OVERVIEW INTERNATIONAL SEMINAR 2015

Understanding behavioural changes to keep transforming cities



La Fabrique de la Cité: a think tank on the city of tomorrow

he cities of tomorrow will be dramatically different from the ones familiar to us today. Demographic evolution, climate change, scarcity of natural resources, shifts in lifestyles and social practices... are powerful forces against which cities must prepare, adapt and reinvent themselves.

To do so, it is essential that all stakeholderselected officials, citizens, public and private sector decision-makers, architects, researchers and experts – become involved.

Created at the initiative of VINCI, La Fabrique de la Cité is a think tank promoting discussion and leadership on urban innovation. Its interdisciplinary approach brings together thought leaders and international players in urban development to uncover good urban development practices and put forward new ways of building and rebuilding cities.

La Fabrique de la Cité's work is organized around three focus areas: adaptation of existing cities, sustainable mobility and urban economy. Beyond technical considerations, it encompasses innovative, tangible and valueadded concepts, always with the same goal in mind: inventing tomorrow's cities.

La Fabrique de la Cité has been an endowment fund since December 25, 2010.

Summary

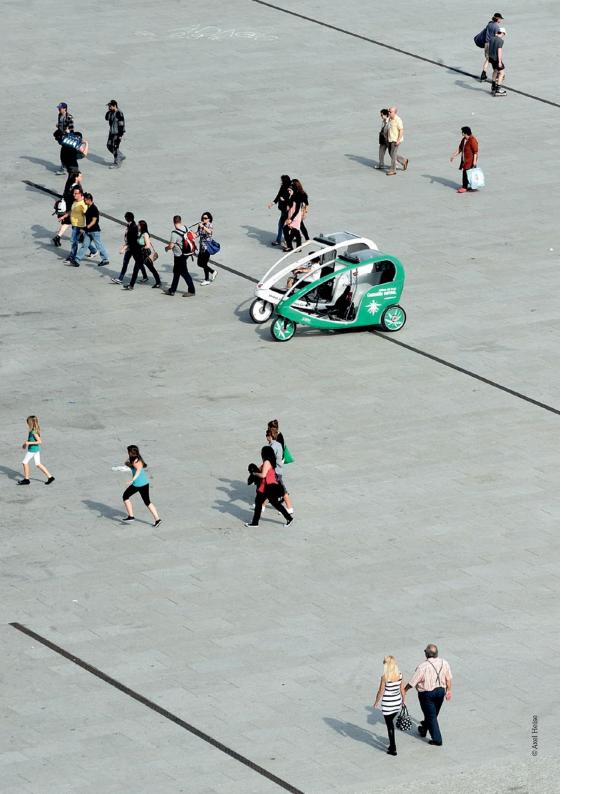
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Understanding behavioural changes to keep transforming cities

Which are the emerging behavioural changes in mobility, housing, working life, consumption patterns and the management of public spaces? How these new trends are transforming cities? These are but a few of the questions which La Fabrique de la Cité decided to put into debate during its international seminar.

More than 100 participants came to Berlin from July 1st to 3rd 2015 to address the broad topic of new ways of living in cities.

Which are the new behavioural changes?

La Fabrique de la Cité decided to highlight some of the prospective ways of living in cities. Sustainable mobility, cooperative housing, redefined workspaces, temporary uses of public spaces... these are the major trends currently at work. They transform the way our cities look and feel. Key concepts of this on-going process are threefold: sharing, temporary uses and reversibility.

Main factors making these new behaviours possible include the digital revolution and the aspirations of a generation of city-dwellers between 18 and 30, the so called "Millenials". This generation is espousing values that are greener and more collaborative, and it is expecting their cities to be agile enough to suit their needs.

The drivers behind these new behaviours

• The inhabitants' desire to see rapid, tangible changes to their cities. This requires greater flexibility, responsiveness, and reversibility when planning urban spaces.

• The desire to customize cities: inhabitants want cities built "to suit them", that are customizable and stand out from other cities.

• The desire for more active participation: citizens nowadays have the will and mean to craft the contours of public spaces by themselves, working with the traditional public and private players to build the city together. The ability to include all sections of a city's population in this participative approach therefore becomes a major objective.

• Frugality and the shared desire to save the environment in all circumstances.

Using Berlin as a case study, this analysis gives an overview of emerging urban behaviours. It then presents the methods and resources available to cities to identify, understand, and support these new behaviours.

Why Berlin?

"Poor but sexy". This is Berlin in the words of its former mayor, Klaus Wowereit; words that are still used today to describe this youthful, creative, attractive city that is heavily indebted. And yet, for a number of years now Berlin has been seeking to transcend this image to become a dynamic city that is attractive to business, without ever giving up on its unique identity.

This course of action forces Berlin to make some difficult decisions. How can the city manage demographic growth while preserving the identity of certain historic neighbourhoods? How can it maintain an affordable housing policy while simultaneously creating investment opportunities to attract the private sector and make *"Berlin's development a success"*, to quote Andreas Geisel, the Berlin Senator for Urban Development? In short, how can it become a city that is both *"*alternative" and *"productive"*?

To balance this equation, Berlin can count on its capacity for resilience. "Berlin has undergone several waves of radical transformations that have left their mark on the structure of the city as well as on urban habits and on how the city is used as a space for living and working", explains the architect Finn Geipel. Looking to the future, Berlin is *"Brownfield sites, fragments of land and unfinished developments define the culture of Berlin, and the mind map it still has today"*



Finn Geipel, Architect, LIN Office, Head of LIA research lab

also a city being built alongside and in opposition to its historical heritage. This resilience and adaptability can enable the city to overcome the inevitable conflicts which arise between conflicting usages. A compelling example is the aborted Tempelhof airport renovation project.

Berlin is also able to capitalise on its status as an open, welcoming city suited to open source initiatives. As a do it together Capital, Berlin proven its ability to establish its own standards in terms of co-creation, citizen initiatives, and pooling competences.

In Berlin, the city's inhabitants and the private sector share the local authority's desire to transform the city and secure a place in the urban ecosystem for all sections of society, along with the need for frugal town planning, guided as much by limited financial resources as environmental concerns. This host of characteristics are what makes Berlin a unique city, a test lab for new urban habits, and an inspiring example for other major cities, especially in terms of dialogue between city councillors and the people they govern.

Zoom on Berlin

ØKey figures:

3,4 million that's the number of people who live in Berlin; a city that attracts

between 40,000 and 45,000 new

residents every year.

109,2 € billion

the GDP of the federal state of Berlin in 2013.

60 € billion

the amount of debt borne by Berlin, repayment of which is restricting publicsector investment.

11 %

Berlin's unemployment rate (15.5% in 2008).

1/8

1 Berliner in 8 is not German by nationality.

Understanding the urban structure of Berlin

From the Hobrecht Plan to Greater Berlin via the fall of the Wall, this timeline presents those aspects of history and geography key to gaining a better understanding of the urban structure of the German capital, especially the "back and forth exchanges between city-dwellers' practices and the urban fabric" that architect Finn Geipel refers to.

• **1862**: Implementation of the Hobrecht Plan. Construction of rectangular blocks *(Mietkaserne)* to house workers, with a series of adjoining internal courtyards.

