International seminar of La Fabrique de la Cité

5, 6, 7 july

BEYOND BORDERS AND BOUNDARIES

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Editorial

"The imagination must take too much for thought to have enough." By bringing together every year since 2008 people who think, design, direct, build, run, finance and love... the city, La Fabrique de la Cité aims, as Bachelard recommends, to stimulate multidisciplinary, innovative and prospective reflection about the future of our cities and metropolises.

This is the first time that the urban transitions think tank, created by VINCI, its patron, has organized an international seminar in France. Lyon is the obvious choice: for anyone wanting to work on building a durable, inclusive and flowing metropolis, we must think beyond borders and boundaries. First, beyond territorial borders by creating new alliances with the surrounding areas, but also international borders. Next, cultural borders: in the digital era, building no longer means imposing top-down solutions, but rather cobuilding with civil society, whether for the people or companies. And lastly, economic and financial boundaries: as under the New Deal in the 1930s, the people involved must invest in innovation and growth, and, in turn, invent new room to manoeuvre economically and financially.

A European metropolis, a city of flows, and an innovation hub, Lyon is itself a manifesto for thinking and moving beyond boundaries. These three days will undoubtedly fuel our imagination and direct our action.

Cécile Maisonneuve President, La Fabrique de la Cité

Programme

World metropolises as an engine for a new territorial deal

DAY 1 Wednesday 5 July

Territorial Partnerships at the Heart of Metropolitan Construction



06.30pm

07.15pm

08.45pm

06.00pm - 10.30pm Confluences Museum

Introductory Session Building new partnerships between territories, a

challenge which metropolises must now conquer in order to become infusers and diffusers of growth and innovation.

07.15pm Connections and Places of the Metropolis

How can the metropolitan scale work to be recognized and adopted by its inhabitants, who are the sole guarantors of the legitimacy of public action? By creating places open to all and by connecting all metropolitan territories, symbolic places and infrastructure contribute to the rise of a metropolitan identity shared by all. David KIMELFELD, Vice-President, Lyon Metropolis Cécile MAISONNEUVE, President, La Fabrique de la Cité Carlo RATTI, Director, MIT SENSEable City Lab Richard SENNETT, Professor of Sociology, London School of Economics and Political Science

Wolf D. PRIX, Design Principal & CEO, COOP HIMMELB(L)AU Lynn RICHARDS, President, Congress for the New Urbanism Paul LECROART, Senior Urban Planner, IAU Île-de-France André BROTO, President of the French Committee of the World Road Association, Director of Strategy and Prospective, VINCI Autoroutes

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Cocktail dinner and visit of the museum

08.45pm Welcome speech

Xavier HUILLARD, Chief Executive Officer, VINCI DAY 2 Thursday 6 July

11.30am

A New Deal for Territories

08.30am - 11.30am "New Deal" Garage Citroën

08.30amFinancial Innovation in Support09.45amof a Metropolitan ProjectHow can we unlock the value of metropolitan assets
in order to finance future projects?

Bruce KATZ, Centennial Scholar, Brookings Institution Luise NORING, Senior Research Fellow, Brookings Institution Isabelle BARAUD-SERFATY, President, ibicity

For further information p.20

10.10am Will Big Data Save Cities?

As private data services shift the traditional balance between stakeholders and affect the public actor's role in the regulation of its territory, what new role can local authorities play? Business Development Manager, Waze Michel MORVAN, Founder & CEO, CosmoTech Éric CASSAR, Architect and Founder, Arkhenspaces

Thais BLUMENTHAL DE MORAES, Global

For further information p.22

Territorial Dynamics: Capitalizing on Complementarities



11.45am - 02.30pm Cruise boat "L'Hermès"

11.45am 01.15pm

On the Rhône and the Saône, Landscapes of a Changing Metropolis

Cruise aboard the Hermès, for an in-depth reading of the urban landscapes that showcase the history and current evolution of the Lyon metropolis.

01.30pm Towards Integrated Urban Logistics

02.30pm Suffered or tolerated, rarely conceptualized or coordinated at the right scale, urban logistics are a field of considerable and urgent challenges for metropolises if they wish to ensure long-term accessibility and quality of life. What are the innovations that can foster integrated urban logistics?

For further information p.24

Laurent COUDROY DE LILLE, Senior Lecturer, Institut d'Urbanisme de Paris

Christophe FERRARI, President, Grenoble-Alpes Metropolis Frédéric DELAVAL, Director of Urban Logistics project La Poste 2020, Groupe La Poste



DAY 2 Thursday 6 July

Building the City Under the City

03.00pm - 05.30pm Les Subsistances

03.00pm 04.00pm 04.00pm 05.30pm

How can we face growing urbanization without increasing existing pressure on agricultural land and transport needs responsible for high energy consumption and various nuisances? Beyond building the city on top of the city, a new path is left to explore: building the city under the city. How can cities best exploit the densi cation potential of these vulnerable spaces? **Keynote by Dominique PERRAULT**, Architect, agence Dominique Perrault

Guillaume LAVOIE, Municipal Councillor, City of Montréal Han ADMIRAAL, Chairman, ITA Committee on Underground Space Elizabeth REYNOLDS, President, Urben Michael DOYLE, postdoctoral researcher and architect, Deep City Project, EPFL

– For further information p.26



08.00pm "Têtedoie" Restaurant DAY 3 Friday 7 July

Territories for Health and Well-Being: from Built to Public Space



08.30am - 10.15am Le Sucre

08.30am 10.15am How can cities help protect and promote the health and well- being of their people? This is a major challenge for their long-term attractiveness. The public space a priori brings together all the conditions to become the privileged tool of the fight of the cities for more health and well-being. However, its complex design, which is subject to different requirements, can strongly influence this capacity. That is why the public space must be conceived as more than the mere negative of the built space and be the object of a specific project. Carlos MORENO, President, InTI Jérôme STUBLER, Chairman, VINCI Construction Philippe RAHM, Architect, Philippe Rahm Architectes Arjan VAN TIMMEREN, Scientific Director, Amsterdam Institute for Advanced Metropolitan Solutions (AMS)

For further information p.28

Visit of the Vieux Lyon

10.45am - 12.00pm

Lunch

12.15pm "Le Caro de Lyon" Restaurant



DAY 3 Friday 7 July

02.15pm

03.15pm

03.15pm

04.00pm

The Strength of Networks

02.15pm - 4.00pm Lyon City Hall

Metropolitan attractiveness is no longer solely a matter of offering a number of resources in one place, but is also about granting access to resources located elsewhere. Links between a metropolis and other cities become assets of their own.

The increasing role of cities and city networks on Metropolis the international stage to face the major challenges of our time, and particularly the fight against climate

Karine DOGNIN-SAUZE, Vice-President, Lyon Bill PEDUTO, Mayor, City of Pittsburgh Armand BÉOUINDÉ, Mayor, City of Ouagadougou Francis PISANI, Journalist

Hakima FASLY, Deputy Mayor, City

Francis PISANI, Journalist

Rémy PAGANI, Mayor, City of Geneva

Gaël PERDRIAU, Mayor, City of Saint-Etienne

of Casablanca

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change and inequalities.



Cocktail

Key points 2 of debate

Allying Territories at the Heart of Metropolitan Construction

How can a metropolis be brought to a new level that is recognized and adopted by its inhabitants, who are most able to ensure the legitimacy of public action? Symbolic sites and infrastructures, by creating sites open to everyone, and links between all territories of the metropolis, contribute to bringing about a metropolitan identity shared by all.

Nowadays, metropolises are asserting themselves internationally. In France, the 2014 MAPTAM law specifically focused on the "affirmation of metropolises" by creating nine metropolises with statutory legislation and three metropolises with special status, including Lyon. **These new tiers of governance, however relevant and efficient** with regard to growth and innovation policies, now have another challenge to overcome, that of also being recognized and adopted by inhabitants—the first capable of ensuring the legitimacy of public action.

How can we make a metropolis become a "lived-in space" (Frémont, 1976), when it groups often heterogeneous territories that do not always share strong ties? The answer is twofold:

On the one hand, **by creating the founding sites of this new metropolitan identity** and dimension: museum, library, concert halls, stadium, etc. Building and investing these infrastructures with a strong symbolic dimension—for example, through a bona fide architectural project—creates links between the city and its districts. These multipurpose sites foster exchange between the citizens and serve to overcome the city's physical disruptions (rivers, urban highways, train stations, etc.) as well as social disruptions (socio-professional segmentation) by creating cohesion around shared moments and mobilization of local stakeholders.

On the other hand, by building infrastructures that can create links between all territories of a metropolis, even the most remote and segregated. This involves thinking beyond just infrastructure; indeed, it means conceiving the entire mobility system as part of urban planning. It is therefore necessary to integrate the constraints and potentialities of different users so as to break down both physical and symbolic barriers, which splinter the metropolitan territory and hinder coherent consolidation.

LINKS and PLACES of the MSTREPOLIS



Since 1969, Lyon's urban community, with its innovative and special form of governance, has pursued an urban development project that brings together all of its territories. In order to achieve legitimacy in its activities, the city seeks to reinforce its identity. Symbolic sites are emerging to unite the parent agglomeration with its suburban and rural territories around a common project. The Confluences Museum and the transformation of the A6/A7 Autoroute will become icons for the metropolitan area.



The Confluences Museum

For Viennese architect Wolf D. Prix, only outstanding, modern architecture can revive the identity of a city and the quasi-emotional link between citizens and their environment. The Confluences Museum was thus designed to be an "urban icon."

The building, located at the southern tip of the Confluence District, the point where the Saône meets the Rhône, towers over Autoroute A6/A7, which extends to the south. Still quite isolated, it will mark the link between the banks of these two rivers and the adjoining districts (Mulatière, Mouche, Gerland).

The museum seeks to reinforce the cohesion of the agglomeration and to stimulate exchanges and flows within it. This site is not reserved for the urban elite, but rather is intended to serve as a place to disseminate knowledge and as an optimal meeting place.



Decommissioning Autoroute A6/A7 The Decree of December 27, 2016 officialized the decommissioning of Autoroute A6/A7, the so-called "Motorway of the Sun", bringing all Northern Europe to the beaches of the south. Sometimes onsidered as an "urban absurdity" (Gérard Collomb), this route extends over a dozen kilometres, from either end of the Fourvière Tunnel, crossing the agglomeration from north (Dardilly-Limonest) to south (Pierre-Bénite), and is taken every day by 113,000 vehicles, making it one of the busiest highways in France.

Between now and 2030, the metropolis plans to develop a green, serene urban boulevard along with the commissioning of a highway bypass (Anneau des sciences) and a strengthening of public transportation services.

The decommissioning of Autoroute A6/7 is an opportunity to experience a new space of passage and movement—a crossroads— as in some North-American metropolises.

Further reading:

Schamess, Lisa. "We Need Infrastructure that Serves Multiple Purposes." CNU: May 2017. Lecroart, Paul. "Demain, la ville pour les humains ?" Les Cahiers de l'IAU Île-de-France, no. 158: Paris, June 2011.

Cervero, Robert. Freeway Deconstruction and Urban Regeneration in the United States. University of California: Berkeley, January 2006

A new deal for territories Financial innovation for metropolitan projects

How can we leverage our metropolitan heritage to fund future projects?

The major issue today for cities is to be able to find new levers for territorial development. The issue is two-fold: to ensure their attractiveness in a highly competitive environment, and to welcome converging demographic and economic flows. **New forms for the financing of these large-scale future projects are being sought out**, especially via the involvement of private players. The role of private players in urban production is not new, but it has changed given the local financial situation, scope of capital requirements (sustainable development, digital transformation, urban renewal, etc.) and lastly new optimization and efficiency objectives for public action

The urban factory is thus set up in three steps:

 Enhanced intervention of the private sector in the city based on a partnership-based approach in order to promote optimization of urban property and services. Public-private partnerships are one of many known examples.

 Financialisation of the city, with a greater role played by stakeholders such as investment funds, insurance or banks, which are searching for new support and see urban projects as financial assets.

— Renewed reaffirmation of the key role of public players with the regulatory power and a certain number of assets which are often dormant, such as abandoned property (industrial sites, derelict places, etc.). This means "leveraging the value of the metropolitan heritage," a key driver of this project to build the city on the city.

