



# DIGITAL CITIES CHALLENGE

## Digital Transformation Strategy for the city of Gelsenkirchen

### *Drilling for OIL 2.0*

July 2019



# Digital Cities Challenge

Digital Transformation Strategy for the city of  
Gelsenkirchen: Drilling for OIL 2.0

Manfred vom Sondern (CDO City  
Administration)

Andreas Piwek (European affairs)

Michael Sparenberg (expert for internet  
security)

Lukas Rissel (senior assistant)

Sebastian Goerke (assistant)

with the contributions of the Digital City leadership team  
Ieva Savickaite (support consultant)

## Table of contents

<b>Executive Summary: Gelsenkirchen’s digital transformation</b> .....	<b>4</b>
<b>1. Introduction to the Digital Cities Challenge</b> .....	<b>7</b>
<b>2. Overview of the digital maturity assessment for Gelsenkirchen</b> .....	<b>9</b>
<b>3. Mission and Ambition statements</b> .....	<b>10</b>
<b>4. Drilling for OIL 2.0: The Digital Transformation Strategy for the city of Gelsenkirchen</b> .....	<b>11</b>
4.1. Strategy orientation .....	11
4.2. Operational objectives.....	14
<b>5. Digital strategy roadmap and planned activities</b> .....	<b>17</b>
5.1. Overview of proposed activities .....	17
5.2. The pilot activity: BOGESTRA Free Wi-Fi.....	24
5.3. Timetable for implementation.....	24
<b>6. Strategy governance</b> .....	<b>27</b>
<b>7. Monitoring and evaluation of the Digital Transformation Strategy</b> .....	<b>28</b>
7.1. Performance assessment framework .....	28
7.2. Strategy evaluation plan.....	28
<b>8. Results achieved and next steps</b> .....	<b>30</b>
<b>Appendix I: Detailed presentation of activities</b> .....	<b>31</b>
<b>Appendix II: Performance assessment framework</b> .....	<b>32</b>
<b>Appendix III: Relevant Good practices</b> .....	<b>39</b>
<b>Appendix IV: Bibliography</b> .....	<b>40</b>
<b>Appendix V: Stakeholders consulted</b> .....	<b>41</b>

# Executive Summary: Gelsenkirchen's digital transformation

---

## **Gelsenkirchen a central node in the Digital Cities Challenge network**

The Digital Cities Challenge an initiative of the European Commission helps to achieve sustainable economic growth in Gelsenkirchen through the integration of advanced technologies. The initiative fosters complementarities and synergies between existing policies involving digital priorities (e.g. economic development, smart specialisation, smart city, smart health, sustainable and clean growth, circular economy, climate action, digital skills, etc.) and the newly planned policy actions supporting digital transformation.

The ambition is that Gelsenkirchen will act as a model for other German and European cities by developing and testing novel policy levers in a collaborative approach with the involvement of other cities as peers which will demonstrate how to reap the benefits offered by the transformative power of digitisation. It will showcase how to fill the gaps which are currently hindering Gelsenkirchen to advance and capture the benefits of digital transformation.

## **The digital transformation strategy for Gelsenkirchen**

Due to the strong industrial character of coal and steel in the last century and the subsequent exit from coal, 12 disused mines with 67 shafts are located in the city. The city has focused its work on the following overarching four key priorities:

1. Urban redevelopment for vibrant centres and attractive districts
2. Creating successful biographies together
3. Structural change and new employment
4. A solidary urban society

For Gelsenkirchen digitisation is a decisive factor and innovative driver for further urban development. For years, the city's administration works intensively with its partners on the expansion of the technical infrastructure (fibre optic network, free public WiFi) on concrete applications as well as on the conceptual level. The expansion of the fibre optic network and the "Vernetzte Stadt" policy with its key priorities offer valuable preconditions for the digital transformation of the city of Gelsenkirchen. The city's administration is particularly involved in the digitisation process and sets new impulses for a better standard of living in Gelsenkirchen.

The title "Gelsenkirchen - the connected city" intends to illustrate that this is not just about creating a smart or digital city, but about connecting the city in every aspect - with the tools provided by the digital age. From the city's point of view digitisation is not an end by itself, but as way to serve the city, its society and institutions.

