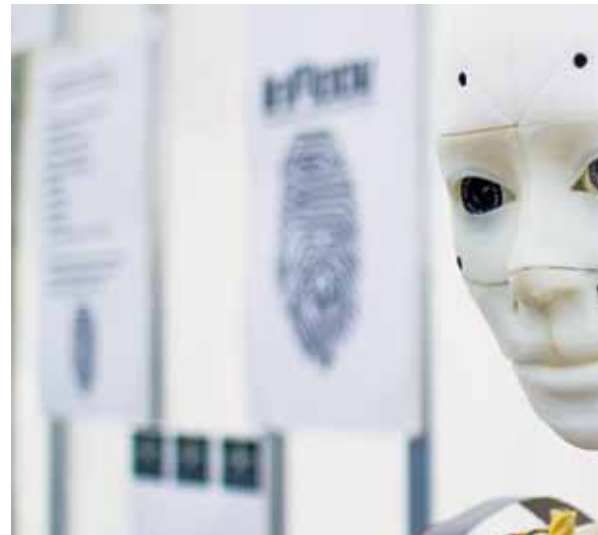
Behind the digital transformation lies the challenge of mastering data. After the process in which Internet access has become commonplace, the spread of high-speed broadband will provide all stakeholders - government, businesses, individuals - with almost immediate access to data. The state, the region and the departments are making a concerted effort with private operators in a bid to deploy, for the first time in Europe, a fibre optic network across all regions by 2020-2025.

With the development of digital technology, all economic players have to handle a considerable volume of information which is increasingly strategic. Data are gradually becoming their most valuable asset. This is leading them to outsource their hosting to specialised data centres so as to ensure their storage under optimal security conditions. Beyond storage functions, data centres make it possible to offer services such as cloud, which might be described as «remote computing». From now on, it is no longer only the data but also the applications allowing them to be used, which are hosted by data centres. In 2014, 55% of French companies said they used cloud services (PAC CloudIndex survey). The use of cloud solutions is a factor for competitiveness, particularly for SMEs and very small businesses, as it allows them to benefit from a certain cloud and quality of services which they could not have achieved internally. Ultimately, the use of cloud will be essential to take full advantage of new opportunities in the digital sector offered by big data.

**From physical to virtual:
4 components
of the digital economy**



© IAUtdf



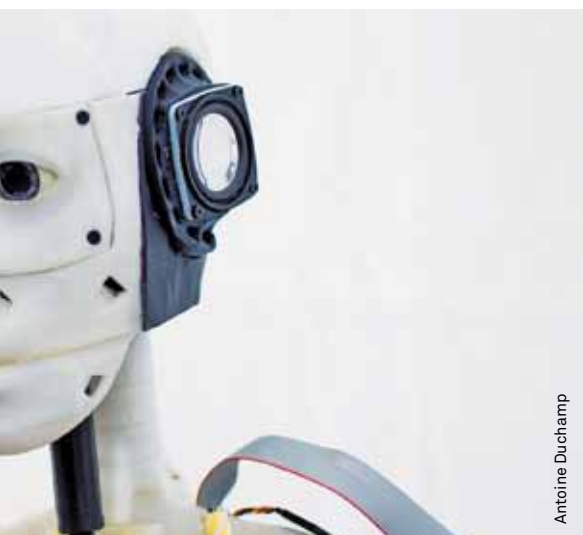
Big data is based on the collection and analysis of a multitude of heterogeneous digital data. It is a significant source of innovation and value creation, but also competitive advantages. For both public authorities and businesses, it is all about being able to control and use, in real time, the multitude of flows of structured or unstructured data, which characterise their environment and which are growing exponentially. According to the Ministry for the Economy, Industry and Digital Affairs, the market in France for activities related to big data represented around 1.5 billion euros in 2014. This figure is set to rise to almost 9 billion by 2020.

500,000 EMPLOYEES IN ICT AND CONTENT

The digital sector means economic activities related to information and communications technology (ICT), digital media and content. At the heart of the digital transformation, it also includes telecommunication services, the software industry, networks, IT and telecom equipment, engineering services, online services and content, such as media or advertising. In the Paris region, the sector has 20,000 establishments and 500,000 employees, or half of the national workforce. The activities of digital media and content are overrepresented there and more companies are created than in other sectors: start-ups abound in the heart of the city, especially in Paris, which hosts 4,000. The result is a growing need for infrastructures. In the space of ten years, 100,000 sq.m were constructed to house them, an example being the MacDonald project (refurbishment of former warehouses in the north of Paris), whose opening is scheduled for September 2015, not to mention the project for the Halle Freyssinet (a remarkable building known as one of the first concrete structures built in Paris in 1927) which, with 1,000 start-ups, will host the largest incubator in the world in 2017.