F&NANCÉAL IINNOVATEON for the Cit Y



Lyon is an entrepreneurial city that has succeeded in rallying public, private and financial players early on around the production of the city and its services. To fund large-scale urban projects, such as the Cité internationale (launched in 1999) or the Confluence District (future showcase of urban innovation), the metropolis used innovative financial means: leveraging the value of our metropolitan heritage and new interactions between the public and private sectors.



The Confluence District: 100% Public Governance, A Management Based on Partnership

The Confluence District covers 150 hectares, south of the Lyon-Perrache train station. An initiative of Raymond Barre in 1995 and implemented by Gérard Collomb since 2001, this revitalization project aims to double the downtown's surface area to include a district dedicated to urban innovation.

Unlike the Cité internationale, the Confluence project is governed entirely by the public sector; only its management is carried out as a partnership. In 1999, the urban community of Lyon founded the semi-public company (mixed enterprise) SEM Confluence, renamed SPLA in 2007. This structure serves as the "right hand" of the metropolis, mandated with carrying out negotiations between the private partners. The urban community also has two mixed development zones (ZAC) to guide the urban project and encourage private promoters to invest. To force these promoters to respect certain criteria, namely environmental standards, energy performance, green spaces, social and functional mix, the SPLA sells the land at attractive prices, after having developed and serviced them.

Private investments have largely influenced the Confluence site development policies. The SPLA launched several calls for tenders, in particular for conceiving and designing "business and entertainment hubs," the future "economic driver" of the district.

Further reading:

Baraud-Serfaty, Isabelle. "La nouvelle privatisation des villes." Esprit 2011/3, April, p. 149-167 "La ville financiarisée," Revue URBANISME, no. 384, June 2012

Guironnet, Antoine. "Une financiarisation si discrète ? La circulation des standards de la filière d'investissement en immobilier tertiaire dans les politiques de développement urbain du Grand Lyon." Revue Métropoles. École Nationale des Travaux Publics de l'État, December 2016

Bardet, Fabrice. "De l'expertise d'État à l'expérience des marchés dans la conception des politiques urbaines lyonnaises," in: V. Biau and G. Tapie (eds), La fabrication de la ville. Métiers et organisations, Parenthèses, Marseille, 2009, p. 117-128

A New Deal for the Territories What digital technology says about the complexity of the city

How can tools like big data and artificial intelligence be used to "rethink" the city factory? How are they redefining stakeholder actions within the city factory?

Conceiving the alliance of territories also means building a city that serves everyone. Digital technology opens new paths and an unprecedented potency to act by revealing various uses and offering various tools and services so that citizens and communities alike can make more informed decisions. In doing so, new ways of making the urban space one's own come into play.

As proof of their efficacy, these data services can offer, in addition to the individual value expected of a service, collective value free of charge. Generated by the city, "home-grown" players, or produced by the economies of trans-national platforms, data services are radically changing the traditional roles of stakeholders, forging new partnerships and blurring traditional boundaries. How can we reconcile undeniable service efficacy on the one hand while maintaining territorial control by public authorities on the other hand? How can we facilitate implementation of this new ecosystem, which will be a source of growth, jobs and urban transformation? Many cities have opened a digital portal so that private players can compare data and develop services that are better adapted to their purposes. Anticipating the unexpected, evaluating budgets and directing development, mobility and energy projects: the digital applications in the city are multifold. Digital services are slowly becoming more than a technological layer, penetrating the very core of the framework and infrastructure. In addition to the mass amount of data, a deeper revolution is looming on the horizon with the advent of artificial intelligence: more than just a tool, it will emerge as a major player in the years to come.

IMPROVE GITIES USENG DATA



The purpose of the "Lyon Métropole Intelligente" project is to stimulate creativity and innovation in the Lyon metropolitan area. The strategy covers three main areas: new mobilities, digital services and energy. The metropolis favours a global and collaborative approach, which brings together private, institutional and scientific players. The programme plans to accelerate the "intelligent" transformation of the territory, which is developing spaces for innovation and experimentation in the areas of Big Data and artificial intelligence (Tubà, future Girard market).



Grand Lyon Data Logo

Data Grand Lyon Lyon is a driver in collecting, processing and using urban data.

Since implementing the Data Grand Lyon platform in 2013, the city has become an "expert" in computer mediation.

The platform values the economic potential of public data, encourages the participation of citizens in developing new urban services and facilitates exchanges between the different stakeholders in the area.

The data are used, for example, by local contractors who deal with Tubà. These have given birth to new services, such as Optimod'Lyon, which aims to optimize urban mobility using traffic predictions.



Gerland Urban Modelisation The Gerland Urban Modelisation project, implemented by EDF, Veolia and the start-ups CosmoTech and ForCity, plans to develop a decision-assistance tool for the Gerland District, in Lyon's 7th arrondissement.

A demonstrator can be used to view and guide new district development projects. It takes into account the territory's issues: transportation, attractiveness, environmental challenges, residential uses, accommodation, logistics and energy.

It develops scenarios that examine external factors, whether positive or negative, with the idea being to find the "optimal" development.

The Gerland Urban Modelisation project stands out by its scope: it covers a surface area far greater than similar experiences in Mexico and Singapore.

Further reading:

Larroche, Valérie and Vila Raimondi, Martine. "Open data, big data: quelles valeurs, quels enjeux ?" Fifth conference "Document numérique et société," École des sciences de l'information de Rabat, France, De Boeck-Supérieur, May 2015, p. 183-195 Ratti, Carlo and Claudel, Matthew. The City of Tomorrow, Yale University Press, 2016

Territory Dynamics: Playing with Complementary Aspects Toward integrated urban logistics

It is endured, it is tolerated, yet it is rarely thought out or coordinated on the right scale. Urban logistics pose a considerable and urgent challenge to cities if they want to ensure long-term accessibility and quality of life. What governance models and innovations can promote integrated urban logistics?

Movements of goods and raw materials are imperative for the supply and economic development of cities. The logistical picture depends on the flow of all movements within the metropolis. Several strategies allow to correct, or at least mitigate any negative external factors caused by the movements of goods: congestion, traffic, air pollution, sound pollution, etc.

The aim is the mutualisation and rationalization of flows at the metropolitan level. The challenge lies in the possibility of mobilizing all territories toward a coordinated master plan, closer to the needs of citizens and economic players. Applying this complementary nature of the territories downtown, peri-urban hubs and rural spaces—assumes the construction of ad hoc infrastructures: multimodal hubs to better reconcile the movement of goods and people (airports, train stations, roads and ports), Urban Logistical Spaces.

Logistics must also be rethought on a more local scale, namely the last kilometre. "Micro-logistics" focus on the distribution of goods directly within the districts. Innovations abound: reorganizing inner-city parking, deploying automatic instructions for receiving packages, installing miniature logistical platforms to ensure the provisioning of districts, investing in vacant spaces and exploring new possibilities.

Beyond the infrastructures and innovations, however, the issue of urban logistics calls for repositioning the political decision-maker at the very heart of these reflections on mobility. And it is the decision-maker's ultimate responsibility to provide the framework and prompt players to develop partnership logistics without supplanting them. In order to be sustainable, urban logistics must also include the consumer-citizen, a paradoxical being whose faces and aspirations of well-being are not necessarily well aligned. In short, with urban logistics, the ability of territories to implement collective intelligence is what is at stake.

FEEDING AND FUELING THE CIT X



At the crossroads of France, Switzerland and Italy, Lyon remains the place for exchange and trade. Since 2013, Lyon has been committed to more effective and sustainable urban logistics to reconcile economic activity with environmental challenges. It conducts multiple trials (night-time deliveries, multi-purpose roads, urban logistical spaces) and participates in European projects (Opticities).



Optimod'Lyon

From 2012 to 2015, the metropolis, the city of Lyon and eight private companies, including Renault Trucks, created the Optimod'Lyon pilot project in order to optimize the mobility of people and freight using a traffic information and management system.

A platform collects, centralizes and processes all urban mobility data across all modes of transportation. An application delivers information about traffic in real time and predicts traffic for the following hour.

These predictions will improve the movement of people and rationalize travel for freight professionals (delivery rounds and deliveries) within the city. In addition to traffic data, the application provides information on the availability of delivery sites.



Urban Logistical Spaces at the Heart of the City

"Urban Logistical Spaces" are multiplying throughout cities' downtown areas with an aim to optimize the storage and transportation of goods. These spaces are storage platforms shared among various operators. Deliveries to surrounding neighbourhoods are carried out by non-polluting, electric vehicles or scooters.

Such is the case in Lyon, where Deret and Ooshop share a logistical space integrated into the Cordeliers parking garage, which was rendered available by LPA, the parking operator for the Lyon Metropolis.

Opened in 2012, this logistical outpost allows both partners to consolidate their respective deliveries and to serve their clients in the Lyon peninsula using electric trucks on optimized routes. The supply of the Urban Logistical Space is operated by Deret from both its own and Ooshop's logistical platforms in the periphery.

It is however important to note that the business model of this kind of logistic facilities is yet to be found and their economic balance remains fragile.

Further reading:

Libeskind, Jérôme. La logistique urbaine – les nouveaux modes de consommation et de livraison, Edition FYP, March 2015

La Fabrique de la Cité. Feeding and Fueling the City: Trois scénarios pour réinventer la logistique urbaine, November 2016

Building the City Under the City

How do we tackle growing urbanization without increasing the already intense pressure on farmland or energy-consuming transportation needs and their attendant negative impacts? Two solutions are possible: building the city over the city or under the city. How do we invest in underground spaces and rethink the relationship to the city's ground level? How do we maximize these vulnerable areas' potential for densification?

Cities spread out due to demographic pressure and economic activity. After several decades of urban sprawl, they are now seeking to densify. Building the city on the city is a well-trodden path to urban intensification that nevertheless retains a real potential for innovation: new typologies allowing intensification, land found on roofs and by converting abandoned spaces, or even new regulations enabling experimentation.

Another path remains largely unexplored: building the city beneath the city. The vertical city has long aroused curiosity, beginning with the imaginary worlds of cinema and science fiction. The imaginary megalopolis in Metropolis is a perfect example. An affluent, pleasure-seeking society reigns above; the workers and the oppressed toil underground. The underground city is often seen as an abject space given over to networks and technical infrastructure, and rarely as a space to conquer.

However, some cities have domesticated and invested in their underground spaces. The winding network of shopping malls under downtown Montreal is exemplary in terms of planning and economic success. Tokyo is truly three-dimensional in its use of underground, ground level and vertical spaces. London and Paris are now considering their decommissioned underground passages and subway stations with interest. The "Deep City" research programme aims to take a fresh look at the potential of often-overlooked underground spaces from a sustainable development perspective.

Developing underground spaces poses several challenges: knowing the nature of the soil, locating natural resources or what remains of them, and examining constructability while taking into account the fact that underground spaces are fragile and subject to severe constraints. Underground development entails painstaking geological and cartographic work. This new frontier potentially holds a vast array of opportunities.

the Vinderground CiTZ



In the 1970s, Lyon invested the air and its underground with the development of Part-Dieu, France's second business district. This neighbourhood is now subject to an ambitious revitalization project which works on the city's verticality while betting on elevation and new connections between the underground, the natural soil and buildings in order to create an active soil.



Lyon Part-Dieu Project

Despite its first-rate facilities (auditorium, cinemas, media centres, among others), Part-Dieu is today often only associated with its mall and train station—and the image of an impossible-to-cross, fragmented space. Part-Dieu is emblematic of the many concrete-dominated urban planning projects undertaken in France in the 1970s. They were intended to strictly separate traffic along vertical divisions: the underground space was for public transportation, deliveries, and parking; the natural ground level was for cars; high above, pedestrians could access various concrete slabs using suspended footbridges. At Part-Dieu, the suspended slab is six metres above the ground.

