

Wolfsburg, Germany

Better Together: Wolfsburg and Volkswagen

23–28 September 2018



About ULI

The Urban Land Institute is a global, member-driven organisation comprising more than 42,000 real estate and urban development professionals dedicated to advancing the Institute's mission of providing leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 80 countries.

The extraordinary impact that ULI makes on land use decision-making is based on its members sharing expertise on a variety of factors affecting the built

environment, including urbanisation, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate. In 2018 alone, more than 2,200 events were held in about 330 cities around the world.

Drawing on the work of its members, the Institute recognises and shares best practices in urban design and development for the benefit of communities around the globe.

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About ULI Europe Advisory Services

The ULI Europe Advisory Services programme leverages the land use expertise of ULI members and urban experts to help communities solve complex land use challenges. Advisory Services allows ULI to deliver our mission while also providing an opportunity for our members to engage and serve. The Advisory Services programme also serves as a cross-cutting platform to explore new urban development ideas and strategic partnerships between cities and countries.

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such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalisation, brownfield redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies. A wide variety of public, private, and nonprofit organisations have contracted for ULI's advisory services.

A major strength of the programme is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfilment of the mission of the Urban Land Institute, this Advisory Services report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

Acknowledgements

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Finally, the panel would like to thank the more than 30 city officials, business and community leaders, and representatives from across Wolfsburg who shared their perspectives, experiences, and insights over the course of the week.

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Executive summary

As the headquarters for Volkswagen in Germany, Wolfsburg is home to the second-largest car manufacturer in the world, and finds its urban and economic development inextricably linked with the car company.

Both the City of Wolfsburg and Volkswagen have taken strong steps to make the city more attractive through investment and development for continuous improvement in the quality of life.

In 1999, the City of Wolfsburg and Volkswagen created Wolfsburg AG, a 50/50 public/private partnership (PPP). This form of collaboration where the city and a private-sector leader come together to actively shape and embrace change is unique compared to other cities. Its aim was to improve economic performance for both parties, and it has implemented strategic projects ranging from improving the labour market to physical development projects.

The actual rapid shift in the automotive industry towards electro-mobility (e-mobility), and new ways of production and digitisation, leave the city and Volkswagen with significant challenges and opportunities. Building on that, both the City of Wolfsburg and Volkswagen signed a memorandum of understanding to start another strategic development initiative called #WolfsburgDigital.

Recognising these changes and the impact they will have on the city, the City of Wolfsburg approached ULI to convene a five-day ULI Advisory Services panel to accompany the process of transforming Wolfsburg into a vibrant “Capital of Mobility” in order to ensure the long-term economic success, competitiveness, and resilience of both the City and Volkswagen.

The panel was asked to review extensive material, interview stakeholders, identify new opportunities, and recommend a strategy to help the City of Wolfsburg and Volkswagen move forward. Specifically, the panel was asked to consider the following key questions:

1. How can the City of Wolfsburg and Volkswagen agree on a strategy to enhance their economic vitality, competitiveness, and attractiveness to talent?

2. How can Wolfsburg become a “Capital of Mobility” and integrate e-mobility, digitisation, multimodality, and autonomous driving into urban development?

3. How can Wolfsburg create a vibrant and attractive city centre, and propose urban development strategies to prepare the city for future development?

4. How can the city overcome the physical barrier caused by the canal and rail, and bridge this urban divide between the Volkswagen factory and the city’s urban core?

For Wolfsburg, the key competitive challenges are identified below:

GOVERNANCE	PLACEMAKING	INNOVATION	INCLUSION	CRITICAL MASS
<ul style="list-style-type: none"> • Vision not clear • Unclear authority • Diffused responsibilities 	<ul style="list-style-type: none"> • Disconnected • Dispersed core • Car dependence • Excessive parking • Low waterfront access 	<ul style="list-style-type: none"> • One-company town • No ecosystem • Poor idea exchange • No financing 	<ul style="list-style-type: none"> • Lack of housing variety • Lack of residential in urban core • Deteriorating housing affordability 	<ul style="list-style-type: none"> • Small city • Weak regional collaboration • Weak institutional investment

So, to further improve Wolfsburg's competitiveness, the panel recommends focusing on the following elements:

GOVERNANCE	PLACEMAKING	INNOVATION	INCLUSION	CRITICAL MASS
<ul style="list-style-type: none"> • Vision • Common objectives • Public/private collaboration • Transparency 	<ul style="list-style-type: none"> • Mix land uses • Public amenities • Accessible • Central programming • Sustainable 	<ul style="list-style-type: none"> • Attract talent • Academia, business, government • Startups and incubators 	<ul style="list-style-type: none"> • Population mix • Housing affordability • More choice 	<ul style="list-style-type: none"> • Regional collaboration • Complement strengths • Institutional investment

Wolfsburg's competitiveness

For cities to be successful in today's competitive climate, they must focus on people. Building a great city requires attracting and retaining talent, especially one that focuses on the tech and creative sectors. This encourages a more mobile workforce. Successfully attracting talent through innovation and creative industries can initiate a snowball effect on job creation for more secondary and tertiary services. Talent is attracted to vibrant communities where people want to live, work, and play. This then attracts the business and investment that allow cities to prosper.

To answer how Wolfsburg and Volkswagen can be "better together", the panel recommends five core strategic guiding principles, which it believes will help Wolfsburg to achieve its vision:

VALUE THE GAP

To move Wolfsburg forward as a city, it needs to use the canal as a source of inspiration to close the gap between the north and south of the city. An opportunity exists to transform the industrial canal into an inclusive development for the city, which could bridge technology and creativity and deliver wide-ranging social and economic benefits for all. The panel recommends bringing Wolfsburg to the canal, realise its asset value, and better connect it with the city core.



The panel's key recommendations

With the competitive challenges and opportunities in mind, the panel recommends the principle of "better together." Stand-alone entities create more aggregate value when they are concentrated and coordinated. By bringing together these entities including independent cities, a dominant corporate industry, isolated residential and commercial developments, and detached environmental assets, Wolfsburg and its core partner, Volkswagen, will be better positioned for a more resilient and productive future.

DEVELOP THE CORE

A single core for Wolfsburg is very important in terms of attractiveness, identity, and destination. The panel recommends that Wolfsburg rethink its existing fragmented core and concentrate on its urban potential through a clear master plan and vision. The panel suggests developing a strong and vibrant mixed-use core in the Nordkopf area, and redevelop the pedestrian part of Porschestrasse ending at the Südkopf area. The core should focus on including a mix of uses, such as offices, retail, residential, and hotels.



ACTIVATE GREEN SPACES AND CATER TO RESIDENTS

Wolfsburg is surrounded by healthy green landscapes. It has several attractive villages outside the core that are not well known to the wider public. The panel recommends that the city reinforces its green nature as a key selling point for Wolfsburg that will attract the next generation of residents and visitors and retain its population who wish to settle and have the best of both worlds – suburban and urban. This would serve millennials who are demonstrating the same long-term interest in homeownership as past generations as they grow their families and look to buy houses in the suburbs. There also is a growing elderly population in Wolfsburg and a clear need to cater to this demographic. To better meet the needs of different demographic groups in the city, Wolfsburg should explore diverse affordable housing options that are close to amenities and transportation. While the supply of housing needs to be increased, it needs to be urban infill instead of greenfield development to protect the city's green landscapes.



ADVANCE MOBILITY

The panel recommends that the city accept that Wolfsburg has a private car-oriented culture. The City should focus on better collaboration with Volkswagen and use the entire territory of Wolfsburg as a real-world test environment for all cars. The panel believes that the City should make the testing of electric vehicles and private autonomous cars an immediately recognisable theme in Wolfsburg. Both the City and Volkswagen should commit to becoming a full-city test course. The panel recommends building on its digital infrastructure, its e-mobility, and its living laboratory as shown in the #WolfsburgDigital initiative. Cooperation between the City and the company is key.



EMBRACE A PIONEER SPIRIT

The panel believes that Wolfsburg should be bold. It encourages Wolfsburg to reimagine its city through innovation, especially in driverless technology. Volkswagen should be seen as a global mobility leader and a place to which extraordinary talent will be attracted. With Volkswagen's focus on a concentration of tech entities, a laboratory of emerging technologies, an advanced manufacturing culture, and emerging mobility, Wolfsburg should be the great local partner of Volkswagen; the test-bed of advanced mobility, with a focus on concentration of urban development, a laboratory of real-world conditions, an emerging entrepreneur culture, and emerging creativity. The City should approach this with confidence, creativity, and openness to experimentation and playful risk. This will create a new city dynamism.



1. Introduction and the panel's assignment

In September 2018, ULI Europe convened a five-day Advisory Services panel in Wolfsburg, Germany. The city is the headquarters for Volkswagen and home to the largest car manufacturer in the world, housing production, research, and development facilities. With such a dominant employer, the city's development and economy are closely linked. Now, with the rapid shift in the automotive industry towards electro-mobility (e-mobility), new ways of production, and digitisation, Wolfsburg and Volkswagen face both significant challenges and opportunities.



Volkswagen Factory in Wolfsburg, Germany. (istockphoto © typhoonski)

Recognising the scale of these changes and the impact they could have on the city, Wolfsburg AG—a joint venture between the City of Wolfsburg and Volkswagen—invited ULI and its panel to give recommendations on how to transform Wolfsburg into a vibrant “Capital of Mobility”. As part of this, the panel was asked to examine how to make Wolfsburg an attractive place to live to ensure the long-term economic well-being, competitiveness, and resilience for both the city and Volkswagen. It recognises the existing #WolfsburgDigital initiative and was asked to evaluate its current strategic activities.

Over the course of five days, the panel toured the city and interviewed more than 40 stakeholders involved in city development. This included a cross section of city officials, business representatives, developers, investors, architects, and citizens. During their time in Wolfsburg, the panellists evaluated the existing plans for the city and gained a better understanding of the importance of its regional context. It also identified potential existing and future economic and placemaking opportunities.

The international experts on the panel came from Amsterdam, Hamburg, London, Munich, Paris, Pittsburgh, and Washington, D.C., so they were able to share their expertise to inform the overall recommendations. Some of these important lessons from other cities are integrated throughout this report.

This report begins with an overview of the scope of the study area, including successful examples of the partnership between the City of Wolfsburg and Volkswagen. It then presents the experts’ main observations about the city’s challenges and opportunities, and then sets out the panel’s recommendations in full.

THE PANEL’S ASSIGNMENT

In addition to the City of Wolfsburg and Volkswagen AG, Wolfsburg AG asked ULI to conduct an Advisory Services panel to consider and respond to the following questions:

1. How can the City of Wolfsburg and Volkswagen agree on a strategy to enhance their economic vitality, competitiveness, and attractiveness to talent?

- What are inspirational international examples of and global benchmarks for best practices for better liveability, vibrancy, and placemaking to enhance a city competitiveness?
- How can the strategic partnership between Wolfsburg and Volkswagen drive city competitiveness and improve Wolfsburg’s economic performance?
- What are the benefits of a university innovation hub and the key requirements for those?

