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Real estate and the changing society: ideas for the city of tomorrow

Edited by
Ingrid Nappi-Choulet and Margot Beauchamps

Translated by Ann Gallon
The Real Estate and Sustainable Development Chair first wishes to thank every contributor to this Cahier for believing in the project and agreeing to be part of the adventure.

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MIPIM, the world’s property market, brings together the most influential players from all international property sectors. It is held every year at the beginning of March in the Palais des festivals of Cannes. For its 23rd edition, the MIPIM launched a new dedicated space, Building Innovation, which stages the innovative initiatives intended to strengthen the value of a real-estate portfolio. The chair and the MIPIM have built up a strong academic partnership.

http://www.mipim.com

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Created in January 2003, and sponsored since 2010 by Poste Immo and 2012 by Foncière des Régions and Form'a, ESSEC’s Real Estate and Sustainable Development Chair aims to support both teaching and research in the economics, financing and management of the real estate industry, including consideration of sustainable development issues.

ESSEC is the first business school in France, and one of the first in Europe, to have created a centre of expertise in real estate with programmes for first degree students and professionals working in the field alike. The Chair trains future specialists and managers who will be directly operational in the constantly evolving professions of real estate. This is particularly important given the financialization of the sector, and the new concerns raised by sustainable development. The Chair’s students follow RCIS-accredited courses.

The Chair is also a source of academic research output, focusing on real estate management and strategy for businesses and investors. At its annual conference, ideas and experiences are presented and discussed by researchers and practitioners working in real estate and the urban environment. In 2012-2013, the Chair is taking a particular interest in the strategies adopted by different real estate actors to adapt their buildings in response to new needs and uses that are emerging with changes in technology and society.
This first edition of the Cahiers de la Chaire Immobilier et Développement Durable looks at the changes in society and real estate that are gradually shaping the cities of tomorrow. As well as the recent boom in technological and technical innovations, deep-seated change is at work in society itself to take on board new forms of work organization, new generations of employees, and new lifestyles and consumer habits. These social and cultural mutations are all factors in a totally new way of relating to the space around us, and the built-up space of our towns and cities in particular.

As environmental constraints grow stricter, we want to show that real estate actors are currently inventing the practices that will shape our future urban environment. With the support of Poste Immo, Foncière des Régions and Form’a, the Chair’s work reflects the changing world of real estate, emphasizing the need for building design to incorporate the newly-emerging environmental and business management concerns. I should like to thank our partners for their contribution to this consideration of the latest challenges for industry and the real estate sector.

Ingrid Nappi-Choulet
Chaired Professor
Real Estate and Sustainable Development Chair
Poste Immo, the general real estate operator of Groupe La Poste (the French Post Office) is a major player in the field. It manages an exceptionally large collection of real estate assets covering 7.4 million m2, comprising more than 12,244 office, industrial and retail buildings throughout the whole of France. As the subsidiary of a group with a longstanding commitment to corporate social responsibility, Poste Immo considers an environmentally-friendly and socially responsible approach central to its strategy.

www.poste-immo.fr
La Poste’s real estate assets, comprising more than 13,000 buildings throughout France, all have close connections to the local area and users. The Group’s public service missions mean that its real estate properties play a unique role, particularly in their societal dimension.

The building as a lever for innovation and change is central to the new directions La Poste must now follow, in a market that is fully open to competition: economic performance, working conditions, customer service.

Through its post offices and other premises, La Poste has always understood and applied the relevance of mixed-function buildings located in the hearts of our towns and cities, symbolically foreshadowing the values and uses of the buildings of the future.

Real estate can no longer be seen solely from a technical, legal or financial standpoint; it must be considered as an integrator of social issues in the urban environment, a proposer of solutions and services that provide added value, constructed in conjunction with all stakeholders.

Such is the scope of La Poste’s ambition for today and tomorrow, encompassing its real estate as managed by the subsidiary Poste Immo. They key resource in achievement of this ambition is the people of Poste Immo, who are professionals with a combined background in real estate and post office culture.

The Essec Chair is a reflection of Poste Immo’s commitment to research into real estate and the skills of the future.

Christian Cléret
Head of real estate, La Poste Group
General Manager of Poste Immo
Foncière des Régions is a real estate strategy partner, working with its client firms on sustainable, innovative strategies with two objectives: making the most of existing urban buildings, and designing the buildings of the future. Foncière des Régions holds and manages real estate assets worth 10 billion euros, mostly leased to companies that are leaders in their sector. This culture of responsible partnership is based on the key values and knowhow of vision, cooperation and expertise.

www.foncieredesregions.fr
Real estate operates on two timescales: the short timescale of increasingly rapid, uncertain economic cycles, and the longer-lasting timescale of bricks and mortar, towns and cities. How can these two timescales of our activity be reconciled in an environment where constraints are stricter and change is more sudden? The approach chosen by Foncière des Régions is founded on two of our most powerful assets: our adaptability, and our commitment to excellence. Excellence in ourselves, but also, more importantly, excellence in our interactions with stakeholders: we take the view that support for prospective reflection and research, and for preparing the talents of tomorrow, is fundamental.

Focusing on this dual dynamic, we work alongside our partner organisations and elected representatives on their planning and real estate strategy, conducting large-scale urban operations to transform and reinvent the buildings of today and tomorrow. Developing new office spaces together with major users as in the case of Vélizy-Villacoublay, constructing a city on the city like the Euromed Center in Marseilles, and contributing to the renewal of the Paris cityscape with the Carré Suffren office building: these are all examples of the long-term, responsible vision of society expressed by Foncière des Régions.

A vision of excellence that we are proud to share with our partners in ESSEC’s Chair for Real Estate and Sustainable Development.

Christophe Kullmann
General Manager, Foncière des Régions
Form’a is a corporate real estate and office design consultancy firm opened in 1990, and is involved in all stages of a real estate property’s lifecycle: real estate strategy, fitting out the working environment, managing mobility. Form’a’s innovative vision of the new-generation work environment is expressed through its “Imaginative Workplace” concept. It is the first firm specializing in workplace design to have gained ISO 9001 and ISO 14001 certification.

www.forma.fr
“This isn’t a crisis, it’s a world change.”

This assertion by French historian and philosopher Michel Serres* brings home to us the sheer scale of current upheaval in our societies in general, and the business world in particular.

Real estate departments are finding themselves at the heart of corporate change, with an unprecedented opportunity to guide firms in new directions: optimization of resources (location, size, energy, etc), incorporation of the latest technologies, taking on board new working methods and new types of workspace (nomad working, teleworking, telecentres, “third places”), attracting talents and actively welcoming new generations to business campuses.

Against this background, Form’a advises real estate management teams, devising innovative design solutions for working environments. It was a natural step for us to get involved in research and discussions with the decision-makers of the future, through our partnership with ESSEC’s Chair for Real Estate and Sustainable Development, whose publications are the first reflection of this changing world!

Philipppe David
CEO of Form’a

*French philosopher, science historian and man of letters.
Ingrid Nappi-Choulet

Ingrid Nappi-Choulet is a researcher and professor at ESSEC Business School, and has held the Real Estate and Sustainable Development Chair since its creation in 2003. She is a qualified supervisor of research in management and urban development and planning, and teaches real estate economics and management. Ingrid is also the founder and director of the French real estate management observatory OMI (Observatoire du management immobilier). She has published a large number of articles on real estate cycles and corporate real estate management, and four books: Les bureaux, analyse d’une crise (éditions ADEF, 1997), Management et Marketing de l’immobilier (éditions Dunod, 1999), Les mutations de l’immobilier : de la Finance au Développement durable (éditions Autrement, 2009) and Immobilier d’entreprise : analyse économique des marchés (éditions Economica, 2010).

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Margot Beauchamps

Margot Beauchamp is a Ph.D. student in geography and public planning at the University of Paris I - Panthéon Sorbonne, focusing on the social and spatial changes associated with the rise of telecommunications. She joined ESSEC's Real Estate and Sustainable Development Chair in 2012 as a member of the research team on real estate and urban change.
Introduction

In an urban world of rapid social and spatial change, real estate finds itself at the heart of a paradox. Buildings are designed to leave a long-lasting mark on the urban landscape, particularly in the European context steeped with the notion of architectural heritage; but can real property offer an appropriate springboard for inventing the city of tomorrow, which needs to be nimble, flexible, and responsive to the fast changes in society? In an increasingly mobile world, how should we envision the immobile buildings that will be the backbone of the city of tomorrow?

This first issue of the Cahiers de la Chaire Immobilier et Développement durable intends to show that actors in real estate must take time to imagine the practices that will shape the city of tomorrow. Through some twenty interviews with researchers, public actors and people from the business world who all deal with questions of real estate, this publication offers insights into the challenges social and urban change is raising for real estate actors, the ways they are responding to those challenges, and the innovations that are sketching out our future towns and cities.

These questions concern real estate actors in the broadest sense: investors, project managers, architects, town planners, elected councillors, etc. The resulting reflection needs to be engaged at various scales of time and space: from the single building to the whole metropolitan area, from the horizon of return on investment to the horizon of future generations.

The context surrounding this reflection is marked by social, economic, and technical factors that have profoundly transformed our societies in just a few years: an ageing population, longer life expectancy, general mobility for both individuals and businesses, internationalization of the economy, more flexible production methods, the rise of information and communication technologies, changes in leisure practices, the urban sprawl, the ecological crisis (declining energy resources; water, air and ground pollution). More recently, the spread of mobile telecommunications devices and the growth of e-commerce have given rise to new ways of interacting, working and consuming. All of these practices are inextricably bound up with the space we live in and are changing our relation to that space, as Jean Viard points out in the first chapter. They are also changing the ways we occupy homes, offices and business premises, and how we get around in our cities.

Companies are subject to growing demands for flexibility against strong international competition, and have undergone successive changes in their organization in recent decades, as Alain d’Iribarne mentions in the first chapter. Spatially, the changes in management of production methods are reflected in corporate real estate strategies. The favoured locations for businesses have varied over time, particularly under the influence of land prices, but employees’ commuting distance has long been a key adjustment variable. After moving away from the urban centres

“Reflection is needed for various scales of time and space: from the single building to the whole metropolitan area, from the horizon of return on investment to the horizon of future generations.”
to cut real estate costs, firms have felt the effects of the limitations, economic and otherwise, of an approach that neglects the importance of employee wellbeing, as Alain d'Iribarne observes. Along with Ghislain Grimm and Olivier Estève, he notes that many firms have recently changed their management style and reversed this trend, sometimes as a result of laws and regulations. They are now choosing to put their offices in places that are easily accessible by public transport and close to a wide range of local everyday services. The quality of interior fittings must also reflect the greater attention to employee wellbeing. Employee performance and a spirit of innovation can be encouraged by a carefully-designed corporate mission, incorporating the real estate mission, that respects employees’ needs and wellbeing and leaves room for social interaction and play. Alain Crozier illustrates this with the example of Microsoft’s Paris headquarters.

Commercial property is also being affected by a necessary new outlook. The rise of online retail is revolutionizing consumer habits and redefining the role of retail areas, as shown by François Bellanger and Jérôme Le Grelle. It is also foregrounding new logistical issues which for a long time were the blind spot of thinking on urban planning, and also have consequences for real estate as Clemens Goss and Christian Cléret discuss.

Households, too, followed the trend of moving further out from the urban centres, but in contrast to developments in the office and retail sectors, the constantly rising land and property prices in the largest town centres are preventing a return to downtown housing. The resulting urban sprawl and longer commuting distances are putting more pressure on the environment, both locally as the expanding city encroaches on undeveloped land reserves, and globally as this sprawl leads to more use of motor vehicles. The interviews with Éric Lamoulen, Nicolas Gilsoul and Jean Viard show a sociologist, an architect and a housing manager calling with one voice for a new conception of urban environments: making more room for nature in the city to respond to urban residents’ need for greenery, as this need not only drives land prices up but also extends the urban sprawl.

The environmental challenges involved in erecting new buildings and renovating existing buildings, and also in urban mobility, provide opportunities to accelerate change in the way our urban societies are organized. Social and architectural experiments and technical innovations offer interesting perspectives for inventing the city of the future, which will have to be energy-efficient, especially in a time of economic crisis. Information and communication technologies are opening up the path to change in building design and management, particularly with regards to the interaction between buildings and their environment. These technologies are increasingly being used to make urban facility management more efficient.

The modern irruption of digital technologies in most acts of our daily lives is generating an infinite amount of data, both numerical and verbal, about the pulse of urban living. The computerization of society over the last thirty years, the more recent spread of digital telecommunications, especially mobile communications, and the fact that institutions, firms, and individuals are all becoming producers of data, is leading to the emergence of an infor-
The modern intervention of digital technologies in most acts of our daily lives is generating an infinite number of data, in the form of both figures and words, about the pulse of urban living.
tion, and they are playing a more important role in the formation of the city and its buildings, as reflected by the interview in the third chapter with Stéphane Quéré, director of urban development at the GDF-Suez group. The city’s emerging information layer also allows us to imagine new ways to share both objects and private spaces.

Paradoxically, in the current context of financial crisis with rising land and property prices in urban centres, some of today’s real estate resources (housing, car parks, offices, etc) remain under-occupied. The idea of using the Internet to put users and owners in touch with each other and thus facilitate long-term sharing of these resources is becoming more widely adopted. Development of flexible workspaces available for hire by the day, as described in the interviews with Frédéric Bleuse and Ger Baron, is one possible manifestation of the transition towards a real estate economy in harmony with the actual uses of space, especially workspace - and usage habits have been particularly shaken up by the rise of teleworking, as Ghislain Grimm emphasizes. These innovations do not herald the end of the office as the setting for collective work specific to a business. Innovation and group work still often need physical places that facilitate communication between co-workers.

While the rise of flexible workplaces does not signal the end of the traditional office, changes in lifestyles, working habits and consumer habits, marked by widespread mobility and the flexibility made possible by telecommunication techniques, are generating new issues related to office buildings. An office building is concerned by more general questions of urban planning and the layout of buildings inside cities. The growing emphasis on “localness” as the ideal urban horizon leads most of our contributors to underline the need to question the function-based segmentation of our towns and cities. Offices, like the other functions of real estate spaces, must be connected to all urban resources if they are to become a real social space accessible and open to the city. Olivier Estève and Ghislain Grimm remind us that it is no longer possible to design an office building (or a residential building) without thinking about how it will interact with the city, the transport system that connects it, and the resources offered by its close environment. Christian Cléret stresses the need for a mixed-function approach on the local scale that forms the essence of urbanity: through the example of the plan to redesign the Louvre post office he gives us some idea of what the future may hold for real estate projects following this ideal. Rachel Picard discusses the specific space of train stations, where significant changes are in process, showing how rising mobility is fostering a broader mix of uses in these places of transit.

To examine the impact of social changes on the city and its buildings, this first issue of the Cahiers de la Chaire Immobilier et Développement durable is divided into three chapters. Chapter 1 reviews social and urban
changes through interviews with four specialists covering the intersections between sociology, economics, town planning and architecture. Their reflections encompass the long timescale of the history of cities, while offering some perspective on the current trends in the emerging city.

**Chapter 2** studies the relationships between real estate and business. The first section presents the impact of changes in business organization on workplace design. The second section looks at the diversity of corporate real estate strategies. The third section describes the new spaces that are emerging with the spread of nomad working, and the fourth section presents the advantages of the “green appendix” to leases signed by tenants and owners, aiming to reduce energy consumption in office and commercial buildings.

**Chapter 3** examines changing relationships with real estate, in connection with changing lifestyles and consumer habits. The first section focuses particularly on housing and hotels. The second section presents the impacts of changing consumer habits for actors in retail real estate. The third section identifies the urban logistics needs resulting from these new consumer practices. The publication ends by considering how information technologies are contributing to construction of the city of tomorrow.
Chapter 1

Different angles on social and urban change

Designing the real estate and towns of tomorrow requires prior analysis of the profound changes in our societies and territories. This chapter "presents" four thinkers who consider society in interaction with its spatial setting, to propose four views at the intersection of sociology, economics, geography, town planning and architecture. These news are individuals driven by personalities who are operationally involved in changing our towns and societies as elected local and national politicians, developers, architects, etc.
Contributors:

Jean Viard
Head of Research, CNRS, CEVIPOF

Alain d'Iribarne
Head of Research at CNRS, Fondation Maison des sciences de l'homme

Pierre Veltz
Professor and Researcher at ENPC and SCIENCES PO, and Chairman of the Governing board of l'Établissement public de Paris-Saclay

Nicolas Gilsoul
Grand prix de Rome, , Architect and landscape Architect
Interview: Jean Viard
Head of Research, CNRS, CEVIPOF

Jean Viard is a sociologist and economics graduate, and has spent thirty years analyzing changes in French lifestyles, with a particular focus on the increase in free time and resulting practices, mobility, and developments in our relations to the space around us. As a member of Marseille city council, he is also the vice-president of the Marseille Provence Métropole city borough, in charge of redevelopment of the old harbour and waste management. As a researcher and a councillor, he is interested in the political issues raised by reconfiguration of our ways of living.

What in your opinion are the principal social changes of recent decades? How is social time an appropriate starting point for clearly identifying the associated issues?

The most radical changes in our societies concern life expectancy and the pace of our activities. Because paradoxically, the more time we have, the faster we use it. Life expectancy in developed countries has increased by 40% in a century, and there has been an accompanying densification of time use: we make phone calls or listen to the radio while we’re in the car, we go away for just four days, we read shorter books... We’re still gaining three hours of life per day and meanwhile the time spent sleeping has fallen by two if not three hours a night in two generations. In other words, our waking life has lengthened by 5 hours a day compared to our grandparents, and we’ve gained 21 years of life since 1950.

Alongside objective, medical time, the time available for activities has been substantially transformed. Since the 1920s, the average lifespan has risen from 500,000 to 700,000 hours, and the portion spent on work, estimated at 200,000 hours after the First World War, is now estimated at less than 70,000 hours (in France, workers must pay contributions for 63,000 hours to qualify for a pension). Constrained time – sleep and work – occupied most of our lives after 1918 but is in a clear minority a century later: if you take away the average 30,000 hours devoted to education, the 70,000 hours for work and the 200,000 hours spent asleep, 400,000 hours remain available for other activities. Including 100,000 that we spend in front of the television! What is crucial to understand is that the longer life is, the more we live it in short segments in all fields (emotional, residential, work) because

"The most radical changes in our societies concern life expectancy and the pace of our activities."
life is long enough to give us several chances. You can start a new family, change your life, change jobs. The essential question becomes who can choose and who has no choice, and how society produces safety nets for the transitions.

**What are the major consequences?**

One of the major consequences is that the norms and values that were essentially constructed through socialisation in the world of work are increasingly being structured by activities relating to free time and education. Television and holidays have been powerful vectors for constructing new social norms, new relations to our own bodies, to aesthetics, to games, travel, and nature. Our urban practices have been completely changed by holidays and the rise of free time.

Today’s longer life expectancy has also led to the emergence of a society comprising four generations rather than the previous three. The average age at which French people lose their parents is 63, and this has very important repercussions on cultural inheritance but also material inheritance, which now happens at retirement age rather than in the middle of adulthood. Inheritance is becoming more of a leisure object than an investment.

The change in the relationship to time and the faster pace at which that time is used has taken us from a sedentary culture, a culture based on a fixed “lair” with trips away of varying lengths, to a mobility culture with certain fixed points of reference and signposts. The invention of technical objects (from the train to the mobile phone, then the internet) has enormously broadened our scope of action through extended physical or virtual mobility. We have moved from a society where people travelled about five kilometres a day in the 1950s to a society where people cover an average 45 kilometres a day (for Americans the average has already reached 70), without counting virtual kilometres.

Of course, this overview of the upheaval in society obscures significant disparities, even though the underlying trend is undeniably towards a substantial rise in mobility. Inequalities in mobility are currently reshaping our political territories. The French president covers about 500 km a day, but some ordinary French citizens never leave their local area or villages, in some cases not even the urban development in which they live. There are “forgotten” districts where no one wants to go, which means several political strategies are possible to develop more general access both physical and virtual: for example, extending broadband internet to suburbs and rural areas or incorporating the chance to go away on holiday into social programmes for young people. This disruption of social time and speeds naturally has a profound effect on social groups’ relations to the areas used.

**What impacts are these changes having on physical environments?**

The greater mobility has been accompanied by growing urban sprawl and mass population movements (flows of retirees moving from “productive” regions to the major tourist areas, flows of students moving to Paris and
staying there a few years, etc). This produces a new segmentation of the country along different criteria (productive/residential territories; urban centres/outlying areas, which may be rural or peri-urban). Towns and cities are becoming places for single people, for encounters, for interaction (business encounters, cultural interaction, lovers’ meetings) while families, and also companies which are getting bigger, are tending to settle in the peri-urban zone (and by no means solely in the designated development zones intended to encourage innovation). Residential trajectories are tracing out a lifecycle that assigns the large cities a role as hubs for contacts between students and the young working population, although those trajectories and the degree of mobility vary according to social background.