• **1937-44**: Architect Albert Speer works on Germania, a master plan to transform Berlin into the Third Reich's "world capital" (virtually no trace of which remains today).

• **1961**: Construction of the 155 km long Berlin Wall (43 km of which ran through central Berlin) with 25 crossing points.

• 1977: Architects Oswald Mathias Ungers and Rem Koolhaas publish their "Berlin: A Green Archipelago" manifesto, which defines "the culture of the void"; of interstitial spaces and unachieved infrastructures and brownfield sites still characteristic of today's Berlin identity.

• **1987**: The city hosts the International Building Exhibition (IBA) dedicated to the rediscovery of

Berlin's historic city centre. Its emphasis is on regeneration of the existing built environment and the conservation of certain urban communities, such as Kreuzberg.

• **1989**: Demolition of the Wall. Berlin becomes the capital of a unified Germany.

• **1999**: Hans Stimmanns's master plan takes its inspiration from pre-war Berlin, and seeks to rediscover the "continuity" of building facades and erase the footprint of the Wall.

• 2000: Launch of affordable housing policy for Berlin's metropolitan area. Simultaneously, development of the *Baugruppen* self-build initiatives.

• 2014: In a referendum, Berliners reject any form of new construction on the site of the former Templehof airport, in the city centre. Instead, they have adopted this space for concerts, sports and community gardens.

Ø 3 keywords

• *Kiez*. The term *Kiez* refers to those communities of central Berlin that have their own strong local identities. The borders of these *Kiez* do not necessarily correspond to those of the the 12 official administrative districts known as *Bezirke*, but are set by the residents themselves on the basis of their shared identity.

• *Ring*: At the end of the 19th century, a circular metro/train system known as the S-Bahn was built to link the isolated rail stations around Berlin. In 1961, a second *Ring* was built to skirt West Berlin and link the eastern sector of the city with Potsdam and other nearby towns. These two *Rings* contribute to the excellent coverage offered by the public transport systems of Berlin.

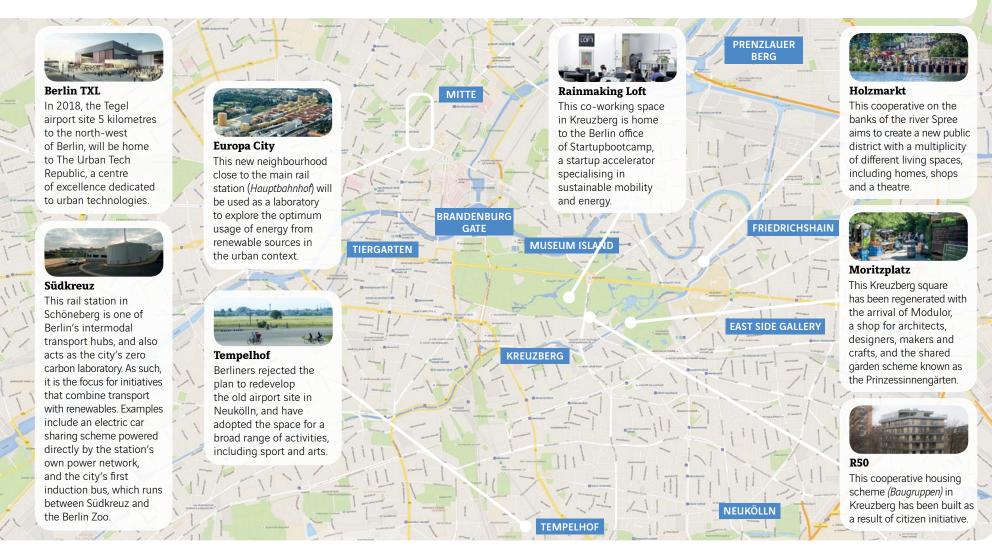
• **Greater Berlin**: The City of Berlin has a star-shaped polycentric structure. The natural spaces (forests, lakes, fields, etc.) reach right into the heart of the city. By relating "Greater Berlin" to Greater Paris the study of the Laboratory for Integrative Architecture (LIA) at the Technical University (TÜ), wants to approach the question of a new spatial model for the European metropolis of the 21st century.



Greater Berlin has a star-shaped polycentric structure

Some strategic Berlin locations

A closer look at seven Berlin locations where new uses for the city are now a reality; some are top down initiatives, while others are bottom up.





How Millenials reinvent the cities they live in

Millennials (age group ranging from 18 to 30) are driving major changes in cities. The way they think, work, consume, travel and make changes happen, all present new challenges to our cities. Far from being constrained solely to this generation, these emerging behaviors are highlighting relatively consensual aspirations concerning tomorrow's city.



"Millenials expect cities that are structured as networks, built collaboratively on a do it yourself model, and are demonstrably sustainable and fair"

Federico Casalegno, Associate Professor of the Practice and Director of the MIT Mobile Experience Lab, Massachusetts Institute of Technology

will live in cities, and two-thirds of the world's population will belong to the Millennial generation - people from 18 to 30. In terms of numbers alone, these young people will be the drivers of urban transformation. Their current practices, the aspirations they express and the values they promote mean that they are already leading today's urban

living trends from the front.

y 2050, three people out of five

La Fabrique de la Cité wanted to gain better understanding of the trends now emerging from the Millennial generation in terms of mobility, employment, consumption and institutional relationships. This desire was the starting point for the partnership with MIT Mobile Experience Lab, headed by Dr Federico Casalegno. The researchers conducted their survey over the period of one year in ten cities around the world. They met with young influencers, designers, architects, hackers, students, globetrotters, social entrepreneurs and startup creators... These "educated, economically optimistic and environmentally conscious" Millenials are now "the ones who are changing cities", says Federico Casalegno.

Importance of digital

This generation has been born and has established its identity in the digital era. That fact is a strong marker, and one that shapes the life experience of Millenials. Amongst the most distinctive traits of this generation of "digital natives", MIT researchers immediately observed the imperatives of high-quality connectivity regardless of location. The smartphone is undoubtedly the most important object in their daily lives. It's what enables them to share their job, leisure, communication and other experiences in ways that enrich or enhance the reality they experience in the physical world.

The second marker is also the result of the dominant role played by digital technologies: the value placed on instantaneity and immediate effectiveness. For Millennials, information is immediately (and often freely) available. The scope of individual actions seems to be extended tenfold by the interconnections provided by social and collaborative networks. This culture of instantaneity drives this generation to put their talent to work without waiting to climb the traditional career ladders. The classic corporate structure also seems to be less important for this "generation of freelancers and entrepreneurs", as Federico Casalegno describes them.

More responsible uses of resources

Millennials also favour horizontal relationships with no preconceived hierarchical structure. Authority is recognised only where it is seen to be competent. The forms of relationship valued by these young people are communities (people who share my interests) and contracts (everything discussed and negotiated).

Naturally, the habits of Millennials are also shaped by economic realities. The fact that the economic crisis is not identified as an absolutely restrictive factor is because these young people were born and brought up with it. They have grown up in a world that offers no other model. They therefore coexist with insecurity (relational and financial) but seem to deal with it somehow. It is this back story that makes it possible to understand the desire of Millenials to accumulate fewer material goods in favour of promoting sharing, recycling and collaboration. In a way, these young people also point the way towards a "controlled usage" that differs from the behaviour of previous generations.