2. How can Wolfsburg become a “Capital of Mobility” and integrate e-mobility, digitisation, multimodality, and autonomous driving into urban development?

- What interesting and unconventional examples from around the world can Wolfsburg learn from to improve on existing and future planned projects?
- Drawing on international examples, how can the City of Wolfsburg bring existing projects together in a more strategic way to build a mobility strategy and brand?

3. How can Wolfsburg create a vibrant and attractive city centre, and propose urban development strategies to prepare the city for future development?

- What city centre regeneration strategies will be most successful in attracting more people to live in Wolfsburg rather than commute?
- How can Wolfsburg's and Volkswagen's economic development and branding efforts be strategically aligned?
- Which urban development strategies from successful global projects can Wolfsburg learn from, in combining urban quarters and creating a new city centre?

4. How can the city overcome the physical barrier caused by the canal and rail, and bridge this urban divide between the Volkswagen factory and the city's urban core?

- What strategies can the City of Wolfsburg and Volkswagen use to overcome the "natural barriers" in the city and which project approaches are useful to create a unique identity on both sides?
- What tactics can the City use to position those ideas at a broader scale and publicise them?



Volkswagen Plant Wolfsburg. (istockphoto © TBE)

2. The City of Wolfsburg and Volkswagen: the story of success

About Wolfsburg

As one of the youngest towns in Europe with a population of 125,000 people, Wolfsburg is located in the German state of Lower Saxony. The city was founded in 1938 along with the establishment of Volkswagen's main factory and is considered one of Lower Saxony's strongest economic centres, the fifth-largest city of the nine that form the Metropolitan Region Hanover-Braunschweig-Göttingen-Wolfsburg. The city has two major motorway connections; fast train connections with Hanover (half hour), Berlin (one hour), and Hamburg (two hours); and access to both Braunschweig-Wolfsburg Airport (28 km) and Hanover Airport (89 km). Also, 80,000 people commute into Wolfsburg every workday.

Figure 1: Wolfsburg in Germany's Lower Saxony region (Allianz fuer die Region)

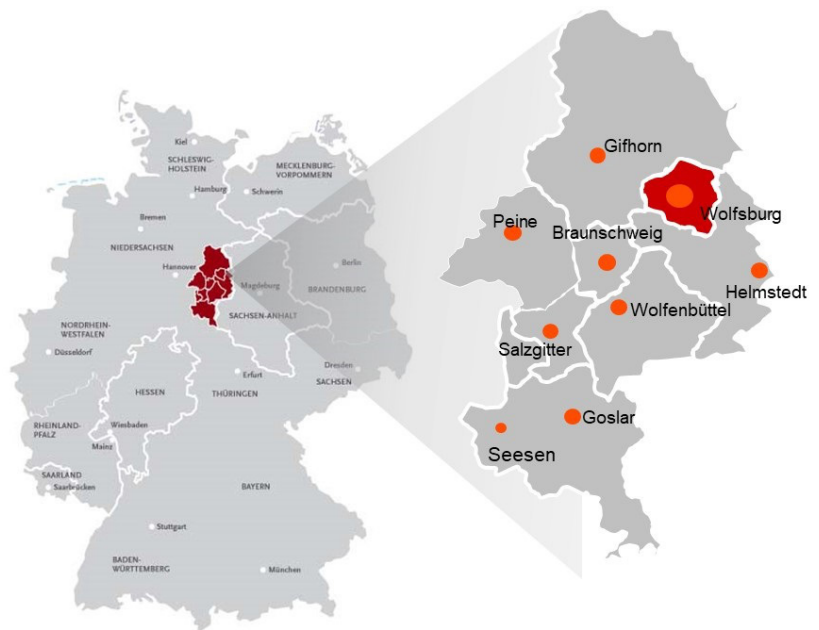


Figure 2: Google map of Wolfsburg, Germany



Volkswagen

Located and headquartered in Wolfsburg, Volkswagen Group is one of the biggest European car manufacturers, with a worldwide production network of 123 factories in 20 European countries and 11 countries in the Americas, Asia, and Africa. It has a wide product range from mass-market to luxury cars and covers 12 brands, including Volkswagen, Audi, Bentley, Bugatti, Ducati, Lamborghini, MAN, Porsche, Scania, SEAT, Skoda, and Volkswagen Utility Vehicles. It has the largest production facility in the regional cluster of Lower Saxony where 10.7 million cars are produced annually and subsequently sold worldwide. It employs 60,000 people, of which 44,000 are white-collar employees as well as a significant proportion of blue-collar workers who are on a temporary contract. Volkswagen has opened its factory to customers and has drawn visitors to the city through its Autostadt visitor attraction. Volkswagen has also expanded the number of service providers for Volkswagen employees in its IT City establishment outside the city centre.

The City of Wolfsburg

Wolfsburg is very much a car-dependent mono-industrial city and relies on the economic success of Volkswagen and its business cycles. Despite today's 125,000 population having grown from 27,000 in 1950, almost half live in the inner-city core. The City has started to consider its culture-based strategy by introducing, for example, the science centre, phaeno, and Allerpark. Its retail offerings include the Designer Outlets Wolfsburg (DOW), the first inner-city factory outlet in Germany that attracts 1.5 million visitors from within a 50-kilometre radius annually. The fourth and last building on the DOW property is under construction. There also is the ECE City Galleria in the middle of the city centre. For housing, an increasing number of residential developments are planned, especially on larger greenfield development plots at the eastern periphery of the city.



The science centre, phaeno, on the south side of the canal.

On a regional basis, Wolfsburg has important regional collaborations with “Allianz für die Region GmbH” (Alliance for the Region GmbH), which sees broad educational, cultural, and leisure offerings coming together. This alliance consists of southeastern Lower Saxony with the cities of Braunschweig, Wolfsburg, and Salzgitter and the counties of Gifhorn, Goslar, Helmstedt, Wolfenbüttel, and Peine. In general, Wolfsburg has strong links to neighbouring cities and surrounding cities. In recent years, a regional innovation milieu has evolved with the educational institutions of Ostfalia University of Applied Sciences and the Technical University of Braunschweig.

Collaboration between the City of Wolfsburg and Volkswagen

As part of its research, the panel commended the collaboration between Volkswagen and the City of Wolfsburg, which has been an exceptional success story in the last 20 years.

When the Volkswagen factory was created, it remained separate from the city until the 1990s. Then, in 1992, a deep economic crisis shook Volkswagen and the car industry in general, leading to high unemployment. This difficult period in its history motivated the City of Wolfsburg to rethink and realign its urban development strategy to ensure that it was resilient to the economic instabilities of Volkswagen.

Since then, both the City of Wolfsburg and Volkswagen have taken strong steps to make the city more attractive through investment and development, whether it be leisure, entertainment, or retail. Despite the small population decline in Wolfsburg from 130,000, its residents score its quality of life highly.

In 1999, the City of Wolfsburg and Volkswagen created Wolfsburg AG, a 50/50 public/private partnership (PPP). This form of collaboration in which the city and a private-sector leader come together to actively shape and embrace change is unique compared with collaborative efforts seen in other cities. Its aim was to improve economic performance for both parties, and it has implemented strategic projects ranging from improving the labour market by generating 45,000 jobs to physical development projects.

#WolfsburgDigital and the memorandum of understanding

Volkswagen AG has dedicated its strategy towards being the leading provider of sustainable mobility and wants to proactively promote quality of life in shaping new forms of transportation. Partnerships with municipalities are crucial components of this mobility strategy. Key aspects of those are digitisation, autonomous driving, e-mobility, and new business segments in mobility services.

The City of Wolfsburg focuses on the improvement of digital infrastructure, the implementation of innovative and sustainable mobility concepts, the structural advancement of the residential location, and education and family-friendliness. The multidisciplinary field of digitisation will affect several key components of the urban development that is intended to ensure social solidarity and economic performance.

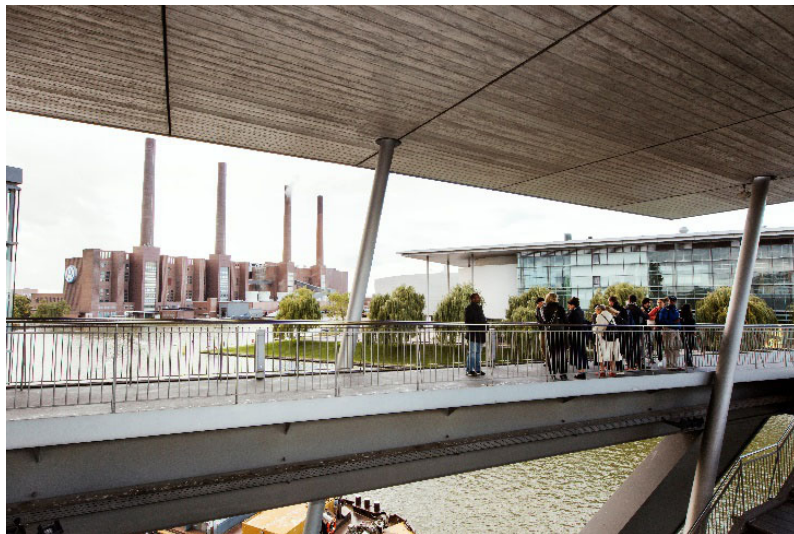
In 2016, due to the current challenges and opportunities such as digitisation, smart city, e-mobility, and autonomous driving, Volkswagen AG and the City of Wolfsburg did a memorandum of understanding (MOU) and the #WolfsburgDigital initiative. This was an important next step in the development of the city and Volkswagen. It is intended to counteract these challenges and tie together their synergies to improve the attractiveness and liveability of Wolfsburg through innovation and digital offerings. It aims to attract talent who will further create more education and jobs. Both partners agreed on 10 fields of cooperation:

- 1. Joint digitisation strategy** – to establish a digital urban centre.
- 2. Open digital platform** – for service providers to access relevant data (safe and controlled).
- 3. Digital infrastructure** – area-wide fibre-optic cable network, free public wi-fi (expanding the network of existing freeWolfsburg hotspots).
- 4. Wolfsburg as a living lab** – for digital services, technologies, and new business segments.
- 5. Wolfsburg as the hotspot of e-mobility** – the European/global capital of mobility with over 50 per cent of electric vehicles by 2025.