The goal of the Part-Dieu revitalization project, which began in 2010, is to create a European business centre and to affirm its still misunderstood centrality. The project seeks to reveal the area's inherent potential and work on programmatic continuities to launch Part-Dieu into the 21st century and create a cutting-edge neighbourhood. The new neighbourhood must accommodate an additional 650,000 m² of offices, 2,200 housing units for 4,000 inhabitants, and 100,000 passengers per day at the train station. To achieve these objectives, work on the vertical city is crucial:



Densifying by Building Upwards

For its business district, Part-Dieu focuses on the construction of next-generation high-rise buildings that will complete its skyline (the Part-Dieu tower, 170 metres; the Oxygen Tower, 117 metres; and the recent Incity tower, 200 metres). Next to projects Eva and Silex 2, one of the flagship projects is the "To-Lyon" Tower. The Tower will host 65,000 m² of office space and possess an "active base" (shops on the ground floor). The project involves the metropolis, VINCI Immobilier, and Dominique Perrault—who has a special relationship with verticality and underground space.

Rebuilding the Vertical City

To remake the open space in Part-Dieu into a true public space, the AUC has proposed the concept of an "easy groundscape" that reconnects the links between the currently fragmented vertical spaces and attaches the buildings to the city's ground level, which will be redesigned as an active area. "The ground level at Part-Dieu must be built to facilitate use and promote exchange and interaction (...). It must reconnect the inside and the outside, front and back, top and bottom and become an equipped and informed groundscape that orients movement. (...) It is a dense, sometimes pre-existing but redefined groundscape that organizes movement and stasis, penetrates into the tower lobbies, into the Auditorium and Library, hosts the terrace cafés and, with its escalators and elevators, climbs onto the suspended slab and crosses the rail station and shopping mall."

Further reading:

Perrault, Dominique. Groundscapes — other topographies, Edition HYX **Admiraal, Han.** Think Deep: Planning, Development and Use of Underground Space in Cities ITACUS – ISOCARP, 2015.

Territories for Health and Well-Being: From Built to Public Space

To safeguard and promote the well-being of their residents is today an issue for cities that has significant implications for their attractiveness in the long term. Beyond access to high-quality health and social infrastructure, the development of urban space itself has an important role to play. How do we make the urban morphology a source of improvement rather than deterioration of well-being?

Urban well-being, understood as good health, social inclusion in a society that allows personal development, and a high quality of life, is currently a major issue for cities.

— On the one hand, there are health issues with the prevalence of certain diseases: obesity, asthma, allergies, cardiovascular and respiratory diseases, stress and certain mental illnesses such as depression.

On the other hand, there are social issues: in a society with a deteriorating social contract due to growth of socio-spatial inequality, Jaillet notes that "the city is breaking apart (...), being arranged in socially differentiated cells in extreme geographical proximity (...) [that hinders] urban space's capacity to undergird social relations and open up 'shareable' spaces." (Jaillet, 1997)
 Finally, it is an issue of attractiveness: in inter-city competition, well-being is increasingly becoming a decisive

Faced with this threefold challenge, cities have an ace up their sleeves.

criterion.

First, because the city is indeed conducive to innovation and possesses a dense ecosystem of actors who can meet these challenges. New technologies integrated in buildings or public spaces are mobilized to safeguard urban health (the use of sensors to measure air quality in real time throughout the city or buildings, "connected health," windows with solar cells, etc.).

Furthermore, public spaces, as common areas, free, open to all by right, and managed by public authorities, bring together all the fundamental conditions to become the weapon of choice of cities for promoting more social inclusiveness and better health. A place of alterity, urbanity, anonymity, and encounters with the other, public space remains one of the last areas where rethinking society through urban development makes sense. Finally, by its scale and morphology, the metropolis can





not only protect but also foster health and well-being. Morphology and architecture attentive to health and wellbeing, eco-friendly transportation, sports, public spaces, green spaces, planning on a human scale, meeting places and so on constitute a number of promising avenues for innovation and scaling up. Preserving and promoting urban health and well-being are challenges that must be addressed on a metropolitan scale—otherwise everyone may not reap these benefits. Lyon has adopted an active policy aimed at the promotion of well-being, whether on the health front, a challenge for a city prone to frequent pollution spikes (from the refinery in Feyzin, the chemical corridor, traffic congestion, etc.) or in social inclusion, which has been a focal point of its policies since the first urban riots in the early 1970s. To achieve these policy goals, Lyon draws on an ecosystem of dynamic actors working in healthcare (the pharmaceutical industry, hospitals and renowned institutes, digital start-ups) and has chosen a very proactive policy that develops public space as a vector for urban integration.





The OXYGEN Plan

Over the past ten years, air quality has improved significantly in the Lyon metropolitan area: the rates of fine particulates and nitrogen dioxide have decreased by half, while sulphur dioxide emissions have fallen by 74%. In 2015, the city launched the Oxygen Plan, which aims to strengthen clean air measures.

The programme seeks to transform urban mobility (doubling traffic-calming zones, reclassifying highway A6/A7, and investing one billion euros in clean transportation by 2020), encourage eco-renovation projects (the ECORENO'V platform), regulate economic activity (completing energy audits and implementing a "clean worksite" charter), and promote innovation in the smart city field.

A Lvon Method

Rue de la République

Since the development of the Rue de la République in 1990, the city has put its residents' uses of space at the heart of designing public spaces.

For urban planner Jean-Pierre Charbonneau, "the role of public planning isn't to eliminate conflicts, but to make them liveable." It is therefore necessary to understand the habits, behaviours, and neighbourhood-specific particularities.

This "Lyon method" is based on the development of tools that are aimed at including urban citizens in building their city. Sociological and anthropological studies are conducted before undertaking new projects. Consultation mechanisms bring builders and users closer together, with the idea of enhancing the specificity of public spaces: "to each his public space."

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The Strength of Networks: Territorial and International Outreach and Appeal

The appeal of a metropolis lies not only in its ability to offer a set of onsite resources, but also in its capacity to provide access to resources located elsewhere. Links fostered with other cities become resources in themselves.

In a world dominated by exchange, the scale of the metropolis, a major player in global transformations, is no longer accurate. We need to overcome our view of the metropolis as a place where people, goods, services, and infrastructures are accumulated, and stop analysing networks solely in terms of localization and distribution. We must take into consideration what Nadine Cattan calls "mobile territorialities" and "network society." "Gateway" cities experience and organize movements, and in doing so, become interconnected with other territories by means of interdependent relationships and shifting articulations. Purely competitive thinking is put aside to favour more complex strategies that merge competition and cooperation, and play up complementary aspects in such a way that "territories no longer play against, but rather, with other territories."

The challenge for cities is no longer to engage in a neverending quest to offer the same as their competitors, but rather, to use relational logic to provide the best possible access to other territories, rich in other comparative advantages. The city therefore asserts itself as an interface, and on multiple levels. - Local networks can be reinforced by developing the potential of each territory, exceeding to some extent the traditional, and at times hardening, hierarchical relationships between metropolises and peripheral communities. - City networks are also reinforced on a global scale, since the strengthening and diversification of links signifies a gain by each urban sector in terms of influence and effectiveness. Indeed, these new cooperative relationships allow cities to deal with complex mutual challenges that benefit from a sharing of perspectives, such as climate change, upheavals caused by new technologies, and revolutions in mobility. - These new types of global challenges, paired with a new logic of relations, can bring about a different form of collaboration. Using the smart city as an example, a new space for dialogue can be established between cities of the emerging world and developed countries, which can surpass the traditional segmented and culturally dominant forms of cooperation.

Today, the balance is to be found between the link and the place within multistakeholder and multiscale partnerships.

NET WORKED Cities



Very early on, the city of Lyon sought to conquer the international scene. It tended to its reputation as a city open to the world, with entrepreneurial ambitions. Beyond the resources offered by its territories, the metropolis gradually equipped itself with a network in order to develop new resources on a national (Saint-Etienne) and international (Geneva, Boston) scale. It established academic, cultural, economic, and scientific partnerships. According to Gérard Collomb, this is a case of "economic diplomacy."



OnlyLyon

The metropolis ensured its own international promotion through the OnlyLyon brand created in 2007. This programme provides national and international visibility, on both an economic and a cultural level.

Lyon equipped itself with 22,000 "ambassadors" (business persons, researchers, academics, and artists) who live around the world and volunteer to promote the city during their private and professional travels.

This approach allowed the urban centre to develop an international network, and to fashion a strong image for itself: that of a "metropolis of entrepreneurs." Proof can be seen with ADERLY (the Lyon Area Economic Development Agency), which recorded 22,700 businesses in 2014, a 122% increase in ten years.

This strategy allowed the city to rise on international charts.

Lyon-Boston collaboration

Downtown Bostor

Since 2014, the Lyon Metropolis has increased its exchanges with Boston, a pioneer city of urban innovation in North America.

The partnership was made official on February 10, 2016, with the signing of a Memorandum of Understanding in which the two cities committed to closer collaboration in the sectors of economic and urban development, innovation, culture, and tourism.

Lyon and Boston harbour similar economic ecosystems which promote biotechnologies, health, and robotics. The development of closer ties led to the establishment of the Big Booster programme in 2016, which aims to ramp up businesses and stimulate the emergence of new entrepreneurial ventures on both sides of the Atlantic.

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City profile Lyon, at the crossroads of flows





From top to bottom and left to right: Fourvière amphitheatre, Tour rose, Old Lyon; Euronews, Confluence district

Twelve Dates to Understand the City of Lyon

ANTIQUITY

43 BCE: Roman citizens settle on the Lugdunum hill and found the city of Lyon, future capital of the Gauls.

RENAISSANCE

1463: Louis XI establishes four annual fairs, where merchants from neighbouring provinces and countries meet.

1536: Francis I authorizes the city to manufacture silk, creating the silk industry.

1540: The first trade exchange of the kingdom of France opens in Lyon.

CONTEMPORARY ERA

1831: First revolt of the "Canuts" (silk-weaver workers), who fight against the minimum wage.

1872: First universal exhibition of the city at the Tête-d'Or park.

1895: The Lumière brothers invent the cinematograph and film workers leaving the Lumière Factory.

1969: Creation of the urban community of Lyon, the COURLY, which unifies 56 municipalities of the urban centre.

1979: Urban riots in the Grappinière neighbourhood in Vaulx-en-Velin.

1998: The historic site of Lyon is named world heritage site by UNESCO.

2003: Gérard Collomb launches the first phase of the Lyon Confluence project to redesign the southern peninsula.

2015: Creation of the Lyon Metropolis on January 1, 2015.

Identity Card: A Leading Metropolis

Today, Lyon is the third largest city and the second largest urban centre in France.

KEY FIGURES (2014):

industrial urban area in France V

The urban area of Lyon is home to over 3.2 million residents, and Grand Lyon counts close to 1.3 million citizens. Together, the metropolitan areas of Lyon and Saint-Etienne total 2.2 million residents. The organization of space is polycentric, composed of a network of secondary urban centres, which include Saint-Etienne, Vienne, Villefranche-sur-Saône, and Bourgoin-Jallieu.

The urban area of Lyon serves as a model for the study of interdependencies

and complementarities between territories, both on an economic level and

in terms of demographic shifts. It brings together territories with varied

2nd logistics region in France

3.2 M inhabitants in Lyon Metropolis economic profiles and functional complementarities. Lyon, a distributive main city, ensures their coherence and unity. Four profiles emerge: a centre (Lyon, Villeurbanne) with knowledge-based sites (universities, research, and cultural production); secondary urban centres (Saint-Etienne, Vienne, Bourgoin-Jallieu, and Villefranche-sur-Saône) which harbour in-person services (health, public administration, and distribuvtion services); territories of production (East of Lyon, Rhône valley, and Nord-Isère) with industrial sites and logistical activities; and suburban and rural spaces characterized by agricultural activity.

The regional network remains largely dominated by Lyon, which has made multipolarity a founding principle of its development and prosperity.

Large corridors dug by commercial trades and population displacements connect

urban centres together. According to the urban planning agency of Lyon and Saint-

Etienne, "[1.4 million citizens] move about each day within the metropolitan area,

most used route even today. Since 2013, the SNCF has been upgrading the Lyon/

major rail and motorways have since emerged in the Rhône and Isère valleys.