Co-building the city

So what impact could the widespread dissemination of these generational trends have on the urban space? The team led by Federico Casalegno has identified four major urban aspirations amongst Millenials (see table below).

The young people interviewed by MIT Mobile Experience Lab "expect cities that are structured as networks, built collaboratively on a do it yourself model, and are demonstrably sustainable and fair". The most important route to achieving this is an openness to the idea of city co-construction. This generation wants to be involved in the decisions that shape the cities in which they live. They see open data as an essential requirement, the same way as encouraging the emergence of citizen-driven initiatives of public spaces, and especially the temporary occupation of land and buildings. They also have high expectations in terms of social diversity and fairness. This multichannel generation expects cities to be inclusive communities of people from every origin, class and culture. This ambition of diversity is not one to be disappointed. Urban wellbeing and quality of life also prove to be of prime importance in the aspirations of this generation. Eating healthily (preferably locally produced food), breathing high-quality air and enjoying nature in the city are all essential considerations for these young people.

In summary, Millenials aspire to live in cities characterised by flexibility of use, openness to others, a collaborative economy, and an identity that is simultaneously local and global.

P Millenials' urban aspirations Focus on the 4 priorities of Millenials.

Glocal impact (local rooting, worldwide experience)

Flexibility & reversibility in the use of public spaces

cooperation and sharing over hierarchy

Equity:

Connected and opened services and experiences

2



Sharing at the core of behavioural changes transforming the city

Whether it's the enthusiasm of urban dwellers for an access to a range of multimodal mobility options, more cooperative forms of housing, the emergence of new collaborative working spaces, or the temporary use of public spaces, the concept of sharing is now clearly the essential thread that connects the different behaviours shaping the urban spaces. So what happens if the sharing imperative becomes a future cornerstone for urban transformation?



"Over and above the climate crisis, the most pressing need for today's cities is to adapt infrastructures, housing and transport to reflect their sociodemographic revolution"

ominique Bureau, Deputy Director of the Economic Council for Sustainable Development (CEDD) nd member of La Fabrique de la Cité's Scientific Committee

Shared mobility

The new lifestyles of citizens are the starting point for alternative ways of moving in the city. Although the frequency and speed of transport remain an important criteria for citizens, they now rank below comfort, price and the quest for alternative transport options to limit dependency on a given route or an increasingly scarce energy resource.

The development of transport-on-demand

These new aspirations are reflected in the **proliferation of transport-on-demand plat-forms** that make it possible to adapt routes to the needs of travellers. *"What people want is a more convival city to make travel more of an enjoyable experience"*, says Matthieu Goetzke, Director of Urban Planning and Design for the City of Lille.

The personal vehicle has lost the dominant status it once had in urban mobility. In Berlin, 70% of urban trips are no longer made by car. It's a trend that is driving the **development** of shared-drive micro-vehicles that are better suited than the private car to the new pace of urban life. These modules make it possible to define a new multimodal transport offer that allows users to travel from A to B using multiple transport options without losing time or making detours.

The typological study conducted in 2013 by the Innovation Centre for Mobility and Social Change (InnoZ) into the transport options used in Berlin provides a good illustration of the **priority given by citizens to access and practicality over ownership.** It reveals that the number of Berliners using private cars (16%) is no higher than that for public transport system users (16%), and less than the number of cyclists (19%).

Shared travel costs and shared ownership as a kind of "installed capital" are becoming increasingly common practices. Drivy (see page 19), and similar peer-to-peer car rental services respond to this demand of urban dwellers to use a vehicle when they need it.

The rapid expansion of the digital economy along with the generation of big data are opening up new horizons. On the one hand, analysis of mobility data enables local authorities and transport management agencies to review their mobility offer by integrating citizen demand in real time, with a much more accurate level of prediction than was previously possible. On the other hand, the mobile apps developed by urban stakeholders allow citizens to access the availability of public transport and alternative modes in order to choose their preferred mode of travel, which is precisely what Millennials want and ask for. Since data is unlimited, it can also meet the needs of those who live on the outskirts of urban centres, as Charles-Eric Lemaignen, President of the Assemblée des Communautés de France and member of La Fabrique de la Cité scientific committee, explains: *"using facts and figures - data in other words - can allow us to meet the needs of citizens, including in the less densely populated areas of the outer urban area".*

The figures involved confirm that introducing a mobility policy also requires the introduction of a public transport offer that is simultaneously understandable, efficient and accessible, supported by smart grids to ensure seamless power supply and avoid peaks in consumption. *"The introduction of an integrated public transport offer is the backbone of a truly sustainable mobility"*, agrees Florian Lennert.

Offering micro-vehicles

The design of transport vehicles can also have a decisive impact on the definition of alternative mobility resources. "In today's world, it is crucial that we work on the weight and speed of new vehicles, because design can sometimes have a greater impact than individual behaviour in terms of sustainability", says Florian Lennert, Director of the Intelligent City Forum and mentor of Startupbootcamp, the Berlin-based startup accelerator.

It is with this fact in mind that Local Motors, a startup that aims to manufacture vehicles whose design fits with current mobility needs and has already produced the world's first 3D printed vehicle, organised the "Urban Mobility Challenge: Berlin 2030" to recognise and reward innovative projects with long-term vision, like the Berlino driverless smart minibus, and the Bike Tree solution for bike parking.

Drivy Optimising the use value of cars

Created in 2010, the French market leader in peer-to-peer car rental intends to optimise the potential offered by the existing car fleet without putting new vehicles on the road. This approach, which consists of focusing on the use value of cars rather than on their proprietary value, is part of the wider emerging philosophy of a collaborative economy. Drivy opened its German subsidiary in November 2014. Six months later, Germany had become its largest market, with more than 11,000 cars and 100,000 users across the country. When insurance and maintenance are included, car owners have to spend between €3,000 and €4,000 annually. They can cover that sum by making their vehicle available via the platform on a regular basis.



Urban planning in a sharing era

The new mobility behaviours, and especially the sharing of the transport infrastructure, also have a physical impact on the structure of cities. "It's important to share public spaces and rethink cities in ways that respond to the aspirations of their citizens. The same street must be able to meet the needs of pedestrians, cuclists, car drivers and bikers simultaneously", explains Laura Meixell, Analytics and Strategy Manager at City of Pittsburgh, USA.

Those emerging behaviours open up new **development opportunities:** "We now have the opportunity to reduce major roadways to create shared areas", explains Didier Deschanel, Delegate Director Specialized Subsidiaries at Eurovia. The choice of street furniture, surface marking options and the design of the urban space can also impact decisively on the definition of alternative mobility options.

On the other hand, as Gero Graf, Head of Drivy in Germany, reminds us, "Improved optimisation of the vehicle fleet already exists, thanks to on-demand mobility platforms that remove the need to build new ground level parking spaces".

Combining mobility and renewable energies

In the words of Florian Lennert "combining sustainable mobility with a smart infrastructure and local and national energy policies based on the potential of energy from renewable sources and shared mobility" is key to responding effectively to urban challenges.