There is also another major shift in construction of social bonds. Socialisation of individuals is increasingly taking place through the home, which has become more open: in France, people welcome guests round much more than in the past, when non-family meetings essentially took place in public spaces. The public space only plays that role occasionally now (when there are special events, football matches, national celebrations – or disasters). Social bonding has been privatized. We interact with more people, but in private space. I call this the “barbecue civilization”. The private garden, something 50% of French people have, is becoming a sociability space in extension of the home’s openness onto the world through internet, television, and the telephone. So our society is not short of bonds, but those bonds are formed in the private sphere of a four-generation society. We live in a society of private happiness and public unhappiness. The sense of national community, or the European community, or the human community, may be struggling, but most individuals are managing to have “successful” economic, local, and social strategies; 70-80% of the French population consider themselves happy in their private life, work life, sex life, etc. This private happiness eludes the 20-30% of the population who find themselves in niches of exclusion: 1.5 million women bringing their children up alone (a consequence of relationship breakdowns) and 2 million children, totalling close to 4 million people in poverty, concentrated in working class areas, and making up most of the users of charities providing food and meals. But other pockets of exclusion exist: former industrial regions, recent arrivals, a section of the young generation, are just three examples.

“Towns and cities are becoming places for single people, for encounters, for interaction (business encounters, cultural interaction, lovers’ meetings) while families, and also companies which are getting bigger, are tending to settle in the peri-urban zone.”

Aren’t town centres still places for constructing the social bond in the public space?

The most mobile social group in towns and cities consists of young people and single people, so one major concern is ensuring they have access to the centre. Plans to provide public transport connections to the town centre for student accommodation zones and working class areas, the places where most young people are to be found, are an essential factor in young people’s apprenticeship of the urban dynamic, face to face meetings,
and strategies to construct mobility. And this physical mobility is the corollary of an apprenticeship of mobility that will also be a factor in our love life and working life. The same acculturation is at work in different fields. The town of today is also constructed through virtual mobilities that consolidate the social networks (this is true more for locally-constructed networks than for more distant networks). Education about online and media interaction, particularly for working class populations, is thus essential in construction of social bonds, in parallel to apprenticeship of urban living. Young people from the more working class groups must be included in the society of mobility by virtual means, as well as by physical mobility, in order to enhance their relationship to space and broaden their range of social and cultural opportunities. Schools have a key role to play in the apprenticeship of mobility, especially virtual mobility. Holidays away from home for young people are way of experimenting with mobility: this is a political issue and should be encouraged by local authorities. Learning about the interaction between real mobility and virtual mobility is clearly crucial for the rural world, where the internet offers access to cultural matters and new opportunities for interaction that can be a substitute for physical mobility.

What political issues are raised by these changes to society and the space it occupies?

More than 60% of employees in France cross a town boundary on their way to work, such that there is a disconnection between the place where they vote (their town of residence) and the place where they work. Including retirees and other economically inactive people, the core electorate is in fact represented by citizens defending the interests of homeowners and tenants (the value of their property, peace and quiet, security and good schools for their children), which results in a “democracy of sleep” that tends to ignore matters related to economic development, social solidarity with the underprivileged, and major projects. Meanwhile, the higher frequency of residential mobility (six million people or 10% of the French population move house each year) means that a town’s electorate consists not of a stock, but a flow of population living in the area during a time T. This is shaking up the structure of political debate, which used to be based on social disagreements that were constructed over the long term.

The model of general mobility, which works well for most of the population, no longer refers to a common plan. Instead of belonging to a social class, nowadays we belong to sets of groups defined by occupation, income, gender, customs, age, etc. Our many memberships make the social and political game more complex. People in France change jobs every eleven years on average, and life partners every eight years. The social question raised by the frequency of these changes in work and family is the question of how much freedom individuals have. Some groups have the ability to choose, while others are unwillingly forced into “disaffiliation”. The figure of the homeless person is what is left after many disaffiliations resulting from unwilling mobility.

Overall, the differential in resources (assets and income) has been reduced, but the gap between the richest 0.1% and the poorest has increased so much that these two extremes no longer have any shared financial reference.
The most fragile group essentially comprises women and young people. Disaffiliated mothers have several handicaps because their constrained as regards activities limit their capacity for action - especially as far as work is concerned - and therefore their income. In the postwar years poverty mostly affected old people, but today’s pensioners have higher incomes than young people, and what’s more those incomes are stable. Most of them own their homes and have no dependants - which explains the large amounts they can give to help their grandchildren. Individual management of land and property investment becomes extremely complex in a society where work and family relationships can break down quickly. The key is to make repeated change a positive phenomenon when it is voluntarily chosen, while the collective discourse broadly continues to see it as negative. The truth is that the longer life becomes, the more chances it offers for experimentation after breakdown and change. We are in a society that still needs more consolidation and democratization, multiple chances, especially for the young.

How do you approach this category of young people?

The increase by some twenty years of life expectancy since the end of the war has led to the emergence of a New Age. Whilst “teenagers” were invented in the 1950s and 1960s, today we are seeing young adults aged between 18 and 28 in a phase of experimentation (in education, love life, makeshift careers, housing strategies). Depending on their educational and economic background, mobility for work may result from free choice or lack of an alternative, but it is definitely forming a new cultural model. Family and job stability (first child, first permanent job) is now achieved nearly ten years later than just after the war, at the average age of around 28. This New Age can be seen as a period of failures, but it would be simplistic to only consider the unwilling victims of exclusion, even though they do tend to be young people with no qualifications. This age is also a fascinating time of instability, a long period of learning, loving, partying, which acts as an initiation into our much more complex modern world.

Since work stability and family stability are related, integration of disadvantaged young people into society through housing is one route for consideration: residential stability helps people to set up home as a couple and start a family, and can encourage a desire to work and thus entry into the world of work. This is one possible approach to social integration. Helping young people enter the society of mobility or bounce back after a setback (break with a partner or family meaning they must move out, end of a job) is vital and requires development of a common political plan. Facilitating access to housing for young people means conducting an in-depth review of the way social housing is attributed. The current system is totally inappropriate to the extreme mobility of today’s society. We need to help young adults to leave home even before they start earning a salary, invent a powerful support policy for single-parent families, and work to en-
courage mobility in the senior age group, 48% of whom say they would like to move when they retire. Helping that half of retirees, especially those who live in the Paris region, to move back to the region they came from, or to the popular regions in the west and south of France, by encouraging mobility between social housing in different regions, would be one way of reducing the tension over access to housing, particularly in Paris. The Parisian social housing operators could, for example, build homes in those regions for “their” moving retirees. The tenants would gain in quality of life, and it would free up (at lower cost) some of the social housing stock and thus help younger people into housing in Paris.

Is the built-up environment in which we live appropriate to the new social issues you’re describing?

As a result of the increase in free time, holiday practices have been imported into the cities. The modern city is moving towards the model of a planned city like Haussmann’s 19th-century Paris, where people can move around but also where there are leisure spaces superposed on the traditional urban space. This is reflected in projects such as “Paris Plage” (creating a beachlike environment along the banks of the Seine in the summer), or city cycling systems. Urban planning renews our relationship with nature and our own bodies, through urban promenades that reduce the amount of space set aside for cars to benefit pedestrians. The organization of river banks and coastal areas is shaping new relationships with water: the cities of Bordeaux and Orléans are rebuilding a relationship with their river, and Marseilles with the sea. Privatization of social bonding, which increasingly takes place in the domestic space, has intensified the need for public areas where random encounters are possible. The spatial culture of holidays is combining with the urban spatial culture around festive sites and areas which are reappropriating water and vegetation. So our urbanity has become a mixture of the Haussmannian-style city and the holiday village or campsite. And its time is structured by major events, whereas in the past the weeks and seasons were the only markers of time.

In parallel to this need for urbanity that facilitates random encounters in an environment with room for the “natural” elements, the private frame of housing also has to evolve. Democratization of free time is producing a need for democratization of access to sunshine, which could become one of the objectives of town planning. Almost a third of French people have a second home (accounting for 11% of the total housing stock). For this section of the population, the extremely dense urban environment they inhabit is counterbalanced by regular use of individual houses with gardens. For the rest, democratization of access to a small outside space is important. If every city-dweller had some space (terrace or small garden) out of the sight of others, where he could have a small barbecue, a few plants and some sort of water feature, then the urban sprawl could be reduced because one of the reasons people are leaving the town centres is

"Privatization of the social bond, which is increasingly developed in the domestic space, has intensified the need for public areas for random encounters.”
their desire for a lifestyle that is impossible in urban housing. So if we are to understand the change in our societies, we need to be aware of the considerable role of the drastic changes in our space/time, and how they have contributed to a culture of mobility. The phenomenon is both quantitative and qualitative. This means that in a society where work only occupies 12% of collective time, lifestyles are now dictating production rationales, the “soft” approach is dominating the “hard”, businesses are following inhabitants, major memberships are hesitant and the society of “complete life” so dear to Jean Fourastié is imposing a new pace on us. Our problem is thus to improve analysis of this movement, and find ways to develop more equality and better living.

11% of the total French housing stock consists of second homes.
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How has the organization of businesses changed in recent decades? How are those organizational changes reflected in terms of real estate?

The change in business organization is related to the questioning in the mid 1970s and early 1980s of the postwar growth model based on organization of production in a mass market approach. This postwar model has now run its course, and firms are seeking to produce value on related services: we are entering a service society, even though it remains industrial. Market segmentation, individualization and innovation-based reasonings are developing, and the need for better knowledge of the customer in order to better respond to his demands is resulting in production being reorganized in a way that reduces the number of lines in the hierarchy in order to encourage employee versatility, including for the least skilled workers, and thus limit dysfunctions. The post-Taylorian model recommending flexible firms gained popularity in the 1980s and 1990s. Technological changes contributed to firms’ mobility and agility: they became able to adjust their organization speedily in response to changing constraints and the markets. The financialisation of the economy turned management and organizational change into instruments for shorter delivery times in a highly competitive context.

In this perspective, reflection on firms’ real estate costs became more important. This was the context for the initial spread of open plan offices: they allowed businesses to occupy less space, but also reflected the desire to encourage cooperation in project teams and cross-functional operation, as a source of creativity. The first wave of open-plan offices was not popular:
employees saw it as a symbol of new forms of management driven by the aim to achieve high returns on investment at any cost. They were very impersonal large spaces, difficult for employees to personalize, designed under the rationale that anything likely to create friendliness and atmosphere was a surplus cost. Meanwhile, moving out of town, sometimes quite a way out to places without public transport access, was one of the favoured ways to bring fixed costs down and thus improve corporate performance. A series of failures has shown businesses that these assumptions and expectations were in fact contradictory to people’s behaviour. Seeking to reduce costs by all possible means was counterproductive, because the purely economic logic was based on the assumption that employees would accept the constraints, and that assumption turned out to be mistaken. Employees’ capacity for resistance was strong enough to prevent the expected virtues of the model from happening. Firms realized that the capacity for insubordination is long-lasting, even when unemployment rates are high. Traditionally, there are three ways for the weaker party to adapt. The first can be called “Voice” and means entering into conflict, giving voice; the second, “Exit”, consists of leaving; and the third, “Silence” involves staying but only giving the job minimum commitment. The “Exit” rate is going down because of the unemployment rate, and the “Voice” response has also been weakened by disorganization of collective representation. That leaves “Silence”. Firms, and large firms particularly, are unhappy with the low level of commitment from employees and are inventing new ways to motivate them (including middle and even senior management).

These failures have brought firms to review their strategies and focus on the concepts of enjoyment and suffering at work. We’re seeing a return to locations where it’s easier for employees to combine work and personal life. The question of transport problems has been brought back into real estate considerations. The fact that equal sharing of housework across sexes has advanced less rapidly than growth in the proportion of women in the employed workforce at all levels of the hierarchy, meaning that women must cope with significant distortions in their everyday life, has forced firms to examine the question of commuting time, and therefore location. Meanwhile, there has been an increase in services provided for employees (e.g. crèches) either directly by the employer or by local outsourcers, to compensate for the fact that working hours are often incompatible with the opening hours of such services. A new type of open plan office has emerged to foster employee wellbeing and meet the demands of work.

“A new type of open plan office has emerged to foster employee wellbeing and meet the demands of work.”

“Stress” the first word chosen to describe work by 78% of the working population, ahead of “interesting” chosen by 43% (OBEA-Infraforces survey for 20 Minutes and France Info, October 2009).
to project, which leads to a diversification in buildings and a move away from the standard properties that were predominant until the 1990s.

Do you think the public authorities (through regulation requiring plans for wellbeing at work) have played a more important role than the desire to improve corporate performance? Or have the two converged?

Firms in France are strictly constrained by changes in labour law, and above all by jurisprudence. Managers, even at fairly low levels in the business, are increasingly risking criminal lawsuits and the substantial rise in the legal risk has undeniably been a driving factor. Radical change in this respect came about when the courts started considering that businesses were under an obligation to deliver results, not simply to make best endeavours. This means that if a firm is taken to court by one of its employees, it can no longer base its defence on the argument that it made efforts to introduce preventive or corrective practices. It must also be able to demonstrate that it achieved results, proving that the case is groundless. More importantly, if a pathogenic situation causing a serious workplace health problem arises as a result of the behaviour of an employee, the firm – and therefore the management – would be responsible for preventing the employee from continuing his practices. This would be the case, for example, for an employee with “excessively long” working hours.

Conversely, the legislative and regulatory framework has hindered the spread of teleworking in France. Legal advisors have discouraged HR departments from this, because French labour law considers that when an employee works from home the company has the same legal responsibilities in the home as in the office. Teleworking has nonetheless developed outside the regulatory framework, somewhat cannibalized by the general trend towards mobility which, starting with laptop computers, then telephones and particularly smartphones, is becoming increasingly widespread in work practice. In French society there is a gap between the way businesses actually operate and the way their operation is seen by the law, and paradoxically this is caused by the large number of laws and regulations. This gap makes it very difficult to observe and analyze reality. Another field that is also interesting to observe today regarding legal and regulatory action for buildings is the “eco-building” movement with changes in environmental standards, especially energy norms and the accompanying labels and certifications: High Environmental Quality, Low-Energy Buildings, etc. The most interesting aspect for our own considerations is that the earliest feedback on buildings already in use has shown that actual “eco-performances” are far below the theoretical expectations, and that the shortfall is essentially attributable to the behaviour of building users. These observations once again lead us to include the factors of human behaviour and working practices in considering, and more importantly calculating, performances. In practical terms, this raises the same question as performance improvement: should we try to adjust human behaviours by rationalizing them – standardizing them – through training campaigns and/or incentives and coercion; or on the contrary, should we make technical choices which take note of observed human behaviours and seek to adapt to them, or channel them towards achievement of the desired energy perfor-
How can we best reconcile the long timeframe of our built-up areas with the short timeframe of real estate investment?

The city and its buildings crystallize traces of human activity over a long timeframe. Like all technical artefacts, they are marked by the societies in which they were designed, prepared and first used, and they reflect the strata of those societies. As a framework for our lives, they must be efficient for economic functions (places for production and exchange of wealth), but also for everyday living, wellbeing and happiness. Among other things, these two dimensions of our urban buildings force us to reflect on the interaction of temporalities – the long term and the short term.

This reflection is even more essential because economic time and social time are diverging; under the influence of the financiers, economic time has shortened considerably, with ever more exacting demands for returns on investment. The urban zone and real estate of today bear the marks of these contradictions, indicating the importance of the vision required of every project manager, every contractor who helps to shape our cities. Traditionally, the “enlightened prince” held the power to decide on the use of space. The built-up areas of French, Italian, German and Spanish cities show how important their prominent families were, through buildings that are nearly all public buildings today. We need to identify the people who hold that power today, the vision they carry and the way they choose between the economic constraints applicable to them.

The central question is the human being’s place in these projects that shape our towns and cities. Are people considered as nothing more than a cost, or also an income? Once we start to consider that an investment is only of value if it can be given value through human activities arranged in a democratic system, the specifications for construction of the built-up space are founded on the idea of providing an environment where the human being is free and able to take action because he finds meanings in these activities where the rules for living together are defined.

Construction of landmarks becomes absolutely essential; it relates to questions of individual and collective identity, and communication (technical artefacts of communication, social codes of communication). The town is of
course the setting in which these social codes are organized. It can be defined as a space for exchange and living, a space for living together. Buildings are components of the town: places for work, living, offices (subcomponents of a building). From the individual unit of the office to the town, the problem is how to combine the different scales in order to produce coherence.

At a higher level, this idea is political. But businesses themselves are being increasingly required to take on more responsibility than before, through the concept of Corporate Social Responsibility. This requirement is coming from both politicians and employees, because the blurring of boundaries between personal life and work life, and the porosity of times and places, raises the question of the meaning of work. This fragmented system is seeking reconstruction on an ontological basis, explaining the emergence of the concept of Work-Life Harmony, consisting of the search for a harmony between all aspects of a person’s life: work life, family life, social life, etc. It is thus infinitely more demanding than seeking harmony in the workplace, which does not encompass the other aspects of the employees’ personality. The objective was to reconcile non-working life with life at work, city life with the workplace. Today we are considering how to recombine these disjointed times and places in an ontological perspective, particularly incorporating the effect of information technologies.

The city is a living object: a place of social interaction (active, not static), a place of construction and reinterpretation. One of the major issues for planners and builders is how to reappropriate elements from the town’s past and incorporate elements from the present, such that the older buildings that make up our towns are suited to the uses of today. The way the city of Bordeaux has redeveloped the old harbour and wharfs along the river Garonne is a good example of successful urban planning. It signifies a return to its past as a harbour city, a function that disappeared along with the navy and the trading port. The next stage is expected to see ships sailing up the river again.

Another, just as essential issue is how to be capable of making public property out of private property. The politicians and other elected officers in charge of public property must be able to carry a vision and draw on all private initiatives to develop the project. We also need to ensure that voters, who are asked to participate in democracies, do not use their democratic capacity solely to block projects, but on the contrary to become driving forces for those projects.
Interview: Pierre Veltz

Professor and Researcher at ENPC and SCIENCES-P0, and Chairman of the Governing board of l’Établissement public de Paris-Saclay

Pierre Veltz is a qualified engineer and researcher in economics and sociology, and former Director of the elite French engineering school École des Ponts et Chaussées, after jobs in public town planning and as a research supervisor for the school. His own research concerns changes in work, the firm and its territories against a background of globalization and the digital revolution. He is also Chairman of the Governing Board of the Établissement Public de Paris-Saclay, a French National Interest Development Operation.

How can our built-up areas respond to changes in society?

I’m struck by the fact that towns, infrastructures, and buildings, which are considered as heavy, inert objects, are in fact very flexible. Our towns and cities are very old, and have adapted to a great many new uses. Evolving uses (lifestyles, working methods, leisure uses, etc) are the real driver of urban change. With today’s nomad devices, our relationship to the space and time of work has changed considerably. Work emails are now sent at weekends or in the middle of the night, reflecting a profound redistribution in the organization of work and businesses, and therefore their associated spaces. The Smart Work Centers developed in the Netherlands (see interview with Ger Baron in chapter 2) show that new ways of combining work functions with residential spaces can be imagined. One of the obstacles to teleworking is the fact that homes are not appropriate for the function, but adapting homes or setting up new intermediary spaces like telework centres are paving the way for new uses of our space. I think we’re moving towards a form of de-specialization in built-up areas. Town planners are trying to fight functional segregation but so far there’s been no real rethink of the specialization of spaces: we’re still building shops, factories, offices, homes and places for leisure and culture. The future could bring more mixed spaces, like the Rolex Learning Center in Lausanne, Switzerland which is a restaurant, a library and a public meeting place. This will be achieved by de-specializa-
tion of real estate properties, which will have to take on board more variable, more flexible uses and could have significant consequences for the concept of the office, especially for the large metropolitan areas where commuting time is becoming rather a nuisance for people. Studies on substitution between telecommunication and transport, and the mechanisms for substituting one for the other, have long shown that the more we communicate remotely, the more we travel too, although the reasons for travelling change, because what happens is the time saved by telecommunication is freed up for other activities. But I have a theory that people’s activities are being refocused around their broadened residence, and the residential space in general. The current strict separations in the regulations are counterproductive in this respect.

How could we put more flexibility into this use of urban spaces?

In France, more flexible regulations for Local Urban Plans and leases would lead to an economic transition (with new, mixed properties), but also an urban transition. The current conception of spaces and buildings and the current regulations are preventing us from making the best use of our cities’ potential. Spaces are under-used; offices could be vacated and used for some other purpose; and conversely, many housing developments are under-occupied. This is what you tend to see on the outskirts of towns, where you find unused land and buildings. And that’s why these areas are places for creation. Jane Jacobs’ expression “Old buildings, new ideas” is a good summary of the fact that cultural, intellectual, artistic and even technological revolutions often originate in the outskirts, where the buildings are cheaper and space uses are reinvented, with buildings used in highly flexible ways. The studies by Marie-Hélène Massot on the “coherent city” clearly show the effects of rigidity in allocation of social housing. The stock of social housing in a metropolitan area like the Paris region is managed by an enormous number of companies and agencies, each with their own “customers”. This results in an extremely suboptimal situation because people have no incentive to move. Her book on the coherent city is based on an extensive study of transport and French notaries’ databases of property prices, leading to a proposed simulation of housing reallocation in order to bring people closer to their workplaces and reduce the needs for travel, while respecting householders’ preferences as much as possible. This simulation makes it possible to estimate the respective needs for new building and changes to existing buildings. This theoretical simulation showed that in a coherent city, in other words one where housing allocation is better suited to each person’s activities, travel could be cut substantially if teleworking develops. Home is the fixed point in relation to work; people change jobs more easily than they move home,

The future could bring more mixed spaces.