Saint-Etienne line, used by 18,000 passengers every day. Other corridors crossed by

between their homes and regular workplaces."¹ These large-scale movements pose a significant challenge in terms of infrastructure and transport. The main road connecting Lyon to Saint-Etienne dates back to the 19th century, and remains the

1.3 M inhabitants within the Greater Lyon

> 506,615 inhabitants

in the inner city of Lyon

Saint-Exupéry airport passenger traffic (2016):

9,553,250 (+9,8%)

25% of the inhabitants of the urban area are under 20 years old.





Perimeters of governance of the regional territory



The metropolis of Lyon and its European partners

Multiple Identities

That takes care of the clinical description. But what about the Lyon spirit?

"Every city is a complicated being," stated Fernand Braudel. And Lyon? Why is it unusual, what is its peculiarity? Lyon can be viewed as a city stoked with ambivalence, even contradictions. The sociologist Jean-Yves Authier believes it even suffers from several stereotypes. Images, often organized around pairs of opposition.

Bourgeois, it is maintained by traditions, governed by major families. **Popular**, it is home to the Canuts, silk workers who revolted in 1831 in the Croix-Rousse neighbourhood, known as "the workers' hill."

Industrial, it is dominated by chimneys and frequently drowned in pollution. The textile, chemical, pharmaceutical and mechanical industries favour a workaholic-dominated society. **Epicurean**, it offers a typical Lyon lifestyle: gastronomy, popular celebrations, puppet shows at Croix-Rousse (Guignol) and other activities. Lyon is not a city for work and boredom, but also a city filled with pleasure.

A closed city, Lyon is seen as hermetic and limited to its local networks. An image reinforced by the architecture of the old city with its straight and "dark" alleys, lending to secrecy and social grouping. An open city, Lyon is also perceived as a place for discussion, business, immigration and innovation. A metropolis clearly open to the world, at the crossroads of Northern Europe and the Mediterranean. In the future, it is via the Confluence quarter—a symbol of Lyon's openness to the outside world—that we will access the city.

Lyon as a capital? As pointed out by historian Jean-Pierre Gutto, throughout the ages Lyon has held the title of capital, whether of the Gauls during the Roman reign, or of the kingdom of France in the 15th century, only to lose its hold to Paris's supremacy. Nevertheless, Lyon remains a city of primary importance on the national and international stages, successfully seeking its autonomy from Paris in spite of the weight of centralization. Former economic capital of traders and business, today Lyon is at the forefront for its European and international openness, its unique urban government, its innovations and its ambitious urban development.

These stereotypes still feed Lyon's imagery. **But - recently especially- Lyon has been seen as a city that "changes," that "transforms."** Since the 1990s, the city has been in discussions with several European cities (Geneva, Milan, Barcelona),



The "des Lyonnais" fresco, Lyon

has consolidated its university centres, joined UNESCO's world heritage with an ambitious conservation policy and showcasing of its heritage, begun a transformation and modernisation process of its urban fabric that makes it possible to create a link between the inherited fabric and the contemporary city (Cité internationale, Confluence District), and sparked excitement and enthusiasm with the soccer exploits of the Olympique Lyonnais.

² BRAUDEL, Fernand (1986): Identité de la France, Flammarion, Paris, 1986

The History of a Struggle against Water and Topography

How did Lyon become Lyon?

Lyon is a living challenge to geographical determinism: in spite of a difficult location, it has succeeded, following costly planning that lasted centuries and continues today, in exploiting its potential to take advantage of an exceptional central geographical location in the heart of Europe.

Lyon's location is striking for the constraints it places on urban development and the extensive spatial rifts it involves. It is first and foremost a water confluence, with inherent hydro-morphological instability and thus difficult development. The Rhône and Saône rivers are radically different, except in their ability to experience major flooding. The Rhône is a violent torrent with a strong and regular flow, which has long maintained a course that wanders through the alluvial plain. The Saône River flows more slowly and very irregularly, but its flow is quickly stabilized, its bed forming over a crystalline plateau. Lyon's location is also distinguished by its surrounding hills: Fourvière (294 metres) to the west, Croix-Rousse (250 metres) to the north. These dominate a large alluvial plain that stretches to the south and east and which, under the effect of the various flooding of these two rivers, has long been a topography of unstable swamp, formed of islands and instable banks and flooded pastures.

This unstable site explains Lyon's highly particular urbanization, which reads openly as a vast conquest of the east and south.

Founded in 43 BCE on the heights of Fourvière and Croix-Rousse, the city spread out during the Middle Ages at the foot of these two hills. In the beginning, the Roman city of Lugdunum occupied the right bank of the Saône. It began at the foot of the Croix-Rousse hill and extended to the summit of Fourvière (theatre, odeon, forum and sanctuary of the Imperial cult). After the fall of the Roman Empire, the city regrouped around its religious buildings. The demographic explosion of the 13th century necessitated its expansion to the Presqu'île. Lyon's golden era, the Renaissance, erased the city of the Middle Ages. Lyon continued to expand from Terreaux to Bellecour through embankment, drainage and sanitation works, designing the Presqu'île (peninsula) shape into its characteristic grid pattern. From the 16th to the 18th century, it was primarily the central core that prospered and transformed. At the time, the city was limited to "Old Lyon" and the "Presqu'île," and became a major trade and banking centre. Lyon's bourgeois society and German and Italian merchants sponsored the completion of a series of architectural works: Hôtel-Dieu (the first hospital in Lyon and a future luxury hotel and City of gastronomy), the Dames de Saint-Pierre Palace (now occupied by the fine arts museum) and the Hôtel de Ville (city hall). The slopes of Fourvière and Croix-Rousse, properties of the Church, were still bare. It was during the Revolution that the religious lands were liberated, sold and built upon.

From the 19th century on, urbanization intensified and the city expanded to the east. This century marked the crossing of the Rhône River with the construction of bridges that supplemented the Guillotière Bridge built during the Middle Ages. The marshy lands were drained by diking and raising the left bank of the Rhône to protect it from flooding. New bourgeois neighbourhoods were built up. The silk industry transformed the urban landscape: the traditional homes of the Canuts, high and narrow, increased on the slopes of Croix-Rousse. Peripheral communities were annexed to the agglomeration. Large-scale construction projects to improve navigation on the Rhône River and new bridges on the Saône were begun. By the 1860s, engineers had perfected the design of suspended and steel bridges. Some even imagined a bridge connecting the hills of Croix-Rousse and Fourvière, a project that never saw the light of day. The Tête-d'Or Park, Croix-Rousse Hospital and Perrache Station, which connects Lyon to Paris, date from this era. Trains arriving at the Lyon-Perrache Station were featured in the first films of the Lumière brothers. Near the factories, the Gerland neighbourhood slowly developed, where employees and workers lived together.



The different urbanization periods: conquest from east to south

In the second half of the 20th century, popular neighbourhoods were built east of the community. Groups of towns developed in the periphery starting from the 1950s, near industrial sites: Rilleux-Ville-Nouvelle, Vaulx-en-Velin, Bron-Parilly, Saint-Priest and Vénissieux-les-Minguettes. At the end of the 20th century, modern neighbourhoods surfaced. Lyon developed its vacant spaces and renewed its urban fabric. The Cité internationale (an ensemble coordinated by Renzo Piano) and the Part-Dieu multimodal interchange (previously a substandard land plot flooded by the Rhône, now Lyon's secondary downtown sector) were born. Since then, the city has continued its physical expansion to the Confluence, an industrial and logistical space from the 18th and 19th centuries, and to build upon itself with the Part-Dieu revitalization project and the transformation of Hôtel-Dieu into an international city of gastronomy.

The constraints of this site, largely overcome by an ingenious development policy, continue to guide Lyon's urban planning, with four challenges to be overcome depicted by its famous geographer, Jacques Bethemont: "to remove the noose of the hills, provide a link between the slope's upper town and the river's lower town, conquer the space [...] by pushing back the confluence downstream, access the right bank of the Rhône and protect it insofar as possible from the risk of flooding ". It will take centuries to carry out this programme that remains open to date.

This programme's objective has always been to create ties between regions separated from one another by physical obstacles and socio-economic boundaries: physical obstacles lead to major accessibility differences among the regions, also resulting in the formation of neighbourhoods with very distinct socio-economic profiles inherited through the long history of the city and its unique urbanization process: the neighbourhoods of Old Lyon, Ainay, Brotteaux and Fourvière ("the praying hill") are inhabited by professionals and senior executives, while the surrounding areas like the districts of Etats-Unis, Vaise and Montchat are home to intermediate professions and workers.

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³ Jacques Bethemont, *"Lyon, le confluent et l'esprit des lieux"*, Géocarrefour, Vol.82/3 | 2007, 165-167.

Map of the Rhône river from Geneva to Lyon in 1787

The Lyon Junction at the Foundation of the Merchant Tradition

How does one explain Lyon's prosperity on the one hand, and the fight against the elements to make it possible on the other hand?

If Lyon's position is difficult, its situation is exceptional. Lyon dominates the north-south axis, the Rhone corridor, which oversees access to the Seine and Rhine basins to the north and the Mediterranean to the south, which was described by Elisée Reclus as the "road of nations." In spite of its narrowness, this axis remains the quickest route to connect Northern Europe to Mediterranean Europe. This axis includes not only road and waterway networks, but also rail and highway networks, oil and gas pipelines and high-voltage power lines, making the Rhone corridor a major communication axis at the national and European levels. In addition, the upstream arm of the Rhône River opens the door to the Alps, Switzerland and Italy, even as a secondary axis. Lyon thus finds itself in contact with dense, rich and highly developed regions like Switzerland, Piedmont, Lombardy, Provence, Catalonia and Baden-Württemberg.

An obligatory crossing point, a city of flows, Lyon took advantage of this crossroads position very early on: it became known as Lugdunum, capital of Gaul and trading place in the Middle Ages. From the 15th to the 19th centuries, it was the premier trade and industrial city in the kingdom of France. During the Renaissance, it affirmed its European position. A major economic hub thanks in part to the strength of its banks and to its global business activities (silk, printing, etc.), it took advantage of the initial trade globalization and its position on the new routes linking the Northeast with the Iberian Peninsula. With its trade activity, it became a major hub for business in Europe where many trade nations, including the Italians and the Dutch, came together. In the 19th century, it became a major global player in the silk industry. Silk merchants got their supplies from Italy and the Orient, and exported their fabrics to the United States, British colonies, Latin America and Russia. The Canuts occupied the Croix-Rousse slope and set up traboules to protect their fabrics from inclement weather. Beginning in the 20th century, chemical, pharmaceutical and mechanical industries (Lyon was the automobile capital until 1914) took the place of the textile industry. Lyon continues to take advantage of its position as a hub by having industrialists, entrepreneurs and researchers cross paths on its roads, TGV and airplanes. To ensure its economic standing, it has equipped itself with multimodal infrastructures and hubs: two major railway junctions (the Perrache and Part-Dieu stations), two hub airports

(Lyon-Saint-Exupéry and Lyon-Bron, the third business airport in France) and a logistics port (the Édouard-Herriot port supplies the city with goods and raw materials).

Lyon is perhaps to France what Hamburg is to Germany. In other words, an interface of the world's economies. And the Lyon carrefour has the particularity of playing a major role both for metropolitan France and Rhineland Europe, the Alps, Rhone and the Mediterranean.

A meeting place, the goal for Lyon has always been to become a trade hub and not just a transit zone, that is, to capture the value of that which passes through its territory. However, the downside of this exceptional situation is the regional impact of the flow crossing it. The narrowness of the Rhone corridor concentrates both internal and transitory flow over a limited area, to the point that Lyon risks becoming a bottleneck with all of the resulting negative externalities: network saturation, delays, pollution, etc.

Lyon, a European city



The Lyon crossroads, a European hub

Economic Activity Rooted in Modernized Traditional Sectors and Innovation

Today, Lyon is the second economic region in France in terms of employment and gross domestic product. Lyon's economic model is characterized by balance and diversity in its activities. However, the city's economic fabric is slowly changing: small and medium-sized enterprises are overtaking large industry, which is declining. To accompany this transformation and support entrepreneurship, in 1974, the urban community founded ADERLY (the Lyon Area Economic Development Agency) and in 1989, the RUL (Région urbaine de Lyon).