It is precisely with this in mind that the City of Berlin has set itself the ambition of meeting 100% of electricity demand from renewable sources by 2030 (compared with 45% today) in order to power its electric mobility policy. Achieving this ambitious target relies in large

"We should combine sustainable mobility with a smart infrastructure"



Florian Lennert, Director, Intelligent City, InnoZ

part on optimum operation of the decentralised wind power resources available in the neighbouring State of Brandenburg. "Renewables are essential to achieving a successful transition to sustainable mobility", continues Florian Lennert, whose country is committed to obtaining 80% of its electricity from renewables by 2050, but remains currently open to criticism for operating an energy mix that still relies extremely heavily on coal for power generation (45.2%).

To achieve this target, the Berlin-based Innovation Centre for Mobility and Social Change (InnoZ) suggests transposing the methods and techniques used to transform building energy policy (introduction of renewables, energy storage systems, etc.) to the mobility sector. Crucially, this would involve the introduction of "renewable energy systems at the local level", explains Florian Lennert.

Ø Startupbootcamp An accelerator focused on smart

transportation and energy.

Startupbootcamp is a global startup accelerator with an office in Berlin that supports early-stage companies in the area of smart transportation and energy. The Berlin accelerator selects 10 startups per year and guarantees each of them six months free workspace at the Rainmaking Loft Berlin in addition to support from experienced mentors, €15,000 in funding and introductions to partner companies such as VINCI, Deutsche Bahn, EnBw, Cisco, Airbus, Mercedes, TNT, Here. "We are experts in connecting our

startups with the tools and resources that they need to succeed", explains Tanja Kufner, Managing Director of Startupbootcamp Smart Transportation & Energy. For instance, coModule, a company pushing the boundaries of electromobility, has benefited from the industry-specific expertise offered by the accelerator. So has High Mobility, a startup that is developing a digital platform connecting cars with wearable devices to provide real-time communication of routing and traffic status data. "Disruptive technologies are driving phenomenal transformation in our daily lives," explains Tanja Kufner. She sees Startupbootcamp as "an organisation that supports startups that are shaping the cities of the future in areas such as urban planning, mobility, and clean energy".



Startupbootcamp is an accelerator that supports startups fostering innovation in areas such as city planning, mobility and clean energy.

Participative housing

City dwellers are aspiring to shape their own living environment, including their housing. Cities are seeking to strike a delicate balance between spontaneous self-determination and the adoption of effective mechanisms for participative democracy.

Towards cooperative, intergenerational and social forms of housing

The desire of citizens to personalise their cities translates into the development of new forms of cooperative housing.

In Berlin, this trend has led particularly to the development of several hundred collaborative housing groups (*Baugruppen*, see inset on p.21) since the beginning of the 2000s. The Berlin Senate sees a clear interest in maintaining and supporting these projects: by letting some of its residents build their own city themselves, local authorities retain the creative and interstitial culture that has become the trademark of Berlin. "Brownfield sites, fraaments of land and unachieved spaces define the urban culture of Berlin, somehow the mental map it still owns today", explains Finn Geipel.Even cities that do not have as much available land as Berlin are also becoming involved in this new model for participative housing.

French examples include the Val-de-Marne urban community of Seine-Amont, which

encompasses the towns of Choisy-le-Roi, lvry-sur-Seine and Vitry-sur-Seine.

An intercommunal local housing programme has been introduced here, which plans the development of intergenerational housing units in which students and pensioners live side by side and help each other. *"For residents, participative housing means a new and more collective way of creating their own living space. Creating participatory spaces can change the way people live and experience old age",* explains Antoine Valbon, Chief Executive of the Seine-Amont Urban Community.

This prioritisation of participatory housing is also a reality in cities like Strasbourg, whose "ZAC des Poteries" urban development zone has - since 2014 - been home to the *"first participative rental housing project in Alsace"*, explains Eric Hartweg, Operations Director of the territorial development agency for the region of Strasbourg(SERS). One of the most noticeable features of this social housing project is the active participation of all tenants and the communal use made of many spaces in the building.

How can conflicts of use be resolved?

Cities like Berlin are currently attracting 45,000 new residents every year, but in a virtually stagnant housing market, the influx is driving prices substantially higher. The development of online platforms of peer-to-peer property rental is now a cause for concern in cities, because their use as tourist accommodation is distorting the market by reducing the number of apartments available for rent and threatening the hotel sector. At the same time, local authorities are aware that this nomadic rental market is a significant source of revenue for the local economy.

How can cities develop on the basis of the opinions, needs and uses of existing residents?

This is a substantial challenge for Berlin, since it means convincing local residents of the benefits of building on brownfield sites which they would rather keep as green spaces, open spaces or spaces used by artists and cooperatives.

The German capital has introduced a series of participative democracy mechanisms that are widely used by its citizens, what compels public authorities to build convincing projects. The process of ongoing dialogue between citizens and public authorities is essential for shaping a truly collaborative city; one that is made with and for its residents.

The Baugruppen A new model for designing and building houses

Self-managed housing construction initiatives are flourishing in Berlin and other major German cities. So what is the principle here? Well, citizens get together to create their own *Baugruppe*, identify a piece of land, appoint an architect and build their own collective housing project. This spontaneous movement for collaborative housing construction has received a gradually increasing level of support from public authorities, which are happy to sell off brownfield sites too small to appeal to property developers at reasonable cost. In some urban areas, Baugruppen have become the key drivers of urban production and transformation, spreading a new approach to community living and diversity that contributes to the appeal of Berlin.



Coworking spaces

Coworking spaces and fablabs are now flourishing in cities, encouraging new ways of working together and helping to retain industrial know-how in the inner city.

The quest for flexibility and skills sharing

The concept of sharing is central to new ways of working in the city, that are more fragmented while being more focused on entrepreneurship. The fact is that digital technologies have profoundly changed the way people work, and therefore the way they organise their time. Long seen as completely distinct, professional and personal lives are now intertwined, blurring the "working hours" concept. In other words, work is becoming a mobile and fluctuating activity; a reality reflected in new hybrid spaces known as 'third places'.

Born out of the need for interaction felt by the expanding community of self-employed workers, coworking spaces give individuals the opportunity to work together in pleasant and stimulating surroundings. Such spaces are opening in virtually every town and city, what fosters skill exchange and matching. *"The labour market has changed. People are increasingly demanding greater flexibility, because they know that they will not necessarily be doing the same job all their lives. And the concept of coworking – working alongside others and sharing skills – is having a significant impact on the physical spaces", observes Mark Hartmann, Founder and Director of the Berlinbased investment fund Project A Ventures.*

This year, there are at least 230 coworking spaces in Berlin, whose growth is being driven by the Berlin startup ecosystem. This ecosystem has developed rapidly, because the city has all the ingredients necessary for its expansion: the ability to attract talented people, urban density, diversity rich and diverse cultural offer, financial stability and a favourable legal framework. This concentration of skills

"Berlin is experiencing a very quick demographic growth. It could be tempting to convert former industrial areas into housing, but Berlin should keep on being a productive city"



Andreas Geisel, Berlin Senator for urban development and the environment

facilitates collaborative behaviours and skill sharing, and therefore the emergence of new ideas for services and the creation of new business opportunities.