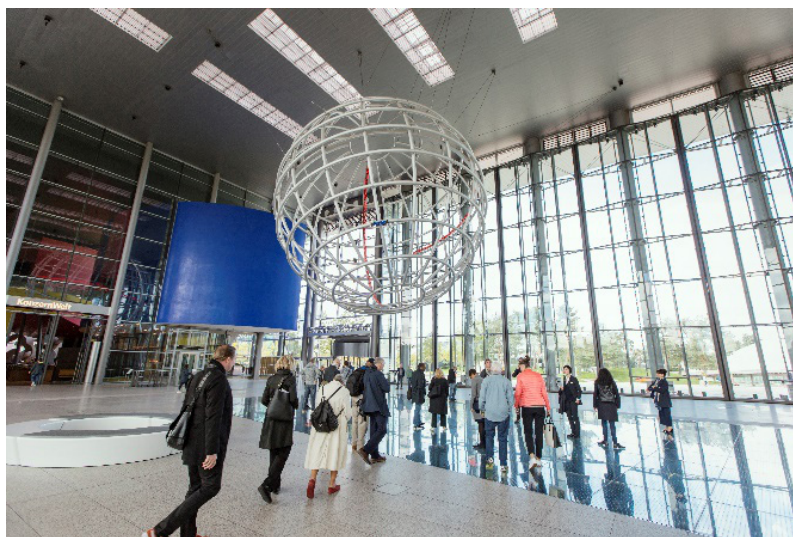
6. **Entrepreneurship and new jobs** – creating a business environment to attract future industries. Volkswagen will find a service design and co-creation centre.
7. **Innovative urban planning and future-proof living** – fusion of working and living, especially at Nordkopf and in the new urban development areas on the eastern periphery of the city (e.g. the smart living project at Steimker Gärten).
8. **Attractive work and living environment** – flexible living with offerings such as daycare centres with flexible hours and mobility services for commuters.
9. **Residents' experience** – digitise administrative paperwork, establish digital communication channels and apps, and employ a chief digital officer at the City of Wolfsburg.
10. **Lifelong digital learning** – digital education offerings and welcome international graduates.

To date, the partnership has worked together to increase the connectivity and reduce the space between the factory and the city by building a walkway bridge. However, attempts at building this connection continue to face the natural barrier of the canal, the Mittellandkanal. On the north side of the bridge, adjacent to the Volkswagen factory is the Autostadt (German for “Automobile City”), a visitor attraction developed, owned, and operated by Volkswagen. On the south side is phaeno, an interactive science and technology centre owned and operated by the City of Wolfsburg. Linking these two key visitor attractions would be seen as a strong symbol of the partnership.

The city's identity as an experience-based location with sports facilities such as Allerpark, including soccer arenas and green entertainment spaces has also been strengthened as result of the cooperation between Wolfsburg and Volkswagen (notably by activities of Wolfsburg AG).



The walkway bridge linking the north and south sides of the canal.



The Autostadt Automobile City visitor attraction.

3. Competitiveness: sense of urgency

The importance of cities is widely recognised. Already home to a majority of the world's population, cities generate 80 per cent of the world's economic output and are increasingly seen as attractive places to live. Unsurprisingly, businesses and investors are focusing almost exclusively on cities to find value and therefore competition between cities for businesses and investment can be fierce.

For cities to be successful in this competitive climate, they must focus on people. Building a great city requires attracting and retaining talent, especially one that is focused on the tech and creative sectors to reflect a workforce that is generally more mobile. Successfully attracting talent through innovation and creative industries can initiate a snowball effect in regard to job creation for more secondary and tertiary services. Talent is attracted to vibrant communities where people want to live, work, and play. This then attracts the businesses and investments that allow cities to prosper.

So how can cities best attract talent? There are several key elements to consider, such as a strong governance framework, placemaking and “good” density, innovation, social inclusion, and developing a critical mass. The panel has examined these different elements and assessed how Wolfsburg scored on each:

A. Establish a strong governance framework

The most competitive cities are ones that have a long-term vision and strategy for the future. City leaders should evaluate a city's key assets on a global scale; develop a clear and forward-looking plan for infrastructure projects; identify opportunities for growth, including investment and emerging export markets; and mobilise different levels of government around a common set of objectives. Bold leadership, collaboration between the public and private sectors, and transparency are key factors for a city to be competitive.

***Panel's thoughts:** While Wolfsburg and Volkswagen have always had, and will continue to have, a close relationship, the City is seen to act in a very dependent way within the partnership. It lacks a long-term vision and strategy on what Wolfsburg wants to be and how it can achieve its objectives.*

One of the major achievements for city development has been the establishment of Wolfsburg AG. This joint venture has realised many great projects in the city since its launch, but now it is time to revamp the partnership. The initialisation of #WolfsburgDigital is a big step for working better together, but the panel thinks that the governance and division of responsibilities were felt to be nontransparent and fragmented, and there is an unclear division of responsibilities between the City and Volkswagen. The #WolfsburgDigital initiative should be used as an opportunity to become transparent and to build a clear vision. www.wolfsburgdigital.org

Figure 3: The #WolfsburgDigital partnership



B. Develop placemaking and “good” density

Placemaking and “good” density play a crucial role in the creation of vibrant and dynamic communities. To be competitive, cities should offer appealing, accessible, and well-connected places that include a mix of uses, amenities, and public spaces used for a wide range of activities and events. If executed well, placemaking can be a means for developing an authentic urban identity that sets a city apart from its peers.

Key to successful placemaking is well-managed and well-served densification. Densifying cities in the right

way—ensuring a mix of uses, green space, and good connectivity—creates the business case and critical mass to provide sufficient public transport and services, and cultural amenities that people can enjoy in their own neighbourhoods. This creates communities that are vibrant, liveable, innovative, productive, and sustainable, while reducing energy consumption and emissions. Generally, density is the best way to accommodate economic development and population growth. It makes cities more flexible and provides optimal returns for society and the environment whilst also creating value that can be captured and shared.

Panel's thoughts: Wolfsburg has not really developed a city centre. There are fragmented cultural institutions that could act as anchors, such as phaeno, which is close to the train station; the Kunstmuseum and Alvar Aalto Cultural Centre more south, close to the city hall; and Autostadt on the opposite side of the canal. There also is an extensive retail offering, with DOW close to phaeno and the ECE City Galleria shopping centre to the south.

The Porschestrasse, which connects both “cores,” suffers from lower-end retail stores and its food offerings are dominated by fast-food chains. There are kiosks situated in the middle of the public pedestrian realm that are seen as obstacles and reduce sight lines. At the same time, the most central areas suffer from low density, very wide and oversized public spaces, and a lack of local and authentic gastronomy and bars. With little mixed use, such as offices and residential, it has resulted in a deteriorating quality of space and a lack of vibrancy.

A significant part of the space in Wolfsburg is taken up by cars and parking spaces. Car use is very high, not only for commuting but also for shopping. Public transport, not only within the city, but also in connection with the surrounding villages and towns with potential development, is lacking. As a result, the city faces a number of issues such as congestion on the roads to the city as well as within it. The parking lots are spread throughout the city, both in the city centre and throughout the residential areas.

An important element of successful placemaking relates to the quality of open and public spaces, and the use of those spaces for events and performances. While the city is very clean, and effort and funding have gone into the maintenance of the open space, its quality is generally outdated and lacking vibrancy.

Spatially, Wolfsburg is divided by the Mittellandkanal, which separates the Volkswagen campus from the main parts of the city. In recent years, significant investment has been made to attract more people to the north side through the creation of Autostadt, the Allerpark, and the soccer stadium, which is supported by the Stadtbrücke, the pedestrian bridge across the canal connecting phaeno with Autostadt. However, the waterfront does not yet feel part of the city.

C. Drive innovation

Many cities are transforming from a traditional – often industrial – economy, to a more innovation-led and diversified one. Influenced by technology, innovation is becoming a key driver for economic and job growth. Successful implementation of placemaking and good density provides the important fundamentals for the development of a stronger innovation economy. Innovation then will be an important job provider for the talent attracted to the city. Cities that can attract more startups and creative, tech-powered industries and firms will be better able to meet future challenges.

Innovation clusters tend to emerge most strongly in cities where there is a combination of well-established growth sectors, dynamic population growth, access to capital, connectivity to growth markets, knowledge-rich institutions, a conducive regulatory environment, and a collaborative and entrepreneurial working culture. Some cities and regions have nurtured these factors over several decades. They cannot be constructed quickly.

These so-called ecosystems operate at a whole-city, whole-region, or even larger geographic scale. Key to the successful development of a true innovation ecosystem is the collaboration and interaction among academia, industry, and governments to foster economic and social development. This is often referred to as the “triple helix” model of innovation.

Panel's thoughts: Given the speed of technological change and the importance of innovation as a key driver for economic and job growth, the panel thinks that Wolfsburg's mono-industrial focus on car production and dependence on one company provide risks for its innovation capacity. While partnerships and pilots have been set up involving business and academia based in the region, a successful strategy for innovation requires an institutional approach with full buy-in of all the different parties. The lack of a strong technical university based in Wolfsburg is a key element missing from the successful implementation of a triple-helix model of innovation.

And, at the same time, the city has no real incentives in place to support and reward entrepreneurship.

Volkswagen finds it difficult to attract talent and creativity since members of this innovative young workforce are attracted to vibrant urban cities where they can work, live, and play. Wolfsburg lacks this desired vibrancy.

D. Prioritise social inclusion

Social inclusion is vital for improving economic vibrancy and quality of life in cities. Prioritising inclusivity through the mixing of income and population groups can help foster lively, diverse, and attractive communities. Cities can become more inclusive by creating sufficient affordable housing and increasing efforts to integrate migrants into existing communities.

Panel's thoughts: Wolfsburg has a population of 125,000 inhabitants and 120,000 employees in total, more than 80,000 of whom commute to the city on a daily basis. Feedback from the interviews has shown that many people who reside outside Wolfsburg commute because they were not able to find a suitable home closer to the centre that fit their needs. For example, comments included the lack of suitable housing available for young families with higher disposable incomes, as well as low levels of residential space in the urban core to attract young graduates.

Housing affordability is seen to be deteriorating.

Wolfsburg is planning new development in the inner city and in Wolfsburg east. A lot of development is also seen in greenfield areas, leading to further sprawl emanating from the city and lacking the business case for the provision of amenities such as shops and leisure uses and difficult public transport connections. Moreover, the needs of the younger generations have changed to a preference for more urban living.

On the other hand, there also is a growing elderly population reaching retirement age who remain in the same homes as when they first arrived Wolfsburg in the early years of Volkswagen. This new demographic group is not carefully considered in future city planning. Existing homes for the elderly are not fit for purpose and do not cater to their current needs since these are likely to have changed.

E. Build critical mass

In order to perform well in terms of economic diversification, workforce, and investible assets, it is important for cities to have sufficient critical mass. Given the modest size of many cities, especially in Europe, it is important and beneficial for these cities to collaborate with one another to increase their competitive edge. Lately, there has been a rise of "megacities," clusters of cities collaborating formally or informally to create cohesive regions, following a polycentric urban development model. By building complementary strengths, the cities within these regions become more appealing targets for businesses in different sectors and international investment. The success of the Holland Metropole region exemplifies the potential of cooperation between cities (see figure 5).