Although it is eroding, the industrial core is still present, almost an exception in France: The Lyon Metropolis is the biggest industrial agglomeration in France and employs more than 75,000 people. Still today, the pharmaceutical, automobile, silk and chemical sectors are important drivers of the economy. Two large families dominate the pharmaceutical industry: The Mérieux family, which owns several laboratories (bioMérieux, Transgene, Silliker, Advanced Bio Science Laboratories), and the Boiron family, world leaders in homeopathy. The automobile sector remains substantial: Renault Trucks, set up in Vénissieux, is the region's primary industrial employer. Historically, the Rhône-Alpes region has specialized in transportation, and is home to a complete ecosystem of transport solutions. Silk production has changed somewhat: the firm Brochier now develops technical fabrics and fibre optics for the aeronautics and building industries (the company supplies materials to Airbus and Alstom). The chemical corridor is, however, one of the country's largest petrochemical hubs. It extends some fifteen kilometres south of the city and accounts for 11,000 jobs.



Terminal at the Edouard Herriot Port

Oil refinery of Feyzin, chemical corridor

THE CHEMICAL CORRIDOR

Born in the shadow of the silk industry, the chemical corridor stretches over fifteen kilometres south of Lyon, along the banks of the Rhône. It is home to six chemical and petrochemical plants, including that of Feyzin, which supplies the entire industrial valley in raw materials, and that of Rhodia-Solvay, which produces food flavorings. The site also includes several research centres (1,000 researchers studying materials and energies of the future) and logistics platforms.



Industrial facilities in the "Chemistry Corridor"

source bounds

The Port of Lyon, connecting Mediterranean Europe and Northern Europe

The multimodal port of Édouard-Herriot supplies the agglomeration with goods and raw materials: 11.4 million tonnes of merchandise pass through the hub each day. It combines three different modes of transport: ship, train and truck. The port space is also a storage and transformation zone for hydrocarbons, with several pipelines crossing it (including the Nice-Geneva pipeline). The port is directly connected to the port of Marseille and allows for trade with eastern France and northern Europe. At the moment, the Lyon urban area boasts six competitiveness clusters: bio-health (Lyonbiopole, Mérial, Biomérieux), chemistry (Axelera, Rhodia, Veolia), transport systems (Renault Trucks, Keolis, Irisbus), technical textiles (Brochier, Boldoduc), digital activities (Atari, Ubisoft) and civil engineering (VINCI Construction, INSA Lyon, Lafarge).

The specific nature of Lyon's economic fabric therefore lies in the continuity of numerous activity fields of excellence inherited from History, which have succeeded in changing and adapting to the present era to become new centres of innovation.

Competitiveness Clusters in the Lyon Metropolis

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LYON FRENCH TECH AND PÔLE PIXEL

The Lyon Metropolis stimulates and supports digital and imaging industries on its territory. It was the first French metropolis to name a Chief Data Officer (CDO) tasked with overseeing its territory's digital transformation. Today, the ecosystem called Lyon French Tech brings together 7,000 companies and employs 42,000 people.

Pôle Pixel is devoted to innovative activities in the image, sound and creative industries. Located in Villeurbanne, it hosts over 90 companies representing 500 jobs in the sectors of cinema, audiovisual, web design, video games, communications and new media. It is also home to a "do-tank" dedicated to prospective, technological intelligence and usage design: The Erasme Lab, a digital experimentation centre created in 1998 in the Rhône department with Yves-Armel Martin at its helm, and which was integrated into the Metropolis in 2015. Its goal is to explore the potential of new technologies and to develop applications that may apply to the public sector, and specifically education (Edumix), museums (Museomix; Museolab Confluences), and solidarity (HOST). Additionally, the Erasme Lab developed an UrbanLab, which serves as a place for ideation and prototyping of digital solutions applied to the Metropolis's planning policies.



UrbanLab Erasme, Pôle Pixel, Villeurbanne

Taking the World by Storm

A study carried out by IBM in 2016, titled Global Location Trends, placed Lyon 19th among cities most attractive to international investors. Lyon also ranks among the top innovative cities internationally.

Lyon's appeal and prosperity are largely a result of the city's presence within international networks. Over the centuries, it has welcomed several waves of immigrants and seen its own residents move around: engineers, academics, elected officials and employer representatives frequently travel abroad. This "conquest" of the international scene began in the early 19th century and continues today. In the 19th century, Lyon merchants went off to explore the Orient and Oceania and discovered the raw materials essential to the silk industry. In the early 20th century, commercial and industrial expansion required labour and engineers. Meanwhile, the "Glorious Thirty" period was characterized by the growth of scientific research. The city benefitted from the economic effects manifesting themselves worldwide, such as with the Fair of Lyon. Since the 1970s, the urban community has strengthened the city's position on the international scene: expansion of higher education, development of a large-scale cultural programme (festival of lights, biennials, the Nuits de Fourvière festival) and major development projects (Satolas airport, Cité Internationale, Confluence District, Carré de Soie, etc.). Lyon hosts international institutions and events, foreign-capital enterprises and internationally-minded associations. It has initiated new partnerships with cities around the world in the fields of smart cities, industrial innovation, research and culture.

Today, Lyon's economic growth comes more from the outside world than from its back country. Fernand Braudel reminds us that "The drama of [Lyon] is that it only finds its order and conditions for growth on the international front (...), it needs the complicity of the outside."4 The city has therefore intensified its physical links with the outside world. The future transalpine train line from Lyon to Turin (scheduled for 2030) will facilitate commercial exchanges with the entire alpine arc.

University as an Engine of the Metropolis

1833 first Lyon faculty

1969 creation of universities Lyon 1, 2 and 3

birth of the University of Lyon community

MILESTONES Train brains to prove Braudel wrong? Lyon's university history is recent. Teaching and research began to expand at the beginning of the 19th century, after people became aware of the fact that knowledge was to become the source of competitiveness. Today, the University of Lyon is the primary French scientific hub outside the Île-de-France.

The first phase of university development began in the second half of the 19th century, to feed the industrial sectors. The faculty of science opened its doors in 1833. Others followed, such as letters (1838), medicine (1874) and law (1875). Lyon suddenly became the first provincial university city and boasted **2015** 2,500 students by the end of the century. The second phase of university development took place in 1969, following the upsetting of the established order. Several institutions of higher learning were created: the faculties Lyon I, II and III, the École Normale Supérieure de Lyon transferred from the Parisian region to Gerland, the École Nationale Supérieure des Arts et Techniques du Théâtre (ENSATT), and the École Nationale des Travaux Publics et d'Etat (ENTPE).

Today, Lyon pays particular attention to the agglomeration's urban and university development planning. The geographic dispersion of its campuses, a strategy followed in the 1970s, clouds the international visibility of Lyon's universities. In 2015, the metropolis founded the University of Lyon, a community comprising twenty establishments spread across the urban area. It brings together universities, top graduate schools and research centres and provides international visibility to their campuses (Lyontech La Doua, Charles-Mérieux, etc.). The community has 129,000 students, including 13,000 foreign citizens, and 11,500 teacherresearchers. Operation Lyon Cité Campus, representing a 42-billion-euro investment, seeks to restructure and modernize the built heritage of the Lyon university establishments: new constructions, rehabilitation of existing infrastructure, reduction in energy consumption and 1,600 new student housing units.

Moreover, Lyon distinguishes itself by a close collaboration between public and private research. Since the 1970s, public research has established partnerships with the industrial sector to support chemistry and health. The CNRS has woven strong ties with Rhodia, the region's main chemical group. Industrial parks of companies have settled near university campuses (such as Bioparc, located in the heart of the 8th arrondissement) to foster synergies between public and private research.



Lyon 3 University, Quai du Rhône campus, Lyon

University Hubs Networked around the Metropolis



A Unique and Customized Model of Metropolitan Governance



From COURLY to Grand Lyon: at the forefront of institutional innovation

In 1968, 56 communes joined forces to form a single and same agglomeration: COURLY, a contemporary and innovative urban government. The communes delegated a share of their powers to the urban community of Lyon, the entity overseeing all the territories. COURLY laid the groundwork for the principles of "agglomeration conscience" and "coexistence." The territorial alliance had to reconcile municipal interests with those of the greater urban project. It also had to overcome the inevitable disagreements between the centre and outlying areas. The scope of COURLY's activities evolved rapidly. At first, it provided public services to the entire territory. It had to administer them at the supra-community level: water treatment, waste management, infrastructure, etc. Then, the community took on a wider array of powers. It defined the agglomeration's major urban policies: urban planning, city policy, transportation and economic development. COURLY, which became "Grand Lyon" (Greater Lyon) in 1991 under Michel Noir, began to assume a political role. It initiated vast projects to modernize the territory: the road network, metro lines, the Part-Dieu central business district, etc.

On January 1, 2015, in accordance with the MAPTAM law (Loi de modernisation de l'action publique territoriale et d'affirmation des métropoles), the Lyon Metropolis (or Greater Lyon) substituted for the Urban Community of Lyon and the Rhône Department. The new entity enjoys a unique status in France, illustrating the distinct nature of the Lyon model, as the project evolved locally rather than out of the State and was supported both by elected officials and the private sector. Its high degree of intercommunal integration is unparalleled and offers the metropolis extended powers, confirming Lyon's impressive capacity to reinvent a pragmatic and ambitious governance model.

Supporting entrepreneurship

In 1989, following the election of Michel Noir as president of COURLY, the urban community became an instrument to support the territory's economic development and attractiveness. It equipped itself with new powers and a unit dedicated exclusively to the economy. Gérard Collomb, a proponent of "supply socialism," gave the region's economic actors a preponderant role.

The urban community encouraged public-private partnerships and multiplied its economic interventions: a property offer to businesses, monitoring of their needs and creation of an urban brand (OnlyLyon), going far beyond the regular territorial marketing function and building an effective network of Lyon entrepreneurs in the metropolis and the world.



Rhônexpress platform at the Lyon Part-Dieu station

Two examples of close collaboration between public and private sectors

THE "TUBE À EXPÉRIMENTATIONS URBAINES (TUBÀ)"

The Tubà is a living lab driven by the Lyon Urban Data association, which brings together, in a collaborative approach, forty-some public and private partners, including the Metropolis, the Auvergne Rhône-Alpes region, the LABEX "Intelligence des Mondes Urbains", EDF, Keolis, Alstom, Enedis and SFR. Operating on the idea that these entities own large datasets but that few have the capability to exploit these sets, the Tubà offers a place where start-ups and project leaders can use them to develop and experiment with new urban services. The project stands out by catering equally to startups, large companies, and citizens. To build bridges between them, the Tubà combines two complementary spaces: the first hosts start-ups and project leaders; the second is open to the public and onto the animated plaza of the Part-Dieu station, and seeks to include citizens in the innovative process from the earliest possible stage.



A datavisualisation workshop organised at the Tubà in 2016

RHÔNEXPRESS

Rhônexpress is a shuttle providing a rail connection between the Part-Dieu train station and the Saint-Exupéry airport. Created in 2010 as part of a concession, the operation of which was given to the company Rhônexpress SAS, a consortium composed of VINCI, Transdev, Cegelec and the Caisse des Dépôts, this new, 23-kilometre line puts the airport a mere 30-minute ride from the centre of Lyon. Since 2015, the SYTRAL has replaced the initial licensing authority, the Conseil Général du Rhône (Rhône General Council). The project's specificity resides in the self-standing character of the service: its operation depends entirely on its commercial revenues, with no resort to public subsidies.

Social Inclusion: The Lyon Method

In 1979, Lyon discovered its suburbs: urban revolts erupted in Vaulx-en-Velin and spread to the districts of Vénissieux and Minguettes. These first riots were a sign that the integration processes for an entire section of the population were seizing up and that the right to the city, like universal access to the city, was not something that happened automatically. Youth in these districts felt that the city centre was closed to them, noting the weighty looks they received from other users. In reaction to these troubles, the city began questioning the notion of space and the symbolic barriers that govern it, and decided to implement an ambitious policy of redeveloping its public spaces, which became the first spaces with the power to guarantee this right to the city.