Digitalisation's impact on cities

"Digital platforms allow us to access to an augmented urban reality. They enable us to access the same quality of service, wherever the city we work", explains Mark Hartmann, who gives the example of WeWork, which rents coworking spaces to companies and individuals in Europe, the USA and Isræl (and is now valued at in excess of \$5 billion). By subscribing to it, today's nomadic workers can have the same facilities and level of service in every city.

This bridge between the virtual and real and between digital space and physical space - identified as one of the aspirations of Millenials - is the key to the future of retail business in urban centres, according to Mark Hartmann: "In the future, business will be more focused on the concept of experience: the ability to access a particular product without needing to buy it". Supported by Project A and existing online since spring 2014, Contorion presents itself as a BtoB (business to business) purchasing platform providing access to an extensive range of industrial products and equipment (tools, hard hats, etc.). A practical way of connecting the often complementary needs of different businesses in the same sector.

Reintroducing industry into the city

Berlin is currently enjoying a period of economic growth: "In 2005, the unemployment rate in Berlin was close to 20%, today we are going towards 10%. In the recent years, 250,000 new jobs have been created here", says Thomas Letz, who has responsibility for politics and planning issues in the Berlin Senate Chancellery. Public authorities focus their efforts on developing "In the future, business will be more focused on the concept of experience: the ability to access a particular product without needing to buy it"



Mark Hartmann, Founder and Director of Project A Ventures

economic sectors that fits with the creative image of the city and reduce the "time to market", and industrial activity is becoming more personalised and closer to the everyday urban experience. The site of the former Tegel Airport will be a showcase for this trend, when the "Urban Tech Republic" science cluster opens in 2018. Eventually, it will be home to 5,000 students and 800 companies and research centres, as well as product testing areas open to the public. This is expected to create 15,000 new jobs. As Andreas Geisel, Berlin Senator for urban development and the environment, explains: "It could be tempting to convert the old industrial areas into housing, but Berlin should keep on being a productive city".

That ambition is made all the more credible by the development of projects aiming at bringing industrial production and manufacturing back into the local environment. Local Motors is an excellent example: by drawing on the expertise concentrated in an open community of developers, it has succeeded in manufacturing the first **>** "We focus on behaviours and expectations of citydwellers. We support projects which transform life of Berliners, the way they work and buy..."



Nicolas Zimmer, Director, Technologiestiftung

▶ **3D-printed open source car.** "It's a way of reintroducing micro-factories into the city by designing, manufacturing and selling locally", explains Florian Feise, Community Manager at Local Motors.

A way of amplifying the impact of Fab Labs (fabrication laboratories), those collaborative workshops that provide local entrepreneurs and citizens with access to hi-tech resources, such as digital milling machines and 3D printers. Many urban centres in Europe and the USA believe that introducing one or more Fab Labs into their regions encourages implementation and availability of technological innovations linked with behavioural changes. *"This growth in relocalised production - a 4.0 decentralised and miniaturised industry in effect will allow us to rethink energy, mobility and water flows"*, believes Florian Lennert.

Coworking pioneer

The Rainmaking Loft in Kreuzberg is a shared workspace offering 80 workstations and facilities for many of the city's entrepreneurs. Since 2014, it has also been the home of Startupbootcamp, a startup accelerator whose Berlin office specialises in sustainable mobility and clean energies. The Rainmaking Loft is also hosting startups such as Drivy or Local Motors.



The Rainmaking Loft is one of the most active coworking spaces in Berlin, which hosts startups and accelerators such as Startupbootcamp

Making temporary use of public spaces

Public spaces are by definition shared resources. As places that people pass through and meet in, they are increasingly often the field for temporary occupation by social, ecological and cultural projects. A way of creating a collective meaning and introducing the concept of "urban commons".

> rownfield sites, interstitial spaces and buffer zones between neighbourhoods... Some city councillors are now occasionally choosing to entrust the conversion and mana-

gement of some empty or derelict urban spaces to the residents themselves. Others offer their citizens the opportunity to select urban regeneration projects through the participatory budgeting process. At the same time, more and more citizens are claiming the right to leave their mark on their own living spaces by becoming involved directly in their development. This participative approach to urban space management offers many advantages.

Giving public spaces back their potential for entertainment and education

Perhaps more than in any other city, **the do it yourself (DIY) culture** is an integral part of Berliners' DNA.

The Moritzplatz regeneration proves the point. Located in the Kreuzberg area on the outskirts of West Berlin, this place used to be known as "the end of the world" after 60 years

of being left more or less untouched since the end of the war. But thanks to the involvement of local stakeholders and the agreement of the relevant authorities, this deserted square has been transformed into a dynamic and welcoming space that has become the hub of its community. The enormous interior of the old Bechstein piano factory is now home to Modulor, **a resource space** for artists and designers, which also includes manufacture workshops, bookshops, galleries, and even a crèche on the top floor.

Reinventing urban planning on a more collaborative basis

Moritzplatz is also the location for the *Prinzessinnengärten* (Princess Garden) project (see inset on p. 29), a private initiative supported by the public sector via a tax regulation that effectively limits the risk of speculative investment in such areas. Here, two Berliners have taken up the challenge of developing **a** modular public space dedicated to urban agriculture with the active participation of residents to make the project happen. This temporary use of public space illustrates the concept of "nomadic green spaces", since **>**

"Making a space available and letting people adopt it is the basis for using serendipity as a disruptive urban planning method"



Andreas Krüger, Director, Belius GmbH

the garden could be relocated if alternative land becomes available. It enables urban planning to be reinvented on a more collaborative basis, by leaving significant room for reversibility: "Making a space available and letting people adopt it is the basis for using serendipity as a disruptive urban planning method", says with enthusiasm Andreas Krüger.

A playful and creative dimension that is also supported by OuiShare community member Diana Filippova: "The new ways of designing the city are focused around the fact that the city should be a playground, a platform for facilitation and a place of self-fulfilment". By accepting that you might find something other than you were originally looking for...

Building urban commons

Giving citizens responsibility for managing certain shared spaces is one way in which cities can decompartmentalise the urban space and develop new ways of community living. One example of the fast-growing urban commons concept is the development of community gardens, which build social links between neighbours by encouraging active participation in a useful and productive activity that generates much more than just monetary value.

Urban commons can also take the form of hybrid and modular spaces. They can, for example, be something as simple as a library that converts to a conference room for nonprofit organisations, or the opening of Fab Labs with their emphasis on learning new techniques and expertise. Cities like Lisbon, and more recently Paris via the MakeSense community, are offering citizens an innovative resource to play a more active role in urban development: participatory budgeting. This mechanism allows citizens to select which public spaces should be renovated or designed, and how.

It's a form of decentralisation that can be an effective catalyst for social inclusion if it brings together every strata of society around these new urban practices. "How do we encourage everyone in society to participate in bringing public spaces to life and being part of the citu? That's one of the real challenges of social cohesion", emphasises Mathieu Goetzke, director of Urban planning and Design for the City of Lille.

Introducing reversibility

Leaving residents free to adopt certain spaces is also a way of protecting the identity of cities. In Berlin, for example, the creative and alternative image of the city is now under threat in some areas as a result of gentrification: "Berlin is a "work in progress", a wild and passionate city. To protect its identity, and particularly its alternative dimension, we must continue to keep the special places that make the city so attractive" make step changes in urban planning", stresses Andreas Geisel, Berlin Senator for urban development and the environment.