“...The housing crisis is not simply a quantitative issue, it relates above all to the rigidity of the housing stock.”

except in employment crisis situations like today. The rising number of “reconstituted families” also hinders residential mobility. Increasing mobility in housing, and in buildings more generally, is a necessity. The housing crisis is not simply a quantitative issue; it relates above all to the rigidity of the housing stock, and obstacles to transfers (transfer duties on house purchases are very high in France).

**Does this need for coherence correspond to the definition you would give of the intelligent city?**

The concept of the intelligent city emerged to reflect the fact that our cities now have a layer of data, produced by a whole range of actors (transport agencies, bodies managed by city authorities, all kinds of urban service firms, the people of the city themselves) and made available to other actors both institutional and otherwise. This urban data is tending to become public, free and reusable by third parties to offer various services that make use of this digital information: smartphone apps or applications for other platforms that help everyone adjust their practices and habits to optimize them, make them more efficient and more fun, and make everyday life easier. The abundance of generally available urban data encourages creation of new solutions to urban problems of all kinds, tools to aid decisions both large and small. This trend towards “open data” is still hampered by several actors who want to retain ownership of their information, but the number of services to help people optimize all kinds of choices is already growing. Developers (start-ups, large firms, individuals acting alone) are offering an increasing range of new applications that are transforming practices. Other actors (major international groups in the IT sector or urban service management) are taking up this information and offering an entire toolkit of new solutions to reconnect urban domains that had been very distant.

How do you see the turnkey solutions offered by these large groups?

I was struck by a sales presentation by the IBM group which appeared to provide an all-round response to all urban problems. I don’t really believe such things exist. But it’s obvious that the sheer volume of data, combined with these actors’ capacity to process this data and turn it into information, mean they can efficiently organize things like carpooling or intelligent energy management solutions in or between buildings. The most significant change introduced by the city’s information layer is an increasingly cross-functional approach to urban management. The actors of the city used to be confined to specific fields of action. Cross-functional subjects are now being redefined thanks to the circulation of information from one urban area to another, and as a result, actors who were previously fairly marginal to urban questions are now growing in importance and presenting themselves as strategic actors for city life: digital actors and energy actors are occupying a more significant place alongside the traditional urban actors, builders, public works operators and
public facility networks. When the first projects for sustainable, intelligent cities were launched, many decision-makers considered them as civil engineering and building/public works projects. There were very few openings for new actors. Since then, the construction and engineering industries have “seen the light” and are now positioned on the new markets of sustainable and intelligent city developments through strategic partnerships. Consortiums are set up for specific projects, but more generally, alliances are emerging with the ambition of covering all aspects of urban action.

Apart from the de-specialization of private actors in the city, we’re also seeing interconnection around certain technical solutions for different subjects that were previously totally disconnected, such as energy in transport and housing. The energy storage problem is leading to innovative combinations: if the electric car becomes widespread, car batteries could be a way of storing locally-generated energy from renewable resources so it can be returned to the grid at peak periods.

An individual house interconnected to its electric car, that operates with relatively clean, independent energy, could be an ecological answer.

In the new types of relations between urban actors, how do you see the public authorities’ role?

The authorities are in a difficult position, because what seemed a simple world is getting considerably more complex, and planners are having to deal with both constraints and unfamiliar solutions provided by new actors. The authorities are still trying to define the role they should play in this setting where new markets are being formed. They have to create the conditions for these markets to emerge, while ensuring that they develop with a certain degree of equality.

It’s very interesting to observe the development of the smart grid concept. It’s one of those portmanteau words that sticks a certain number of general ideas together (in this case, the capacity for intelligent supervision of energy mixes that vary with local resources and constraints, and the possibility of using energy produced in buildings to recharge cars or electric bicycles, it’s time to review the standard thinking on urban forms.

This is particularly true as mobility needs could themselves be adapted in a more economic way. The information layer I mentioned earlier makes it possible to rationalize car use by facilitating various forms of car pooling (car sharing, public fleets of cars, etc). The economic agreements on tried and tested solutions are probably going to be shaken up by the arrival of new actors like Google for instance, which are beginning to get involved in mobility: they’re doing it through software solutions for the moment, but could soon be threatening the positions of traditional actors in mobility, particularly the automobile industry.
networks to optimize generation and consumption) and are capable of carrying the actors’ strategies. There are several projects under way in France, but very few of any real substance. We’re in an experimental phase, and the role of the public authorities is both to encourage these experiments, and to foster discussion and cooperation, particularly with private actors, because the solutions won’t come from individually-led projects. Going back to the “open data” example, the authorities are obviously concerned by the acceleration in the movement’s pace, and have to make their data public, but their role is also, above all in fact, to set up the necessary development conditions so that new, interesting offers can emerge. This means that all zones must be covered for access to urban information, that no energy zone must be left behind, now or in the future. Less regulated development should not result in unprofitable areas or population segments being abandoned. The authorities are not in an easy position, because it’s very tempting, especially in a country with a strong tradition of state involvement like France, to act in the place of private actors in order to reduce the risk of zones being “left behind”.

The energy question, which is being addressed more and more locally, with the idea that solutions will increasingly be found through energy mixes drawing on locally-available renewable resources, is bringing local authorities to rediscover the role they should play in the field of energy. They are the owners of their grids, which are operated by EDF under a concession agreement. New relationships are being established, occasionally with the risk of overinvestment of public funds, as once observed in telecommunication infrastructures.

Is the Plateau de Saclay National Interest Development Operation an opportunity to implement new ways of defining local planning strategies?

The land concerned by the Plateau de Saclay holds several projects, including an immense campus in the southern section. This campus will have several mixed areas, one around the Ecole Polytechnique, the other around Supélec (a graduate engineering school), with higher education and research establishments, businesses and housing. We need to combine the different functions intelligently, and a
local economic strategy has been defined for this large 6-kilometre area. It’s an ideal place for a coherent energy strategy operating on three levels: the building, the district and the entire area. We’re thinking about energy strategies that would be partly based on local resources (geothermal, wood) and the installation of heat networks. Of course, management of water and waste, and mobility, are complex subjects and we’re also engaging experts to define a coherent strategy across several levels. This area is an ideal place for experimentation, because it has several firms and laboratories that specialize in these issues. They form a useful breeding ground that is an incentive for a living lab approach, where we can try out new ways of living in and managing our towns, while making sure that the solutions are tested so that local residents, students and employees can be accommodated in decent conditions.

**What innovations will we see on the Plateau de Saclay campus?**

Building France’s largest campus on this area must be seen as an opportunity to reflect on ways of constructing and designing enlightened buildings with awareness of the changes in our lifestyles and working habits. At the moment, we’re restricted by inflexible planning processes. Universities are a very revealing example: we plan schools by projecting into the future the way universities work at the moment, with large lecture theatres, classrooms (not always appropriately-sized), and libraries, but this model is bound to be shattered. We may even be planning too many buildings. Some schools, even some of the top American universities, are now asking their students to follow classes from their own rooms. Student accommodation will have to adjust to these new uses, including places for group or individual project work. The function of libraries (providing access to books) is largely outdated. Libraries are turning into places to work, socialize, plan, where students must be able to try “test runs” in the case of engineering students, as at Saclay. This is what is being set up in the Media Lab at MIT (Massachusetts Institute of Technology). There are latent demands today that will deeply change the way a campus, school or university operates in the future. But it’s difficult to incorporate these questions into the systems used for planning and architectural competitions, essentially due to the regulations. In student accommodation for example, all rooms have to meet disabled access requirements, and that dramatically reduces the available space.

The design by Rem Koolhaas and Clément Blanchet for the Ecole Centrale was selected for its innovation value and audacity; it’s a large covered structure containing a kind of small town that runs through the whole development and is open to the public, linking the Learning Center to the metro. The organization of space is extremely flexible, comprising plots 

"The Plateau de Saclay operation is an ideal place for a coherent energy strategy operating on three levels: the building, the district and the entire area."

"We plan schools by projecting into the future the way universities work at the moment, but this model is certainly going to be shattered."

The contribution of Plateau de Saclay to French research, based on the number of researchers.

13%
for laboratories, lecture theatres, and classrooms that open onto the interior public space divided into streets. Regarding student accommodation, we want to build a critical mass that can create a campus life of a kind that doesn’t currently exist in France, because every school has its own small stock of accommodation and there’s no interaction between students from different establishments. We want to have halls of residence that are shared by the different schools and universities. All in all, our two districts will have accommodation for 8,000 students and 7,000 households, a quarter to a third of which will be social housing.
How do you define the concept of the Fertile City?

The Fertile City is a plea for a resilient, flexible, organic city where man is no longer against nature, but invents new hybrid environments that are creative and re-energizing. It proposes new alliances and constructive symbioses.

At the turn of the 21st century, the triple world crisis and population growth mean we need to rethink our cities. We know that most of our children will be town-dwellers, and certainly as haunted as us if not more so by the insatiable desire for Nature. We always long for things that are getting rarer. Advertising professionals, the cinema, architecture and contemporary art plunge us daily into a luxuriant, nostalgic picture book. A paradise lost that contrasts with the archetype of the dark city, sprawling and vertical. On one hand we have planet Pandora from the film Avatar, and on the other the apocalyptic vision of Los Angeles in Blade Runner. An archetype which in fact has not changed much since the beginning of the 20th century, from Fritz Lang’s Metropolis to the digital city of Disney’s recent Tron: Legacy.

We know today, largely thanks to new scientific knowledge, that this contrast between town and nature no longer has any meaning, geographically, sociologically or even ecologically. The City is a living, hybrid place where certain animal and vegetable species have evolved to adapt to the existing dynamics. The Fertile City is based on this observation, and seeks to stimulate powers of invention in new alliances. It rejects using greenery simply as a background to provide an exotic touch or nostalgia value. It draws on all the creativity of life and the director’s art to infiltrate the folds of the urban fabric and offer new places to inhabit. Subject to the randomness of life, it is attentive to climate changes and planetary metamorphoses. The Fertile City is an alternative to the dark future of our towns.
**Do you feel this vision is shared and applied?**

In all four corners of the planet, experiments are in progress. Our cities are becoming new urban laboratories. Sometimes we lack the distance and the time to assess how appropriate projects are. Certain solutions are directly inspired by the imaginary world of science fiction: autonomous underwater cities designed by Rougerie, crater cities dug like vertical wells out of the crust of the desert with concentric gardens fed by steam. Seoul has decided to remove one of its main urban motorways in the urban centre and develop the area around the river that flowed below it. New York is planning development work in the Hudson bay, in response to high waters and frequent storms. Portland has planned an extension deep into the hinterland, laying out a vast network of parks and reserves where no building will be permitted, in the American tradition of “landscape urbanism” initiated by Olmsted in the 19th century. Montpellier and Bordeaux are currently planning for 2030, comparing working hypotheses to bring out a large-scale masterplan. In just a few years, the urban question has become a worldwide concern, and today’s communication facilities are making dialogues fertile and comparisons enriching.

I see at least three complementary attitudes taking root. The first is infiltrating the city and spreading to every chink and abandoned space: hanging meadows over the rooftops of Chicago, the High Line walk 20m above the streets of Lower Manhattan, a low water consumption garden on the ruins of a submarine base at Saint Nazaire, the hybrid banks of Seattle’s art museum, a park in the heart of the built-up area at the perfume-dedicated *Cour des senteurs* in Versailles. The second attitude is on a different scale and seeks to connect these new undeveloped urban spaces – or biological spaces – into a local network. Rather than the expression “ecological corridor”, I prefer the image of an urban ecological continuum, a system of landscapes that superimposes a slice of soothing, resilient life over the level of the city. In these two attitudes, parks are no longer simply a pleasant place or a structuring green space. They serve the city, play an active part in its ecology. They are filters, sponges, basins, connectors, niches, protective walls. They are places for city-dwellers, but also places where rainwater and biodiversity are managed. Through them we emphasize the geography, the topography of a catchment basin and the landscapes in which the city grows. They absorb, enhance, infiltrate.

“*The Fertile City is a plea for a resilient, flexible, organic city where man is no longer against nature.*”
The third attitude is in my opinion less constructive: it is flight, abandonment of our old cities for new towns, ecologically independent but separated by a partly invisible wall. The anthropologist Mike Davis imagines that these safe “arks” will soon be connected by controlled ecological corridors and will drift on an ocean of shanty towns. Without going quite so far into a dystopia, we could usefully reflect on the conditions that allow a select few access to these privileged oases. This last attitude, increasingly seen in eco-fictions at the cinema – from Wall-E to 2012 – is developing at Pune on the edge of Mumbai, in Phoenix, Arizona, in south Portugal and next to the desert in the Gulf. These towns really exist, and some of them are compared to living organisms and managed by an artificial intelligence in a way reminiscent of the cycles of science fiction author Ian M. Banks. But his writings revealed the cynicism of a dark utopia. The Fertile City instead pleads for invention of a city on top of the city, to save the rest of the territory and slow down the sprawl that results from juxtaposition of utopias.

What form of city would, in your view, be the ideal response to the changes in our society?

A city that reveals and emphasizes the extensive landscape around it. I’m thinking of the fingers of urban forest that reach into the heart of Helsinki, or the way Vancouver merges with the bay, the mountain, the islands and the horizon of the Pacific Ocean. Tokyo has developed in harmony with the vast wooded territory of the hills, now under agri-forest management.

A city where it’s possible to swim in its rivers, because the water has been purified upstream by a landscaped network of filtration pools. I’m thinking of Stockholm or Zürich for example, which offer a re-energizing setting despite high population density.

A resilient, flexible, transformable city that puts man back in touch with his environment. Risk is part of its foundations, as much as the resources that make it possible to escape risk.

A city driven by an ambitious policy for public spaces like Lyon, Nantes and New York today. A city that also avoids the trap of pedestrianizing everything. I’m thinking of Manhattan’s High Line, the Atlanta Beltline, the Rio cable car: all these offer a different way of being a pedestrian in the city, without preventing urban movement.

A hybrid city that doesn’t use Nature merely as a backdrop, or put it behind glass “for everyone’s good”, but is constructed with natural dynamics and management of nature’s life forms. I’m thinking of Michel Desvigne’s urban forests on the Saclay plateau, or the Serpentine Valley where we developed a wind-pollinating garden in British Columbia.

Finally, it’s a city that offers a large number of vistas away from the public concourses, inside the folds of the...
Different angles on social and urban change

Chapter 1

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Finally, it’s a city that offers a large number of vistas away from the public concourses, inside the folds of the urban fabric. A garden city chiselled out by brave architects in a combination of the latest technologies – biomimicry for instance – and the art of spatial arrangement. Rather than an architectural spectacle, I prefer an emotional architecture of the kind defined by the Mexican Luis Barragan, a foundation that stimulates the imaginary capacities from which life can spring.

What can we expect of technologies?

Technological and scientific advances are opening up new prospects for the future of cities. In terms of managing flows, increasing the fluidity of networks, information and real-time sharing (smart grids) but also in terms of urban ecology, hybrid construction, new materials inspired by “natural engineering”. An impressive range of tools is available and fosters creativity. New knowledge of vegetation engineering and the operation of ecosystemic environments are also great drivers of invention. Paradoxically, the crisis is revealing opportunities. In my view, all of this should be put to work to serve utopia, dreams, a gamble on the future of cities. Technologies are not an end in themselves. They are used to feed a project, a vision: not to settle it afterwards like a spare part, but to enhance the strategy envisaged, guide the project’s form and spatial quality. The Nakdong Estuary eco-centre in Korea, which won us an architectural prize, uses innovative building technology that will guide the peninsulas’ sedimentation and help to shape the moving banks of the migrating marshes. In Brussels, the linear garden project for partial coverage of the urban boulevards in the Petite Ceinture used vegetation engineering and water management technologies to cope with the depolluting of surface water.

I’m campaigning to roll out corridors of knowledge that can feed researchers and designers on the edges of ecological continuums.

What other pitfalls do you identify regarding the different views of the city of tomorrow that circulate in architectural and urbanistic discourses?

One of the dangers, as already explained, lies in the creation of ecologically safe bubbles, from districts housing 100 people to a micro-city of 500,000 inhabitants of the kind that are emerging today. They are reserved for an elite and feed thinking that is not far removed from the anti-humanist ecological movements. Another pitfall is surely the risk of a form of economic takeover of abandoned areas, which suddenly become breeding grounds for new urban paradises. To finance extension of a forest or an urban river-
bank, through private acquisition of land for example, the site can be affected by significant gentrification. In such cases the existing local population is pushed out to the margins of these new centres. The final pitfall is probably forgetting that the city is home to men and women who are all individuals with rich, varied personalities. An over-technicist vision in the name of ecology or socio-economic crises reduces people to mere quantifiable data. The individual comes to be seen as a consumer of air and water, a generator of waste. He is interchangeable, just one statistic among others, totally predictable. So the analyst can decide his fate for him and impose his own view of a better world, as illustrated in several science fiction novels since H.G. Wells. I think this danger deprives us of the incredible creative potential of each individual, and reflection on the future of cities suffers when the functionalist schema of the modern city is reproduced.

The situation we face today is very different from the mid 20th century. We’re living in a period of ecological finiteness, quantum physics, transhumanism and climate change. The models need to be reinvented in the footsteps of our forefathers. That’s the aim of the Fertile City.
Chapter 2

Real estate, innovation and businesses

Deep-seated change is afoot in the firm. The internationalization of economies, the speed of technological innovations, the rise of environmental issues, the effects of the financial crisis: all these factors are changing the way companies are organized and the constraints they operate under. This chapter aims to provide an overview of the social and economic mutations affecting the way businesses fit into the urban space and define their real estate strategy.
Contributors:

**Ghislain Grimm**
Associate director of Form’a, Paris

**Alain Crozier**
President of Microsoft France, Paris

**Olivier Estève**
Deputy Chief Executive Officer of Foncière des Régions, Paris

**Laurence Barthès**
Executive Vice President of Dassault Systèmes, Vélizy

**Frédéric Bleuse**
General Manager of Régus France

**Ger Baron**
CEO of Amsterdam Innovation Motor, Netherlands

**Rachel Picard**
General Manager of Gares & Connexions, Paris

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Chairman of the Plan Bâtiment Grenelle in France
New forms of work organization and business premises

The ITC (Information and Communication Technologies) boom and broader socio-economic changes have brought about the need for a new approach to office building projects: factors such as teleworking, high employee mobility and the demand for flexibility are all changing the face of the firm. These new trends mean workplaces must be planned in a completely new way. Through interviews with Ghislain Grimm of the consultancy Form’a, who works with corporate clients on their real estate projects, and Alain Crozier, President of Microsoft France whose new headquarters in Issy-les-Moulineaux on the south-west edge of Paris is a symbolic example of a real estate development for the new style of business organization, this section casts an eye over the groundswell that is transforming modern businesses and calling for new conceptions of office space, on several scales.

Interview: Ghislain Grimm
Associate director of Form’a, Paris

As associate director, Ghislain Grimm is in charge of Development Strategy at Form’a, an office property and design consultancy. Ghislain is an expert on brands, communications and new technologies as well as being passionate about architecture and design, and assisted Microsoft in planning its Campus at Issy-les-Moulineaux, which is recognized as a benchmark for modern work environments.

What are the major social and economic developments affecting business organization and the way office space is designed?

I would distinguish three exogenous factors that are transforming businesses completely. The first stems from the rise of Corporate Social Responsibility (CSR), which is modifying corporate organization. In terms of the buildings themselves, their fittings and layout, this is mainly reflected in an environmentally-friendly approach, but there’s more to CSR than this environmental dimension: companies also have social responsibility to the area around their offices. The company is part of a local ecosystem, and has to interact with it somehow. When major companies take their head offices to Saint-Denis just north of Paris, what value are they contributing to the local area? Do they create any jobs? Are the local populations included in the production of
value? In the case of headquarters located in business zones, there’s clearly a mismatch between the jobs offered by the company and local residents’ qualifications, but nonetheless the service facilities around office building locations generate a wide and varied range of employment. Using local firms in priority for catering and technical services, and involving them in the company’s strategic plans, is one way to breathe life into this local ecosystem. The company also has social responsibility to its own employees. Ideally, the corporate vision will be an integral part of social dialogue and should take into account the company’s objectives and strategy, including the level of involvement of social partners and staff in the actual construction of that vision.

The second fundamental factor of change for businesses relates to information and communication technologies, which as they advance are having a substantial impact on office buildings and design. Innovations in this field are generating a groundswell that’s only just beginning. Computerization of businesses began to develop in the 1980s. The first PC (for Personal Computer) arrived on the market in 1981, and with it the idea that every workstation should have its own computer. This was followed in the 1990s by the arrival of the internet and then computers got smaller and smaller, paving the way for the rise of mobile terminals in the 2000s. Today’s easily portable digital tools and the spread of on-the-move telecommunication use are some of the most powerful vectors for change in corporate organization: with the arrival of 4G and the development of ever-smaller, ever-smarter devices, we will soon have genuinely nomadic working tools via digital tablets, which will become standard equipment. In a revealing sign that the boundaries between work and personal life are blurring, these tablets, which were initially designed with en-

"Using local firms in priority for catering and technical services, and involving them in the company’s strategic plans, is one way to breathe life into this local ecosystem."