THE IMPACT OF DIGITAL TECHNOLOGY CONCERNS THE WHOLE ECONOMY

The entire economy, as well as lifestyles and modes of communication, professional practices and consumer habits are affected by the digital revolution. New requirements, prompted by an increasingly abundant and varied offering, are emerging in areas



Antoine Duchamp



Benjamin Bocca

as diverse as health (telemedicine), education (e-learning), energy and the environment, culture (digital media and content), commerce (e-commerce), media and leisure (website, blogs, tweets, etc.) security, defence (closed telecommunication networks), transport, government authorities and the public sector (e-government, open data), services (e-services), production methods and industry, computerisation and business management (Enterprise Resource Planning or ERP, e-management), etc. Several economic sectors in the Paris region already lie at the heart of this transformation. The phenomenon can be explained by a few examples.

Tourism, a growing offer for consumers

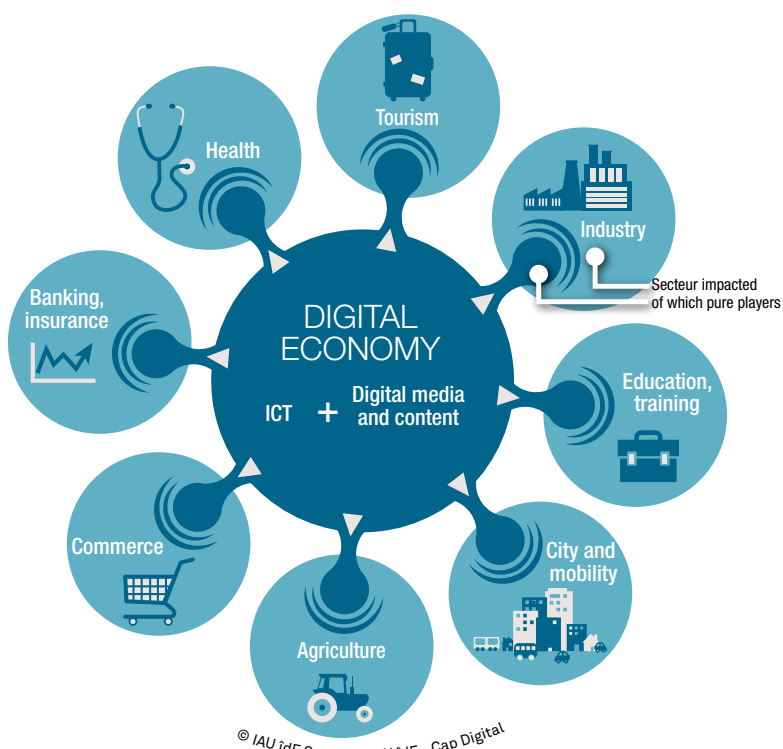
Tourism has already been strongly influenced, and continues to be so, by the reconfiguration of its value chain, where digital technology has changed the balance of power within the industry. The initial vertical model where the producer (tour operator, hotel accommodation, tourist office, etc.) designed the product before offering it to potential customers has given way to a new one which is more customer-centric, with the proliferation of tourism offers in response to a process of customisation, or even one which is «tailor made». The new players are the intermediaries between the travel suppliers and the final link in the value chain (end consumer, private individuals or companies): online travel agencies (Booking, Lastminute) the information mediators (Liligo, Tripadvisor), the market places (the US giant Airbnb or Drivy and Weekdesk created in Paris), search engines (Google Hotel Finder, Apple Map). They collect, process and organise the information necessary to other segments of the same chain and impose an economic model on them: optimised price and deadlines, fragmentation of the offering, placing in contact, etc. Before the Internet, the travel agent alone was familiar with the quality of hotel deals, the customer having to trust them when deciding on the reservation. Today they choose their trip directly and become a full player in the value chain.

Transport, a process of reconfiguration around a multimodal offering

Information and communication play a key role in the sector of public transport, which has been strongly impacted by the digital transition. Planning of

transport modes, their daily operation, interactions between businesses and passengers, all rely on information systems deployed in the heart of the activity. Managing signalling on the network, regulating the frequency of vehicle traffic and informing passengers in real time in situ or handling a request for bookings via a central office, represents so many information and communication issues in the daily activities of the public transport operator. The gradual restructuring of the sector around a so-called «multimodal» offering increases the importance of information and communication in public transport. It results in a reconfiguration of the offering around mobility and greater consideration of the needs of individuals in their journeys, like Autolib', Vélib' (a car and bike-sharing system in Paris), or Wayz-Up, specialized in home-work car-sharing.