Although effective in boosting the appeal of a city, the temporary use of public spaces also has its limits. Although not always illegal areas as such, these spaces often suffer from a lack of clear definition regarding the responsibility of individual stakeholders and the governance model. In some case, this can reach the point where councillors can feel compelled to retrospectively approve a de facto occupation of empty urban spaces and improvise forms for the delegation of power. In practical terms, problems can arise when what was temporary becomes permanent. To avoid the conflict with city-dwellers, it is important to reach prior agreement with them on the temporary nature of various projects, and examine the options for converting these temporary uses into permanent projects on a case-by-case basis.

Berlin is a special case, and it appears to be very difficult to transpose the experiences of temporary public space management from one city to another, especially since this is closely related to specific features of history, geography and sociology. That said, the level of citizen demand for this type of bottom up process is such that the temporary use of public spaces is likely to increase in the future, even in cities that are denser and more uniform than Berlin.

"To keep the special places that make the city so attractive, we must continue to make step changes in urban planning"



Andreas Geisel, Berlin Senator for urban development and the environment

Ø Prinzessinnengärten

From wasteland to educational garden

Opened in 2009 by eco-friendly Berliners Robert Shaw and Marco Clausen, the Prinzessinnengärten (Princess Garden) project symbolises the willingness in Berlin to be open and share with others. Located in Moritzplatz, this pop-up public space is open to everyone, and covers 6,000 m² of a former industrial site abandoned for more than fifty years. This consciously social and educational project, which introduces Berliners to the expertise required for successful open agriculture, could never have become a reality without substantial citizen commitment and involvement. In 2012, the land came close to being sold, but a 30,000-signature petition persuaded the city authorities to assign it to the community of Kreuzberg, which has leased it to the two creators of the Prinzessinnengärten since then.





Could cities be built on the uses we make of them?

Identifying new ways of using the urban space, decoding them, and understanding the resulting shifts in the way cities function... All these stages are involved in the way city authorities are now thinking as they try to reinvent themselves to get closer to the expectations and practices of citizens.

For them, it means offering appropriate services and introducing reforms to address the challenges posed by emerging uses. To achieve that, cities have the powerful option to exploit the potential offered by urban data, and the opportunity to work more closely with each other, the private sector and society as a whole.

But however it is achieved, building cities on the basis of the uses we make of them will involve promoting more responsive policy tools that can be scaled to changing lifestyles and the new expectations citizens have of institutions.



"The challenge facing cities is how to design themselves, when they seem essentially static and yet must respond to the needs of individuals who are agile"

The potential offered by "urban data"

Before we can succeed in tapping into the new uses being made of cities in terms of mobility, urban space usage, consumption and the organisation of employment, we must first grasp what they are and understand them. In doing so, cities have the powerful option to exploit a valuable and already essential resource: the "urban data" generated by every stakeholder in the city.

From Los Angeles to Rennes and Helsinki, more and more cities are introducing ambitious urban data¹ policies. In practical terms, this means gathering, integrating, cross-referencing and sharing all the data generated in the urban environment, regardless of whether it originates from the public sector, private sector stakeholders or citizens themselves.

So urban data makes it possible to analyse residents demand for urban services, the recurrent behaviour patterns of citizens, and the many ways in which they use the city in areas such as mobility, energy consumption and waste management.

It's rather as if by generating data, city dwellers are telling the story of their city in real time. To analyse these data, cities are using powerful new resources like interactive maps, 3D simulations and platforms. "We are transitioning from an era of words and text to an era of images and video, which brings with it the opportunity to use augmented reality and virtual reality", says Susan Crawford, Professor of Law at Harvard Law School.

Identify, manage, predict

Urban data are the raw material for implementing four types of complementary initiative on a city-wide basis.

• The first type of initiative: precise identification of the recurrent behaviour patterns of citizens. In the Zuidoost area of Amsterdam, an experiment is underway to gather the energy consumption data of 800,000 connected residents. The result of close collaboration between the city authority, companies (Liander and Waternet) and the local federation of private landlords, the Energy Atlas programme has already produced an online interactive map that pinpoints local opportunities to exchange energy between buildings and even between individual consumers.

• The second potential use of urban data: detection of problems so that effective action can be taken at critical points in urban systems and networks. Developed in partnership with the City of Boston Public Works Department, the free Street Bump •

⊘ AiREAS

Using sensors to improve urban air quality

The City of Eindhoven in the Netherlands has taken the decision to install a unique network of connected sensors throughout the city to measure air quality in real time. *"It's a way of making the invisible visible"*, explains Marco Van Lochem, Head of Axians in the Netherlands, the VINCI Energies company involved in this project known as AiREAS. The data are gathered using sensors mounted on traffic lights, and fed to a platform that gives councillors real-time information on pollution levels and temperature, and provides academics with the raw data they need to study the relationship between pollution levels and the development of certain illnesses. Eindhoven residents have also been asked to cooperate directly in the project by wearing connected sensors for medical research purpose. "The key issue is the network used to process the data. Seeing how the data influences residents' behaviour makes it possible to put in place the measures required to make cities more pleasant to live in", explains Marco Van Lochem, AiREAS is therefore an overarching project that involves doctors, engineers, researchers, politicians and citizens within a single open and cooperative structure. The specific skills of all the stakeholders are shared in order to achieve the common purpose of making their living environment more healthy in response to the increasingly asserted desire of citizens to live in healthier cities.



A unique network of smart sensors is deployed throughout the city of Eindhoven (Netherlands) in order to have real-time measures on air quality.

▶ app involves citizens directly in reporting bumps and potholes in the streets of their city. The accelerometer built into smartphones works in conjunction with GPS to automatically detect when a vehicle passes over a bump.

• Urban data can also be used to manage city services in real time. Launched in Chicago last September by a group of researchers and architects, The Array of Things is a network of forty interactive, modular sensor boxes fixed to signs and lampposts to collect a range of real-time data, such as pedestrian traffic, air quality and atmospheric pressure. Cross-referenced, these data have many uses, including the reprogramming of traffic lights in response to traffic flow or identifying which roads should be targeted for winter gritting.

• Lastly, urban data provide the raw material for **developing reliable predictive analysis tools** to prevent certain problems occurring. By retrieving data from its DataBridge and cross referencing it with other data (rent arrears, utility connections, etc.), the City of New York has been able to develop an algorithm with the ability to detect those city buildings most at risk of domestic fire due to illegal conversions of apartments. In just a few months, this tool has increased the detection rate of major violations during inspections from 8% to 70%.

How can we leverage urban data?

Success in using data to identify and understand the way citizens use their city relies heavily on establishing intermediate structures that link city services with citizens. One of the most effective ways of doing this is to create dedicated apps and platforms that are easy to use and encourage citizens to express their opinions. The IdeaScale platform introduced by the New York Police Department to gain a clearer understanding of citizen priorities is an excellent example of this approach. The platform very quickly became a channel for citizens to upload their own suggestions and good ideas: "A senior officer in the NYPD has acknowledged that 40% of the ideas and suggestions submitted by residents via this platform were ideas that the Department hadn't thought of", says Susan Crawford.