"Today’s easily portable digital tools and the spread of on-the-move telecommunication use are some of the most powerful vectors for change in corporate organization."

Telephone space at Nutricia’s head office.
Real estate, innovation and businesses

Chapter 2

tertainment in mind, are increasingly efficient at meeting work needs, especially when they include keyboards and above all thanks to the development of cloud computing - the capacity to store most data and work files on remote servers so they can be accessed by password via an interface that is identical from any terminal (computer, tablet, etc). Technological innovations are also making headway in collective areas such as meeting rooms and shared workspaces, through interactive smart boards or interactive meeting tables, as well as videoconferencing systems.

Team working has gained a new dimension through interactive tables, which are more than just screens to project displays from a tablet or laptop computer: they are a medium on which shared data can be manipulated by several people. And high-definition videoconferencing or “telepresence” offering users a life-size view of each other has revolutionized the experience of long-distance communication: the sound emanates from the same place as the speaker’s picture, so that after a few minutes the user is oblivious to the technology and you can almost forget that the other person is miles away. This total-immersion experience significantly improves the quality of discussions, and as a result meetings are shorter and more efficient.

"High-definition videoconferencing or “telepresence” offering users a life-size view of each other has revolutionized the experience of long-distance communication."

The third exogenous factor that is changing business as we know it concerns the need to face up to cultural diversity. All companies, even SMEs, are in a society where business is done on an international scale. The large players are growing more international and are either suppliers or customers of multinationals. L’Oréal, one of our clients, was very French culture-bound for a long time, but is now a multicultural group: it has marketing managers from Asia, and product managers who start their career in Brazil, then work in Canada before finally joining the head office in France. At L’Oréal’s world headquarters in Clichy next to Paris, even the French employees are surrounded by cultural diversity. Diversity in terms of the food available, and awareness of the coexistence of different ways of working in a meeting room are new requirements for improving efficiency. Several possible scenarios could result from this internationalization of business and workforces. A new international culture could emerge, but it has yet to be invented. What we’re seeing at the moment tends instead to be dominated by the Anglo-American model, although there is competition given the influence of the Indian, Chinese and Brazilian economies, which are sources of other cultural codes and could gradually become...
The cultural question is also raised by the diversity of corporate cultures: apart from technological innovations, competing companies such as Microsoft, Google and Apple are engaged in brand wars that also involve the promotion of a corporate culture. These brands need to stand apart, preserve a difference and build on their distinctive culture by retaining employees through adhesion, commitment, and values specific to the company.

Finally, the challenge of cultural diversity also concerns demographic changes, particularly the arrival of the new generations. Four generations coexist in today’s business environment, with different ways of working individually and collectively. Rather than setting them against each other we need to invent forms of organization that can accommodate this diversity. Eating habits are an enlightening example of cultural diversity issues: in France, we still have the model of the full meal followed by coffee in the company canteen at the traditional time, but in parallel we’re seeing more cafeterias open all day, selling faster but still well-balanced food, and that’s where you tend to find the employees from generation Y or people who share a foreign corporate culture.

What are the impacts of these major developments on work organization and the arrangement of office space?

The emergence of team working is affecting all companies regardless of culture, size and sector. The extent of the phenomenon varies according to the sector, but nowadays team working is overtaking the very linear, very individual mode of production in every company. The typical working day is becoming much less traditionally structured: it involves a larger number of more varied work sessions and more unscheduled time. The day is punctuated by countless moments of interaction, in many different forms: the ritual coffee break and informal chat followed by email exchanges then a scheduled meeting, and afterwards an impromptu micro-meeting with a colleague you bumped into in the corridor. Lunch can take any of several forms: the canteen meal, the business lunch, delivery to the office or just grabbing a sandwich. It might be followed by a videoconference, a mobile phone conversation, etc. The diversity of “sessions” means that the employee accomplishes a large number of tasks and micro-tasks during his day, most of which were not scheduled in advance.

These evolutions are accompanied by a strong demand for rapid reactions and permanent connectivity. You have to be able to respond fast and get hold of...
information immediately. Technical developments are both meeting and reinforcing this demand.

Flexibility is another necessity that influences the conception of real estate projects: we can no longer assume that the organization structure will be the same five years down the line. The challenge faced today is how to plan space not only to suit the hierarchy, but also in “project mode”.

In parallel to teamwork and its new organization, new ways of working individually form one of the essential factors for change in conception of business premises. Individual work is increasingly being done away from the office and in several different forms: teleworking under a fixed-hours contract is a minority practice, but the phenomenon of nomadic working and flexibility is gaining ground. With the spread of these less rigid forms of teleworking comes a need to move towards a trust-based performance culture. Not all companies are ready to take the plunge, but a growing number of large groups are beginning to take stock of their experience with teleworking and highlight the advantages for the business: better concentration for individual work, employee wellbeing and efficiency because the shorter commuting time reduces fatigue by allowing workers to sleep longer, and lower real estate costs.

Work environment design has also been influenced in France by legislative and regulatory constraints, particularly the introduction of preventive measures to guard against psycho-social risks. In France, a concern for quality of life in the workplace has become an obligation in response to some extreme situations of stress and even suicide at work, but it is also driven by practices from Scandinavian countries, who are more attentive to atmosphere and wellbeing in the workplace through an overall outlook that incorporates questions of office planning (design, ergonomics, space, air and light quality, etc) along with questions of management. In Scandinavia, wellbeing at work is not simply a medical matter; their attention to quality of life means they see rest and social areas as essential not only for the employees, but also for the company’s productivity and overall performance. This is not a widely-shared approach in French business culture, where there are often fears that actual working time will decline with the spread of cafeterias and other social spaces. Nonetheless an office building model is emerging that is narrowing the contrast between office and home, seeking to create a warmer, less impersonal universe by choosing fabrics, colours and shapes that are closer to the domestic world, and it is becoming increasingly common to see sofas at the office. For its Evergreen campus at Montrouge just south of Paris, Crédit Agricole actually hired an interior designer to fit out the social areas on each floor, and he planned the project in conjunction with the teams who would use those areas. The last striking aspect of change in office buildings and planning is that

- 36% of the working population work from home at least once a week (Study by WITE 2.0, July 2012)
companies are very keen to stamp their own culture and identify on their real estate project. This is reflected both in the thought given to location, particularly for the head office, and the architectural design and fit-out of the buildings themselves.

**What objectives must a real estate project meet to adapt to these changes? What models do you see emerging?**

The real estate project must convey strength and vision. General management is beginning to take a closer interest in real estate projects, not only in order to cut costs (by moving to cheaper locations) but also as regards the projects’ significance for the company. For a group like SFR, locating all its personnel on a single site at Saint Denis north of Paris is not simply a way of rationalizing the real estate portfolio and thereby reducing costs; it has meaning for clients, shareholders, etc. This obliges the executive committee to outline a vision of the project that goes beyond highly technical, rational and financial corporate objectives. This approach is more widespread in northern Europe and, so far, only in its infancy in France.

For a group seeking better results, productivity gains and innovation, a real estate project that brings all employees together under the same roof can be a powerful symbol if, for instance, it takes the business out of a silo structure to more cross-functional approaches to work. The layout may be designed to bring down hierarchical barriers, both physical and visual. Of course, cost-cutting is still often one of the aims, but such projects require commitment from each individual, and this can be achieved by having the objective of reinvesting savings generated by the real estate project into innovation. Knowing what the budget savings will be used for is a significant motivation factor.

The growing portion of collective areas is a major trend in workplace planning. All interior layouts today include a large share of space for collective, flexible uses: social and relaxation areas,

"For its *Evergreen* campus at Montrouge just south of Paris, Crédit Agricole actually hired an interior designer to fit out the social interaction areas on each floor, and he planned the project in conjunction with the teams who would use those areas."
service facilities (concierge services, gym, different types of restaurant, etc). Areas for group work are also becoming more important: meeting rooms and modular project rooms that can be quickly and easily rearranged for different uses.

As cloud computing opens up new possibilities, another conceivable model for business premises is the hub-based operation. The head office is both the company’s official embodiment and its nerve centre or hub, with permanently connected satellite offices and individual workplaces (including the home) offering additional working areas. The hub is connected not only to teleworking personnel, but also to the customers and suppliers belonging to its network. The company of tomorrow, with a hub closely connected to the outside world and the extended company, will enable employees to access the same functions in places away from the office (home, telework centres, “third places”). The development of mobile technologies and cloud computing means that the main reason for going to the office is becoming the need to keep up social links with co-workers, in order to stay in the loop. The hub thus needs to offer collective social spaces that encourage interaction and, as far as possible, embody a corporate identity and culture whilst providing rare technologies such as videoconferencing rooms.

To complement these hubs, other types of working environment are on the rise, such as third places or coworking spaces. “Third places” are spaces that capitalize on large flows

"The company of tomorrow, with a hub closely connected to the outside world and the extended company, will enable employees to access the same functions in places away from the office."
of people transiting through areas that are not dedicated to work (airports, stations, etc), where a working space can be created (such as the dedicated areas in Paris Airports or Eurostar’s Business Lounges). Coworking spaces are offices designed for shared use, for variable durations ranging from a few hours to a few months. If corporate real estate strategies are to help consolidate models of socially, economically and environmentally sustainable cities that are pleasant to live in, it is important that they should be coherent with the aim of preserving or strengthening the multi-usage nature of the areas in which companies locate their offices, and that aim should be held by all actors. More and more companies are coming to share the aspiration of integrating businesses into lively urban areas that offer diversified facilities and have good transport connections. To prevent certain areas becoming office ghettos devoid of shops or services, some towns like Sceaux to the south of Paris have offered shopkeepers incentives to adjust their opening times to suit office workers’ habits, with parcel pick-up points in certain places or extended hours for services such as post offices, dry cleaners etc. The firm is clearly being transformed by social mutations. It can be a vector for solutions to the problems of energy wastage and fatigue associated with commuting. These solutions will involve work organization models that require cultural shifts towards greater trust in the employee’s capacity for self-motivation.
Interview: Alain Crozier
President of Microsoft France, Paris

Alain Crozier joined Microsoft in 1994 and has been President of Microsoft France since July 2012. He participates in preparation of corporate change projects in this field with very short innovation cycles, where processes must constantly be adapted to new activities. In this interview, Alain Crozier shows the importance of the business environment in managing change.

Which factors drive decisions regarding the choice of buildings and employee facilities at Microsoft’s international subsidiaries, particularly in France, at Issy-les-Moulineaux south-east of Paris?

Microsoft currently has around 94,000 employees, including 40% outside the US. They work at more than 640 sites in some hundred countries across all five continents, which means more than three million square metres of office space. We own about a hundred sites, mostly concentrated around the head office campus near Seattle in the US, which is used by a workforce of over 40,000.

All our offices, like the 34,000 m² Issy-les-Moulineaux site which accommodates the 1,700 employees of Microsoft France, Microsoft EMEA and Microsoft R&D France, meet simple objectives: to favour a local presence as close as possible to our “ecosystem” (customers, partners, but also public institutions, research centres, schools and universities, associations) to serve innovation, to be open and accessible, and to promote the emergence of new ways of working (communication, team working) as factors of efficiency and wellbeing.

What new ways of working related to new technologies and the demands of sustainable development do you see emerging in the future?

New ways of working are central to development of Microsoft’s vision for business, which we call the “New World of Work”. The practice of working in teams (inside and between companies) is spreading, communications are standardizing (convergence between telephone communications, instant messaging, audio and videoconferencing, etc), workspaces are shared and virtual, connected to the company’s social networks, and mobility (inside and between companies) is becoming possible for everyone, thanks to cloud computing that makes data accessible from every digital device (smart-
Microsoft is of course committed to sustainable development, as reflected in its choice of buildings that are energy-efficient but also encourage new eco-friendly behaviours: waste recycling, “soft” transport modes (bicycles, electric shuttle buses), videoconferencing to avoid unnecessary business travel.

This commitment is also applied to datacentres: the centres operated by Microsoft reach the most exacting standards of low energy use. We also conduct innovative experiments, such as our participation in IssyGrid, a system of “smart grids” for electricity distribution in a district of Issy-les-Moulineaux (see interview with André Santini in the third chapter).

Microsoft is a firmly international company, and has been right from the start. The French subsidiary was opened in 1983, just eight years after Microsoft Corporation was founded in the US with a “glocal” strategy: “Think Global, Act Local”.

In terms of office location, fit-out and sustainable development, the general principles are set at international level but each country adapts them. In the Netherlands for example, no offices or desks will be attributed at the Schipol head office, as team working and working from home are particularly predominant there. In France, the emphasis is on being open to the outside world (15% of our surface is reserved for the 100,000 visitors who come to the campus each year), but also on the diversity of eating areas so specific to French culture!

**Can each subsidiary freely adapt its location and office fit-out to its own culture? Could you give us any examples?**

Members of generation Y, or the “digital native” generation that is now arriving in the workplace, expect their company to have the most advanced technologies that they use every day in their personal lives (very high-speed internet, tablets, smartphones, social networks).

This is a challenge for the IT director, who must facilitate access to and use of these new technologies for everyone in the company.

**Are the new generations’ expectations a factor you take into consideration, and how? Do you observe that the work environment can enhance a company’s appeal to young people?**
#### Diversity of real estate strategies

The constraints applicable to businesses lead them to adopt a wide range of real estate strategies. For both location and office type, real estate decision criteria vary according to a set of parameters that companies are obliged to take on board. Through an interview with Olivier Estève from Foncière des Régions, who assists businesses in their real estate projects, and the viewpoint of Laurence Barthès who explains Dassault’s choice of a business campus, this section puts the office decisions of both large and small companies into perspective against the background of recent urban developments.

### Interview: Olivier Estève

**Deputy Chief Executive Officer of Foncière des Régions, Paris**

Foncière des Régions works with businesses to define their real estate strategy and to supervise their projects. In this interview, Olivier Estève, who assisted Dassault Systèmes with the conception of its business campus at Vélizy close to Paris, reviews the diversity of these real estate strategies in relation to both the wide range of corporate visions and recent social and urban changes.

**What social and urban mutations do you see affecting businesses?**

The main changes observed in the urban space concern the spread of towns and cities, particularly in the Paris region; residential areas are moving further and further out, resulting in congestion on the roads and other transport networks. We’re now seeing a new trend towards mixed-use urban spaces on a local scale, with concentration around transport hubs. These factors will have very significant consequences for companies and their real estate policies. Twenty years ago the criteria for choosing an office location were economic or related to the company’s business and field of interaction. Nowadays, the choice of a location also incorporates consideration of where all the workers may be coming from and how they will travel. Higher land and property prices in city centres also play a role in the way corporate real estate strategies are evolving. Comparison of the prices in the central business district of Paris and the city’s inner and outer suburbs shows that the gap has widened. That’s not only true for the Paris region, but also for France’s major provincial cities. And the high density in the central areas restricts building options: it’s dif-
The model has shifted towards concentration in major economic poles, grouping teams or different divisions together in a trend towards sharing of several central services.

Which social evolutions also influence the real estate and planning choices of firms?

Turning to the social changes that have had an influence on corporate locations and real estate choices, the younger generations’ relationship with the firm is visibly different: you no longer join a company “as if you were entering a religious order”, intending to spend your whole career and life there. At least in France, more importance is being placed on quality of life, personal and non-work-related activities, particularly with the shortening of the official working week. The workspace needs to evolve, offering greater flexibility and allowing more permeable boundaries between personal time and work time (lifestyle services, gym facilities, etc).

Businesses are having to take all these developments into consideration in their real estate policy. The growing demand for competitiveness in a context of increasingly fierce international competition is another constraint for companies when defining their real estate strategy.

How are businesses adjusting their real estate strategy in response to these social and urban mutations?

Large companies are giving priority to real estate strategies that bring employees together and reduce the number of locations, for reasons to do with both cost-cutting and management: the aim is to get teams working together. Many companies have moved from a multi-site structure to just two or three sites: one example is Thales, for whom we oversaw an operation in Vélizy to the south-west of Paris. About fifteen years ago it had several large sites throughout the Paris region, but it’s now mostly concentrated in the north at Gennevilliers and the west at Vélizy. As well as wanting to reduce real estate costs and reorganize teams (mixing sales/marketing/R&D, etc), another strong motivation is the desire to have modern office buildings that offer users greater...
comfort, greater flexibility, and greater efficiency. Modern buildings are also more energy-efficient. And as the Thales case clearly illustrates, the decision to have three different locations, in the north, the south-west and the south-east, means employees’ home locations can be taken into consideration. This real estate strategy was intended to satisfy as many people as possible while also rationalizing real estate costs and increasing efficiency. The problem of congested roads is leading businesses, especially the larger ones with the means to choose, to put their offices in places with excellent public transport connections. This is particularly true in Paris and the greater Paris area, and we will certainly see more development in the best-connected zones, but it’s also true in other major cities. The idea is virtuous in terms of reducing greenhouse gas emissions, but it’s also beneficial for

User comfort, quality of life and quality of work relations are considered vital ingredients for corporate competitiveness. We note that businesses are prepared to make a financial effort for their office facilities and interiors. Some would rather pay a slightly lower rent so they can put more into the building’s fit-out or technical aspects than seek to stay in outdated central Paris buildings at all costs. All companies now acknowledge that the efficiency of an organization is undeniably associated with its buildings and spatial

"One strong motivation is the desire to have modern office buildings, because they offer users greater comfort, greater flexibility, and greater efficiency – and are also more energy-efficient."
teams and office occupation are organized, and vice versa. This is what makes turnkey solutions so attractive. Some companies come to us to develop a “tailored” real estate project that matches their requirements exact. This is what we are doing with Thales and Dassault Systèmes in Vélizy (see interview with Laurence Barthès) and with EDF in Clermont-Ferrand and Avignon. With their quality reputation, these companies can attract investors provided they’re willing to engage in a partnership-type approach. But of course not all companies have reached that stage yet. In parallel to the tailored approach, “future-proofing” is increasingly essential in a real estate project. Among the social changes affecting businesses, we can add that economic cycles are much shorter nowadays and technologies (especially information technologies) have considerably accelerated the pace of change. Businesses need to adjust much faster. A move to new offices is often an opportunity to take a leap into change. It is very unsettling for the company, taking up energy and involving the entire personnel. It’s an operation that can take two to three years in the pipeline.

"User comfort, quality of life and quality of work relations are considered vital ingredients for corporate competitiveness."

In view of the faster economic cycles, how do large companies incorporate future-proofing into their real estate project?

It’s a major challenge, but fortunately workforce sizes don’t vary that much or that fast. Some companies have a structurally shrinking workforce: mainly industrial, high-tech, and telecommunications companies because their sector has been changed by technological developments. Nowadays they manage this by moving. In a regional
city for example, a company can make five-year workforce plans and scale its building according to the smaller numbers forecast in five years' time. To meet office requirements in the intervening five years, they rent additional space that can easily be vacated later. Companies always tend to take on the surface needed immediately or in the medium term, and room for growth is provided by renting additional surfaces for more ad-hoc requirements. On the other hand, some companies like Dassault Systèmes are in a significant dynamic of expansion. So in preparation for workforce growth, we negotiated with them to include an extension option from the outset, and the decision to locate their campus in Vélizy was also driven by the availability of land next to the campus. Close to the four customized buildings erected for their head office, we’ve reserved a potential surface for them over a very long term (10 or 15 years).

**What about small and medium-sized companies’ real estate strategy?**

Overall, small companies have the same aspirations as large companies, but having more limited resources they tend to follow trends rather than set them. SMEs rarely use specialist real estate services and don’t have internal real estate departments, whereas large companies have permanent dedicated teams for their real estate plans and management. They are rarely pioneers in the emergence of business zones in the inner or outer suburbs. But that doesn’t mean they don’t have a strategy: they are interested in more efficient buildings. SMEs are generally found in zones that already have a significant office market, with a transport hub, range of services, catering, etc. These zones offer SMEs services they could not afford to fund on their own. A large company like Renault, setting up its Technocentre at Saint-Quentin-en-Yvelines in the outer Paris suburbs, has the resources to create what is effectively a little town: there are banks, hairdressers, a travel agency, etc. A medium-sized company won’t be able to attract that level of services into a new zone, so it moves into places where it can benefit from those facilities thanks to the presence of other companies that are strong enough to attract them. Also, SMEs tend to prefer locations close to their customers. When you look at the La Défense business district in Paris, it’s a mixture of very large companies and a lot of SMEs, often subcontractors to the same large companies. Being at La Défense puts them very close to many of their customers. So that’s the general trend observed for small and medium-sized companies, but you do sometimes see a manager or company with a slightly more dynamic vision undertaking their own real estate operation, provided the company is big enough. Such projects are often driven by asset-building: the managers concerned are investing in property and include the company in their investment. Most of their buildings are of good quality and perfectly suited to the company’s aspirations and needs.