In the early 1980s, the public spaces in Lyon and its suburbs provided a field for reflection and experimentation. Reflection, because they invited ethnologists and sociologists to study the notions of ghettos, segregation, inclusion, cohesiveness and, more generally, the relationship between private and public life. Experimentation, because they encouraged city actors to envision new public spaces likely to ensure the cohabitation of different groups of people. At the end of the 1980s, Lyon was resolutely headed toward a policy of social integration: public space had to rhyme with "agglomeration solidarity" and "inclusive city."

The metropolis gradually developed a Lyon method based on the idea of "co-construction." The design and realization of new public spaces had to involve all city stakeholders: sociologists, ethnologists, urban planners, landscapers, and even residents. Sociological studies were conducted beforehand to identify neighbourhood uses and habits (homemakers, immigrants, youth, etc.) and consultation tools developed to ensure a continuous dialogue with the city's inhabitants. Among other things, the inclusion policy was based on equal treatment of territories: the metropolis did not favour the city centre over the periphery.



Public space as a way to improve social inclusion: the new banks of the Rhône

Lyon also launched a reflection on street furniture. Finding the same bench on the banks of the Rhône and at Place du 8 Mai 1945 provides unity and strengthens the connection between the city's various districts.

Today, Lyon is lauded for the quality and singularity of its public spaces covering the entire agglomeration: Avenue de la République, the banks of the Rhône and the Saône, Gerland Park and various installations in Vénissieux, Oullins and Saint-Fons.







Speakers



Johannes ADMIRAAL Enprodes Management Consultancy Managing Director

Han Admiraal (1959) studied Civil Engineering at the University of Applied Science in Rotterdam. He worked for the national Department of Public Works and Water Management for 20 years. During that time, he was Project Manager for the first TBM driven tunnel in soft soil in the Netherlands. Han Admiraal became Executive Director of the COB, the Netherlands Centre for Underground Construction and stayed there for 10 years. At the same time, he was a part-time Professor of Underground Space at Zeeland University of Applied Science in Vlissingen. In 2008, he became the Owner and Managing Director of Enprodes Management Consultancy in Rotterdam. He focuses in his consultancy in the field of underground space. As a practicing Tunnel Safety Officer, one of his specialties is Road Tunnel Safety. Han Admiraal is chair of the International Tunnelling and Underground Space Association's Committee on Underground Space (ITACUS). He is also President of the Dutch-Flemish Pipeline Industry Guild and promotes underground freight transport in that role. As a member of the Urban Planning Advisory Group of UNISDR, he also advises the Special Representative of the Secretary-General of the United Nations for Disaster Risk Reduction.

Isabelle BARAUD-SERFATY ibicity

Consultant and expert in urban economics

After earning a degree from the Ecole Supérieure de Commerce de Paris (class of 1994) and another in urban planning at Sciences Po (class of 1995), Isabelle Baraud-Serfaty has worked for 15 years in public and private organisations before creating ibicity. Since 2004, she is Senior Lecturer in the master's Urban and Regional Strategies at Sciences Po. She has created a core class, which she conducts, for second-year master students on private actors in the city. Isabelle Baraud-Serfaty works in close collaboration with research facilities on urban and real estate issues: the LATTS (Laboratoire techniques, Territoires et Sociétés) of the École Nationale des Ponts et Chaussées, in particular. She is also an Associated Researcher at IDDRI (Institut du Développement durable et des relations internationales) and is a member of the scientific journal Revue Études Foncières's editorial board.

Armand BÉOUINDÉ Ville de Ouagadougou Mayor

Armand Roland Pierre Béouindé was elected Mayor of Ouagadougou in June 2016. He promotes "Ouaga2020, Vivre ensemble, libre ensemble", a program built around urban planning, mobility, security and environment, local governance, local finances, citizen participation in development, international and decentralized cooperation, municipal communication and social sectors of development.



Thais BLUMENTHAL DE MORAES Waze

Global Business Development Manager

Brazilian-born and Arizona-raised, and having lived in 4 countries and over 13 cities, Thais is a global citizen by nature. She holds a dual degree in Marketing and International Business, from the George Washington University and an international affairs specialization from Sciences Po Paris. Her research on legal bottlenecks for infrastructure development was published by the Institute for Brazilian Issues in 2011. Most recently, Thais was Head of Strategic Partnerships for Google for Education Latin America team, helping public governments across the Region adopt technology and bring quality education to students of all ages. After almost 5 years at Google, Thais joins Waze to lead the Connected Citizens Program bringing to the team an entrepreneurial spirit and vast public-private partnership experience.



André BROTO VINCI Autoroutes Director of Strategy and Foresight

Born in 1948, André Broto is a former student of the École Polytechnique (class of 1969) and civil engineer of the Ponts et Chaussées (class of 1974). He joins Cofiroute in 1990 after 17 years at GTM, dedicated to the construction of a nuclear power plant and of harbors. In 1995, he is appointed director of construction at Cofiroute and participates in the conception and construction of the highway Alençon/Le Mans/Tours, another in Angers/Tours/Vierzon and of the tunnel A86 between Rueil and Versailles. This 10km long tunnel reserved for cars which circulate on two superimposed levels is innovative in many aspects. In 2008, André Broto becomes Deputy Chief Executive Officer of Cofiroute. Since 2011, he has been Director of Strategy of VINCI Autoroutes. He was made a knight of the Légion d'Honneur and was decorated with the award of the Ordre National du Mérite. He takes part in the works of various nonprofit organisations and research facilities (AIPCR, URF, IDDRIM and TDIE).



Éric CASSAR ARKHENSPACES

Architect and Founder

Architect and construction engineer, Eric Cassar is the Founder of ARKHENSPACES: an agile and innovative city planning + design + architecture studio based in Paris, with a focus on research, design and construction of new and sustainable contemporary spaces.

Since 2005, the studio has been working on theoretical and practical research subjects, especially concerning the concept of nspaces (connected environnements): *Nd cities*, digital and physical architecture relationship, subtle ar(t)chitecture. It manages projects mainly in the field of culture, transportation, urbanism and housing. In 2010, Eric Cassar received the Pierre Cardin Prize from the French "Académie des Beaux-Arts". In 2013, after a lecture tour in Taiwan, he was invited by the Kaohsiung Fine Art Museum where he presented Interstice Spaces: a heterotopia inside the city. He also finished The Case for Subtle Ar(t)chitecture, a critical essay that defines a forward-looking architectural approach based on nspaces concepts (published by HYX in 2016, bilingual edition). In 2015, he is invited to present his vision of tomorrows' smart-cities during a TEDx event. They combine fauna, flora, material and immaterial aesthetics. In 2017, ARKHENSPACES received the Great European Innovation Prize "Le Monde – Smart Cities" for Endless Home, a new concept of living in the digital era.







Laurent COUDROY DE LILLE Institut d'Urbanisme de Paris Senior Lecturer

Laurent Coudroy de Lille, geographer and former student of the Ecole Normale Supérieure, is Senior Lecturer in urban planning history and Director of Studies at the École d'Urbanisme de Paris, where he directs the master Urbanism and Urban Planning-UPEC/UPEM. His research focuses on Spanish and French urbanism from the nineteenth century onwards, on the history of ideas, urban planning and the institutionalization of urbanism in Europe. He is currently the coordinator of the scientific committee of the exhibition "Lyon sur le divan, ou les mutations contemporaine d'une ville" (Museum Gadagne, november 2017).

Frédéric DELAVAL Groupe La Poste Director of the Strategic Program "Urban Logistics"

Frédéric Delaval is an engineer who also holds an Executive MBA from the University of Sherbooke (Canada)/ESCEM. He has been Director of the Strategic Program "Urban Logistics" and President of Greenovia (consulting in mobility) and Mobigreen (eco-driving) of the Groupe La Poste for two years. Beforehand, he was Technical Director of the branch in charge of Services, Mail and Parcels for five years. He has built his career in Technicolor (VP Operations - 4 years), Pfizer (Supply-Chain Manager & other - 7 years) which he began as a consultant in Supply Chain (5 years) in the firm PEA. He has also taught at the CNAM (Conservatoire des Arts et Métiers). His passion: exchange to learn from everyone.

Karine DOGNIN-SAUZE Métropole de Lyon Vice-President in charge of Innovation, Smart Metropolis, Digital Development and Smart Mobility

Karine Dognin-Sauze is Vice-President of the Métropole de Lyon, responsible for Innovation, Intelligent Metropolis and Digital Development and Deputy Mayor of Lyon in charge of International Relations, European Affairs, Decentralized Cooperation and International Solidarity. In addition to her political responsibilities, she is a professional in international marketing and innovation in the entertainment and new technologies sectors. Karine Dognin-Sauze worked at Electronic Arts Inc., an American leader in interactive entertainment, for 18 years. She was head of the division dedicated to The Sims in Europe, Middle East and South America. She then joined the GL Events Group, an international leader in the event market, to structure and set up an unit dedicated to innovation. Since then, Karine Dognin-Sauze founded Witty Cie(s), a company dedicated to the marketing of innovation. She is also President of the Interconnectés, a network that brings together a community of innovative territories for an exchange of best practices and support for the diffusion of digital transformations. The Interconnectés organizes each year the Forum des Interconnectés which gathers 800 elected representatives, companies and territorial decision-makers on these issues. Karine Dognin-Sauze is a member of the board of directors of the FING (Fondation Internet Nouvelle Génération), Humaninov (Think-and-Do-Tank for the valorisation of human capital as innovation lever, ADERLY Lyon) and SPL Part-Dieu. She is also a member of the Science Po Paris Chair dedicated to the role of institutions in the intelligent city and is also on the Executive Committee of LUCI (International Network for Urban Lighting) and Eurocities.



Michael DOYLE École Polytechnique Fédérale de Lausanne Postdoctoral Researcher

Michael R. Doyle is currently a postdoctoral researcher at both the Department of Architectural Theory and the Philosophy of Technics at TU Vienna and the Laboratory of Environmental and Urban Economics at the Swiss Federal Institute of Technology in Lausanne. He holds a PhD from the Laboratory of Environmental and Urban Economics (LEURE) at the Swiss Federal Institute of Technology in Lausanne (EPFL) since 2016. His research interests revolve around novel sources of information for the design and planning process, from the material (geology, built form) resources of the urban volume (his PhD work) to the evolving spatial practices of mobile technology users (his MScArch work).



Christophe FERRARI Grenoble-Alpes Métropole President

Christophe Ferrari has been Mayor of Pont-de-Claix since 2008 and President of the Grenoble-Alpes Métropole since 2014. He is Vice-President of the "Assemblée des Communautés de France" in charge of research and innovation. Until 2014, he was the third Vice-President of the metropolis in charge of finances, budget and the assessment of public policies. Christophe Ferrari became Vice-President of SMTC (public transport authority) in 2010, where he works to reduce congestion and smooth traffic flows in his city. He has also been a member of the Institut Universitaire de France since 2003 and University Professor at the École Polytechnique de l'Université Grenoble-Alpes. Focusing in his academic research on pollution, he is currently working at the research facility Laboratoire de glaciologie et géophysique de l'environnement of Grenoble.



Xavier HUILLARD

VINCI

Chairman and CEO

Born in 1954, Xavier Huillard is a graduate of the École Polytechnique and the École Nationale des Ponts et Chaussées. He has spent most of his working life in the construction industry in France and abroad. Mr Huillard joined Sogea in December 1996 as Deputy Chief Executive Officer in charge of international activities and specific projects, and then became its Chairman and Chief Executive Officer in 1998. He was appointed Deputy General Manager of VINCI in March 1998 and was Chairman of VINCI Construction from 2000 to 2002. He was appointed Co-Chief Operating Officer of VINCI and was Chairman and Chief Executive Officer of VINCI Energies from 2002 to 2004, then Chairman of VINCI Energies from 2004 to 2005. Mr Huillard became Director and Chief Executive Officer of VINCI in 2006 and was appointed Chairman of the Board of Directors and Chief Executive Officer of VINCI on 6 May 2010. He served as Chairman of the Institut de l'Entreprise from January 2011 until January 2017. He was appointed Chairman of VINCI Concessions on 20 lune 2016.