Panel's thoughts: So far, the development plans have been almost exclusively focused on the development of the city. With a population of approximately 125,000 inhabitants, Wolfsburg lacks the critical mass needed to sustain and enhance further growth and resilience. As a result, it is hard to attract investors to invest in the city to make the necessary investments in infrastructure and other communal services. There is also a lack of businesses to diversify the economy.

Figure 4: Key challenges for city competitiveness in Wolfsburg

GOVERNANCE	PLACEMAKING	INNOVATION	INCLUSION	CRITICAL MASS
<ul style="list-style-type: none">• Vision not clear• Unclear authority• Diffused responsibilities	<ul style="list-style-type: none">• Disconnected• Dispersed core• Car dependence• Excessive parking• Low waterfront access	<ul style="list-style-type: none">• One-company town• No ecosystem• Poor idea exchange• No financing	<ul style="list-style-type: none">• Lack of housing variety• Lack of residential in urban core• Deteriorating housing affordability	<ul style="list-style-type: none">• Small city• Weak regional collaboration• Weak institutional investment

Figure 5: Key success factors for city competitiveness in Wolfsburg

GOVERNANCE	PLACEMAKING	INNOVATION	INCLUSION	CRITICAL MASS
<ul style="list-style-type: none">• Vision• Common objectives• Public/private collaboration• Transparency	<ul style="list-style-type: none">• Mix land uses• Public amenities• Accessible• Central programming• Sustainable	<ul style="list-style-type: none">• Attract talent• Academia, business, government• Startups and incubators	<ul style="list-style-type: none">• Population mix• Housing affordability• More choice	<ul style="list-style-type: none">• Regional collaboration• Complement strengths• Institutional investment

Figure 6: Holland Metropole region

From the perspective of real estate investors, well-performing cities that are clustered together with excellent transport and digital connectivity are economically attractive. Holland Metropole, for example, is an alliance of the following Dutch cities: Amsterdam, Rotterdam, The Hague, Utrecht, and Eindhoven. Its gross domestic product (GDP) is €288 billion and its population of 7.57 million people is projected to grow. Because of its specific history, economic framework and geographical situation Holland Metropole region plays in another city development league. However, it demonstrates best practices and shows how cities can link up to become a strong competitive region. All five cities are well known in their own right, but together they form one of the most successful city regions in the world. As Europe's best-connected region where it is possible to reach large cities within 40 minutes' journey time, it is also a globally competitive regional innovation system with high rankings in



Source: Clark et al., 2017¹

global indices and data sets on innovation. It spends €7.5 billion annually on research and development. The region also benefits from stronger higher education offerings, with six of its universities holding places within the global 200 best institutions. This makes Holland Metropole attractive to businesses and investors.

4. The recommendations: better together

In an increasingly challenging global environment, Wolfsburg is at risk. As the world enters a highly competitive urban age, where the fortunes of cities are becoming more important than those of nations, it is no longer enough for cities to be relatively stronger than their immediate surroundings in order to attract and maintain economic vitality. Cities are in a global race for talent and innovation. In this competitive age, Wolfsburg can gain resilience and benefit from the value of a coordinated system rather than profiting from the smaller identities and revenues of stand-alone urban development projects. The panel recognises that the City of Wolfsburg and Volkswagen are joining forces to address current challenges through the #WolfsburgDigital initiative, but more can be done to strengthen this joint vision and partnership.

With this in mind, the panel recommends the principle of “better together.” Stand-alone entities create more aggregate value when they are concentrated and coordinated. By bringing together these entities, including independent cities, a dominant corporate industry, isolated residential and commercial developments, and detached environmental assets, Wolfsburg and its core partner, Volkswagen, will be better positioned for a more resilient and productive future.

Figure 7: Better together: Wolfsburg and Volkswagen



To answer how Wolfsburg and Volkswagen can be “better together,” the panel recommends five core strategic guiding principles that are explored further in the rest of this report, which it believes will help Wolfsburg to achieve its vision:

A. VALUE THE GAP

– Realise new asset value for Wolfsburg.

B. DEVELOP THE CORE

– Concentrate on Wolfsburg’s urban potential.

C. ACTIVATE GREEN SPACES AND CATER TO RESIDENTS

– Reinforce Wolfsburg’s environmental and residential themes.

D. ADVANCE MOBILITY

– Commit city and company to full-city test-bed.

E. EMBRACE A PIONEER SPIRIT

– Reposition Wolfsburg for the bold.



A. VALUE THE GAP

To strengthen the competitiveness of Wolfsburg and demonstrate physical integration, the panel believes it is time to eliminate the physical and psychological boundary that the canal and railway create between the Volkswagen site and the city core.

The decision to place Volkswagen on the north side of the canal and the city with the railway to the south was a key decision that contributed to an inherent divide in the city. This sense of division has been reinforced by the considerable setback of the factory buildings as well as the city turning its back to the canal. Historically, this separation might have made sense with the predominance of the car, but today it is detrimental to the flow of the city and hinders mixed commercial and residential use.

This section examines how the canal redevelopment can be used as a template for unleashing value in the gap, and possibly extending this understanding to other potential opportunities for change.

Figure 8: Map of Wolfsburg’s centre (Google Maps)





Granary Square, King's Cross. (The Londonist)

INTEGRATE AND TRANSFORM THE CANAL

Wolfsburg needs to recognise that changing its relationship to the canal is crucial to the city's future success. Despite all the complexities that the panel heard about throughout the interviews, more thought and effort need to go into redeveloping the canal. Waterfronts are a very powerful attractor when it comes to creating public life in a city. Feeling connected to nature in a city centre allows for a heightened quality of life for residents. The transformation of industrial canals into high-quality places has drawn people all over the world to their waterways, strengthening the overall sense of community. A growing number of other cities and companies around the world have been ambitious and bold enough to take steps to regenerate around a canal. The panel suggests the following recommendations to enliven the canal area:

Vibrancy – Bring diversified economic activity into the city to allow for better integration. The panel has heard that over the next eight to 10 years, Volkswagen will create 9,000 knowledge-based jobs, and these jobs can diversify Wolfsburg's economy and inject vibrancy into the city.

Mixed uses – Promote the layering of uses that create the conditions for modern living and working. The panel believes that the diversified jobs of the future should be near the canal area. These would be layered with modern living and innovative retail and food and beverage offerings that would create the vibrancy needed in the city to attract the talent needed for those new jobs.

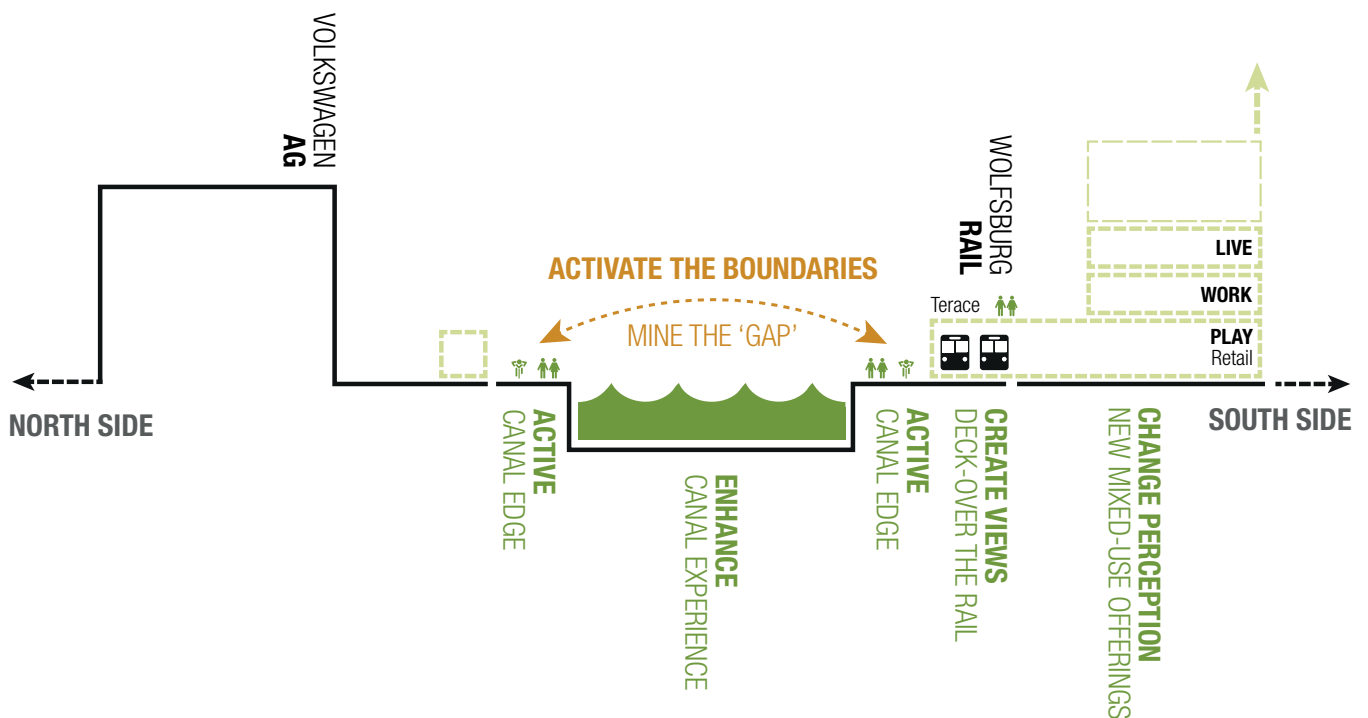
Urban living – Provide housing that meets the needs of a growing population. Preferences of different demographic groups are changing as they want more amenities, better connections, and more vibrancy, wherever they live.

Well-being – Programme high-quality open spaces that connect to nature. The panel suggests bringing the people of Wolfsburg closer to the canal to fully enjoy the connection with water through a programmed and active waterfront. This would immensely enrich the overall experience of residents and visitors alike.

Use the canal as inspiration

The panel also believes that residents of and visitors to the city should experience the Volkswagen factory as a close-up backdrop and astonishing piece of architecture, with the sun-filled north shore of the Mittellandkanal. It should open up parts of the factory site for visitors, carefully activate the edge of the canal with ancillary and recreational uses, and allow for a curated open factory experience. This offers the opportunity to bridge this historic gap and bring the communities from both sides closer together.

Figure 9: The canal design



Proposed recommendations:

1. Bring Wolfsburg closer to the canal.
2. Activate the waterfront through programming.
3. Bring functions of Volkswagen across the canal into Wolfsburg.
4. Incorporate new mixed-use offerings.
5. Open parts of the Volkswagen site up to the public.

The Canal Plan, Brussels



(Source: Canal Brussels, 2018)²

The government of the Brussels–Capital Region recognised that the regeneration of its canal system is crucial for the city's future success, and that its potential is currently underused and presents a major fault line in the middle of the city. Although the city leadership sees the regeneration of the canal as an immense challenge that requires intense collaboration on all sides, the outcome is seen as worthwhile, delivering much-needed housing and open space as well as new forms of employment at the heart of the city where they are needed. It will also contribute to the city's objective to become the successful and competitive Brussels of 2025.