**What are the recent innovations in office buildings?**

Over the last five years, the greatest advances have undeniably pertained
to the search for energy saving and energy efficiency in buildings. Innovation is mostly found in the “active” dimension (air conditioning, heating, and lighting systems, with the rise of low-energy light bulbs and presence detectors that adjust lighting levels according to the available natural light). Automation of Building Management Systems (BMS) has also progressed in leaps and bounds. The techniques of BMS, and Technical Control Centres, have been around for a long time but were often restricted to just a few functions such as security, fire safety and aircon control. They are now spreading to more functions (lighting in particular, as mentioned) and above all becoming “smarter” through multi-sensor captors connected to software systems able to interpret and respond to changes in the building’s heartbeat. As building management systems become increasingly technical a human resources problem arises, because the people running the systems need a higher and higher level of skills. The other aspect that has seen significant innovation is building design and the choice of materials, in other words the “passive” dimension of buildings’ energy performance, which depends on work with architects. Efforts have been made to regulate solar energy input and levels of cold temperatures. In short attention is being paid to the building’s exterior, insulation (external insulation, double-skin façades, “breathing” façades, etc), and the balance between glass (transparent or opaque) and wall.

"The greatest advances have undeniably concerned the search for energy saving and energy efficiency in buildings."

Which factors fostered emergence of these innovations?

Driving all these changes and innovations is the fact that businesses are looking for better-quality, but above all cheaper buildings. Property builders,
investors like ourselves and all professionals involved in the construction industry have been obliged to work on finding solutions, just like the automobile industry which is now making much more efficient, much cheaper cars. When France’s Grenelle environmental roundtables were first announced a few years ago, there were wild predictions of costs rising by 5%, 10% or 15%. We realize today that it’s perfectly feasible to have a low-consumption or high environmental quality building for substantially the same cost as we used to pay for a standard building, thanks to architectural adjustments on materials and techniques. And we’re seeing that air conditioning, for instance, which looked like a cure-all solution not long ago, is sometimes losing favour as the focus shifts to work on reducing external heat input. This is a sign that things are changing, and so are people’s attitudes.

"The common factor in campus-style and tower block offices is their capacity to accommodate a large number of people in the same place. The major difference between the two is the land surface used."

The business campus model is becoming more and more popular with large companies seeking a pleasant working environment that fosters cooperation between employees. What are the specificities of this model compared to the tower block model?

The common factor in campus-style and tower block offices is their capacity to accommodate a large number of people in the same place: a single location can provide offices for 2,000 to 3,000 employees. This is something many large companies are interested in. The major difference between the two is the land surface used: a tower uses up little urban space, and perhaps counter-intuitively, its small footprint is extremely efficient in sustainable development terms. It leaves more room for external landscaping and means transport and other infrastructures can be concentrated on a much smaller site. A campus, in contrast, needs more space. In using the term you need to distinguish between the buildings themselves (and a building is sometimes called a “campus”, like Microsoft’s head office in Issy-les-Moulineaux; see interviews with Ghislain Grimm and Alain Crozier), which are organized internally along the same lines as university buildings with social spaces, cafeterias, libraries, quiet areas for individual work; and the campus itself, which is the carefully-planned ensemble of buildings and outdoor spaces. Like the model applied in the projects developed for Dassault Systèmes and Thales in Vélizy, these campuses are located in the inner or outer Paris suburbs with slightly lower density, where the advantage of overall site design is that it can accommodate a large number of employees in a high-quality envi-

"As there is no available market for campuses, they are often developed in turnkey projects as new builds and therefore more efficient operations."

The business campus meets the aim of making savings in a difficult eco-

| 2000 to 3000 | the number of workers who can be accommodated in a tower block or campus-style office. |
nomic climate, and achieving a more horizontal organization of work. As there is no available market for campuses, they are often developed in turnkey projects as new builds and therefore more efficient operations. Nonetheless, the tower block retains its appeal, particularly for service companies that need a more urban location.

What are the specificities of tower block offices as regards environmental constraints?

For tower blocks, improving energy efficiency means renovation. We were among the first to do this, when we totally restructured the CB21 tower at La Défense with Suez Environnement. The renovated tower was awarded a “good” BREEAM assessment and the Haute Qualité Environnementale Exploitation label. We conducted a very ambitious program of works. For example, the entire facade was changed, and technical facilities were reviewed and replaced. Most of the older towers are less efficient, even after renovation. Recently-built towers are still expensive. It remains – naturally – difficult to save on security for instance, even through the gap between a tower block and a standard office block is much narrower.

A tower block is an extraordinary conveyor of image: it’s a highly visible architectural object that reflects the company’s power, and takes on its full meaning in the highest-density areas.

"A tower block is an extraordinary conveyor of image: it’s a highly visible architectural object that reflects the company’s power, and takes on its full meaning in the highest-density areas."

There will always be companies interested in this type of premises, which places them very close to the centre of Paris. La Défense is a high-rise district par excellence as well as Europe’s largest transport hub, to be reinforced further by the arrival of the western branch of Paris’ RER express transit...
system and future connections to Charles de Gaulle airport. The area is certainly not about to lose its appeal, especially internationally, but the tower block model is bound to evolve towards joint occupation by several different companies. Often, these districts are showcases for architectural and technical innovation. And the view from offices on the upper floors will always be a special feature of this architectural model.
**Viewpoint: Laurence Barthès on the Campus office model**

Executive Vice President of Dassault Systèmes, Vélizy

As Executive Vice President and CPIO (Chief People & Information Officer), Laurence Barthès is participating in the achievement of Dassault Systèmes’ (3DS) vision for the future, working with all employees on this corporate project. In 2008, Dassault Systèmes moved all its workers in the Paris region, previously located across eleven different sites, to its new business campus (the **3DS Paris Campus**) at Vélizy in the outer Paris suburbs. In this interview Laurence Barthès looks back at the reasons for this move, and the resulting changes in working method organization.

**What were Dassault Systèmes’ reasons for establishing a business campus?**

At the time we were considering creating this campus, we needed extra space because we’re always expanding, but more importantly, we seized the opportunity offered by these real estate considerations to rethink our identity and the way we work. We wanted to offer employees an efficient, agreeable work environment that would bring all our 10,000 members worldwide closer – physically or virtually – and stimulate collaboration. The opening of the campus in 2008 coincided with introduction of a social innovation platform, 3DSwYm, focusing on project and skill communities for interaction between all employees. These two spaces – physical and virtual – were part of the orientation of the corporate vision to 2020. Our new campus and innovation platform have stepped up the pace of innovation in the group, by incorporating technological and human dimensions and enabling every employee to participate in the corporate innovation process.

**What changes in working practices have you observed since moving to the campus?**

With all our teams on the same 65,000 m² campus, we have a much more effective environment for coworking and management than before: facilities include a 300-seat amphitheatre, a virtual reality room, a telepresence room, several video-conferencing rooms, and a travellers’ lounge offering private areas complete with showers for customers, partners and visiting Dassault personnel from abroad. After this experience in France, we created a similar campus in the US (3DS Boston Campus) for all of the 850 employees in the region. Here again, through a combination of the campus approach and the 3DSwYm social innovation platform, we’ve been
able to strengthen global collaboration throughout the group, occupy an appropriate place for our own ecosystem and interact more effectively in an environment where emotional unstructured dimensions coexist with rational, structured dimensions.

Our 3DS Campuses are designed to encourage formal and informal encounters. Teleworking isn’t encouraged in our group, because we believe it restricts the depth of interaction.

What facilities make the campus a real community?

Our 3DS Campuses are unique places to learn and be creative together, and we intentionally made them pleasant environments in order to stimulate individual and collective energies. A range of services are provided for employee wellbeing: a gym, a music room, concierge services with private post management, gift purchasing, dry cleaners, car wash, etc. The nearby forest, bicycle loan service, and on-campus sports facilities encourage physical activity and reinforce social contact between company members.

These spaces can be used for new types of event such as lectures on various themes in the amphitheatre. This year 750 children of our employees came to the 3DS Paris Campus to find out about their parents’ company through our “3D” activities.

When we decided to move to Vélizy, which is to the south of Paris, a new tram service was due to run to the campus by the time it opened, but there have been delays and the line still isn’t finished. Through the 3DSwYm platform, employees have become proactive seekers and providers of travel solutions, for example dynamic car sharing: anyone can offer or request a place in a car just a few minutes before leaving the campus.

What were the criteria for choosing Vélizy rather than another location?

Several sites were considered, and it was the equation of a range of parameters that ruled out certain options. Of course, available land surface was an important criterion, but it wasn’t the only reason for the choice of location. We conducted a study of our

84%

the percentage of office workers for whom quality of life in the workplace depends on human relations. (Actinéo survey, 2011).
employees’ geographical positioning, and Vélizy met the accessibility requirement. The fact that it’s close to technology firms, innovation clusters, top higher education establishments and the research centres of the Plateau de Saclay area was another advantage, as it facilitates synergies.

Contacts were also established with local businesses on matters to do with the area’s infrastructures, especially transport facilities, a question that mobilizes all the companies in the region. We also established contacts with peers in other companies to discuss topics related to our business activities.
New workspaces

“Third places”, coworking areas, shared offices: with mobility on the rise and the spread of tools that facilitate a nomadic working life, new types of workspaces are appearing to meet new needs. These emerging workspaces follow a wide range of different economic models and have become an integral part of corporate real estate strategies right across the board, from very small businesses to the major groups. The watchword for all of them is flexibility.

Interview: Frédéric Bleuse
General Manager of Regus France

Regus is an international group that provides flexible serviced workspaces (renting offices, meeting rooms, conference rooms and videoconference rooms) to give businesses more flexibility by closely adjusting their use of space to their office needs. In this interview Frédéric Bleuse, general manager of Regus France, gives us his thoughts on changes in ways of working and the urban constraints affecting the business environment.

Regus already has a long history. Can you tell us about the evolutions in your business from the perspective of the social and urban changes that have marked the group’s 20 years of existence?

We’ve just celebrated our French division’s twentieth anniversary. The group itself has existed for 23 years and now has operations in 95 countries, managing approximately 1,200 sites on all the continents. In France, 58 sites have been opened in France and Monaco in twenty years, 40 in Paris and the rest in the provinces.

Initially, our offices were restricted to city centre and business district locations. Gradually we came to realize that the time lost in commuting, which has a cost and reduces employee productivity, was a good reason to create workplaces nearer to our clients’ employees’ homes. As a result, many of our new sites are being opened outside city centres and business districts. We are now focusing our attention on locations that are as close as possible to the homes of workers and entrepreneurs, near communication hubs. For instance, we’re trying to position our facilities near, and soon inside,
train stations (such as the Gare de Lyon in Paris, or near Nantes station). There is greater demand for such sites because of the concentration of flows, but also because they are actually ideal office locations for cutting travel time: if you travel from the Paris suburbs to the Gare Saint Lazare in Paris in the morning, you can then stay and work there instead of having to spend a further half-hour in the metro to get to and from the office every morning and evening. So we’re going to be moving towards a positioning no longer solely based on business districts, which are also very expensive, but more often in the inner and outer suburbs, to provide facilities for teleworkers who would like to work away from home one or two days a week.

This approach requires very dense coverage, especially in large cities. In fact we currently have a trial motorway service area location on the A10 in the Essonne region, south of Paris. We’re also planning to open our first site in Le Mans train station, just 55 minutes from Paris by high-speed train, so that people who commute every day from Le Mans – and there are plenty of them – can work in their own town one or two days a week and avoid two hours of travel. The positive externalities of time saved in this way are significant. Studies have shown that the time is transferred to other activities as follows: generally, one third of the time saved is used to spend more time with the family, another third gives more time to sleep, and the final third is filled with more work. So it’s a virtuous cycle for all actors, particularly as it generates substantial savings and also helps to cut greenhouse gas emissions.

The idea is to make employees, especially senior employees, more efficient at work by limiting avoidable travel and making optimum use of “slack” time. Between two meetings, between a train journey and a meeting, our business lounges provide a place where people can work for half an hour, an hour or two… Senior employees and entrepreneurs are snowed under with work, and whatever doesn’t get done during the day will be done in the evening, at weekends or during the holidays, which makes a good work/life balance more elusive. We conducted a survey last June which showed that 58% of senior employees went to work during their holidays, 4% of them for more than three hours a day.

The structure of a working day has been overturned by the importance of ITCs, especially phones and emails. It’s becoming very difficult to plan your day in advance and set aside time to concentrate seriously on work. Every four or five minutes some new information arrives by email, or the intended schedule is disturbed by some micro-event (phone call or someone knocking at the door). The demand for an immediate response has intensified with the spread of smartphones and constant availability by email. But just because you can receive information doesn’t mean you can easily process it from anywhere, or via smartphone. That’s why we provide our clients with serviced office space where they can do their work in a proper business environment. If my emails arrive while I’m in the metro or train, or in a shop, I may need a space designed for work, close to wherever it is I am, to deal with that information.

Hence the importance of covering the greatest area possible. We have close to 60 sites in France, but we still need to develop a denser network. Following on from our experiment in the Essonne, we are planning to open 25 facilities in motorway service areas around a large German city. We don’t want to have too many sites right next to each other in a single business zone: that wouldn’t make any sense economically, because over-density always carries a risk of canniba-
lization. On the contrary, the idea is to increase the number of different locations for greater flexibility of access to our services, and those services must always be innovative.

**What makes the services offered by Regus innovative?**

Our core principle is the flexibility of our clients’ businesses. The basic idea is quite simply to help companies adjust their real estate charges to match developments in their business, or their order book. It’s well-known that when a company commits itself to a 6-year or 9-year lease, the amount of office space will no longer be suitable for its business needs after just two years. Our own business has expanded in line with the frequency and speed of corporate splits, groups and mergers. Real estate managers are finding it very difficult to strike the right balance between real estate resources, operational requirements and budget constraints. So we help those companies to adjust their office budget by finding the right long-term balance between requirements, space and location; for a firm located in Paris’ 8th arrondissement, the central business district, and wanting to reduce its budget, we would for example propose other locations such as Boulogne-Billancourt touching the west edge of Paris, or the eastern districts of Paris. Our clients include SMEs and very small businesses, as well as very large groups; they use our offices as their head office or as secondary premises, outside Paris and even in other countries, because they are attracted by our very flexible leases.

"Our core principle is the flexibility of our clients’ businesses. The basic idea is quite simply to help companies adjust their real estate charges to match developments in their business, or their order book."

We also offer “drop-in” access to workspaces, and the layout of those facilities has changed over our twenty years of...
existence. In the late 1990s the dominant workspace model was still individual offices. Large open-plan offices then became more common. Nowadays, we’re seeing the emergence of coworking spaces or business lounges. So that’s the type of space we’re developing in response to client demand: increasingly, 

"Individual space has been reduced, making more room for group spaces." 

clients come in for very short periods (less than an hour to just a few hours). We now sell one-off access to business lounges for prices starting from five euros. So we’re a long way from the commercial lease for the occupation of a certain amount of square metres. Alongside our regular users, who for

35 euros a month have unlimited access to our business lounges in Paris where they can have a coffee, pick up a newspaper and work in an area with wifi connections, some clients use our facilities very occasionally for just ten minutes or a few hours. We sell office time by the hour, like telephone cards were sold 15 years ago. The clients concerned tend to be freelancers, start-up companies, or else large groups who send their travelling reps to our sites.

Do you intend to standardize the internal layout of your sites?

Yes, it’s a necessity, but we also think in terms of category of space: business lounge, coworking area, individual workspace, etc. We opened different sites at
different periods, and in that time design has evolved, office furniture has changed. Ten years ago, our offices had larger desks, quite simply because desktop computers were quite an imposing size, with a central processor and a screen. There was generally one printer per desk, which is no longer the case today because printing needs are different now. So individual space has been reduced, making more room for group spaces. There’s more sharing of spaces, but also of desktop computers, because people don’t store confidential files on them any more.

We’re also experimenting with business lounge-type open spaces that also offer individual cabins for better concentration. Our Thinkpods are semi-open cabins where you are separated from your surroundings by 1.5m partitions but still remain close to other workers. The people around you can’t see what you’re doing and you can get on with your work efficiently. The soundproofing is surprisingly good: if you speak softly, you can have a telephone conversation without disturbing the others around you. We’re also going to develop completely closed cabins that can be set up anywhere, on station concourses for example.
The Dutch Smart Work Centers experiment, as seen by Ger Baron
CEO of Amsterdam Innovation Motor, Netherlands

At Amsterdam Innovation Motor, an agency set up to promote innovation in the city of Amsterdam, Ger Baron is responsible for a number of ‘Living Labs’ projects involving experiments conducted in partnership with several public and private actors, local people, etc. He is a leading figure in urban innovation for the city of Amsterdam, particularly through his role as manager of the Amsterdam Smart City project. In this interview, he tells us about the Smart Work Centers project to develop a network of shared workplaces on a citywide scale.

What was the thinking behind the Smart Work Centers project?

In 2007, we started thinking about the need to respond to the rapid changes in ways of working. People are starting to work at home, but homes, or at least some homes, are not always suitable as workplaces. We identified a need for a third place to work where it’s possible to concentrate and interact with other people, but closer to the home than the office.

“We identified a need for a third place to work where it’s possible to concentrate and interact with other people, but closer to the home than the office.”

The city of Amsterdam’s objective was to cut CO2 emissions from commuting, but also, as an employer of some 15,000 public sector workers, to cut real estate costs.

What were the stages of the project?

The first stage was to organize a meeting where a few people looked at a map of the city and identified appropriate places to set up shared workplaces known as Smart Work Centers. In 2008, the mayor of Almere, a small town about 20 km from Amsterdam, opened the first Smart Work Center developed by Cisco, which provided the basis for broader reflection on new ways of working and how to co-share offices and the related facilities.

What did you learn from this pilot experiment?

We realized the importance of basing our approach on user experience and needs, to design places people really want to work in. The mistake we made with the first Smart Work Center, which contrary to expectations was not a success, was putting it next to a motorway interchange: although that attracted traffic because it has lots of restaurants where businesses can
meet, it meant people had to come by car. Well, once you’re settled in a comfortable car, why not simply carry on to the office? We had been thinking in terms of traffic density, with the idea of cutting traffic jams by setting up Smart Work Centers in secondary areas that that would catalyse flows.

"Good coverage of the area is one of the key factors in the current success of the Smart Work Centers."

With that first experiment under our belt, our next objective was to develop a dense network of Smart Work Centers accessible to everyone by bike. Today we have over 120 Smart Work Centers across the city. This good coverage is one of the key factors in the current success of the Smart Work Centers. Another was that the City of Amsterdam brought in a quality label system for Smart Work Centers based on the following criteria: infrastructure quality, connectivity, assistance services for users, etc. The 100 Smart Work Centers that have gained this label, called Double U, offer very varied work environments, from the classic to the very informal, so they can meet a diverse range of user expectations in terms of workplace atmosphere. In short, the success of the Amsterdam experiment is basically due to the accessibility of the Smart Work Centers, both geographically and in terms of easy access: the city is currently experimenting with a system for paperless check-in at any Smart Work Center, with automatic invoicing of the employer.

The effects of establishing the Smart Work Centers can already been seen in the local economy. Gradually, restaurants and all sorts of services are being opened around the Smart Work Centers to serve their users. This local economic success also relates to the fact the Smart Work Center users have decent incomes. Many of them are entrepreneurs.

The centres’ success has also helped to develop local communities, since the people who go to the Smart Work Centers come from the surrounding neighbourhood and can thus build up longer-term relationships as nearby residents.

Has development of the Smart Work Centers reduced car traffic?

Overall, traffic in the City of Amsterdam has been cut by 8-9% in four years, but it is difficult to attribute this to development of the Smart Work Centers.

What local effects can be observed today now that the Smart Work Centers network has been in existence for a few years?

It’s also due to the economic crisis. What we do know is that several thousand people are now working not in offices, but in “third places”, nearly
always (95%) within cycling distance from their homes. But of course as the Netherlands is the land of the bike, most people already got around by bike.

For the City of Amsterdam, which was the Smart Work Centers’ first customer, what were the benefits of this radical change in organization of services?

The offices used by the city have been reduced by 40%, in terms of both the number of buildings occupied, which fell from 200 to 120, and square metres. But the first step was to make in-depth changes to ways of working, to encourage cross-exchange between services. That was done between 2008 and 2011. The next stage was to introduce shared tooling so that employees could work in any of the centres. 8,000 City of Amsterdam civil servants now no longer have their own office or desk, but they have access to the Smart Work Centers. The first objectively measurable benefit is an enormous cost reduction. It’s too early yet to say that changing ways of working has led to an improvement in the services provided to the people of the city, but strong trends are already being observed internally, such as better inter-department collaboration and greater efficiency.
Interview: Rachel Picard  
General Manager of Gares & Connexions, Paris

Gares & Connexions is a branch of the French railway operator SNCF that is dedicated to management and development projects for French stations. In an increasingly mobile society, train stations crystallize planning issues that extend beyond the station itself. In this interview Rachel Picard, General Manager of Gares & Connexions, discusses the social and urban changes that are significantly transforming station uses, turning them into social spaces, and increasingly, workplaces too.

What current developments are affecting stations?