On this basis, the city of Gelsenkirchen has defined the following mission:

**“Mission statement”**

*«To be a pioneer in the digitalisation Gelsenkirchen needs an open innovation Lab, in which different stakeholders from different sectors can work together to build the digital city of the future»*

In order to reach this goal, it will pursue the following ambitions:

- To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry.
- To provide Data and Information to our stakeholders and to our citizens too, we need to establish a Big Data platform.
- To help our local companies attracting and keeping IT-talents, we have to lay a good foundation in education of IT-talents and support of the companies to keep them.
- To be a connected city, which means to connect the city in every single aspect.

The roll-out of this strategy will be guided by the implementation of 8 operational objectives:

- Encourage students to enrol in digital subjects at universities;
- Promote local IT-Companies to attract IT-Talents;
- Foster projects for digitisation in the local area;
- Create a framework for autonomous driving;
- Set the base for the use of parking and lighting sensors;
- Promote cooperation between companies (SMEs) and universities;
- Simplify and improve data usage for better analysis and for the creation of a consistent data model;
- Support start-ups and other companies to benefit from alternative funding projects.

### **The strategy roadmap for the city of Gelsenkirchen**

The city has identified the list of activities to be implemented in the short, medium and long terms, in order to make its strategic mission and ambition a tangible reality. As such, a total of 22 specific activities have been identified, under the different operational objectives of the strategy. Examples of key activities to be implemented as part of the strategy include: BOGESTRA Free Wi-Fi and the open innovation Lab. The Free Wi-Fi activity has been identified by the local working group as the pilot activity for immediate implementation, in order to launch the implementation phase of the digital transformation strategy and start generating immediate results.

# 1. Introduction to the Digital Cities Challenge

---

According to recent data, 72% of the EU's population lives in cities, towns and suburbs, making them the engines of the continent's economy. Cities generate 85% of Europe's GDP, they also face multiple, interconnected challenges, including energy and climate change, employment, migration, social inequality, and water, air and soil pollution.

However, through advanced digital technologies, Europe has the opportunity to re-invent the way we manage our cities' development and respond to the big societal challenges, such as efficient health management, cleaner environment, green mobility, and offering great-value jobs. Due to their high density, cities are put in a very good position to create innovative ecosystems made up of a wide array of different stakeholders from government, industry, finance, academia, communitarian organisations, social partners, etc. Cities have the capacity to make policies become reality.

In this context arises the **Digital Cities Challenge**, an initiative of the European Commission with the main purpose to support the cities in their path to digital transformation. DCC offers policy advice and support to 15 cities in Europe, namely **Alcoy**, **Algeciras** and **Granada** in Spain, **Arad** and **Iasi** in Romania, **L'Aquila** in Italy, **Kavala**, **Patras** and **Thessaloniki** in Greece, **Sofia** in Bulgaria, **Ventspils** in Latvia, **Grand-Orly Seine Bièvre** in France, **Pori** in Finland, **Rijeka** in Croatia, and **Guimarães** in Portugal. The support to be offered will speed up the digital transformation and the industrial modernisation of cities in order for them to take full advantage of the 4th industrial revolution.



This initiative draws inspiration on the recommendations set out in the "Blueprint for cities as launch pads for digital transformation". In addition, it will reinforce the networking among model

cities, facilitate their participation in on-going European initiatives in similar policy fields, strengthen stakeholder collaboration, cross-regional partnerships and stimulate investments.

The selected Digital Cities received support in the form of field advisory services provided by a group of high-level experts and peer reviewers and offered the possibility for city representatives to participate in a series of capacity building and networking seminars. These activities took place in four Academy seminars during which cities shared practices, took advantage of peer to peer learning and worked together and in thematic groups on the steps of their digital transformation trajectory.