Bruce KATZ The Brookings Institution Centennial Scholar

Bruce J. Katz is the inaugural Centennial Scholar at the Brookings Institution, where he focuses on the challenges and opportunities of global urbanization. Katz assumed this role in January 2016 after 20 years as the Vice President and co-Director of the Brookings Metropolitan Policy Program, which he founded in 1996. He is also co-author of The Metropolitan Revolution (Brookings Press, 2013), which argues that cities have become the vanguard of policy innovation and problem-solving. As Brookings's only centennial scholar, Katz and his team collaborate with experts throughout Brookings and beyond to develop new models of finance, growth, and governance in cities and nations. He regularly advises cross-sector metropolitan, national, and global leaders on public reforms and private innovations that advance the well-being of metropolitan areas and their countries. Katz heads the Anne T. and Robert M. Bass Initiative on Innovation and Placemaking, a collaboration with the Project for Public Spaces. Before Brookings, Katz served as Chief Of Staff to Housing and Urban Development Secretary Henry Cisneros and was the Senior Counsel and then Staff Director for the U.S. Senate Subcommittee on Housing and Urban Affairs. In 2008, he co-led the housing and urban issues transition team for the Obama Administration and served as a Senior Advisor to the new Secretary of Housing and Urban Development Shaun Donovan. In 2006, he received the prestigious Heinz Award in Public Policy. Katz is a graduate of Brown University and Yale Law School, and is a visiting Professor at the London School of Economics.



David KIMELFELD Métropole de Lyon Vice-President in charge of Economic Development

A nurse by training, he entered politics as a member of the Movement against Racism and for Friendship among Peoples (MRAP). He became president of the MJC of Brignais and then joined the socialist party in 1988. He set up a transport company in 1990 and put militancy in parentheses, before returning in 1998. He then chaired the social centers of the Croix-Rousse and joined the section of the Socialist Party of the 1st arrondissement. Elected borough councilor in 2001, he is given the post of 1st Deputy to the Mayor of the 4th arrondissement in charge of culture, events, trade & crafts. In 2008, he was appointed Vice-President of Greater Lyon in charge of economic development. In July 2011, he became Mayor of the 4th arrondissement and became Vice-President of the Métropole de Lyon. In parallel, he is elected first Federal Secretary of the Socialist Party of the Rhône in 2012, reelected in 2015.



Guillaume LAVOIE Ville de Montréal City Councillor

Guillaume Lavoie is a City Councillor in Montreal, Qc, Canada. He is particularly interested in public finance, mobility, bikenomics, the sharing economy and the role of urban art. An expert in the sharing economy and its impacts on public policies, Guillaume is the authored of Canada's first city by-law on the sharing of private spaces. He is also a lecturer at the National School of Public Administration (ÉNAP) on the sharing economy and public policy. Before entering public office, Guillaume Lavoie worked in public diplomacy, public policies and international relations. Having lived and worked on four continents, he has consulted for the public, private and non-profit sectors, both in Canada and abroad. A university lecturer, he is also a member of the Raoul-Dandurand Chair in strategic and diplomatic studies and a veteran international observer. An engaged social entrepreneur, he is the founder of Mission Leadership Quebec (international relations) and co-founder of the College neo-classique (education).

Guillaume holds a Masters in international public administration (ÉNAP), a BA. in industrial relations and certificates in administration and law (Université Laval), and a university diploma in european integration (Jean Moulin Lyon 3). In addition, he completed executive programs at the London School of Economics and the Harvard Kennedy School of Government. Appointed Public Policy Scholar at the Woodrow Wilson Center, Guillaume is a Fellow of the Jeanne-Sauvé Foundation and Next City.



Paul LECROART Institut d'Urbanisme et d'Aménagement Île-de-France Urban Planner

Paul Lecroart is an experienced urban planner and designer in France and internationally. As Senior Planner with the Planning Agency for the Paris Region (IAU Ile-de-France), he conducts work on strategic regional plans and major projects in the Paris Metropolitan Region, including the Olympic Study (2014-2015). Drawing on the experience of cities such as Seoul, San Francisco, New York, he is currently carrying research on expressway transformation in the Paris Region. Paul Lecroart also works on sustainable spatial strategies and innovative approaches in cities such as London, Tokyo, Copenhagen-Malmö, the Ruhr Region or Medellin. He has extensive experience in strategic expertise and planning workshops in many cities (Bodø, Cali, Teheran, Johannesburg, Changzhou, Montréal). Since 2014, he has been a member of the International Advisory Board for the 4th New York Regional Plan. Paul Lecroart has advised the Metropolitan Projects Commission of Paris Métropole association of governments and co-leader of the Call for Metropolitan Initiatives (2010-2012). He was a Commission Coordinator for the Metropolis World Association on the Impact of Major Events on Large Cities (1999-2002). Involved in design workshops for the Planning & Design Club of the French Federation of Urban Planning Agencies (FNAU), he is also a member of the Program Committee of the International Grand Paris Workshop (AIGP). UCLA fellow, he teaches at Sciences Po and at the École d'Urbanisme de Paris, University of Paris-Est. In the past decade, he has spoken in over 30 conferences or seminars in France and abroad



Cécile MAISONNEUVE La Fabrique de la Cité President

Cécile Maisonneuve is Chairman of La Fabrique de la Cité, the urban innovation think tank, since 2015 and member of the scientific board of the AMS Amsterdam Institute (Amsterdam Institute of Advanced Metropolitan Solutions).

She previously headed the Centre for Energy of IFRI (French Institute for International Relations), which she remains associated with as a Senior Advisor. From 2007 to 2012, Cécile has held several positions in the AREVA group, dedicated to international prospective and public affairs. Cécile Maisonneuve began her career in 1997 in the French National Assembly as a civil servant, working successively for the Defence, the Law and the Foreign Affairs Committees. Cécile Maisonneuve graduated from the École Normale Supérieure, the Paris Institute of Political studies, and the Sorbonne Paris IV-University in history. She has a long collaboration with various French and international think tanks. She is the author of several research papers on energy and of a biography on Benjamin Franklin (2008). A former participant in the International Visitor Leadership Program (IVLP) of the U.S. Department of State, she is a member of Vox Femina, an association promoting women's empowerment as experts in media.



Carlos MORENO InTI

President

University Professor, Carlos Moreno is an expert in the intelligent control of complex systems. Driven by his passion for science, progress and creativity in all its forms, he strives for the convergence between scientific disciplines and actors of the innovation ecosystem, ranging from industries to startups, and for putting transversality at the heart of this process. After bringing his startup Sinovia to success and after working as Scientific Councillor of the President of ENGIE INEO (former GDF Suez Group), he continues today to bring to this ecosystem his strategic vision, his scientific expertise and his international reputation surrounding disruption, innovation and the value creation, particularly in the fields of smart and humane cities. In April 2010, he was made a Knight of the Ordre de la Légion d'Honneur.



Michel MORVAN Cosmo Tech

Co-Founder & Executive Chairman

Before co-founding Cosmo Tech Michel was Chief Scientist and Vice President for Strategic Intelligence and Innovation at Veolia Environment. He is a former Full Professor of Computer Science at École Normale Supérieure in Lyon, former Chair of Complex Systems Modeling and Senior Scientist at the École des Hautes Etudes en Sciences Sociales in Paris, and External Professor at the Santa Fe Institute in New Mexico. He is an Eisenhower Fellow and an IHEE alumnus.



Luise NORING The Brookings Institution Senior Research Fellow

Luise Noring is an Assistant Professor at Copenhagen Business School. Noring heads a team of researchers and project coordinators. She is also a Senior Research Fellow at the Brookings Institution and an expert in sustainable urbanisation at the European Commission. In addition, she runs her own enterprise as an independent consultant. Noring has extensive experience in implementing large-scale international initiatives related to sustainable urbanization, urban infrastructure and governance, and other urban challenges. She leads the Urban Challenge Programme, an EU-funded university education initiative, Cities for People, a three-year EU-funded Research and Innovation project, serves as an expert to the EU Commission and works with tendering both as an evaluator and successfully taking lead on tenders. Noring has a Master in Supply Chain Management and a Ph.D. in Supply Chain Partnerships from Copenhagen Business School.



Rémy PAGANI Ville de Genève

Mayor

Born in 1954, Rémy Pagani is Mayor of the City of Geneva. After a diploma in social work, Rémy Pagani starts exercising this profession in 1974. In 1987, he becomes the union Secretary of the Syndicat Interprofessionnel de Travailleuses et Travailleurs from 1987 to 1997 then Permanent Secretary of the Syndicat des Services publics for ten years (1997 – 2007). Simultaneously, he is an MP at the Grand Conseil (Parliament) from 1997 to 2005 and from 2013 to 2015. Rémy Pagani is elected to the Administrative Council of the City of Geneva in 2007 and becomes Mayor for the first time in 2009, for a second time in 2012 and for the third time (current mandate) on the 1st of June 2017.



Bill PEDUTO City of Pittsburgh

Mayor William Peduto became Mayor of the City of Pittsburg in 2014. Prior to taking office, he worked for 19 years on Pittsburgh City Council - seven years as a staffer then twelve years as a Member of Council. Since taking office, Mayor Peduto has lead a collaborative effort to make Pittsburgh a leading 21st Century city. Under Peduto's leadership the City of Pittsburgh has played an active role in National League of Cities and U.S. Conference of Mayors initiatives. Pittsburgh was recently selected to join the Rockefeller Foundation network's 100 Resilient Cities, which provides resources to improve city resilience in the face of climate change, globalization and urbanization trends. Mayor Peduto also signed a unique agreement with the U.S. Department of Energy to make the city a world leader in district energy production. Mayor Peduto is a founding member of the MetroLab Network, a national alliance of cities and universities committed to providing analytically-based solutions to improve urban infrastructure, services and other public sector priorities. The Peduto administration is working to ensure that everyone benefits from

Pittsburgh's transformation and growth because, "If it's not for all, it's not for us".



Gaël PERDRIAU Ville de Saint-Étienne Mavor

Gaël Perdriau was born in Cholet 44 years ago. He spent his childhood and studied there until 1992, when he moved to Saint-Étienne to finish his studies at the Ecole Supérieure de Commerce. With his diploma in hand, he decides to settle in Saint-Étienne. Professionally, he held senior management positions in the energy sector in Saint-Étienne. From the beginning of his studies, Gaël Perdriau has wanted to take an active part in the associative and political life of Saint-Étienne, with the main objective of being useful and effective for Saint-Étienne and its inhabitants. His commitment translated into Tremplin 42, a non-profit organisation helping people integrate through work, which he chaired for 7 years. Elected official of Saint-Étienne since 1995, he has held office as Mayor of Saint-Étienne since 2014 and President of Saint-Étienne Métropole.



Dominique PERRAULT Dominique Perrault Architecture President and Architect

Leading figure in French architecture, Dominique Perrault gained international recognition after winning the competition for the National French Library in 1989 at the age of 36. This project marked the starting point of many other public and private commissions abroad, such as The Velodrome and Olympic swimming pool of Berlin, the extension of the European Court of Justice in Luxembourg, the Olympic Tennis Centre in Madrid, the campus of Ewha's University in Seoul, and the Fukoku Tower in Osaka, Japan. In 2014, he delivers the DC Tower in Vienna, the tallest tower in Austria, an icon of the new business district, as well as the Grand Theatre in Albi, France. In 2016, Dominique Perrault completes three major rehabilitation and extension projects, including the Pont de Sèvres Towers - Citylights in Western Paris, the new mechanicals hall of the École Polytechnique Fédérale de Lausanne as well as the Dufour Pavilion, new entrance of the Château de Versailles. Ongoing projects include the Longchamp Racecourse and the Poste du Louvre in Paris. Dominique Perrault received many prestigious prizes and awards, including the "Grande Médaille d'or d'Architecture" from the Académie d'Architecture in 2010, the Mies van der Rohe prize, the French national Grand Prize for Architecture, the Equerre d'Argent Prize for the Hotel Industriel Berlier and the Seoul Metropolitan Architecture Award as well as the AFEX Award for the Ewha Womans University in Korea. In 2015 he was elected at the French Academy of Fine Arts and was awarded the Praemium Imperiale Prize for Architecture by the Japan Art Association for his achievements.