The developments affecting stations derive from the developments affecting society as a whole, and chiefly concern peri-urbanization, growing mobility and the spread of digital practices to all human activities. The rise in city centre property prices is driving residents further away. In the same trend, businesses are turning to new service zones in the outskirts as their head office location. This parallel move by private households and companies is substantially increasing travel times: in the Paris region, the time spent on public transport has gone up by 20 minutes a day in five years. This means that stations have a greater role to play and are seeing higher passenger density. The omnipresence and diversity of digital practices, especially when on the move, is also raising travellers’ expectations regarding the service facilities in stations. We need to adapt to those demands by providing not only connections to various telecommunications networks, but also sockets so customers can recharge their phones, computers and digital tablets. We are very attentive to what customers want and are always asking them about their level of satisfaction through surveys focused on the general impression, waiting areas, comfort, cleanliness, and station facilities. The electric socket has become an almost “vital” service, even more important to customers than providing drinking water.

20 minutes

The increase over the last five years in time spent per day on public transport in the Paris region.

Waiting area with internet access in Paris-Montparnasse train station.
even more important to customers than providing drinking water, because water can be bought in bottles.

To stem the constant increase in commuting time, companies are now considering membership systems for use of shared workspaces, and such shared offices could be located in stations. The nomadic workstyle is already a reality, especially in stations, mainly for management and senior employees. These workers have more independence, are often away from the office and have acquired the habit of working in business centres of the type offered by Regus, for example (see interview with Frédéric Bleuse, or the business lounges available in stations and airports. We know that in a few years there will be high demand from businesses for shared workspaces in train stations. Some will be drop-in areas comprising meeting rooms and individual workspaces used by several companies and freelancers, while other will be leased by a single company. These services will be found in both the major stations and smaller stations in the suburbs.

How can business demand for offices of this kind be met in the relatively restricted areas occupied by stations?

Stations still have plenty of unoccupied space, especially when you look above the ground floor. Where such space exists, our plans will be oriented towards office rental services. In stations that don’t have space suitable for conversion into offices, we will construct new buildings on surrounding land owned by our company. We have a partnership arrangement with Regus to develop business centres in several stations. This partnership with an expert in work environment flexibility means we can respond very rapidly to changes in travellers’ demands.

What other innovative services are you considering?

At the moment we’re upgrading the left luggage facilities. These are very important to both business travellers and tourists, who often need somewhere to leave their things when they’re passing through a city. But anti-terrorism and security measures can be an obstacle to development of “smart” (or automatic) left luggage facilities: for example, X-ray analysis is currently required for every item handed in. Nonetheless we are modernizing the service, with a new layout and design more suitable to traveller expectations. There’s also the Kiala service, available in seventeen stations across France and all the Paris stations: a parcel collection

14% of the working population work at least once a week on public transport, 13% in a hotel, and 10% in public areas. (WITE 2.0 study, July 2012).
point that is used by travellers passing through the stations but also by local area residents.

Lastly, to meet a very strong demand from travellers regarding accessibility of stations, their position in relation to its district and the city, and information on the level of access and accessibility, we’re working on a virtual station tour named “Gare 360” to help users plan their journey to or from the station by bus, car, metro, foot or bike. Through an online interface, anyone can find out from home or via his smartphone about all possible entrances to the station appropriate to his chosen mode of travel and any disability, and the route from the chosen entrance to the right platform.

**How can shops help to make train stations a real social space?**

You have to bear in mind that a station isn’t a retail destination, and is not going to become a shopping centre. Shops in stations are there to act as facilitators of the daily journey. Consequently, the aim is to provide useful shops and services that are easy to use and very accessible. They target everyday needs: there are cash dispensers, of course, but also newsagents and bookshops, fast food outlets, and a rising number of “everyday shops”, in other words local convenience stores where you can buy things for a meal or a picnic, but also children’s clothes or even healthcare products. The point is that these shops are there for quick purchases to meet everyday needs, and are located along the commuting route to avoid extra journeys for commuters, who will be delighted to save some time. But the effort to cover all everyday services goes further: areas at the very end of the station are being turned into kindergardens, like the one in the Gare du Nord, organized in partnership with the Paris city council. These kindergardens are intended for parents who transit through the stations.

Not all stations will be able to offer the whole range of everyday services (and meanwhile meet the demand for workspaces), but we will see several types of social space emerge and several levels of facilities, depending on the size of the station and the passenger flows.

Small stations will have the basic everyday services. In medium-sized stations, facilities such as pharmacies and related services, and fashion and souvenirs boutiques should become widespread. Depending on the space available, the size of a convenience store will vary between 40/50 m² in a me-

*“The main challenge for stations in the immediate future is passenger comfort. First and foremost, we should concentrate on thermal comfort and light quality.”*
medium-sized station and 200/250 m² in large cities’ central stations. Crèches, meanwhile, will develop according to the space available, local partnerships and traveller requirements.

**What are the principal challenges facing stations for the coming decade?**

The main challenge for stations in the immediate future is passenger comfort. First and foremost, we should concentrate on thermal comfort and light quality. Physical and psychological wellbeing needs to be improved for station users, and can be improved through work on perception of spaces, lighting, and the temperature of our stations, which are currently freezing cold in winter. These are two weaknesses in station fittings that require attention.

As for services and facilities, our main projects concern questions of mobility and accessibility for all modes of transport, including bicycles. In line with the ambition indicated in our name “Gares & Connexions”, our stations, as interchanges between several different modes of transport, must be “welcoming” to them all: tram, train, metro, bicycles, and electric vehicles. All these ways of getting to our stations will be developing, and coordinating them is a real challenge. Our capacity to organize the flows generated by this multi-mobility and keep them moving is one of the keys to improving passenger comfort.

"Our capacity to organize the flows generated by this multi-mobility and keep them moving is one of the keys to improving passenger comfort."
The green lease: dialogue for better energy efficiency

Interview: Philippe Pelletier
Lawyer, Partner at Lefèvre Pelletier et associés, Paris
Chairman of the Plan Bâtiment Grenelle in France

Philippe Pelletier heads the strategic committee of the Grenelle Building Plan initially set up in January 2009 and confirmed in September 2012 by France’s new government. This Plan relies on the dialogue between actors from the construction and real estate sectors to lead and implement the general vision for new buildings and renovations, with the aim of achieving energy moderation and low carbon footprints by 2050. One of its tools is the green lease, presented by Philippe Pelletier in this interview.

What is a green lease?
The green lease is the name generally given to a contractual agreement between a landlord and tenant to maintain or improve the leased property’s environmental efficiency, particularly energy efficiency. It usually takes the form of an appendix to a standard lease, so it’s also sometimes known as the “green appendix”, or more specifically the “environmental appendix to the commercial lease” under the definition included in article 8 of France’s “Grenelle 2” law of July 12, 2010 on the national commitment to the environment. This article has been incorporated into the French Environmental Code of law.

Who are these leases for?
Obviously, since the green lease is a contractual agreement, it concerns both parties. For the landlord, in other words the investor, it offers a dual benefit: it provides a framework for enhancing the value of his building, or preventing loss of value through environmental performance, and in the short term, it provides an instrument to help him carry out work that’s likely to become compulsory before long. There are also benefits for the tenant, because the contractual agreement will help him control the building’s environmental costs, and more specifically reduce operating expenses. Additional advantages relate to user comfort, which will be improved, and the positive perception by customers, who are increasingly sensitive to energy
consumption and will appreciate buildings that are more harmoniously integrated into their environment.

**Who is under a legal obligation to sign one?**

The law only applies to premises larger than 2000 m² that are used for commercial or office purposes. For such properties, leases signed or renewed since January 1, 2012, and from July 14, 2013 all leases in existence, must contain an environmental appendix, primarily for exchange of information between lessor and lessee: this is required by a decree of December 31, 2011 that follows the recommendations of the Grenelle Building Plan which oversees all these measures.

**What is the aim of this required appendix?**

The idea of the environmental appendix came about in a working party set up by the Grenelle Building Plan: the primary aim was to foster dialogue between the landlord and tenant, by introducing an obligation to exchange useful information on the energy consumption of the premises concerned. Beyond that requirement, the parties are free to put whatever commitments they wish into their agreement. The law simply says that dialogue is necessary to draw up an environmental appendix. This is a “best endeavour” type obligation to reach an agreement, with contractual freedom to determine the actual content of that agreement. So dialogue is the main aim.

**What does the exchange of information required by the law involve?**

The objective is to optimize the building’s energy efficiency and environmental impact, which is only possible if the parties allow each other more detailed knowledge of the building, its facilities, the adjustments or work done by the occupier, and the specificities of his business. Energy, water and waste processing are all included in this.

"The question of the building’s environmental efficiency is now out there on the negotiation table."

The obligation to provide information is mutual and therefore balanced, and it’s pragmatic because it refers to measurable results which in principle are already available. This obligation is associated with a requirement for formal dialogue to help improve the efficiency of the leased building: once again, no hard-and-fast rules are stipulated and contractual freedom is encouraged.

**What conclusions can be drawn from the green leases in operation since 2010?**

This low-constraint legal approach, with no sanctions if agreements are not actually executed, has been clearly well-received by the actors concerned. The point is that the contractual meetings that take place under the green lease are happening more frequently, and when a lease is agreed for a new tenant or renewed, the question of the building’s environmental efficiency is now out there on the negotiation table. The overwhelming majority of large retailers have adopted the green lease, which has spread efficiently in shopping malls. In the office and small shops sectors, there has been less enthusiasm so far: those actors are no
doubt taking a wait-and-see approach, since future renovation obligations for office buildings are as yet unknown. What's important to note is that the movement has begun, and it can only grow from here.

**Is the green lease likely to be extended to other types of building?**

We’ll need a bit more time to assess whether it’s advisable to extend the green lease, which will only become a general requirement in 2013. It could potentially be applied to industrial and other business premises, or even residential leases.

This “greening” trend is part of a much broader move, the development of “green real estate contracts” which incorporate a concern for buildings’ energy efficiency or environmental impact into traditional contracts. Inclusion of these parameters changes the contractual balance, calls for new techniques, and needs innovative guarantees and financing methods to be invented. In short, this is a genuinely new area for legal documents, and the focus of extensive research and development by law firms like mine. It would thus be reasonable to gradually bring buildings used for other purposes into the scope of green contracts, which are likely to become standard practice before too long.

“It would be reasonable to gradually bring buildings used for other purposes into the scope of green contracts, which are likely to become standard practice before too long.”
Further information

Here are some examples of buildings that illustrate a real estate strategy appropriate to new forms of corporate organization.

Interpolis: a pioneering Dutch insurance company bought out by Rabobank

Around fifteen years ago, insurance company Interpolis decided to completely overhaul its employees’ working culture and embarked on a head office renovation to go with the change. The building and fit-out project was handled by three architects. In a single large building given the name of “the club house”, they created three different worlds, each offering more or less the same facilities in terms of individual offices, meeting rooms, social spaces, training rooms, food and refreshment areas, etc. No-one is assigned their own desk and each employee uses the appropriate type of space for whatever they come to do at the head office. To reduce commuting, teleworking is encouraged. Management is objectives-based and employees enjoy considerable independence. Trust and social contact are central to this new management style. Employees have learned to see things through the customer’s eyes and customer satisfaction has improved greatly as a result: the average time taken to solve a customer’s problem has been significantly reduced through more cross-functional management, facilitated by a layout that brings down hierarchical barriers and fosters inter-departmental communication. The project and the company’s commercial development were so successful that after a series of mergers and acquisitions this little company was bought up by the Netherlands’ number one insurance operator Rabobank. Drawing on Interpolis’ experience, Rabobank has begun to remodel its own management, together with renovation of its head office in Utrecht, following a dual architectural/management program named “Rabo unplugged”.

Bouygues Télécom's participative innovation room at Issy-les Moulineaux (south-west Paris)

The idea is to make brainstorming sessions more efficient by having a dedicated team trained in participative leadership. This team prepares the ground with managers who intend to hold a session with their staff, working with them to define the objectives, the questions to ask and the type of answers expected. The design of the room itself is conducive to metaplan dynamics and implementation, with white walls, caster-wheeled chairs and whiteboards. This is a good example of a real estate project that combines managerial changes with a new way of organizing the space used.

Accenture’s “happen space”

When Accenture decided to renovate its head office in Paris, the idea of a flexible social space for festive weekly events became reality in the form of the “happen space”. It can be the setting for a disco, training course or meetings and is designed to be used for informal events by employees who are usually working on assignments outside the head office. The renovation was part of a general reorganization of head office operations. It was overseen by general management rather than the real estate division, a revealing indication that real estate decisions have become an integral part of the company’s overall vision.
Towns and cities are modelled by our lifestyles and consumer habits – which have changed enormously in the last few decades. Under the influence of demographic, economic, technological and social trends, the ways we use the town are drastically different today. Commercial and logistical property must adapt to e-commerce, while housing needs to address the spread of teleworking, the desire for green spaces and accessibility concerns, not to mention new environmental constraints. How can real estate actors respond intelligently to demands that can sometimes appear contradictory?
Contributors:

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New ways of urban living

Housing reflects the way we live, and the lifestyle changes of recent decades thus influence our homes. Urban living habits help to shape the town, with physical and virtual mobility bringing particularly deep-rooted changes. Hotels, which offer specific kinds of city living, also need to adapt to the expectations of a new type of city-dweller. This chapter examines these issues through two interviews. In the first, Éric Lamoulen, who has worked in the housing sector for thirty years, looks at how residential real estate actors are adjusting their strategy in response to social change and new economic and environmental constraints. Michael Levie, inventor of an innovative hotel concept, then presents the issues associated with innovation in the hotel industry.

Interview: Éric Lamoulen
General Manager of SACVL, Société anonyme de construction de la ville de Lyon

Éric Lamoulen manages SACVL, the main real estate operator in the French city of Lyon, which is the company’s principal shareholder. Its business comprises social housing as well as rental and sale of homes and retail or office premises. In this interview Éric Lamoulen reviews the changes he has witnessed and participated in through his thirty years in residential real estate, much of which has been spent working in social housing organizations.

Which social changes have an impact on the way housing is used and designed?

The main changes affecting housing relate to demographic trends (ageing population, migration and divorce, which are two key drivers in the housing market), economic constraints and the rise in individualism. France’s current preference for individual houses, which can be linked to the rise in individualism, remains a structuring factor in the dynamics of residential real estate. In most French towns and cities, the pace of building increases the further you go from the centre. This results partly from the lack of affordable housing near the centre, and partly from the strong appeal of an individual house with a garden. Even though people would rather live near amenities, most of them, especially couples with children, are willing to travel quite a few miles for their own house if there’s nothing affordable in
Despite rising fuel prices, people are deciding to live further and further out of town, even if that means developing shared transport arrangements. This is reflected in the popularity of car-sharing, both with and without local authority support in the form of dedicated parking areas. The declared need to increase density and fight the urban sprawl clashes with the reality of this demand for individual houses with gardens, which cannot be met by the current supply.

"The current fashion for individual houses, which can be linked to the rise in individualism, remains a structuring factor in the dynamics of residential real estate."

To reconcile this demand with the residential density concerns indicated by environmental constraints, innovation will be needed: in particular, the domestic space can be extended by giving homes terraces, gardens or large balconies, even in densely-populated areas. On retiring at the end of a career as social housing project manager, one top executive of France’s national public-sector housing office was asked what, in his opinion, was the most beneficial architectural innovation in housing: he took a little time to think before replying:
meet the desire for private green spaces and bioclimatic architecture (focusing on appropriate orientation of buildings) while limiting urban sprawl and local travel. They facilitate rational urbanization close to services and amenities. For the French, the optimum desired level of services corresponds to a town of 5,000 inhabitants. But such projects can also be a chance for a fresh take on traditional town planning models, like the courée found in the working-class areas of Northern France, consisting of a number of houses grouped around a courtyard with a private entrance, which would be an effective response to these issues.

Access of housing is affected by a factor as yet rarely taken into consideration by real estate actors: economically speaking, the 25-to-30-year-old generation find themselves in the worst situation since the post-war boom years ended. The distribution of wealth between age groups has never been this unfavourable to the young before. Older people hold most of the resources and capital, while even well-qualified young people starting good jobs are finding access to housing difficult in some high-pressure zones such as the Paris housing market. In England, the reform of housing benefit, which had been generous and therefore costly, led many young people to change their lifestyle: house or flat-sharing is no longer just for students, it has become an ordinary practice for working people while they are young and have no family of their own. This lifestyle change driven by economic constraints results in spaces being shared in homes and more joint ownership and use of certain household functions (multimedia, household electrics, sometimes a car), not because a group of friends or acquaintances freely aspire to share more, but because they have no choice. In France, home-sharing has come about through a combination of economic constraints related to the housing crisis and deliberate adoption of this way of life.

Have expectations of the home changed in the last few decades?

We need to put an end to some preconceptions, especially the idea that people want large homes. Architects see the question of surface areas and volumes as very important, but I’m not sure that people are equally interested. In practice, experiments with large units in social housing have drawn complaints about the cost of service charges. Also, on a per occupier basis the surface area of homes has increased naturally, because the average household size has gone down due to the higher number of divorces, longer life expectancy leading to more single and widowed people living alone, etc. But
people are less and less happy about having to share the same room. The interior room layout in homes has changed. Traditionally, homes were divided into several rooms, but a trend for less partitioning has been observed. While many homes now have an open-plan kitchen/dining and living area, there are still plenty of people who like the kitchen to be separate. An opening from the living area onto some kind of private outside space has become more important. French windows are getting larger and open onto a balcony, terrace or small garden in collective housing, or a larger garden in individual housing. Transition rooms (entrance halls, hallways, landings) are becoming less important. For a long time hallways were narrowed for reasons of rational surface use; nowadays, if there must be a hallway, it’s widened to make it accessible to people with reduced mobility. Entrance halls have practically disappeared from collective residential buildings. Separating “day rooms” from “night rooms” is still given some importance, although having a bedroom directly connected to the living room is not usually considered a problem. The size of the living room remains an essential element of wellbeing in the home, with a perceivable willingness to compromise on organization of the other rooms. More recently, bathroom and kitchen fittings, or the possibility of choosing them, have become significant factors in a home’s appeal. As for the types of home, demand for small units has risen while demand for large units has declined. This has led developers to focus on the two-bedroom model, which can be considered either as a “large small home” or a “small large home”, and one-bedroom homes, to minimize the risks for sales and rental. But the developers’ strategy is having the opposite effect, because it creates a shortfall in large housing units even though demand is low, and excess supply of small units even though demand is high, as the supply is over-adjusting to market conditions.

What are the current areas of innovation in residential real estate?

The main areas of innovation concern adaptation of homes for occupation by elderly and disabled people, security, and reduction of energy and water expenses. Most of the investments for energy saving or adaptations for older occupants concern not technological but structural adaptations: suitably designed shower rooms, greater accessibility by incorporating ramps or stairlifts, and to save energy, insulation, renovation of windows, heating or ventilation equipment, and so on. The technological input is secondary, for instance changes in entry phone norms so they can be used by disabled people. The regulations require new housing to be accessible to people with reduced mobility, but innovations are also being introduced in newly-built housing for “seriously disabled” people; this is encouraged in France by tax incentives. As the petty crime rate rises, video surveillance is spreading faster than ever in residential real estate, in the public areas, underground areas, private entrances, all collective spaces. The sole purpose is to drive violent or antisocial behaviour away from residential spaces, but it simply displaces such behaviour without solving the general problem of
urban insecurity, which is not part of the remit of real estate operators. They do, however, have to provide security and prevent disturbance for the people they house. The losers in this displacement of violent or antisocial behaviour induced by CCTV surveillance equipment will be the people who don’t have the same equipment themselves. The haphazard spread of video surveillance in the early years is gradually being overtaken by more rational management. It will become more common to see these systems combined with a nightwatchman service.

In my view, one essential area for innovation is the development of interfaces for exchanging technical data on housing. It’s in our interest as operators to reduce back office costs so we can put more into development and customer relations. Automatic access to data on our buildings’ water and electricity consumption, temperature, humidity levels, and interior pollution shortens the time needed to solve problems. Some of those data may be of interest to the tenant, the prospective tenant, or the real estate developer and his contractors.

There have been more and more experiments with computerized management of housing information lately, but no standard model has emerged. The companies that supply computer systems to real estate operators have realized that a new market is opening up, and are beginning to integrate technical data on homes into the central systems. Real estate operators have softwares that can manage an information system with manually-input data concerning homes’ technical features, but also tenants, applications for housing, lease and contract management, accounting etc. The innovation consists of maximizing automation for data collection and integration into the overall information system. The leading IT services company for residential real estate, Sopra Group, some of whose clients manage 200,000 homes, is working on automated collection of technical data using a range of captors directly in the homes.

By installing software packages to give us “smart” water and electricity networks, we created a specific ecosystem for properties managed by Le Toit Angevin (an agency managing social housing for the city of Angers) that improved service for tenants: managing network problems, supplying information on energy and water consumption (with the objective of adjusting consumer habits), and cutting energy costs by continuous analysis of temperatures and consumption, and also by distributed load shedding in homes that have individual electric heating. What we have is thus effectively a smart grid.

What are the obstacles to the rapid spread of smart grids, and more generally lower consumption, in housing?