Another solution to facilitate the use of data to gather urban usage information is the creation of public agencies or private/ public organisations to manage urban development. That's very much the case in Berlin, with the city's Berlin Partner Wirtschaft und Technologie GmbH: "This institution acts as both guide and partner on projects like open data initiatives, but also promotes the capital as a focus for inward investment by companies", stresses Nicolas Zimmer. "I would like to see even more public-sector development agencies coming onboard in the future", adds the CEO of Technology Foundation Berlin.

Because they reveal previously unknown information and make it possible to experiment in new ways with the concept of building cities together, urban data clearly constitutes an essential lever for supporting emerging ways of using the city.

¹ Find out more about works of La Fabrique de la Cité on urban data : <u>www.lafabriquedelacite.com</u> - Works -Events - "Towards data-driven cities ?"

⊘ Grenoble

Prioritising the requests of residents

Making public data freely available for everyone to use: that's the logic of the open data policy now being adopted by an increasing number of cities, including Grenoble. Immediately on taking up office in May 2014, the city's ecologist Deputy Mayor Éric Piolle made the issue of access to open data a priority. He appointed Laurence Comparat as a deputy with a mission that explicitly includes *"access to*

"The challenge is to work out how to organise resources so that we can answer every question put to us by members of the public. There shouldn't be any black holes: we must be able to answer every question, when lawfully possible"



Laurence Comparat, Deputy Mayor in charge of Open Data and free softwares, City of Grenoble

information. open data and free software". The commitment is a first in France. Laurence Comparat believes that the *"strategy of opportunity"* consists of waiting to see what citizens are asking for before providing open access to specific datasets: "The challenge is to work out how we organise ourselves to meet the requests of citizens. There shouldn't be any black holes: we must be able to answer every question, when lawfully possible". The Deputy Mayor began by "making what we already had visible" by, for example, sharing the data on student numbers for every school in the city. This autumn, a dedicated open data platform will be made available online by the city authority, which sees it as a first step towards citizens being able to use these data. "The citizen potential is considerable here. So we're confident that new ideas will emerge from using data", continues Laurence Comparat, who is convinced that urban data offer "a political tool that will benefit everyone in the local community".



Grenoble is a pioneering city in the implementati on of a community-oriented open data policy.

Enabling more agile cities

Reactivity, proactivity and adaptability are the three cornerstones for building an agile city. The principle here is one of using technology to improve the management of urban services, respond more effectively to the practices and uses of citizens, and encourage them to become more involved.

ut how can cities be made more agile, i.e. more responsive, adaptable and resilient to changes in the way their citizens use them? Answering that question is the

task attempted by Susan Crawford, Professor of Law at Harvard Law School, and Stephen Goldsmith, Professor at Harvard Kennedy School and former politician as a Mayor of Indianapolis and Deputy Mayor of New York. As co-authors of *The Responsive City* (2014), they highlight the fact that cities must develop their governance models to be in line with the changing lifestyles of their residents.

Data cross-referencing

The primary route to achieving this involves exploiting the opportunities offered by Information and Communication Technologies (ICT) and digital data. Thanks to the development of cloud computing, the ability to analyse open data in increasingly fine detail, and the fact that local civil servants now - like the vast majority of urban residents - use connected

devices that enable geolocation and real-time interaction, cities are now in the process of achieving a paradigm shift that will enable them to make decisions based on large quantities of urban data.

> "It's crucial to arrive at the right definition of what public value is, because without that, the data is useless"



Stephen Goldsmith, Professor at Harvard Kennedy School and former Deputy Mayor of New York

"The responsive city takes into account the needs of its citizens and interacts with them to develop adapted urban services"



Susan Crawford, Professor of Law at Harvard Law School

Driving "public value"

Building closer and stronger relationships between the city and its residents also means working to anticipate their needs. This can take the form, for example, of using predictive modelling tools. The City of New York used it to target fire prevention inspections on buildings identified as being most at risk. Cities can also implement preventive programmes and initiatives to combat the causes of sensitive issues, rather than the effects. Stephen Goldsmith takes homelessness as an example: it's less about helping homeless people once they're on the streets, than preventing them from being in such a situation in the first place by working closely with social services to avoid people getting into the kind of vulnerable position that can lead them into living on the streets. He believes that the concept of public value must therefore be central to the way authorities design their services. "It's crucial to arrive at the right definition of what public value is, because without that, the data is useless".

The challenges of the agile city

• The quality of data released and the standards used: on what basis and in which format should a city choose to make a particular dataset publicly available?

• The quality of the digital and physical infrastructure provided for residents, which may incur considerable cost.

• The need for the emergence of local government champions to lead this 2.0 public service. "When someone strong with real power can act as the driver of change, many kinds of transformation can happen", continues Stephen Goldsmith.

• But public-sector stakeholders cannot be the only ones: companies and citizens themselves must also contribute to this process not only to release data, but also to gather it back again. Effective collaboration between all stakeholders is one way of moving closer to the concept of the common good embraced by the open source movement, and which companies like open source vehicle manufacturer Local Motors are attempting to put into practice.

Ø Los Angeles

Reconciling top down and bottom up approaches to data

"Transportation, homelessness and water consumption are our three priorities", explains Lilian Coral, Deputy Chief Data Officer for the City of Los Angeles, who is seeking to reconcile institution-driven initiatives with a more grassroots bottom up approach in which Angelinos themselves use urban data as the basis for inventing new services. In terms of top down initiatives, Los Angeles has successfully launched the virale #savethedrop campaign: "The idea here is to use social networks as the online place for forging a community of individuals

with real awareness of the problems caused by the region's drought, given that the city has set the target of cutting water consumption by 20% by 2017.", explains Lilian Coral. The other side of the urban data policy consists of encouraging citizens to contribute their creativity and expertise via competitions and hackathons to produce apps for issues like transport or immigration. And that's precisely what the #TechLA competitions are all about: "You don't have to be a coder to compete, because these events are open to everyone. The best projects make it through to a prototyping phase and are then supported by a startup business accelerator", explains Lilian Coral, who is delighted at the success of these events in enabling the take-up of the best ideas from citizens to improve the range of urban public services.



□ Save the Drop is a viral campaign launched by LA's municipality to inform citizens about water scarcity and ways to spare it.

Driving urban change

If they are to succeed in supporting the deployment of new uses for the city, public and private stakeholders must put in place the conditions needed to inspire residents' trust in what they are doing.

s the bottom up approach gathers pace, city dwellers are finally coming out of the woodwork to get involved in collective action. We can all be part of the solution, and that's what the new urban democracy is all about!", says Mary-Ann Schreurs, Deputy Mayor of Eindhoven in charge of Innovation and Design.

Taking inspiration from "do it together" initiatives

In Eindhoven, as in a growing number of other cities, councillors and private stakeholders have grasped the fact that it is essential to hold hands with residents when helping them to invent and disseminate new uses for the city. In recent years, this realisation has led to the opening of new urban spaces like fab labs, makerspaces, start-up accelerators and coworking spaces. These hybrid facilities encourage dissemination of a collaborative working culture that brings economic stakeholders with very different sociological profiles together to share skills, expertise and knowledge. It's an effective way of making the transition from a do it yourself to do it together vision, at the same time as encouraging the grassroots bottom up approach promoted by Nicolas Zimmer of Technologiestiftung Berlin. Dialogue and educational efforts are central to success in including all residents in such a participative approach. Citizen involvement is not something that happens by itself: it must be constructed, encouraged and supported. The success of the Code for Germany initiative (see focus on p.41) proves that point, especially since it raises the possibility of teaching coding to a community of citizens far removed from the usual circle of software developers.