“The regeneration of the canal area will be emblematic of the regeneration of Brussels! It is by the canal that we will successfully create the Brussels of 2025!” – Minister-President

GM World Headquarters at Renaissance Center, Detroit



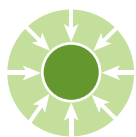
(Source: Motor 1)³

Located on the International Riverfront, the 515,800 square-metre Renaissance Center was built in 1977 in downtown Detroit. Comprising five interconnected skyscrapers, the site was physically separated from the city by a large 10-metre-high concrete utility barrier, which housed the centre's heating and cooling systems. When General Motors purchased the building as its headquarters in 2004, it re-energised the city core by reimagining and connecting the building to the rest of the city by:

- Removing the concrete barrier;
- Connecting the building to the river through a winter garden atrium and recreational pathways; and
- Hollowing out the centre of the development and increasing the number of entry points to promote better mobility.

While this section focuses on land and physical redevelopment to address and close the gap, there are key cross-cutting principles to the approach of seeking value in the gap, which the panel believes translate into other key areas for change. These principles include the following:

- Build on past successes.
- Knit together opportunities and possibilities.
- Elevate emerging and productive concepts.
- Avoid isolated or counterproductive initiatives.
- Be bold, experimental, and patient.



B. DEVELOP THE CORE

In Wolfsburg, the panel believes there is a clear need to create an attractive heart and destination – defined as a single core – as a distinct meeting point that involves the city and its visitors and inhabitants. This core must include offices, residential uses, retail space, and hotels. It is also essential to ensure a strong and vibrant mixed-use environment that will create density, drive footfall, and respond to the need for placemaking – a place where people can gather and meet throughout the day and night. As a result, Wolfsburg will be able to create and profit from a stronger identity from the buildings themselves, from the spaces, and from the people dwelling or working there.

The panel recommends that the core be developed – essentially the Nordkopf (within the boundaries as seen in figure 10) – and that Porschestrasse be redeveloped along its length, ending at the Südkopf and, specifically, close to the Arts Museum.

Different solutions can be envisaged to develop this core in Wolfsburg, but the panel believes that changes should be driven by these fundamental principles:

- Provide unique offerings both in the core itself and also along Porschestrasse towards Südkopf that will pique curiosity and interest.
- Create a destination for diversified food and beverage offerings to increase dwell time, encourage nightlife, and foster vibrancy.
- Prototype new ideas and new concepts that will bring in a new consumer, attract businesses, and draw visitors.
- Create an environment for different groups and demographics to meet and mingle that will lead to art, street art, and outdoor events.

Figure 10: The core in two subsections



- Provide programming of the events, on an ongoing and regular basis, within the street (see the text box on Regent Street, London).
- Increase density through both the office and residential offerings that will act as a magnet (see the text box on Porta Nuova, Milan).

The following best-practice examples are not provided to compare cities in terms of a similar scale and size as Wolfsburg, but as components for developing a successful core. Commonly, they all have:

- A clearly defined strategy;
- A clear and strategic choice of tenants;
- Implementation of effective marketing and events; and
- Strong mixed-use projects.

Regent Street, London

Less than 25 years ago, Regent Street was purely retail. Today, it is a vibrant mixed-use area with retail, restaurants, offices, and hotels. It is supported by the Regent Street Association, a not-for-profit event management organisation that brings retailers, restaurants, and businesses together to organise all year-round outdoor events, including Summer Streets, the Regent Street Motorshow, and the switching on of the Christmas lights. These events draw people into an area that is now known as an iconic landmark.



(Source: House of Coco)⁴

King's Cross, London

King's Cross is one of the largest well-connected developments in London, sitting between two major railway stations – St. Pancras International and King's Cross – in the capital of the United Kingdom. Starting 20 years ago, the 27-hectare site has been transformed by Argent, a private developer, into a new part of the city with homes, shopping, offices, hotels, music venues, galleries, bars, and restaurants. One of the first tenants was the University of Arts London in 2011, which was soon followed by a major global anchor, Google, housing 7,000 employees in a 100,000-square-metre building for its European HQ. This combination of private and public anchor tenants has created an attractive offer for other companies to be drawn to the area, sparking more talent and creativity. Vibrancy is achieved through its Granary



(Source: John Sturrock)⁵

Square public space that is actively used throughout the year for events, festivals, and performances, both public and private.

Porta Nuova ex Varesine, Milan

Porta Nuova in Milan was previously underused land comprising derelict railway tracks and parking lots. Hines transformed the 290,000-square-metre mixed-use regeneration project in the centre of Milan to be a mix of public realm, residential, offices, retail, and cultural venues as well as a large central garden square. Porta Nuova was established as a successful city hub in the first year after opening, attracting 12 million visitors and quickly establishing itself as a vibrant mixed-use destination that is fully embraced by the Milanese, who use the area day and night. This strategic city centre approach was the first real high-rise in Milan and, given the size of the regeneration, it has led to a whole new city district that had never been seen before in Milan.



(Tesker, 2018)⁶

In developing the core, it is critically important to provide an experience to the target groups, either as a visitor or while on business, but also to local consumers and businesses.

The areas in need of attention and action can be broken down and described as follows:

Nordkopf

Lying in the north part of the city, Nordkopf comprises the area around phaeno including the Designer Outlet Center (DOW), into and along Porschestrasse, and includes any potential new development projects to the west of the station. The focus should be on innovative projects and ideas that will attract younger people like tech types and young families as a result of a curated and attractive mix of offerings and uses.

Prototyping, showrooms, shared offices, and short- and long-term residential offerings should be embraced as ways of reflecting an innovative and entrepreneurial approach. Flexible office spaces will be an integral part of the mix. Retail, including food and beverage, and

entertainment offerings will be curated and provide specific vibrant mixed-use offerings as well as a place for social gathering. It should attract international and national visitors.

A key objective should be to construct the office buildings as high as possible to increase density and create an opportunity for national or international companies to have major offices in Wolfsburg. Where development projects meet or face the canal, work should be done to integrate the canal into the project, as an extension of what can become an attractive place to meet and to be. A key success factor for this area will be to develop and manage it as a unified scheme.

One key strategy to increase the chance of economic success would be to locate future office developments in the city centre, which will enable workers and office users to benefit from city attractions and leisure. It will act as a key anchor to attract other innovation businesses and startups. In addition, other related innovative concepts will be attracted to the area to establish a magnet in the area.

To cater to the audience being targeted, architecture and design should be strong, bold, iconic, and inviting. At the same time, it is important to build flexibility into the buildings (where possible, to have modular buildings) and also a mix of uses – from co-working and co-living to short-term tenancies for residential, retail, and offices.

The intention should be to link Nordkopf – the suggested core – to an attractive waterfront, landscaped with great care and attention to the selected structures and features used that provide a link between the city and the Volkswagen factory.

Porschestrasse

Porschestrasse is the connecting (mainly) pedestrian public walkway from the north (Nordkopf) to the south of the city (Südkopf). In order to enhance the vibrancy of the street and also attract other tenants for offices, residential, and retail uses, the panel recommends that some structural changes take place.

One example would be that the local university, Ostfalia Hochschule, which is located to the west of Porschestrasse, should be encouraged to relocate closer to the Porschestrasse and/or to the core by offering buildings with favourable rents, allowing students access to and from Porschestrasse. Students can then be engaged in the street's retail offerings, such as cafés and bars. This creates an interaction with and connectivity to the street, which will be beneficial as a mix of demographics, cultures, and groups.

The City Galleria, owned by ECE, towards the middle end of Porschestrasse will play an important role in the regeneration of the area. The city should include ECE in its strategic plans in order to get its buy-in to be committed to the redevelopment of the area. This will allow the shopping centre to be involved in street events on Porschestrasse throughout the year.

The building lines on Porschestrasse could be brought closer together to provide a better sense of “intimacy.” Today, the low buildings and the wide spaces in between leave a “cold” feeling that is not conducive to a sense of intimacy. There are a number of kiosks in the middle of the public pedestrian walkway that are seen as obstacles, so these should be removed to improve the functioning of the open space. Where possible, the building heights of properties should be increased to five or six floors to help expand residential offerings.

With Porschestrasse being such a long street, e-mobility options need to be included to ensure full use of the street and access to the offerings.

Südkopf

The area in the south starting from Pestalozziallee via City Hall and Alvar Aalto Kulturhaus to the Arts Museum, including the educational and cultural offerings at the foot of Klieversberg (with “Neue Schule” and the Scharoun-Theatre) is better known as Südkopf. The existing shops in this part of the Porschestraße will be another subsection and the end of the dorsal spine concerning retail and shopping. The Südkopf is seen as a smaller, quieter area in central Wolfsburg

The presence of the existing local market is important and should be maintained, but other such local activities should be encouraged, too.

The area around the museum should become the heart of the cultural strategy for the city, so that the museum itself is not isolated. These could be new projects involving art, such as street art, music, and other creative groups needing space and helping to attract visitors.

Within all of this, every attempt should be made to keep the authenticity of the city and ensure that the inhabitants of Wolfsburg feel at home. This area should become focused primarily on catering to the local and regional consumer and visitor. It is important to provide Wolfsburg with their own “place to be.”

While remaining as mixed-use, the types of ground-floor or first-floor tenants should be local companies, such as service providers and small businesses – insurance, medical, real estate agents, as well as small store formats, artisanal stores, and general home and furnishing stores. In addition, the current market offerings can be expanded – food, farmers, antiques – without forgetting local bars and restaurants or national retailers. Ideally, the products being sold would be of a local nature, including homegrown products.

How can these projects be put in place?

An overarching point is that the City of Wolfsburg and Volkswagen should be more involved in the evolution of these streets and projects by becoming owners, investors/co-investors, or asset managers of the various portions of the streets. With clear responsibilities assigned to each, this will allow coherence in the setting up and implementation of a strategy and see better control over what happens along the streets and within these areas. Then, if over time units or buildings become vacant or the owners plan to sell, Wolfsburg AG (or the City or Volkswagen separately) should have the right of first refusal and should choose to exercise this right.

A business improvement district (BID) could be set up to provide a controlled environment within which projects are reviewed and decisions made, with the intention of having a coherent road map for the future. This not only gets engagement from the businesses in the area, but also provides funding levied through local taxes or a BID fund.

A critical piece will be the city's need to put in place a clear urban development and design plan to define the strategy, but also to address the issue of ownership and control of the real estate, either private or semiprivate.

By having one entity that manages and controls the events on the street, events could be continuous – something happening virtually every day, from music to street fairs. Specific times of year such as Christmas, New Year, and Easter are especially important times to help energise the city centre and engage with local people and attract visitors.

Landscape design is also an important element, coupled with greenery and appropriate street furniture. This applies to the new areas, as well as to the existing stretches of Porschestrasse and Südkopf.