Persuading all service providers to send their information via a single system – and what’s more, a system where the data is accessible to tenants – is a long, drawn-out process. Such systems are more advanced in business real estate because office buildings are managed under a single, closed system. Collective housing is an open system. In office buildings there’s a greater focus on technical aspects, while in residential buildings user behaviour has a much bigger impact. Behaviours often reduce the impact of the energy savings forecast for newly-constructed low-energy buildings. Occupiers show low sensitivity to the question of humidity inside their home, sometimes at the risk of rotting in low-energy housing, and may
have little awareness of the impact of their habits. Although low-energy buildings undoubtedly consume less energy than the average observed levels for older buildings, the results so far are rather disappointing. Consumption has been 20-30% higher than expected, except for houses occupied by well-off, highly environmentally-aware people with a general understanding of how their home works: in such cases consumption may be even lower than model forecasts, but this positive result is also explained by under-occupation of homes by this type of population. In the future, it will no doubt be advisable to calculate energy consumption per person rather than per square metre. This will give noticeably different results from the figures we currently base our work on.

Occupier awareness is the poor relation in the system. Maybe the revolution in society will happen naturally over time, but if we want to approach the consumption targets included in the models sooner, the question of behaviour is essential. It’s even more important when housing is deliberately designed to cut energy consumption. In “energy-guzzling” buildings, behaviour adjustment can only ever have a marginal impact.

Smart grids are an innovative way of raising awareness of low energy-consuming habits (see the interviews with Stéphane Quéré and André Santini at the end of this chapter), provided relevant alert systems are included. Continuous information on consumption levels is relatively ineffective, but systems that alert users in the event of excessive consumption are more successful. The most effective type of alert is the text message, but the importance of paper should not be underestimated, even just a quarterly summary report. Instead of advance billing for water based on estimates, monthly billing based on actual consumption has a definite impact in a collective building, because people see that their monthly water bill varies according to their behaviour. For temperature regulation in collective buildings with collective heating, Swedish real estate operators control the temperature and regulate it on a purely technical basis, while occasionally responding to user requests. This works because heating is included in the rent. French tenants pay separately for their heating, so they’re more careful when the heating is individual rather than collective.

In France, energy cost-cutting innovations are also hindered by the national system of housing standards (heating norms RT 2005, then RT 2012) which set maximum energy consumption limits, expressed in kWh/m²/year. The Bâtiment Basse Consommation low-energy building standard is mandatory today with RT 2012, which requires energy consumption to be no higher than 50 kWh/m²/year. In practice this requirement is rarely met by certified low-energy buildings. Rather than setting targets per square metre, we could encourage operators to experiment by encouraging optimum allocation of investments based on their financial capacity and the context of the operation. This would require operators to take on more responsibility, as they would have a less clearly-marked path to follow, while also ensuring that “green” building projects are more economically balanced. It would ultimately be a more efficient approach, because...
the savings made could be reinvested in a more rational way. This is not currently a mainstream view: similarly to other fields, in France, change is driven by official standards. The difficulties also relate to the fact that the building model promoted today covers insulation, heating, ventilation, etc. But in the economic model, it’s important to separate the structure of the building, which will last a very long time (100 years or more) from the heating system or other facilities that will last ten or fifteen years.

In the Tyrol region of Italy, which is one of the most advanced in the field especially in social rental housing, after trying and testing several buildings designed for 50 kWh/m²/year, they consider that 70 kWh/m²/year gives the optimum ratio of investment to actual results. In Germany, the speed at which real estate actors threw themselves into low-energy buildings resulted in projects that are not economically viable. Integrating smart grids into real estate operators’ computer systems should highlight the relationship between the cost of investments and the savings achieved, both for the tenant and the operator.
Based on the idea that travellers’ expectations of a hotel have changed along with their lifestyles and travel habits, Dutch hotel company CitizenM offers a new concept of affordable high-grade accommodation for urban nomads. With smaller rooms, shared spaces that become the heart of the hotel, buildings consisting of assembled prefabricated modules, and automation of certain reception functions, CitizenM hotels are renewing our idea of luxury by putting the accent on comfort and the modern traveller’s expectations. Michael Levie, founder of CitizenM, gives us his viewpoint on changes in the hotel sector.

What are the main developments in the hotel industry?

The hotel industry hasn’t changed much at all in the last few years. It has stayed on the edge of changes in society, and the only advances were driven by the lure of profit. For decades hotels overcharged clients for using the phone, and then when mobile phones took over, hotels overcharged for wireless internet access.

CitizenM, on the other hand, is innovating. How?

The CitizenM concept was built around an analysis of changes in society and today’s hyper-mobile traveller, our own niche market. We wanted to start from the user’s experience, and we had to assess each component of the journey. We identified the sources of dissatisfaction when a traveller arrives in a hotel, and the positive points of hotel offerings. Modern communication methods, attentive service by our “ambassadors” (the employees of CitizenM hotels) and easy access to clients’ needs are the keys to our hotels’ success. Our teams are constantly improving the services on offer, from the canteens and other shared spaces such as the lounge, to the rooms, right down to our website. Our concept is constructed around client satisfaction. We are constantly analysing the feedback we get, largely through multimedia devices.

Without reducing the range of services available for clients, we were able to bring down staff numbers, and therefore room prices, by simplifying and automating some aspects of the booking and reception processes. One
of our specificities is our capacity to optimize the use of space.

What are the avenues for renewal in the hotel industry?

We’ve identified two essential factors. In developing our concept there were distribution difficulties to address: several technologies were unavailable for our industry, so for some of them we had to work with firms that don’t usually work for the hotel sector. Those suppliers made a significant contribution to CitizenM’s success. We had to push certain boundaries to achieve things that had never been done, and that sometimes slowed progress down. The second key factor has to do with training our teams for this environment where everything is designed for the client. Staff recruitment is a key stage for each of our properties, and our approach is the reverse of standard practice: first of all we hire the staff who will be in direct contact with the client, then their managers, and so on up to the hotel’s general management. By putting the emphasis on the contact staff, our “ambassadors”, this process ensures that the client remains our central concern.

What are the trends for the hotel industry in the coming years?

The conception of luxury has completely changed. It used to be ostentatious and disproportionate, but today luxury means highly personalized service. You no longer need a solid gold reception desk, but the receptionist must know his client. This personalization of luxury is experienced through the service, but also through the product. For example, in our hotel rooms, clients can choose the mood of the room. Innovation can be part of this service personalization.

“The conception of luxury has completely changed. It used to be ostentatious and disproportionate, but today luxury means highly personalized service.”
The retail business in the internet age

In today's increasingly mobile society that is seeing new methods of screen-based contact emerge, not only between individuals but also between consumers and retailers, purchasing behaviours are shaping a new way of operating in the urban environment, and retail actors must adapt to the movement. In the first interview below, Jérôme Le Grelle, president of a real estate consultancy firm, describes the issues involved in adapting retailers’ property strategies to changing consumer habits. François Bellanger, founder of a think tank on the future of the urban environment, then offers an international view.

Interview: Jérôme Le Grelle
President of Convergences-CVL, Paris

After many years in retail real estate, in 2009 Jérôme Le Grelle set up Convergences, a market research and consultancy firm specializing in town planning and retail real estate, which was consolidated in 2010 with the acquisition of consultancy CVL. In this interview, he discusses how consumer habits have changed under the influence of social mutations, and the impact for retail real estate.

How are changes in the organization of individual and family activities affecting consumer habits?

The way family activities are organized is evolving due to deep-seated mutations in society. Family structures have changed: as the number of single-parent families and the proportion of working women rises, family activities are starting to look completely different. France’s shorter official working week has resulted in more individualized social time and increased mobility. In fifteen years, travel patterns have become more complex: the portion of travel between home and work or home and shops has fallen, but multi-purpose journey loops are on the rise. All this has a significant impact on consumer habits. The weekly or bi-weekly drive to a specific place to fill a shopping trolley according to a well-defined routine has been replaced by purchases dispersed across different locations at different times. There are a thousand and one ways of doing your shopping today: at local shops, at the supermarket, via internet, etc. This is the emergence and reinforcement of what is known as “multi-channel” shopping.

For a long time, retailing was structured on the “everything under one roof” principle; the aim was to attract customers through the wide diversity of the
product offering (including several price ranges) available in a single place. This system is reversing: large chains and smaller shopkeepers are having to position themselves as close as possible to customers, extending the number of purchasing places, even into the customer’s home via the internet. The concept of the “local shop” should be understood in a much broader sense than its geographical meaning alone: it does not simply mean local grocery stores, but refers to the principle that now governs retail, namely that shopping should fit in as closely as possible with consumers’ everyday activities. The big names in retail are moving closer to the customer through his screen, or by offering home delivery, or by “drive-in” stores set up by the large supermarket chains, where customers pick up shopping ordered online - a perfect illustration of this approach, because it puts the retailer along a route that the customer uses regularly and recurrently. These changes require restructuring of the retail offering around smaller-sized establishments. When the aim was to attract customers by having the most varied range of products, store sizes were naturally very imposing. Nowadays very few new hypermarkets are opened, if any, and we’re seeing a rise in establishments of 1,000-2,000 m² selling fresh food, a small amount of textiles and everyday products. All the supermarket chains are refocusing their offering on this size range, although traditionally only a few groups such as Casino used to invest in it, to extend their network as far as possible and get closer to customers. The necessity of “catching” customers along their travel or information routes means retailers must have detailed knowledge of consumers, for example by building up databases to target advertising as appropriate to customers' interests and movements. Modern technologies, particularly internet (and mobile internet) are helping to bring consumers and retailers closer. Smartphones create a direct, permanent link with customers. Many shopping malls have introduced phone apps enabling the customer to register in order to receive news of special offers and events, and in particular inform him when he is approaching a store that’s running the offer. The difficulty is selecting information such that the customer isn’t overwhelmed. Smartphones as purchasing channels are being used increasingly to place orders, especially in the Christmas season. Internet, especially mobile internet, is also used for purchase planning, to compare prices and product features.
In this context, how can shopping malls attract consumers?

Since the shopping mall is losing its ‘utilitarian’ purpose, it has to stand out by offering something exceptional. This is the strategy followed by Unibail-Rodamco: a shopping environment enhanced by good facilities and a 4-star label always includes foreign brands or very famous or high-image brands, such as Apple, which have the capacity to amplify customer footfall. But to convince such big names to play a key role in attracting people to a shopping mall, it must be in a soundly-established position with enough visibility and customers to guarantee these brands a successful operation. Good footfall results from a careful blend of quality products and services, mall size and location. The most successful shopping malls are located at extremely important communication hubs for the city, or in urban environments with a high-density population and diversity of functions that make them a major primary customer catchment area, thanks to the concentration of rare brands.

Other components of mall appeal, such as architectural features and special events, can reinforce the attraction capacity or what you might call the “wow” effect. The Atoll shopping mall near Angers in western France, developed by La Compagnie de Phalsbourg, was awarded a Valorpark® label and has been recognized as one of the most architecturally innovative shopping malls. It offers shoppers an attractive environment, with an open-air prome-

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1 - Unibail-Rodamco awards the “4-star shopping” label to shopping malls that meet a 571-point standard guaranteeing top quality customer service.

2 - The Valorpark® label “certifies that a retail park complies with quality development criteria and is intended to re-enhance the approaches to towns. http://www.valorpark.com

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Photo: Luc Boegly / ArchitectS: antonio virga and vincent Parreira
LandScape architectS: atelier Paul arène
nade and small electric buggies to help customers get around inside the site. Although these features are not decisive, they are important because they reinforce the park’s image, making it more powerful and differentiating it from other sites that offer equivalent customer volumes. Location, visibility and footfall are fundamental points: business is fed by customer footfall, regularity, and recurrence that are only generated in highly-visible, easily-accessible places.

**What are the urban trends shaping these retail changes?**

Apart from the smaller store sizes already mentioned, we’re observing a return to town and city centres, with dispersion and adjustment of the types of shops depending on location. In food stores, the range of outlets is broadening: from the hypermarket to the small convenience store, via online and drive-in sales, retail services vary from 80 m² to 20,000 m² for a chain such as Carrefour. But not all sectors (textiles, culture, leisure) will necessarily be able to have such a wide range of sales channels, because certain products correspond to specific purchasing behaviours, selection methods and choices. We will certainly see consolidation of sales offerings expressed through highly differentiated channels, depending on the sectors. In the textile sector, online shopping is becoming more important, but this channel is still backed up by a network of bricks-and-mortar shops. In the culture and leisure sector, online purchases are becoming predominant, as is the case for the major names Fnac and Virgin. Lastly, brands are investing more and more in flagship stores and showrooms to showcase the brand identity, while other stores in the network become “letterboxes”, delivery points where people come to pick up their parcels. Multi-channel retail has not fully emerged yet, but there is already talk of cross-channel retail where every actor will be obliged to use all these possibilities, quite simply because the customer does already.

"The dispersal of consumer habits has a very significant impact on the logistical operation of retail chains. The rise of online retail is raising new issues to do with storage and product delivery."
What role do local authorities play in retail real estate changes?

Retail activity is very important for towns and cities. First of all, it meets the essential demand of supplying the people living in the town, a concern that has changed in nature as life expectancy has grown longer: it also provides access to shops and services for less mobile groups. But above all, retail is a vector for the town’s capacity to strengthen its social fabric by bringing people together, breathing life into public spaces, making them safer. Retail activity thus generates urban amenities but can also cause disturbance (traffic, pollution, parking problems, etc) that the towns must manage.

Furthermore, local authorities have realized the role they need to play in keeping shops in the town centre, against competition from shopping malls on the outskirts where business is driven by hypermarkets and supermarkets and coherent management in terms of positioning and offering. But town centres, districts, and high streets still have too little power against such competition, particularly due to a lack of vision and resources that can influence the quality and coherence of their supply. If one business sector, under the impetus of its own dynamics and own resources – chiefly financial – decides to set up in such areas, nothing can really stop it. This is what has happened with banks and insurance companies, which are attracted by high street locations in large and small towns. Their financial capacities put them in a strong position to take over traditional shops, the local shops that generate recurring daily footfall. If bank branches and insurance agencies come to dominate to the detriment of other everyday services (bakers, butchers, etc), the retail fabric deteriorates and footfall becomes irregular. To fight this process, towns need to give themselves comparable resources to shopping malls, by fixing rules, controlling the quality of the retail offering through regulatory or legal measures such as designating a protected area in which the town has the right to preempt sales of retail premises, and forbidding or requiring certain types of business to set up establishments in particular streets. The stakes are high enough to warrant proactive, positive policies. Also, as well as regulatory instruments specific to retail, towns and cities need to take the retail issue into consideration in their urban vision: providing retail services in the new districts, ensuring access to retail zones, incorporating delivery constraints into town planning, etc.

Towns and cities also have to deal with the difficulty of controlling urbanization of the outskirts.
etc. Local authorities must propose an overall vision of these retail zones, organizing shared car parks, coherent infrastructures and compliance with certain planning rules to ensure better urban quality.

In France, legislation on planning of retail zones is under discussion through the law on modernization of the economy. Much of the debate concerns the degree of control local authorities should be left regarding the use of plots of land for commercial activities. Real estate developers and retailers are opposed to the authorities having such power in this respect, but the positioning of commercial activity and its combination with residential use, workplaces and all urban functions really is important for the urban environment and social cohesion. It will be difficult to transform retail zones that already exist, but it is essential to give local authorities the means to apply a coherent urban policy, including all the commercial aspects of that policy.
Interview: François Bellanger
Director of Transit City, a think tank about the future of cities and lifestyles, Paris

François Bellanger directs Transit-City, a think tank that considers the future of cities based on the study of social changes worldwide. One part of its activity, named Escale(s), l’Observatoire de la Distribution, is a market observatory unit that monitors current and future trends in retail. François Bellanger is attentive to the new constraints of today’s world and innovations, and in this interview he gives some pointers regarding the future of retail.

What innovative consumer habits have you observed that are likely to develop in the future?

The Japanese model, constructed in a context of high-density, carless mobility and small apartments (small kitchens, often with no refrigerator), makes innovative uses of local shops. The Japanese do their shopping every day as they move around, in the places they pass through, on their mobile phones, in “konbini” convenience stores open 24 hours a day where they can buy a range of products and services. Only a shopping mall that meets a strong demand can attract Japanese city-dwellers, who wouldn’t travel to buy anything they can order over the internet. Namba Park in Osaka was designed using a sociological urban approach: it’s an urban park that contains a shopping mall.

The Japanese model is the forerunner of tomorrow’s retail sector, which will be organized around the aim of saving time. The idea is to help the customer limit the number of journeys, in three ways: convenience (the konbini model), shopping along your route, and permanent accessibility from anywhere with shopping via mobile phones.

Is this consumer model, which is gaining ground just about everywhere, leading to innovations in retail real estate?

Retail innovation isn’t coming from the real estate operators. They still build shopping malls the same way they did thirty years ago and so making no change to shopping habits. The underlying model based on car dependence and inclusion of as many stores and activities (cinema, other leisure facilities) as possible is running out of steam, and yet it’s the dominant model and is still being exported to Eastern Europe, China, etc.

"The Japanese model is the forerunner of tomorrow’s retail sector, which will be organized around the aim of saving time."
What factor will speed up this transition in consumer habits?

The revolution could be sparked by the rising price of petrol. So far, traditional retail actors have made only minor adjustments in response to this constraint, with drive-in services that cut down journeys by enabling the customer to order his shopping over the internet and pick it up as part of another journey, without having to make a trip specially. With the financialization of retail real estate, there is no incentive for traditional actors to be innovative as long as the models used to calculate returns give satisfying results.

For the time being, when new shopping malls still based on car-accessibility have difficulty attracting customers, the traditional actors venture into the territory of transport operators. Examples are Carrefour, which runs bus lines in Beijing, and Ikea which has set up bus and ferry connections between Manhattan and its south Brooklyn store.

“The financialization of retail real estate is not encouraging traditional actors to be innovative.”

Namba Park, Osaka.
Urban logistics in the smart city

The new consumer habits presented in the previous section reveal challenges on an unprecedented scale as regards supplying towns and cities. Through an interview with Christian Cléret, head of real estate at La Poste group, and an interview with Clemens Goss, head of Amazon’s real estate for Europe, this section examines how two actors dealing directly with these issues are adjusting their integration into the city, primarily by redesigning their real estate strategy.

Interview: Christian Cléret
Head of real estate, Groupe La Poste and General Manager of Poste Immo, Paris

As General Manager of Poste Immo, a subsidiary of the French post office La Poste Group, head of real estate for the same group, President of the real estate managers’ association Association des Directeurs Immobiliers (ADI) and joint president of the RBR 2020 group (working on regulations for environmentally responsible buildings), Christian Cléret is a valuable observer of the challenges facing the real estate sector. In this interview, he presents his view of the urban and real estate issues associated with changes in lifestyles and consumer habits.

How do you perceive the impacts of changes in urban lifestyles on logistics?

One of the basic trends is the shift in consumer habits, particularly the rise of e-commerce. Most French people buy things on the internet today, and this is causing in-depth modification to logistics structures. The rise of e-commerce doesn’t mean that more is being supplied to urban areas, but that the way they are being supplied is changing: in short, you can get “anything, anywhere, anytime”. This trend is observed beyond e-commerce, because what is changing is the relationship to society itself. With the constant flows of information, we’re supposed to be able to access everything immediately, wherever we are.

“The need for more mixed spaces is arising in response to the desire for rapid access to whatever can’t be dematerialized.”

Thus, in towns there is also a different relationship to time, notably reflected
in expectations regarding transport times. The need for more mixed spaces is arising in response to the desire for rapid access to whatever can't be de-materialized. Today’s urban lifestyles reinforce this need for instant access, in order to broaden all fields of possibilities. If you add that towns must be sustainable, then that means the chief modes of transport must be “soft” or public. All this places value on local, mixed functions such that a large density of opportunities can be offered in a small space. Mixed-function town planning should thus focus on the area that can be covered by an individual using soft transport methods, as opposed to the practice applied to date of segmenting towns into specific-purpose office zones, residential zones and shopping zones. This will involve adapting existing buildings to provide spaces for work, leisure, storage and urban logistics. Post offices, symbols of local services, are part of this conception of the town of today and tomorrow. Put briefly, changes in lifestyles and consumer habits are giving rise to needs for logistic properties which can in fact be summed up as storage, supply and distribution points close to urban social centres – although in the last ten years these buildings have been moved out of town. The change concerns the way flows of goods transit through the properties, rather than the size of the property itself. And this change, which is only just beginning, results both from evolving practices and social expectations, and the need to cut the environmental costs of our movements. For a long time, the balance between transport cost and real estate worked in favour of function segmentation and greater distances between the places of storage and consumption; but the rise in energy costs, and oil in particular, combined with growing urban congestion, is progressively tipping the balance towards using buildings that are located in town, and therefore more expensive, in order to reduce travel costs. What we’re seeing today is that a whole range of indicators (urban congestion, fuel prices, environmental cost of transport, individualization of supply methods via e-commerce, etc) are forcing a rethink of logistic principles and raising new challenges: reducing disturbance in town, the need for small outlets, but plenty of them disseminated throughout the urban area. Yet despite the genuine conviction that supply modes need an overhaul, there is no key factor such as regulation and/or strong demand pushing us to achieve this change on a wider scale than niche experiments. Wait-and-see and uncertainty are still the rule in businesses, given the lack of short-term visibility in the economic model. With its natural advantage with regards to urban establishments, Poste Immo is considering how to plan ahead for the impacts on real estate and how to serve the Group’s needs for urban logistics.