Francis PISANI Le Monde Smart Cities Iournalist

Author, columnist, speaker, consultant, Francis Pisani analyses information technology's social, urban, and geopolitical impacts. He is currently working on how smart cities can ensure the crucial balance between technology, sustainable development, citizens' participation, and inclusivity. His articles appear in LeMonde. fr/Citynnovation. They have been previously published by more than 100 publications, including many newspapers of record (Le Monde, El País, Folha de São Paulo, etc). After being based for fifteen years in the San Francisco Bay Area, he completed several world tours of innovation in ICT and innovation strategies: close to 50 cities, more than 30 countries, 5 continents.

He recently published 2 books entitled Travels in The Smart Cities, Between Datapolis and Participolis and The Future of Innovation (free downloads online). Among other books, he co-authored with Dominique Piotet the award winning How The Web Is Changing The World (Pearson). Francis has lectured at Sciences Po Paris, UC Berkeley, Stanford University and the University of St Gallen in Switzerland among many others. He was a '93 Nieman Fellow at Harvard University. He has earned his doctorate in Political Science-Latin American Studies at La Sorbonne (Paris).



Wolf D. PRIX COOP HIMMELB(L)AU Design Principal and CEO

Wolf D. Prix, born in 1942 in Vienna, is co-founder, Design Principal and CEO of COOP HIMMELB(L)AU. He studied architecture at the Vienna University of Technology, the Architectural Association of London as well as at the Southern California Institute of Architecture (SCI-Arc) in Los Angeles. Amongst others, Wolf D. Prix taught at the Southern California Institute of Architecture (SCI-Arc), Harvard Graduate School of Design, Columbia University, UCLA University of California and Yale School of Architecture. From 2003-2012 he was a Vice-Rector and Head of the Institute of Architecture at the University of Applied Arts in Vienna. Wolf D. Prix is counted among the originators of the deconstructivist architecture movement. COOP HIMMELB(L)AU had its international breakthrough with the invitation to the exhibition "Deconstructivist Architecture" at MoMA New York in 1988. The company's most well-known international projects include the Musée des Confluences (Lyon, France), the European Central Bank (ECB) (Frankfurt/ Main, Germany), the BMW Welt (Munich, Germany), the House of Music (Aalborg, Denmark), the Busan Cinema Center (Korea), the Dalian International Conference Center (China) and the Museum of Contemporary Art & Planning Exhibition (MO-CAPE) (Shenzhen, China). Over the years Wolf D. Prix/ COOP HIMMELB(L)AU was awarded with numerous international architecture awards.



Philippe RAHM Philippe Rahm architectes Architect

Philippe Rahm (born in 1967) is a Swiss architect, Principal in the office of Philippe Rahm architectes, based in Paris, France. His work, which extends the field of architecture from the physiological to the meteorological, has received an international audience in the context of sustainability. He starts to teach architecture design at the GSD, Harvard University, USA, in Fall 2014. In 2002, Mr. Rahm was chosen to represent Switzerland at the 8th Architecture Biennale in Venice, and was one of the 25 Manifesto's Architects of Aaron Betsky's 2008 Architectural Venice Biennale. His recent work includes the First Prize for the 70 hectares Taichung Gateway Park (Jade Eco Park) in Taiwan currently under construction, an Exhibition architecture for the Luma Foundation in Arles, France, an office building project of 13,000 m² at La Défense in France for the EPADESA, a convective condominium for the IBA in Hamburg, Germany. Monographic books include Physiological Architecture published by Birkhaüser in 2002, Distortions, published by HYX in 2005, Environ(ne) ment: Approaches for Tomorrow, published by Skira in 2006, Architecture Météorologique published by Archibooks in 2009 and Constructed Atmospheres published by Postmedia, Milan, Italy, in 2014. Mr. Rahm was a resident at the Villa Medici in Rome (2000). He has lectured widely, including at Yale, Beijing Forum, UCLA and the FTH 7ürich



Carlo RATTI MIT SENSEable City Lab Director

An architect and engineer by training, Professor Carlo Ratti teaches at MIT, where he directs the SENSEable City Lab. He is also a founding partner of the international design and innovation office Carlo Ratti Associati. His work has been exhibited in several venues worldwide, including the Venice Biennale, New York's MoMA, London's Science Museum, and Barcelona's Design Museum. Two of his projects – the Digital Water Pavilion and the Copenhagen Wheel – were hailed by Time Magazine as 'Best Inventions of the Year'. He has been included in Blueprint Magazine's '25 People who will Change the World of Design' and in Wired Magazine's 'Smart List: 50 people who will change the world'. He was curator for the Future Food District at Expo Milano 2015, and is currently serving as co-chair of the World Economic Forum Global Future Council on the Future of Cities and Urbanization.

Elizabeth REYNOLDS Urben Director

Elizabeth Reynolds is a Chartered Urban Planner and Director of Urben, an east London studio focused on planning, design and problem solving for urban environments. Over the past 15 years Elizabeth has worked in multidisciplinary teams on major infrastructure and regeneration projects including the Queen Elizabeth Olympic Park and Crossrail. Urben works from macro scale strategic city plans to detailed street design, with a common theme of making cities creative, productive and resilient places. Elizabeth is a founding member of Think Deep UK, who bring together a range of professional disciplines to tackle challenges around the urban subsurface. Following contributions to several books, and a Design Innovation Award for the reuse of underground spaces associated with major construction projects, she is currently writing a book titled Underground Urbanism about the overlooked but important places beneath our cities.





Lynn RICHARDS Congress for the New Urbanism President and CEO

Lynn Richards has a dual Masters in Environmental Science and Public Affairs from Indiana University. She is President and CEO of the Congress for the New Urbanism. Previously, Richards had a distinguished career at the US Environmental Protection Agency (EPA), holding multiple leadership roles over 13 years in the Office of Sustainable Communities. She worked with dozens of state and local governments to implement placemaking approaches by developing policies, urban design strategies, and environmental solutions for vibrant, prosperous neighborhoods. Additionally, she produced groundbreaking research on water and land use strategies. Before joining the EPA, Richards worked briefly in the private sector at a consulting firm. She lived and worked in the former Soviet Republics from 1988 to 1995, helping environmental groups increase their organizational and political effectiveness. Richards was awarded a Loeb Fellowship in Advanced Environmental Studies at the Harvard University Graduate School of Design in the 2012-2013 school year.



Richard SENNETT London School of Economics Centennial Professor of Sociology

Richard Sennett has explored how individuals and groups make social and cultural sense of material facts – about the cities in which they live and about the labour they do. His first book, The Uses of Disorder, [1970] looked at how personal identity takes form in the modern city. He then studied how working-class identities are shaped in modern society, in The Hidden Injuries of Class, written with Jonathan Cobb. [1972] A study of the public realm of cities, The Fall of Public Man, appeared in 1977. After a break from sociology, he returned to urban studies with two books, The Conscience of the Eye, [1990], a work focusing on urban design, and Flesh and Stone [1992], a general historical study of how bodily experience has been shaped by the evolution of cities.

In the mid 1990s, Mr. Sennett began a project charting its personal consequences for workers. The first of these studies, The Corrosion of Character, [1998] is an ethnographic account of how middle-level employees make sense of the "new economy." The second in the series, Respect in a World of Inequality, [2002] charts the effects of new ways of working on the welfare state; a third, The Culture of the New Capitalism, [2006] provides an overview of change. Most recently, Mr. Sennett has explored more positive aspects of labor in The Craftsman [2008], and in Together: The Rituals, Pleasures and Politics of Cooperation [2012]. The third volume in this trilogy, The Open City, will appear in 2016. Among other awards, Richard Sennett has received the Hegel and Spinoza Prizes and an honorary degree from the University of Cambridge.



Jérôme STUBLER VINCI Construction President

Born in 1963, Jérôme Stubler is a former student of the Ecole Polytechnique and the Ecole Nationale des Arts Métiers. He launches his career in 1989 at Freyssinet where he manages the construction of the bridge of Normandy, the bridge of Iroise, the offshore oil platform Hibernia, the bridge Vasco de Gama in Portugal. Technical Director of Freyssinet in 1996, then in charge of large-scale projects since 2002, he has developed the company's expertise in the domain of nuclear energy and created Nuvia, a subsidiary of Soletanche Freyssinet, Terre Armée et President of Nuvia. In July 2012, he is Director and Chief Executive Officer of Soletanche Freyssinet and President of Soletanche Bachy. He is appointed Chief Executive of VINCI Construction in July 2014 and becomes its President end of 2014.



Arjan VAN TIMMEREN AMS Institute Scientific Director

Arjan van Timmeren is full professor at Delft University of Technology, Faculty of Architecture and the Built Environment, Department Urbanism and chairs 'Environmental Technology and Design'. Besides he is also Scientific Director of the joint initiative of TU Delft, MIT Boston and Wageningen University 'AMS Institute' (Institute for Advanced Metropolitan Solutions), based in Amsterdam.

Over the years Arjan van Timmeren has played a significant role in the integration of the concept of sustainable development in the field of architecture, urbanism and building technology in both practice and academia. His research focuses on environmental technology & innovation, industrial ecology, urban metabolism, smart cities, sustainable area development and self-sufficiency. With both his office, his research group at the TU Delft and the AMS Institute in Amsterdam he is involved in many projects in and outside the Netherlands, varying from individual (clusters of) buildings, to large 'climate neutral' city districts and infrastructures. He has seats in several (inter)national advisory committees, scientific committees, and quality teams, and has received several (inter)national awards for his work.



Xavier ALBOUY

Brand Director

Citeos







Marie BALEO La Fabrique de la Cité Project Manager

Participants



Julien BERT Rhônexpress Managing Director



Alice BIALESTOWSKI

AMC

Journalist



Olivier BADOT

Dean, Anthropologist, University Professor

ESCP Europe



Dominique BOULLIER École Polytechnique Fédérale de Lausanne (EPFL) - Institut Digital Humanities Senior Scientist







Alessandra BROWN **Roxbury Innovation Center** Director









Gilles CALAS VINCI Autoroutes Director of Construction

Martin CAHEN Tubà Service Designer











Christelle CAPDUPUY VINCI **Deputy Director**



VINCI **Sustainable Development** of Sustainable Development Representative



Arabelle CHAMBRE FOA Métropole de Lyon Chief of Staff of the President's Cabinet



Philippe DREVARD VINCI **Communications Manager**



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Ville de Rabat



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Ville de Rabat

Vice-Mayor



VINCI

José-Michaël CHENU

Director of Strategic

Marketing & Urban

Development

Antoine DE SEIGNEURENS VINCI Energies Innovation Project Manager



Camille COMBE

Project Manager

La Fabrique de la Cité

Didier DESCHANEL Eurovia Innovation Director



Benoit GEORGES Les Echos Head of the Ideas & Debates Department



Thibaut GIMENEZ Emilie GERBAUD Métropole de Lyon Stample Smart City Project Leader Vice-President





Marie-Anne GOBERT Métropole de Lyon Technical Advisor in Sustainable Development



Christian FOURNEL Eurovia Director of Institutional Relations



Guillaume GARRIC VINCI Energies Director of Smart Cities Development

Loren GARY

School









Alexandre GRASSIGNY La Fabrique de la Cité Project Manager





Bernard HAGELSTEEN VINCI Autoroutes Advisor to the President



Anne LE BOUR **VINCI Concessions Director of Communications**





Matthieu LERONDEAU Chronique d'Architecture La Fabrique de la Cité **Director of Communications**



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Atelier Jean Nouvel Director



Said MOSADAK Ville de Rabat Member of the City Council



Julia MOUZON Elueslocales.fr Founder



Nelly MOUSSU Smart City Magazine Journalist

Dominique PIALOT

La Tribune

Journalist



Managing Director

Ingrid NAPPI-CHOULET **ESSEC Business School Research Professor**

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Alain RENK Renk + Partners SAS **Architect and Urban Planner**

Pascal ROSIER Entreprendre Journalist

VINCI Energies - AXIANS Deputy Managing Director







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Mohinder SINGH Pierre STUSSI **Singapore Land Transport** Authority (LTA) **Advisor of the LTA Academy**







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