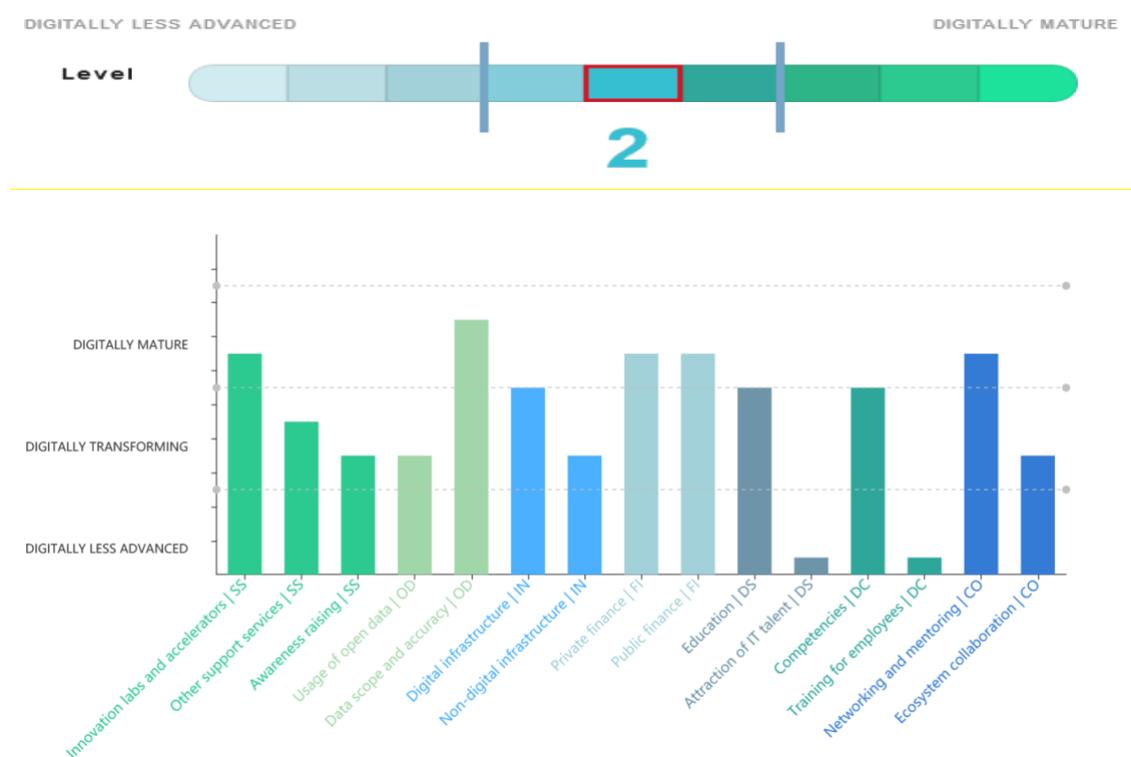
The commitment of Mayors is key to the success of fostering economic growth, increasing prosperity as well as well-being across European cities. The engagement of political leadership will be of much value to achieving digital transformation in European cities, providing strategic orientations and ensuring that the process of developing and operationalising the strategy supporting digital transformation is translated into a portfolio of relevant actions supporting each other towards achieving a common goal and tailored to the local context. Such efforts need coordination to ensure that effort and dedication undertaken by the city administration is directed to best effect.

As a result of this, the Digital Cities Challenge has directly engaged with the Mayor of the supported cities. In December 2018, the on Mayors Conference was organised in Brussels to reflect upon the ongoing work and co-design the technological transformation trajectory of European cities.

This digital transformation strategy presented in this document has been developed in the framework of the field advisory services delivered in the Gelsenkirchen. It represents the main output linked to the participation of the city in the Digital Cities Challenge. The strategy will be the main guiding document for the city to embark on its journey to unleash the power of digital transformation for growth and competitiveness.

## 2. Overview of the digital maturity assessment for Gelsenkirchen

Regarding the SAT, we can see that Gelsenkirchen is on a good way to achieve digital maturity. Based on the results of the SAT and KPIs Gelsenkirchen is on the transforming level for digital maturity



We have discovered that our stakeholders are largely the same opinion when it comes to the strengths and weaknesses. The attraction of IT-talents and training of employees are subjects where Gelsenkirchen has to catch up. During our vision and ambition workshop we also discovered a lack in the usage of open data.

But there are also strengths e.g. the networking in the city and also the digital infrastructure. In Gelsenkirchen every school, hospital and also Industrial Parks are connected to the local fibre glass technology. This is a good base to digitise the city further on

A separate assessment report has been produced for the city of Gelsenkirchen, as part of the Digital Cities Challenge.

## 3. Mission and Ambition statements

---

### Mission statement

«To be a pioneer in the digitalisation Gelsenkirchen needs an open innovation Lab, in which different stakeholders from different sectors can work together to build the digital city of the future »

### Ambition statements:

1. To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry
  - A fast Data connection (e.g. 5G) and a rule framework on national level are the key factors for the development of autonomous driving.
2. To provide Data and Information to our stakeholders and of course our citizens too, we need a big Data platform
  - We want to stay owner of the Data we provide. The Data of the Open Innovation Lab are a great addition to the Open Data already existing. Of course, we want to increase our performance that the citizens have easy access to the Data.
3. To help our local companies attracting and keeping IT-talents, we have to lay a good foundation in education of IT-talents and support of the companies
  - We know the know-how of the IT-Talents are the base of a fast digitisation. For that we started to integrate the IT aspect in our image campaigns. Of course, we foster hard and soft skills of our IT Talents.
4. To be a connected city, which means to connect the city in every single aspect
  - We think being a smart City isn't enough. Digitisation has a lot of aspects to pay attention to, so we want to work on them in a comprehensive way.