How does a major actor in logistics such as La Poste Group adjust its real estate strategy to these developments?

Real estate is an exercise that involves significant investments over the long run, so these changes don’t happen overnight. But Poste Immo has a unique portfolio of buildings, right in the town
and city centres, comprising the areas behind the post offices themselves together with slightly larger logistics surfaces in the centres and even larger ones in the outskirts. So La Poste has those fixed points, but must also constantly review and adjust its supply methods, to optimize its schemes according to the volumes transported and the trade-off between transport and real estate mentioned earlier. La Poste is always seeking the right balance between the need for central locations and the need to keep more affordable hubs on the outskirts. 

Among the panel of solutions we’re introducing, Cityssimo points are intended to adjust the post office’s strategy to changes in lifestyles and consumer habits. These are small urban pick-up points for parcel collection that are open day and night.

A post office that contains both a commercial area (the part that is visible to the public) and logistics areas with the associated postal activities, or even office areas, foreshadows the mixed-function approach. For over a century, La Poste has proved the relevance of extremely mixed-function buildings, which are still in use today.

La Poste is also engaged alongside other actors in projects of national interest, in France's cities: planners in the greater Paris area or large cities like

"For over a century, La Poste has proved the relevance of extremely mixed buildings, which are still in use today."
Bordeaux are keen to incorporate consideration of the logistics of the future into their town planning, and they ask our advice to take future logistical real estate requirements into account.

**We firmly believe that postal real estate, with its city centre buildings, can be a major advantage in the urban logistics of the future.** La Poste has never stopped its city-centre logistics operations. Other actors left the centres, but La Poste stayed, although that has been slightly less true lately. Even on a European scale, La Poste is one of the few postal groups that has kept its urban establishments.

Real estate reflection by La Poste Group is very much influenced by the need to meet customer demands. Every day, La Poste serves two million customers (the equivalent of the population of central Paris!), and that certainly makes it the French institution that is most closely concerned by the issue of how to receive the public. The question of adapting to customers is thus constantly at the heart of our real estate considerations, which relate not only to the fit-out of buildings used by customers.
the public, but also the relationship to the city, accessibility, and location. La Poste Group required to provide a postal service, and that implies on extremely dense coverage of the territory. Meeting the need to be close to users under the constraint of organizing retail, office and logistics areas in the same place is a real challenge, bearing in mind that the 276,000 employees of La Poste (the equivalent of the population of Strasbourg, France’s 7th largest city) all need the resources to do their job.

**How does real estate contribute to the emergence of an innovative, sustainable city?**

To design the real estate of tomorrow you need to see the building as part of the local community, but also on a higher level as part of the metropolitan operation. Of course, real estate must meet the requirement for low energy impact, but this approach is only meaningful if thought is also given to the link between the building and its environment. The building must be considered in conjunction with the associated movements (movements of the employees and users who come to the post office, but also transportation of letters and parcels), in order to foster travel and transport by low-energy modes.

This approach clashes with the fact that local development procedures are segmented into different areas of action: transportation, housing, economic activity, etc. Logistics are still the blind spot of town planning. But the business of La Poste places it at the intersection between the whole range of urban concerns, as a logistics actor, local public service, bank, retailer, etc. As a result the post office, through both its activity and its real estate, is a key actor in the cross-functional reflection on urban life and operation. Experimentation with real estate projects that take care to integrate buildings into their environment is hindered not only by segmentation of areas for urban action, but also by a discrepancy between the scale of planning decisions and regulations and their scope of application: in France, permission to erect a building is issued by the town or village concerned, such that building decision-making is divided between very small areas; public real estate investors and land planning operate at the level of a small portion of the city, which does not correspond to the territory covered by the authorities in charge of transport schemas. Also, France’s highly centralized approach to regulation is not conducive to innovation coherent with the practicalities of local life: applying a single set of planning regulations to territories that are very diverse, even if only in terms of climate, discourages experimentation. Innovation in new buildings can only be fully meaningful in a partnership-type cross-functional approach.
**How does the redevelopment project for the Louvre post office in Paris meet the challenges of tomorrow?**

The plan to redevelop the Louvre post office, a symbolic building for La Poste Group located right in the heart of Paris, encapsulates all the challenges faced by Poste Immo to adapt its buildings to new working and consumer practices. The 35,000 m² offered by this magnificent late 19th century building by architect Julien Guadet are going to be entirely redesigned to offer a panel of new services. A totally mixed-function approach will be applied: as well as postal activities, the building will be used for a children’s daycare center, social housing, shops, offices, a hotel and a police station. The connection between the building and its district is one of the project’s guiding principles. The location’s logistical purpose will continue, as the old logistic platform – a cathedral of industry – will be retained and renovated. So the project involves an overall consideration of how La Poste’s various activities interact, and the role it plays in the local district and the city as a whole. Lastly, the project has to address the challenge of adapting a historical 19th-century building to the most effective modern building standards issued by the “Grenelle” environmental roundtable, and it must achieve all this for an acceptable cost.
Viewpoint: Clemens Goss
Senior Manager, Continental EU Real Estate, Amazon, based in Luxembourg

As senior manager of Continental EU Real Estate for Amazon, Clemens Goss is in charge of constant improvement of Amazon’s distribution services by taking the real estate opportunities most appropriate to its strategy. Amazon is a major actor for change in online retailing, and this change is pulling all types of retail in its wake. Clemens Goss gives us his view of changes in logistics and the associated buildings.

Which challenges does Amazon address from a real estate point of view?

Amazon seeks to be the world’s most customer-centric company, and therefore the first challenge is to meet the demands, needs and service expectations of customers. They not only want access to an easy-to-use and powerful shopping experience, they are also constantly looking for a broad selection of products at the lowest price, secure payment systems and of course fast delivery services as well as easy, no-charge handling of returns. This leads the company to use highly flexible, efficient processes, for which we need the right number of employees with the right profile in the right place. Real estate has to deliver solutions which best support the value chain, with economically favourable rents and sufficient building sizes. Warehouses need to be increasingly close to the customer, and to the labour market. So one major challenge is finding big plots at reasonable prices in inner-city or near-city locations. In full-size locations, Amazon can create several hundred full-time jobs at least, and additional temporary jobs at peak times such as the Christmas period. It should be in the common interest of the public authorities and Amazon to create those jobs in areas of high unemployment, in view of the long-term availability of enough potential permanent and temporary employees. Finally, in France we face the particular challenge of stringent size restrictions for storage units and the rather long, complicated planning permission processes. Both factors unfortunately lead to less efficient processes and higher building costs compared to other countries, which is in the end less favourable for French customers.

"Real estate is an essential element of the value chain."
What are the main recent changes in logistics and retail real estate?

At the moment we’re seeing a new building category for online retailers emerging in the logistics real estate market. This evolution is only gradually being recognized and actively followed by developers and investors, who tend to stick to their traditional definitions of distribution warehouses or sorting centres. Most online retailers need huge warehouses, intelligent and flexible storage solutions, highly efficient areas for inbound and outbound operations and convenient access to courier networks. The main duty is quite simply to turn pallets into parcels. This is why work in warehouses for online retailers requires many more employees than in an “old style” logistics building. There are consequences for the site and building layout: for instance, more parking space and public transport connections are essential, along with a higher demand for office space and social areas, plus the need for more break rooms and toilets inside the warehouse. These warehouses are pretty comparable to manufacturing sites, and creation of a frugal and productive but decent working environment is essential for the success and acceptance of the site. The delivery of canteens, cooling and heating facilities, extensive IT and security installations or modern lightning systems are increasingly basic requirements.

How are changes in logistics and retail real estate impacting urban territories?

There will be growing demand from online retailers, stationary retailers and the courier networks for inner-city and/or near-city distribution, sorting
and delivery facilities. This change needs to be factored into urban development and traffic planning, as the trend in the past was to move those functions out of the metropolitan areas. There should be an additional focus on the development of busy private and public locations, which could be enhanced by logistic functions like parcel depots. Meanwhile, there could well be a partial transition from traditional retail shops in the main city centres to showrooms where clients will be able to order products for same-day home delivery at low cost, or next-day delivery free of charge.

Retailers with a large number of branches in metropolitan areas could streamline their processes, increase services and reduce overall stock by serving those areas through one or two central storage units, delivering all selected items to the customer by parcel service.

How is Amazon addressing the last mile delivery challenge?

The delivery process, with the final handover of the product in a parcel, is an absolutely essential part of this value chain, as it is basically the only step offering potential face-to-face contact with the customer. Amazon uses existing courier networks for transportation and last mile delivery, but with the growth and international spread of the business there are certain limitations in service providers, and national or regional service levels differ widely. Time, quality and cost are the traditional key economic factors for improvement, with forward-looking management of transportation systems and solutions.

Amazon is working on long-term business relationships with powerful and innovative suppliers to constantly enhance transportation and delivery services. This certainly does not prevent us from developing, testing and running our own services for certain markets and processes, to add value and enhance the customer experience. Recent examples are the installation of locker boxes in New York and London, or the opening of a last-mile depot with our own drivers in the UK.

What innovations are technologies bringing to real estate logistics?

Intelligent software systems in combination with robot technologies could lead to a new type of warehouse. Kiva Systems is a very good example of this unique combination of technologies. The kinds of robots they develop, for example, can work in near pitch-black areas, require less temperature-controlled environments and will reduce the use of conventional conveyor systems.
Smart Grids: when real estate is connected to its environment

Smart grids are a major field for innovation in real estate, and more broadly urban infrastructure management. Incorporating “smartness” into distribution networks for electricity, water or gas by fitting them with captors and communicating measurement instruments optimizes consumption of these utilities in several ways. Explanations are provided below by Stéphane Quéré, director of urban development at GDF-Suez, and André Santini, French member of parliament and Mayor of Issy-les-Moulineaux next to Paris, where a smart grid system has just been introduced.

**Viewpoint: Stéphane Quéré**

Director of urban development, Groupe GDF-Suez, Paris

As Director of urban development at GDF-Suez, Stéphane Quéré has been the instigator of several development projects and urban management solutions for local authorities. The aim is to give them tools that will provide better knowledge of all kinds of circulation in the town (people, vehicles, energy, water) so that allocation of resources and available infrastructures can be optimized in view of the strong economic and environmental constraints. In this interview, he looks at the contribution of smart grids in the more general perspective of urban management.

**What can smart grids contribute to sustainable urban development projects?**

I’ll start by putting the smart grid question back in the context of a more general problem. Towns and cities are facing significant changes that are modifying their environment and the way they work. They’re competing with each other to attract households and businesses. Economic competitiveness and residents’ quality of life are the main levers of their appeal, and environmental concerns are becoming an increasingly important part of the equation. The sustainable development outlook rests on three pillars: economic, social and environmental. In this context, a solely energy-focused approach is not enough. A comprehensive view and an integrated approach are vital for urban development and attractiveness. To achieve this, changes in governance are needed so that, right from the initial conception phase of an
urban project, the authorities, being the only player with an overall vision, can enlist a certain number of actors who will work together with them to achieve objectives. This group of actors should include infrastructure suppliers, real estate investors, public works companies, technological instrument suppliers, etc.

Through dialogue between all actors participating in the transformation of the city, new models can be introduced, for instance models operating on the principle of the circular economy. This consists of identifying all available resources in a territory, considering that one person’s waste can be another’s valuable resource. The aim is to confine circulations of materials and energies to a restricted local area, in order to limit greenhouse gas emissions and reduce the volume of waste. Household waste, for example, can be used to produce energy or as fertiliser for local farms.

What makes smart grids smart is not only a software innovation that uses digital technology to get all points of the network (electricity, water, etc) communicating with each other, but also the capacity to foster dialogue between actors through innovative governance. Smart grids are systems that support an integrated, cross-functional approach to a territory and a circular economy aiming for small-scale energy self-sufficiency: renewable energies generally draw on local energy generation resources and depend on discontinuous natural resources. Smart grids make it possible to adjust output to energy consumption and store excess energy in preparation for the next peak in consumption.

The energy question is only one aspect of the relevance of new technologies to smart urban management. This year, we launched a smart platform containing all urban data available to the local council, which gives the town council services a real-time view of the town’s activity at several levels: infrastructure operation, traffic, etc. The data feed for this platform comes from captors or service providers who report the information they hold, and can be used for real-time mapping of the town’s operation. All or some of this information can be made available to the public. By crossing and accumulating data, the platform is helpful in handling crisis situations: river flooding, extremely high tides, or extreme weather conditions can be modelled to identify risks and devise action plans for such situations (traffic diversions, real-time information for local residents, etc). This type of platform offers an infinite variety of applications: data on street lighting can be crossed with data on crime rates, information related to health can be incorporated, and so on.

What smart grid projects are you involved in?

We’re co-leader of the Greenlys projects in Lyon and Grenoble, which is analyzing inhabitants’ electricity consumption habits at the level of each local district. We have a similar project under way in Belgium on a slightly larger scale. And finally, we’ve signed an agreement with the city of Barcelona, which wants to become a “smart city” capital. For several years already, its 22@ district has been a showcase for the city’s transition towards smart management of infrastructures and resources. We developed the heating network which runs on waste incineration, and the cooling network which uses deep-pumped seawater, and we manage the energy system. Recently, Barcelona embarked on the citywide “City protocol” project.
based on a smart platform supplied by us. We’re working on seven different projects in connection with this strategic partnership, concerning mobility, energy consumption and smart grids.

**What are your relations with real estate operators in these different projects?**

They’re vital participants in production of the city, and we always work with them in our urban projects. Urban renovation or green district projects necessarily involve cooperation with property developers, the social housing provider, etc. Depending on the scale of the project (a single building, a district, a whole town), the subjects for cooperation are different. We have a facility management activity that mainly works at the level of the building, covering matters to do with optimizing consumption. But some questions that used to be generally addressed at single-building scale are increasingly being considered on the scale of a whole district: rainwater collection, for example, can be organized for one building or for a district.

For district development projects, we work with urban planning companies as well as real estate companies to think about ways of optimizing production, or collecting and recycling fluids (heat, rainwater, electricity) through smart grids. The energy solutions vary according to the context, the actors, the resources and local constraints.

**Do you think there are any obstacles preventing smart grids from becoming more common?**

Smart grids can only become widespread if people consider them beneficial and actually see their water and energy costs falling fast. We’ve put
smart metering systems into our social housing buildings, providing real-time readings of gas, water and electricity consumption that give the social housing manager a more detailed view so that awareness can be raised by passing on the information; the meters also immediately detect abnormal consumption associated with leaks, poor insulation in certain apartments, or inappropriate behaviour. These smart grids can be seen as intrusive, and are only accepted if they bring benefits for users in terms of financial savings and greater comfort.

For high schools in Alsace, we’ve entered into an energy efficiency contract with the region: we’re committed to providing a certain level of energy and environmental performance, subject to penalties if we fail to meet those commitments, but rewards if we exceed them. This project is supported by a campaign to make students and teachers more conscious of energy economy issues. If we are to roll out our smart grids we must find common interests shared by all actors - hence the importance of cooperation and appropriate dialogue structures that include residents and users.
Interview: André Santini
French MP and Mayor of Issy-les-Moulineaux, France

For 32 years André Santini has been Mayor of the town of Issy-les-Moulineaux touching the south-west edge of Paris, which has gained a reputation for its economic dynamism. In 2011 Issy-les-Moulineaux launched the Paris region’s first smart grid. In this interview, André Santini presents the major advantages of the project and tells us the ingredients of his recipe for an attractive town.

What makes the IssyGrid project innovative?

It’s France’s first pilot site for a local-scale smart grid. For the time being, the network covers 10,000 people in offices located in a 160,000 m² area bordering the river Seine, and it will later be extended to the Fort d’Issy eco-district. The idea is that the energy produced by these new office buildings, which meet French High Environmental Quality standards, and in some cases have been awarded the Very High Environmental Quality label, is recovered in the evenings and used to heat residential buildings. These are partly heated by geothermal methods, and the redistributed energy provides a supplement that means the buildings can be genuinely independent. This is the only demonstration project of its type in all the greater Paris area. The objective is to optimize energy consumption and generation, to avoid problems meeting peaks in consumption and reduce energy bills.

Which actors are behind the project?

A consortium of businesses, all leaders in their respective sectors (real estate, telecommunications, IT, energy generation and transmission, urban infrastructures), together with a number of small and medium-sized companies. This consortium covers all the fields of activity involved in setting up such smart grids.

What is the town’s role in the IssyGrid project?

The town plays a role as planner, defining the use of public spaces in such a way that functions are mixed (offices, shops, private housing, public amenities). It also has to raise public awareness. It’s the town’s job to combine and channel energies, and lay down conditions and rules for the actors in charge of the scientific and technological advances. The town must also promote a vision of its own future. For example, we’re working on a project to develop electric vehicles, which could become part of the existing smart grid.
What type of energy is the project based on?

The primary energy is photovoltaic solar power, using cogeneration to limit fossil-based energy use, and indirectly, greenhouse gas emissions. We thus use the whole range of standard renewable energies, plus, more unusually, geothermal energy, with two 800m-deep wells in the Fort d’Issy district. Putting in the geothermal heating network was made easier by the fact that the whole district was just being built. This meant we could also incorporate pneumatic waste collection into the plans. Fort d’Issy is thus an ecological district of 12 hectares and 1,610 homes, one third of which are social housing. 78% of its energy will be sourced geothermally.

What are the ingredients of a truly “smart” urban vision?

You need a real long-term vision. It takes time to change a town and the most difficult thing is changing people’s mindsets. You have to be able to work with excellent architects who can contribute novel ideas. Architects such as Bernardo Fort-Brescia and Christian Portzamparc have worked on the west Seine area. A smart, esthetic, energy-efficient building requires a higher outlay, but soon generates a good return on investment for the investor, but also for the town which enhances its appeal, and for users and residents.
Further information

The Rolex Learning Center, Lausanne

Opened in 2010 and designed by the Japanese architecture agency SANAA, the Rolex Learning Center at the Polytechnique Fédérale de Lausanne is a model for buildings that foster innovation-creating research. It is open to the public as a library, workspace, laboratory, conference centre and meeting and social space (with a cafeteria and restaurant), illustrating the increasing overlap between different uses of buildings. This multifunctionality encourages serendipity, the art of chance discoveries through chance meetings and readings, stimulating innovation. The building is designed as a single vast rectangular space where the only partitions are glass, and the component environments are identified through contrasting flooring, arranged in a network of gentle slopes that allow several different circuits of movement. The roof, which echoes the shape of the floor and consists of hulls that let natural light through in several places, is a feat of technical achievement that won its maker BG the Prize for Computer-Assisted Engineering.

Modular architecture for a more flexible city

They were long considered and designed as a stopgap solution for emergency situations, but modular buildings have now gained serious credibility, winning prizes for architectural projects based on industrially-manufactured modules. These modules have been part of the urban landscape since the industrialisation of property began, but have only been associated with quality landscaping and architecture in recent years. Modular architecture offers low-cost buildings that can respond extremely rapidly to fluctuating needs, broadening the palette of urban solutions for real estate and city designs that are able to move with today’s mobile, changing world.

In the retail property sector, the Boxpark, called the “world’s first pop-up mall” by its developers, is a collection of shipping containers refitted as boutiques, cafes, and exhibition areas. It has been in east London since 2011 and is designed with easy relocation in mind.

In housing, the Bordeaux public housing office Aquitanis has launched a pilot project to build modular, low-energy wooden houses.

The architectural firm Patriarches and Co has shown that emergency housing can also be part of a quality urban environment through La Maison de Rodolphe, in Lyon: this hostel and centre for homeless people with their dogs, and families with young children, was assembled in just four months.

The needs for student accommodation, which can change very fast in an average-sized town, make this sector a field for experimentation in modular architecture.
This is seen in the Netherlands where the movement began, and also in France: the Upper Normandy regional university centre commissioned a hall of residence on the redeveloped docklands at Le Havre, made of blocks constructed from recycled shipping containers.

School and university buildings are also significantly affected by year-to-year fluctuations in student numbers and therefore class numbers. Naturally, then, this is another good sector for experimenting with modular architecture, as illustrated in the Flotte school in Marseille, built in conjunction with the modular building firm Algeco and architects Marzials et Geel.
This first issue of the Cahiers de la Chaire Immobilier et Développement Durable takes a look at the changes in society and real estate that are transforming our towns and cities. Interviews with some twenty academics and actors from the real estate sector highlight the issues facing different real estate sectors in a context of fast-paced change in our societies. The rise of mobility, the digital revolution, new ways of working, new consumer habits, cultural practices, an ageing population, the demand for flexibility in the world of work… all these social and cultural mutations are factors for change in our relations to space, and built-up space in particular.

How should the housing, offices, and warehouses of tomorrow be designed today? Are these very classifications called into question by the emergence of new forms of hybrid buildings intended to meet the need for coherence in urban organization? As environmental constraints grow increasingly stringent, what innovations today point to areas for reflection on the city of tomorrow?

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