C. ACTIVATE GREEN SPACES AND CATER TO RESIDENTS

The panel felt that the greenery and quality of life that Wolfsburg offers is not widely known and often hidden away. These desirable qualities that can be enjoyed by residents should be better highlighted.

Wolfsburg is a low-density city with village-like settlements sprawled out with significant green spaces within and between the separate subareas. It is a car-based town with semi-isolated dwellings. The city tends to attract predominantly young working-age people. Younger families in their 30s and 40s, especially when more highly educated, prefer to live outside the city since the current housing offerings in the city do not really cater to their demands as well as to people in other life stages. Affordability is also a growing concern in Wolfsburg as well as in many European cities, mainly due to the lack of suitable housing on offer.

Housing demands of different demographic groups are changing in Wolfsburg. The young professionals want more amenities, better connections, more vibrancy, and the buzz of a mixed-use environment. Yet there is an ageing demographic that is new to Wolfsburg where specific housing needs to be developed for the elderly, such as housing close to amenities, and assisted living, as well as other means of transport to prevent isolation. Flexible housing options that are affordable need to be developed and offered to existing Wolfsburgers and to future residents. The city is currently developing alternative forms of senior housing such as a retirement community, dementia flat share, or cluster flats with flexible floor plans that are wheelchair accessible. It also aims to create a diverse range of housing for all generations.



The green nature of Wolfsburg.

To appreciate the city's green landscapes and value, the panel recommends the following:

- Use the green city as a unique selling point.
- New affordable housing production needs to be urban infill and densified instead of greenfield to protect the city's green landscapes and reduce sprawl. It will encourage social spatial mixing in districts and neighbourhoods.
- Implement healthy and resilient landscape structures between the dwellings.
- Look for a far higher diversity in commercial development and housing while keeping it nature-based. For example, Autostadt is a prime example of nature-based high-density development.

- Give residents an emotional and health boost from living in a secure, green, and interactive social environment. Help people contribute to biodiversity and climate with their gardens and ecology projects.
- Cater to young professionals, who are interested in close-to-nature features like urban farming and beekeeping, that are common even in much denser areas.
- Create post-retirement intellectual and emotional activity spaces.
- Link development to water features such as the Aller River but also to the Mittellandkanal, which allows for residential mixed-use and commercial development.
- Rethink the settlement structure with respect to the full life cycle of inhabitants, including the ones not capable of automotive mobility.
- Connect the semidetached communities within the city and surrounding it with new modes of transportation: bike lanes, electric bicycles, and sharing e-mobility with smaller cars where buses do not operate.
- The panel strongly encourages urban infill and densification as an urban development priority before greenfield development. However, e-mobility solutions should be considered for the 22 hectares of new greenfield residential development, Steimker-Gärten, which is owned by Volkswagen. Less focus on cars and electrical vehicles should be encouraged in the short term and autonomous driving in the near future.



Planetarium at the Sharoun Theatre.



D. ADVANCE MOBILITY

This section covers Wolfsburg's mobility and mobility across the world.

Wolfsburg's mobility

The panel recommends that the City accept that Wolfsburg has a private car-oriented culture. There are many population centres in the world that have similar characteristics.

The choices that a city such as Wolfsburg makes related to transport have long-lasting consequences. They affect how flexible the city is in the future and its potential. Wolfsburg is undeniably the capital of cars. This affects the overall environment of the city, which generates consequences. The city has developed a comfortable life for its residents, but challenges have been created, too. Wolfsburg as a car-based city has led to an isolation of urban functions, lost productivity, and social isolation. To make a positive move forward from its car domination, Wolfsburg should focus on using the entire territory of the city as a real-world test environment for private cars. The panel recognises that this is already being thought of as Volkswagen and the City of Wolfsburg have made a first step towards counteracting these mobility challenges through the MOU signed in December 2016 for the #WolfsburgDigital initiative.

All elements of this vision should be clearly and fully embedded in the urban development strategy. It should make electric vehicles/private autonomy testing an immediately recognisable theme in Wolfsburg, as much a part of the city "brand" as Volkswagen's Autostadt. It should test a wide range of autonomous types in the city (i.e., not just Volkswagen cars) and attract a wider range of original equipment manufacturers (OEMs) and related research in the field. E-mobility is at the core of a whole range of issues that any city or region is concerned about, and cooperation between the city and the company is key to achieving "better together."

The world is changing around Wolfsburg

Increasing urbanisation and the growth of megacities mean that cities are rethinking mobility. They are creating new business models that change traditional mobility patterns. There are fast-moving technological trends that influence mobility trends such as vehicle electrification and autonomous driving. The "internet of things" (IoT) is quickly spreading into mobility while infrastructure connectivity further smooths traffic flows. The cost of renewable power generation has decreased significantly and this will accelerate electric vehicle uptake in the future.⁷

Figure 11: Cost and benefits emerging from an integrated view of mobility systems (McKinsey & Company, 2016)

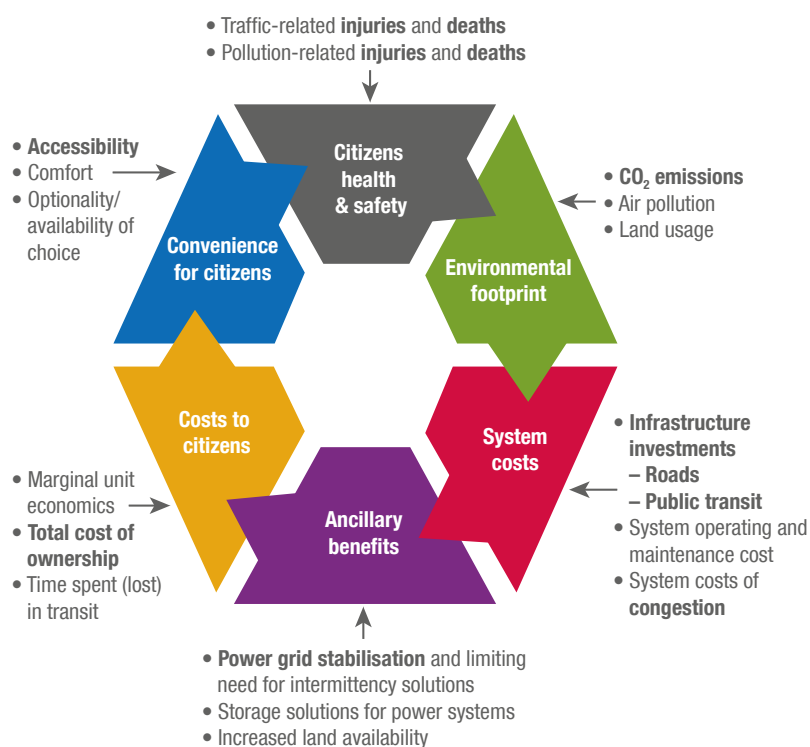


Figure 12: Mobility models (Source: McKinsey & Company (2016))

Globally, cities are embracing various mobility models. There are three dominant ones:

1. Clean and shared – most applicable to developing economies with dense populations

- Focus on electric vehicles, limited private ownership.
- Emphasis on public transit, shared mobility.

2. Private autonomy – most applicable to cities with induced sprawl (the Wolfsburg case)

- Focus on new vehicle technologies.
- Road space for self-driving vehicles.
- Demand-driven pricing and rideshare.

3. Seamless mobility (most applicable to developed/high-income economies, dense populations)

- Focus on door-to-door/on demand.
- Blurred private, shared, and public transport.
- Self-driving + shared vehicles + public transit.

Cities that embrace new mobility techniques are “bold” and have a competitive advantage. There are different avenues for mobility that cities are focusing on. At one end, very large cities in the developing world like Mumbai and Delhi focus on clean and shared mobility where the issue can be addressed for millions of people at one time. At the other extreme is seamless mobility, which is applicable to cities like Chicago or Singapore that are quite large and have wealthy populations. It is unlikely that Wolfsburg will ever become an example of best-practice seamless mobility; the city has too great a saturation of private cars, and it is not large and dense enough to justify the expense of extensive public transport.

Advanced mobility implications

If Wolfsburg decides to be “bold” with mobility, it will attract a wider range of residents and visitors. It will offer more transport options for work, living, and leisure and further enhance quality of life. It will create new tech-related employment sectors. There will be better use of wasted parking spaces and roadways as well as better environmental performance and a new city dynamism. It could aspire to be a role model for other cities.

Shared mobility service in Helsinki⁸

Helsinki has boldly come up with a concept that has changed mobility behaviour in the city. A mobility-as-a-service (MaaS) scheme competes with car ownership as people opt for an all-inclusive service using car-sharing, unlimited bus and train rides, city bikes, cheap taxis, and even a car rental through a monthly subscription app called Whim. People switch modes of transport with a single fee, which offers a more seamless transportation experience. To make this mobility option financially viable, 3 per cent to 5 per cent of the total population of the region will need to sign up for Whim's monthly package. Other cities such as Birmingham and Antwerp and various cities in the United States have started trialling this option.



Mobility in Helsinki. (Eltis)

Driverless cars in Singapore

As part of the effort to progressively transform Singapore into a smart city, the Land Transport Authority (LTA) launched pilot tests of driverless vehicles in the Punggol, Tengah, and Jurong innovation districts. The service, which is accessed via mobile phones, helps develop mobility solutions and gain insight into how the city can design infrastructure, organise services, and formulate regulations to better facilitate the safe use of autonomous vehicles (AVs) in the city-state. The AVs travel on less populated roads, but the LTA is exploring the use of driverless buses for express transit links in three towns starting in 2022.



An autonomous vehicle shuttle. (Kevin Kwang)⁹



E. PIONEER WOLFSBURG

This section looks at the relationship between the City of Wolfsburg and Volkswagen and their roles in the city, and how to go forward from here.

Commitment to reach for the future

In all future work for the city, the panel recommends that Wolfsburg embrace a spirit of drive and boldness. It has already been pioneering with its partnership with Volkswagen, and together they have innovated and stepped out of their comfort zone to take risks in the past. The #WolfsburgDigital initiative is the first step; and for this to become a reality, successful implementation requires bold leadership and an overarching clear urban development strategy.

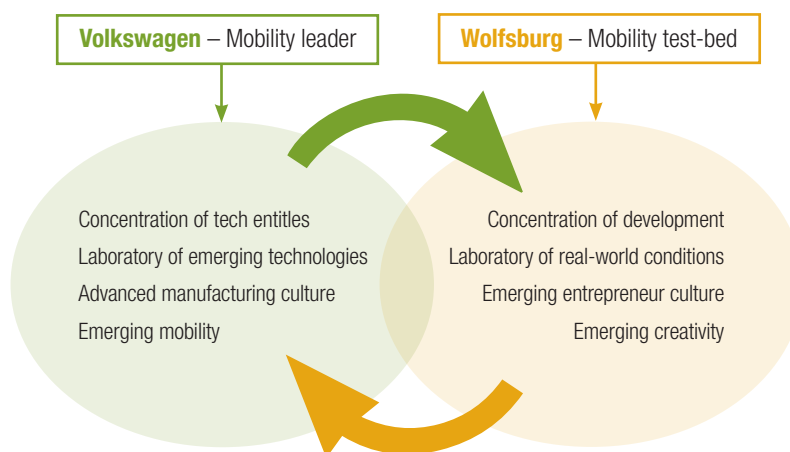
If Volkswagen is making a commitment to become a mobility leader globally, what can Wolfsburg do? Can the city make itself part of this huge mobility experiment? Can Wolfsburg drive urban development that attracts a certain workforce that is useful for Volkswagen?