Digital technology spreads through the entire economy



© IAU idF Sources : IAU idF - Cap Digital

The smarter city

In construction, digital technology allows all players, from design to the operation of a building, to work in a collaborative and more fluid manner. The regulations favour the construction of smart buildings. Beyond the building itself, the neighbourhoods and cities are the subject of research and experimentation in order to be more «intelligent», with smart cities and smart grids, etc. so as to develop networked approaches. In fact, the potential of digital technologies is far greater if they are deployed across entire cities or neighbourhoods. For example, in Issy-les-Moulineaux (one of the most important digital districts in the Paris outskirts), the IssyGrid® project aims to establish the first «intelligent» network in France. It makes extensive use of sensors and automation systems, as well as a fibre optic network, to collect information on the consumption habits of a neighbourhood and minimise consumption levels.

Health, more connected

The market for connected healthcare (e-health) and well-being is now in full swing with the surge in connected devices and dedicated mobile applications, and the incursion of the consumer digital giants. This sector boasts the greatest development potential for the manufacturers of these connected «healthcare» objects. More and more objects in daily life (scales, connected blood pressure monitors, etc.) enable real-time monitoring of our health, such as those developed by the flourishing start-up Withings, which recently published the results of its first observatory of physical activity, from the compilation of data gathered by its connected bracelets. The development of connected solutions is a major challenge at a time when considerable efforts are being focused on preventive medicine for well-being and healthy ageing.

TURNING REGIONAL EXCELLENCE TO ACCOUNT

The digital transformation is a competitive challenge which justifies public actions on different scales, from national to local. This involves adapting the training offering and supporting businesses, particularly SMEs, employees and regions. In the Paris region, the digital transformation competitiveness cluster Cap Digital brings together 1,000 members, including more than 700 SMEs and supports the development of the digital content and services sector.

The speed at which the Paris region adapts to these changes will determine its ability to take full advantage of the conditions offered by the digital transformation. In this major process of change, the region is a key player and offers levers for action when it comes to economic development, culture and innovation. ■

Carine Camors, Odile Soulard, Daniel Thépin, in partnership with
Christelle Ayache, Johanna Castel and Stéphane Singier from Cap Digital

RESOURCES

- Apur, Dirrecte, IAU îdF, Insee Île-de-France, « L'économie numérique en Île-de-France », *Note rapide*, IAU îdF, coming later in 2015.
- Cap Digital, *Cahier de tendances marchés et leviers*, édition 2014 : <http://bit.ly/1vqSiR9>
- IAU îdF, Paris Region Map (PRM) sur l'écosystème numérique francilien : <http://bit.ly/1lLtDNJ>
- La Fonderie, Tech On Map, la carte des acteurs du numérique en Île-de-France : <http://techonmap.fr>
- Thépin Daniel, « Les data centers franciliens : un essor sous contraintes ? », *Note rapide*, n° 680, IAU îdF, avril 2015, et interview.



Reports

- BPI France, Le Lab, *Le numérique déroutant*, 2015.
- McKinsey, *Accélérer la mutation numérique des entreprises : un gisement de croissance et de compétitivité pour la France*, septembre 2014.
- Roland Berger Strategy Consultants, *Du rattrapage à la transformation : l'aventure numérique, une chance pour la France*, septembre 2014.

LEXICON

- **Disruptive innovation** (according to Clayton M. Christensen): a market's transformation process which is characterised by easy, widespread access to products and services which were previously inaccessible or expensive.
- **Pure player**: a company whose business is conducted exclusively on the Internet. By extension, the term refers to a company which focuses on a single trade or sector of activity. ■

DIRECTRICE DE LA PUBLICATION

Valérie Mancret-Taylor

RÉDACTION EN CHEF

Isabelle Barazza

MAQUETTE

François Pineau

INFOGRAPHIE

Pascale Guery

MÉDIATHÈQUE/PHOTOTHÈQUE

Claire Galopin, Julie Sarris

FABRICATION

Sylvie Coulomb

RELATIONS PRESSE

Sandrine Kocki,
sandrine.kocki@iau-idf.fr

IAU île-de-France

15, rue Falguière
75740 Paris Cedex 15
01 77 49 77 49

ISSN 1967-2144
ISSN ressource en ligne
2267-4071



www.iau-idf.fr



INSTITUT
D'AMÉNAGEMENT
ET D'URBANISME