## 4. Drilling for OIL 2.0: The Digital Transformation Strategy for the city of Gelsenkirchen

---

### 4.1. Strategy orientation

As a result, from the exit of coal and steel massive job losses occurred (decrease in employment of 40,000 jobs between 1958 and 1980). Gelsenkirchen is still undergoing economic and social upheaval. The transformation from an economy dominated by large companies to an economic structure characterised by small scale, diversity and robustness is to take place, creating a growing number of new jobs. In order to achieve this goal and to reduce dependency on large companies and individual sectors, Gelsenkirchen changed early to an industry mix around the industrial core.

Many hidden champions and global market leader have their headquarter in Gelsenkirchen. Just to name a few: Masterflex, Cryptovision and Gelsenwasser. For these and other companies, as well as for strengthening the location and increasing its attractiveness, the city has focused on digitisation and has been pursuing the policy of a "connected city" as a pioneer for years

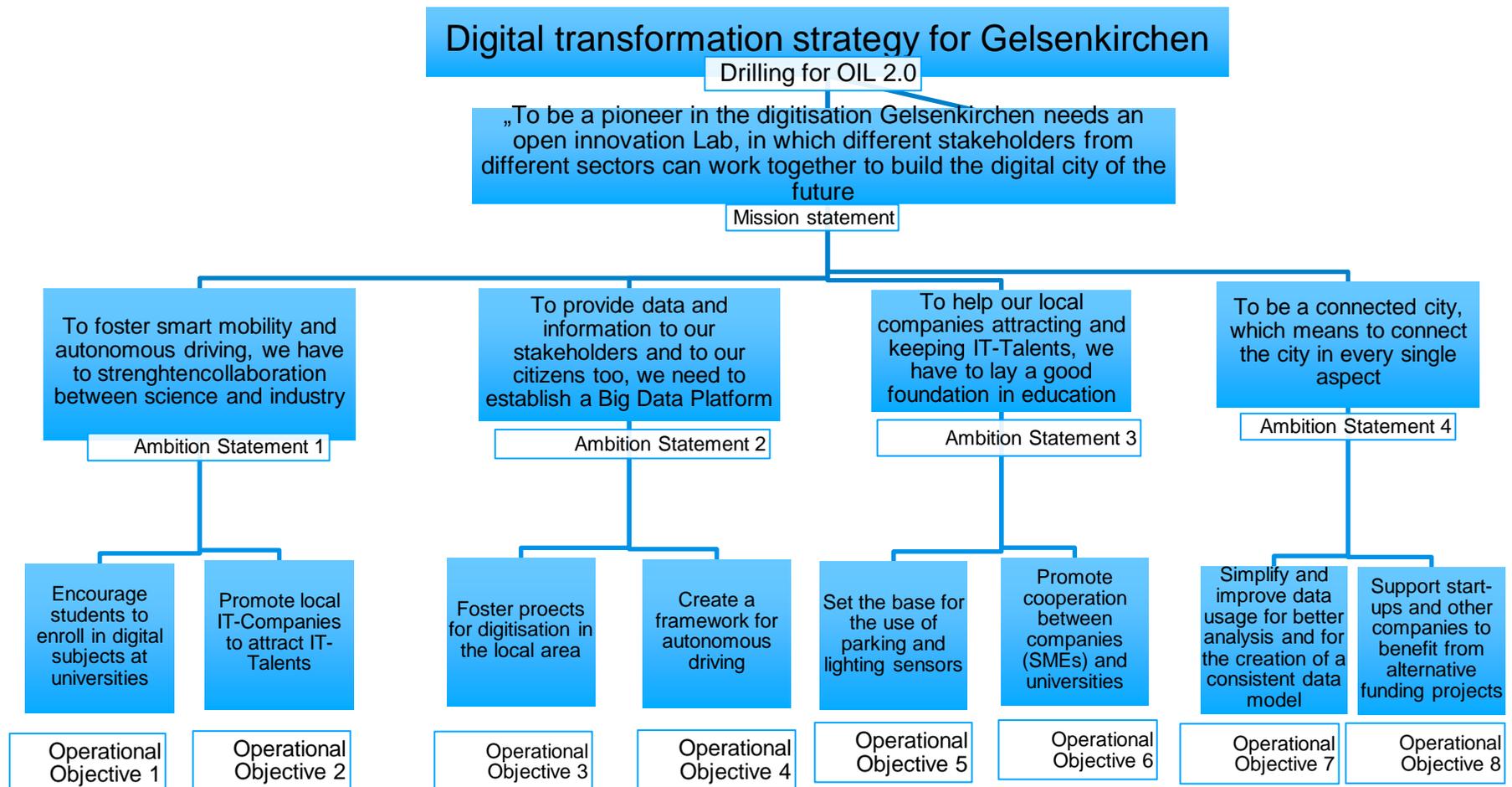
*Box 1 The links to other existing strategies at the city level*