If Volkswagen concentrates its tech entities and opens up a lot of research opportunities, it could reinforce an entrepreneurial culture. Emerging creativity in the city may foster emerging mobility within the company. This is the pioneer spirit. This is about being brave and bold.

However, this pioneering spirit requires the active partnership of public entities, private companies, and university leadership to define an outcome, and fundamentally reprioritise workforce, partnerships, land use, and financing in order to achieve the outcome.

The diagram below shows how Volkswagen can grow as a global mobility leader and where extraordinary talent will work for Volkswagen in Wolfsburg. The company's focus will be the concentration of tech entities, a laboratory of emerging technologies, an advanced manufacturing culture, and emerging mobility. On the other hand, Wolfsburg, the great local partner of Volkswagen, will be the test-bed of advanced mobility. Their focus will be the concentration of urban development, a laboratory of real-world conditions, an emerging entrepreneur culture, and emerging creativity.

Figure 13: Pioneer commitment from Volkswagen and Wolfsburg



Embrace risk

In order to redefine Wolfsburg, the City needs to embrace risk. Every change, new idea, and discovery that happens involves risk. Wolfsburg's and Volkswagen's roles are changing and are now at the point where the City needs to make a conscious decision to embrace risk to foster an entrepreneurial culture. Thousands of people are doing research at Volkswagen, operating at the cutting edge of one of the most important technologies in the world that is undergoing a revolution. The panel recommends that both the City and Volkswagen encourage further creativity and collaboration through the following recommendations:

- Set up strong mentorship programmes for startups, incubators, and accelerators.
- Make risk capital available, both private and public.
- Build cheap space for startups and concentrated companies.
- Undertake joint research with Volkswagen.
- Use Volkswagen as an anchor

Open Works' cheap space in Baltimore, Maryland

Open Works is a US\$10 million project of the Baltimore Arts Realty Corporation (BARCO). BARCO leverages public funding and philanthropic donations to deliver affordable, safe, and sustainable space for Baltimore's creative community. This 34,000-square-foot (3,200 sq m) facility comprising commercial fabricated space and incubators houses wood, metal, and digital fabrication; textiles and electronic workspaces; and 150 private studios.



(Source: Open Works)

Reimagine Wolfsburg

As part of a pioneering spirit, the panel encourages Wolfsburg to go further in its MOU and #WolfsburgDigital commitments and to reimagine the city through innovation and driverless technology. Rather than waiting to be the second or fifth city to embrace driverless technology, it should be the first. Wolfsburg today should not be thinking about a small test track for driverless cars, but rather have the whole city be the test-bed. In supporting the development of the city to become a vibrant place to work and live, the panel recommends the following:

- Diversify jobs in Wolfsburg. As 9,000 new jobs are created, 60 per cent should be for Volkswagen and the other 40 per cent should be outside the Volkswagen.
- Move the IT jobs, future research, and office development to the city core.
- Attract and develop partnerships with universities to create an innovation campus in the core. Attract international students and young professionals.
- Deliver an entire-city electric charging network.
- Showcase an entire-city driverless test network.
- Create arts and tech “maker” spaces in the core.
- Redevelop parking lots in the core.
- Identify a new parking strategy.

Governance – change the rules

To become an attractive and vibrant city with a diversified economy and that is a magnet for innovation, the panel felt that the City should take a leading role in creating and driving an overall urban development vision for Wolfsburg. Currently, there does not seem to be a sense of urgency for change, which needs to be addressed. Efforts should also go into developing legal frameworks to allow Wolfsburg to become the test-bed city for e-mobility. The panel suggests the following recommendations for the city:

- Other than #WolfsburgDigital, assign clear institutional responsibilities for initiatives.



Electric charging point outside Autostadt.

Station F, Paris

Station F is a business incubator for startups in Paris that has brought together several innovation companies and talent under one roof. Funded by a disruptive telecommunications entrepreneur, this entrepreneurial ecosystem campus helps attract critical mass, talent, and investment. Situated in a former rail freight depot, the 34,000-square-metre facility provides office accommodation for up to 1,000 startup and early-stage businesses as well as global anchors such as Facebook, Microsoft, and Naver.



(Source: Patrick Tourneboeuf)¹⁰

- Build on strategic cooperation and regional policies with neighbouring city Braunschweig and in collaboration with smaller communities in the region. The “Allianz für die Region” Partnership needs to be strengthened through more collaboration. Priority areas for collaboration are public transport, finance, attracting and nurturing startup and innovation businesses, diversifying economic development, and governance across municipal borders.
- Develop legal framework for driverless vehicles and electric charging infrastructure on city streets.
- Create a menu of financial programmes to invest in and incentivise.

Finance – invest in the future

To reimagine Wolfsburg, there needs to be a way to finance it. The panel recommends that the City consider a number of innovative mechanisms to help develop urban development projects, as well as maintain infrastructure and public places. Monetising predictable revenue streams (through sales, property taxes, and fees) will help raise necessary public investment funds to build high-quality placemaking and attract private investment. The City could also consider creating a business improvement district (BID) by putting a small increment on property tax that helps maintain the open space. This reduces the City’s responsibility to look after the space. The panel also recommends the following:

- Create early-stage financing/venture capital funds.
- Risk-share and financing guarantees for select market makers.
- Finance strategic facilities for select innovation partners.
- Offer value capture.
- Create a BID.
- Create a Wolfsburg development fund.
- Deliver tax forgiveness programmes for strategic developments.



Government Town Hall in the south of the city.

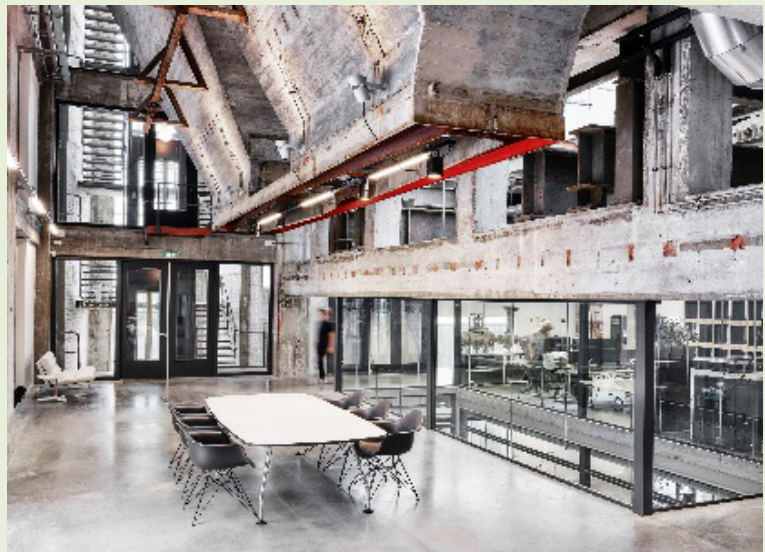


Privately owned, high-quality public spaces at the Autostadt.

Innovation Powerhouse, Eindhoven¹¹

When Eindhoven's main employer, the electronics company Philips, relocated many of its manufacturing processes to cheaper sites in Poland and China and relocated its headquarters to Amsterdam in the 2000s, the city suffered. While Eindhoven was mainly known as an industrial place, the City later capitalised on its legacy to refocus its economy and regenerated the city.

Through the leadership of the City, the former Philips factories were transformed into a creative and cultural quarter and the former gas factory is a living lab that fosters creativity. Now, the Brainport region surrounding Eindhoven is a major technological and industrial hub and one of the most innovative regions worldwide.



(Atelier van Berlo in collaboration with Eugelink Architectuur & De Bever Architecten and Tycho Merijn)¹²

5. Next steps

This section ties in the recommendations given throughout the report. To advance the mission of becoming a mobility leader and an attractive competitive city, the following recommendations suggest how the City and Volkswagen together can focus on development strategies that lay the foundation for future growth and collaboration. A stronger partnership and a clear vision are essential, and implementing the recommendations will increase investor confidence and long-term economic success in Wolfsburg.

Key questions	Recommendations
How can the City and Volkswagen agree on and speed up a strategy to enhance their economic vitality, competitiveness, and attractiveness to talent?	<ul style="list-style-type: none"> • Develop a clear vision and city strategy. • Diversify economic activity and jobs. • Construct inexpensive spaces for startups and innovation. • Move future jobs and office development to the city core. • Redevelop the parking lot and identify a new parking strategy. • Offer affordable and diverse housing options for the different demographic groups, close to amenities and transportation connections. • Density housing in urban infill areas and protect greenfield landscapes. • Reinforce the city's green nature as a selling point and activate the green and open space. • Strengthen and collaborate more with regional partners. • Develop innovative financing mechanisms for urban development projects, infrastructure, and public spaces.
How can Wolfsburg become a strong "Capital of Mobility"?	<ul style="list-style-type: none"> • Accept that Wolfsburg has a private car-oriented culture. • Use the city as a test-bed for all e-mobility and private cars. • Deliver an entire-city electric charging network. • Attract a wider range of mobility manufacturers and research to the city. • Be bold with mobility and offer more transport options.
How to create a vibrant and attractive city centre?	<ul style="list-style-type: none"> • Transform and integrate the canal into the city's identity. • Develop a strong, dense, and vibrant mixed-use core in Nordkopf. • Redevelop the pedestrian public realm along Porschestraße. • Provide a destination for diversified food and beverage offerings to increase dwell time and vibrancy. • Program high-quality open spaces with events. • Develop a clear vision and city strategy.
How to bridge the urban divide between the Volkswagen factory and the city's urban core?	<ul style="list-style-type: none"> • Use the canal as a source of inspiration to close the gap. • Bring Wolfsburg to the canal and better connect it to its urban core. • Open up parts of the factory site as a backdrop for visitors along the canal.

6. Conclusion

Wolfsburg is not a traditional European city. It has always been, and remains to this day, an extended company campus. While Volkswagen has constantly focused on its brand and evolved its manufacturing processes in a strategic manner, Wolfsburg has largely been reactive to the growth of a single company.

As the panel formed its recommendations, particular attention was paid to contextual issues surrounding the historic one-company city. These included the risk of a shrinking population; the loss of talent; the lack of city centre vibrancy and fragmented core; the disconnect from its mono-industrial city centre to its surrounding green nature; the strong dependence on cars; and the special relationship between Wolfsburg and Volkswagen. However, despite its relatively small city size, it is competing globally since the car company is seen as an influential key asset. This is unique and cannot be found elsewhere, and the city should build on that.