"We can all be part of the solution, and that's what the new urban democracy is all about!"



Mary-Ann Schreurs, Deputy Mayor of Eindhoven in charge of Innovation and Design

Seeking out public value of cities

• Design Thinking

Design Thinking is an approach to innovation that could embody this new urban democracy that Mary-Ann Shreurs refers to. This culture of exploration and iteration is based on the idea that invention requires just three things: People, Place and Process; you have an idea, you test it and you readjust it if necessary. This approach was born out of the vision of Hasso Plattner, co-founder of the giant German software house SAP. In 2004, Hasso Plattner and David Kelley, the founder of IDEO set up the d.school at Stanford and since then in Potsdam (East of Berlin), known as the Hasso Plattner Institute of Design.

• Participatory Budget

The do it together philosophy can also draw on new technology tools to identify practical applications. At the beginning of 2015, the City of Paris got together with the Make Sense network of social entrepreneurs to launch Sense Fiction. Its principal aim is: *"to hack the participatory budget allocated by the city authority* to fund the creation of social business in the capital". The initiative is designed to bring less traditional actors into municipal life.

• Open source geolocalisation

The Leerstandsmelder project is another example of how technology can overtake personal interests. This open source geolocation app identifies abandoned land and buildings on the basis of data provided by residents in around thirty major German cities, including Hamburg, Berlin, Frankfurt and Bremen. Designed originally by Hamburg architectural student members of Gängeviertel eV in partnership with Ubilabs, the app promotes the reuse of these vacant lots, either on a temporary basis for arts or community events, or by the city authority, which then has a free app with which to identify potential development sites. The Leerstandsmelder project relies on dialogue and information sharing between city stakeholders, and is a good example of the type of long-term solution cities now need in order to go beyond particular interests in the short term. "What we need is not solutions for here and now, but viable solutions for the long-term future", confirms Mary-Ann Schreurs.

Ø Code for Germany

Encouraging citizen engagement through data

In July 2014, the Open Knowledge Foundation - the British non-profit that has been promoting open data since 2004 - set up *Code for Germany*, a network of IT developers and designers who use public data to build software tools designed to improve daily life in the major cities of Germany. By February this year, twenty Open Knowledge Labs had already opened across the country, together representing around 10,000 hours of coding to improve urban communities. The most effective projects so far produced by the network include: an online platform for viewing new construction projects in Berlin, a crowd sourced initiative to gather pollution measurements taken by citizens in Stuttgart, and the Parken DD app in Dresden which allows drivers to find a parking space easily.



Code for Germany is a network of volunteer developers and designers who rely on open data to create digital tools and applications that improve daily life in the principal cities of Germany.

⊘ Holzmarkt

Do it together in Berlin

A long strip of land on the north bank of the river Spree has become a symbol of how Berlin is a city made by and for its residents. The story began in 2008, when the city sold this 18,000 sqm plot, forcing the legendary Bar 25 to relocate from the former car park it had occupied since 2004. A few years earlier, the City of Berlin launched the Mediaspree project to build offices and corporate head offices on the banks of the Spree in an attempt to repay some of its debt.

But local residents clearly didn't share its view. A citizens initiative referendum - Spreeufer für alle (The banks of the Spree for All) - was held in 2008 with the aim of protecting a strip of the river bank at least 50 metres wide which would remain open and usable for all Berliners. More than 10,000 people voted, with an 87% majority voting "yes". Artists, architects, retailers and citizens themselves then became involved in developing a plan to create a series of attractive spaces along the riverbank, including workshops, a park and low-rise buildings. Promoted politically by the borough of Kreuzberg-Friedrichschain, the project was supported financially by the Swiss

pension fund Abendrot, which bought the land from the domestic waste collection company Berliner Stadtreinigung (BSR) for €10 million and leased it to the Holzmarkt cooperative in 2012 under the terms of a 75-year lease with the option to renew. At the same time as offering Abendrot a rewarding real estate investment opportunity with positive image promotional value, Holzmarkt has made it possible for the City of Berlin to recover a significant amount of cash and act in accordance with the will of its citizens. What makes the Holzmarkt investment so unusual is that there is no opportunity for speculation. Pension fund members therefore have a safe investment that

"Holzmarkt is being built by its users. We're a creative and diverse urban village with public marketplace that Berliners like to visit and be part of"



Mario Husten, Chairman, Holzmarkt cooperative project

allows them to invest in the physical development of the site, but not in the commercial activities that will occupy it. Funded by its 200 members, the Holzmarkt community for urban creativity (GuK) - effectively a residence cooperative - has already developed spaces such as the Pampa beer garden and the Kater Blau club beneath the S-Bahn track. These will soon be joined by a small village of timber buildings that will include housing, artists' studios and craft-based retail units, and by Das Eckwerk, a complex that will provide a base for the 500 student entrepreneurs and provide business incubator facilities for 100 start-ups. As Cooperative Director Mario Husten explains: "Holzmarkt is being built by its users. We're a kind of marketplace that Berliners like to visit and be part of".



Initiatives pushed by the Holzmarkt cooperative illustrates the strength of temporary uses and do it together projects in Berlin

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Conclusion

Cities made for and by citizens

New behaviours in urban spaces are creating more flexible and open cities, where the idea of "quality" becomes a key concept.

La Fabrique de la Cité's 2015 international seminar has shed light on how city dwellers have come to play an essential role in transforming urban spaces. In the German capital, the population's empowerment and creative potential has made it possible to redefine what it means to "build a city", and to invent a unique urban model that focuses on sharing and responsible citizenship. Berlin has successfully created a city made "by the people", "for the people".

Reversibility, scenarios of change, quality

This user-centric approach is shaping the contours of future cities, Three characteristics of which can already be seen today.

• **Reversibility.** By harnessing the power of urban data that provides a real time snapshot of the urban environment, cities can adjust to better support emerging citizen habits.

• Scenarios of change. Cities are now planning and building their short and medium-term futures while taking possible alternatives into account through a more horizontal and collaborative approach, as opposed to the traditional top down, prescriptive one.

• **Comfort.** New behaviours are shaping the future of cities that take inhabitants' comfort into account through the way their senses interact with the urban environment.

As more vibrant, versatile spaces, cities of tomorrow will also remain open to emerging trends and usages, ready to be reinvented through grassroots citizen initiatives, shared by all of those involved in urban governance.

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Understanding behavioural changes to keep transforming cities

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 Towards data-driven cities? Spotlight on Boston, Los Angeles, New York, Pittsburgh and Chicago coordinated by Guillaume Malochet and Alexandre Grassigny (La Fabrique de la Cité), with Blaise Mao and Laura Encinas (Usbek & Rica) - March 2015

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• Financing Green Urban Infrastructure by Olaf Merk (OECD) - October 2012

• Citizens' expectations regarding urban transformation by Michel Ladet (Sociovision) - September 2012

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