The panel also saw many assets in Wolfsburg that should be fully knitted into the city's vision, including the canal waterfront and the natural environment.

The panel recommends Wolfsburg reimagining its city to become a vibrant and attractive place to live, even though this requires risk taking.

Volkswagen is a mobility leader where extraordinary talent will work, while Wolfsburg – its great local partner – should become the test-bed of advanced mobility.

RECOMMENDATION: BETTER TOGETHER

A. VALUE THE GAP

– Realise new asset value for Wolfsburg.

B. DEVELOP THE CORE

– Concentrate on Wolfsburg's urban potential.

C. ACTIVATE GREEN SPACES AND CATER TO

RESIDENTS – Reinforce Wolfsburg's environmental and residential themes.

D. ADVANCE MOBILITY

– Commit city and company to full-city test-bed.

E. EMBRACE A PIONEER SPIRIT

– Reposition Wolfsburg for the bold.

The city should support the emerging entrepreneurial culture and creativity by rethinking its urban development strategies in the core. It needs to maximise its urban potential by focusing development in Nordkopf, close to the canal, and close to nature. Attracting this new generation and economic workforce will inject creativity and soul that will help put Wolfsburg on the map.

Although this process will take a long time – years – the panel hopes this report can build on and strengthen the existing #WolfsburgDigital initiatives and more, and provides a comprehensive starting point for achieving the goals through the guiding principles on how Wolfsburg and Volkswagen can be “better together.”

About the panel

Paul Bernard

Washington, D.C., United States

Paul Bernard is an Executive Vice President for the Urban Land Institute (ULI), a nonprofit education and research institute that focuses on issues of land use, real estate, and urban development. The mission of the Institute is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. Bernard recently joined ULI and manages the Advisory Services, UrbanPlan, Professional Development, and Awards programmes.

Prior to joining ULI, Bernard served as Vice President at Enterprise Community Partners Inc., where he led the organisation's national public-sector and community-development advisory practice. Previously, Bernard held several senior roles in government and the private sector, including Senior Vice President at Walker & Dunlop, where he led the company's investment advisory practice. He was also a Principal and Division Head at MunieMae, managing the growth and operations for approximately \$1 billion in institutional capital.

Bernard also held senior positions at the City of Detroit, where he was appointed by Mayor Dennis Archer as the Director of Planning and Development and a member of the Economic Development Cabinet, and at Public Financial Management (PFM), where he was a Senior Managing Consultant for federal, state, and local municipalities and public authorities on traditional and alternative financing initiatives. Bernard holds a master's degree in public policy from Harvard University, an MBA, and a bachelor's degree in foreign service from Georgetown University.

Professor Jürgen Bruns-Berentelg

Hamburg, Germany

Since 2003, Jürgen Bruns-Berentelg has been CEO of HafenCity Hamburg GmbH, a public company owned by the city-state of Hamburg, second-most-populous city in Germany and centre of a metropolitan region of 5 million inhabitants, charged with the development of HafenCity and other areas. The HafenCity Hamburg development area represents a mixed-use 40 per cent expansion of the core city area of Hamburg. The goal is to develop a highly sustainable and outstanding new downtown in the European tradition of urbanism.

Before his involvement with HafenCity Hamburg GmbH, Bruns-Berentelg occupied management positions with British, American, and German property companies, partly at executive board and board of director levels. In the process, he was also involved in major projects such as Berlin Central Station and the Sony Center in Potsdamer Platz, located in Berlin.

Bruns-Berentelg graduated in geography and biology. He is a real estate economist as well. He also is professor for integrated urban development at HafenCity University Hamburg in addition to his executive position.

Bruns-Berentelg is a regular national and international speaker on issues of innovative large-scale urban developments and publishes regularly on matters of urban development.

Christopher Choa

London, United Kingdom

A native New Yorker, Christopher Choa leads AECOM's Cities practice out of London. He works with city and national governments to develop regional-scale strategies and improve urban performance. Choa is a Global Trustee of the Urban Land Institute and Chair of ULI U.K. He is an advisory board member for the Sustainable Urban Development programme at Oxford University as well as organisations related to real estate, autonomous mobility, energy, and research. He has previously been an appointed adviser to the Mayor of London.

Chris Igwe

Paris, France

Chris Igwe is one of the world's leading authorities on global retail and is highly sought after for his knowledge and insights.

Based in Paris, Igwe is a special adviser to global brands, owners, and investors on strategic matters at his own consultancy firm, Chris Igwe International. He is also Managing Partner at More Or Less, representing exclusively tenants in their lease-related problems. From 2007 to 2015, he was Head of Retail, France and EMEA, at CBRE, and before that, Head of Real Estate, Europe, at Foot Locker and then Gap. Igwe was also Managing Director, Europe, for the International Council of Shopping Centers (ICSC).

Igwe is a frequent international keynote speaker and conference moderator. He is Co-Chair of ULI's Retail and Entertainment Council, a longstanding member of the ICSC's European Research Group, and a member of MAPIC's steering committee.

Tom Murphy

Pittsburgh, Pennsylvania / Washington, D.C., United States

Tom Murphy has been a senior resident fellow at the Urban Land Institute since 2006. A former mayor of Pittsburgh, he has extensive experience in urban revitalisation – what drives investment, what ensures long-lasting commitment – which has been a key addition to the senior resident fellows' areas of expertise. Murphy also serves on the advisory board of ULI's Rose Center for Public Leadership in Land Use. Since joining ULI, he has served on many Advisory Services panels, including panels in Moscow and Hong Kong, as well as in Baltimore, Chicago, and other U.S. cities.

Murphy is an honorary member of the American Society of Landscape Architects; a board member of Harmony Development Inc. of New Orleans; president of the board of the Wild Waterways Conservancy of Pennsylvania; and a board member of Mountain Lake Inc. of Virginia.

Professor Dr. Ing. E.h. Christiane Thalgott

Munich, Germany

After graduating from high school in Hamburg in 1961, Christiane Thalgott first did an apprenticeship for upholstery and decoration. Starting in 1964, she studied architecture at the Technical Universities of Braunschweig and Munich. After graduating in 1971 and a short stretch of work in the field of rural construction and settlement systems, she worked from 1972 as a city planner; first in the Building Department of Norderstedt, then from 1987 as an urban development councillor in Kassel. From February 1992 to May 2007, Thalgott succeeded Uli Zech as urban development councillor in Munich and head of the local city planning authority and from 1994 as chair of the Munich Society for urban renewal.

During her time with the city of Munich, significant projects took place, including planning for the reconstruction of the main railway station; the development of the areas of former railway tracks in the city for residential and office buildings and green areas; and the transformation of barracks to lively new mixed-use areas in the city. Next was the establishment of the Jewish Center and the adjacent office building with the order-associated redevelopment of St. Jakobs Platz and the surrounding streets.

Besides her work as a city official, Thalgott held teaching positions at the University of Kiel (1985–1987) and the Technical University of Munich (from 1996), where she was appointed honorary professor in 2003. From 2003 to 2007, Thalgott was president of the German Academy for Urban and Regional Planning. In May 2013, she was elected at the spring meeting of the Academy of Arts in Berlin as the new member of the architecture section.

Thalgott is a member of the Bund Deutscher Architekten; Deutsche Akademie für Städtebau und Landesplanung; Vereinigung für Stadt-, Regional- und Landesplanung; Urban Land Institute; Bundesverband für Wohnen und Stadtentwicklung e.V (VHW); Institut für Städtebau und Wohnungswesen München; and the advisory board of IBA_WIEN 2022.

Lisette van Doorn

London, United Kingdom

As Chief Executive of ULI Europe, Lisette van Doorn is responsible for the development of the Institute's activities across the region, including its renowned pan-European conferences and over 250 local meetings and events across 14 countries. She is also responsible for the ULI Charitable Trust, which raises money to advance ULI's mission and philanthropic activities across Europe.

Van Doorn joined ULI from LIRE, her own consultancy business, which advises international institutional real estate investors and fund managers on strategy, organisational optimisation, and portfolio structuring.

Prior to this, she was country manager for CBRE Global Investors, where she managed a €1.6 billion portfolio of assets in Italy. Before joining CBRE Global Investors, Van Doorn was founding chief executive for INREV, the European Association for Investors in Non-Listed Real Estate Vehicles. She started her career at ING Investment Management, where she held account manager and assistant controller positions before being made managing director of research and strategy for ING Real Estate Investment Management Europe.

Birgit Werner

Zurich, Switzerland

As an experienced business developer and valued adviser with a focus on sophisticated real estate, Birgit Werner has proven her skills in developing projects and companies in a highly political, strategic, and entrepreneurial environment.

The graduate engineer of RWTH Aachen University, Germany, with an MBA from HSG St. Gallen, Switzerland, found her niche in business development after working as an architect (Richard Meier, New York) through consulting activities along the entire value chain of the real estate industry. Her biggest challenges so far were on the one hand the development of the Circle at Zurich Airport, an innovative mixed-use destination with 200,000 square metres of floor space in a politically sensitive environment, setting the stage for its current realisation. On the other hand, in her current position at Munich Airport, she was able to start the development of the innovative unique selling point “LabCampus,” including the first academy, office, hotel, and company apartment developments and enabling the company for these kind of developments.

Listed among the 100 heads of the Swiss real estate industry (*Immobilien Business* magazine), she has an extensive network of contacts in national and international markets and is an expert in new developments and innovations, and is a leader in sharing knowledge within the scope of pro-bono commitments at the Urban Land Institute (Local Chair Zurich, Executive Committee Germany, Councils), the Royal Institution of Chartered Surveyors, and other nonprofit organisations.

Michaela Winter-Taylor

London, United Kingdom

Michaela Winter-Taylor leads on urban strategies and design for Gensler, a global architecture, design, and planning firm renowned for its integrated and collaborative approach. She focuses on complex urban projects with a particular focus and expertise in the integration of infrastructure in line with urban growth and regeneration. Having cultivated an understanding of the driving forces behind industry trends, she works with the public and private sectors to increase the competitiveness of cities in an ever more challenging urban environment.

She leads a creative team of designers and planners, who use innovative strategies for consultation, design development, and delivery to realise proposals attuned to their local context. Driving the sustainable urban agenda forward, Winter-Taylor is active in various forums across the industry to advocate for smart and resilient planning that is balanced with the aspirations of its communities. She rejoined Gensler in 2012 after consulting for a year with the United Nations Environment Programme (UNEP) in Paris, supporting city governments in their mission to promote the integration of sustainable policies in their built environment jointly with the UNEP's extensive network of partners.

Serving on the ULI NEXT U.K. Steering Committee, Winter-Taylor is an active member of the ULI Sustainability Council. She studied architecture at the Technical University of Munich, followed by a master's degree in urban environmental management at the Asian Institute of Technology in Bangkok, before joining Gensler's London office in 2003.

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