The following three key projects with a focus on digitisation, for which Gelsenkirchen has qualified in the competition:

- **Digital model city of the federal state of NRW** (Model community in digital urban development)
- **Umbau21 –Smart Region** (Model municipality in NRW in the systematic digitisation of the areas "public administration" with the sectors energy, health, transport, education, trade, security, tourism and quality of life.)
- **Zukunftsstadt 2030+** (Model municipality of the Federal Ministry of Education and Research of Germany in Education and Participation as Strategies for Social Spatial Development "with the approach of the" digital transformation ".)

The following figure provides an overview of the full digital transformation strategy for the city of Gelsenkirchen. The individual components are described in further detail in the following sections and sub-section.

Figure 1 Overview of the Digital Transformation Strategy for the City of Gelsenkirchen



## **4.2. Operational objectives**

Operational objectives reflect the means through which the city of Gelsenkirchen will achieve its ambition statements. They represent the 'how' behind the high-level strategic vision which has been developed by the local working group. As demonstrated in the following figure, operational objectives are linked to one or several ambition statements. The city of Gelsenkirchen has identified 8 operational objectives for its digital transformation strategy.

The following table provides a more detailed presentation of each of the operational objectives.

## DIGITAL CITIES CHALLENGE – Digital Transformation Strategy

Table 1 Presentation of the operational objectives of the Digital Transformation Strategy for the city of Gelsenkirchen

Operational objectives and description	Link to ambition statement and key city challenges and opportunities	Key success factors
Operational objective 1: Encourage students to enrol in digital subjects at universities	Linked to ambition statement 4: To help our local companies attracting and keeping IT-Talents we have to lay a good foundation in education of IT-Talents and support of the companies to keep them	Draw attention to digital subjects. Assist universities promoting themselves. KPIs: 1,2
Operational objective 2: promote local IT-Companies to attract IT-Talents	Linked to ambition statement 4: To help our local companies attracting and keeping IT-Talents we have to lay a good foundation in education of IT-Talents and support of the companies to keep them	Hackathon as a step. Potential is available, but we need to keep them in the local area. KPIs: 2,3,4
Operational objective 3: foster projects for digitisation in the local area	Linked to ambition statement 1 and 2: Creation of an Open Innovation Lab (OIL), where companies from different sectors can shape the digital future of our City To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry	help local IT-Companies with the challenges they have KPIs: 5,11,12,13,14
Operational objective 4: Create a framework for autonomous driving	Linked to ambition statement 1 and 2: Creation of an Open Innovation Lab (OIL), where companies from different sectors can shape the digital future of our City To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry	Set an impulse for further development. Coworking with other cities in our area (e.g. Aachen). KPIs: 6

Operational objectives and description	Link to ambition statement and key city challenges and opportunities	Key success factors
Operational objective 5: Set the foundation for the use of parking and lighting sensors	Linked to ambition statement 1: Creation of an Open Innovation Lab (OIL), where companies from different sectors can shape the digital future of our City	In which Places do the sensors make sense? Which use do we get from existing “smart poles” (smart market Buer). KPIs: 7
Operational objective 6: promote cooperation between companies and universities	Linked to ambition statement 2: To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry	Exchange of Information and Data. Which data are needed and used. KPIs: 8,11,12,13,14
Operational objective 7: Simplify and improve data usage for better analysis and for the creation of a consistent data model	Linked to ambition statement 3: To provide Data and Information to our stakeholders and to our citizens too, we need a Big Data Platform	Not only availability is important, it’s about the presentation and quality of the data. This strengthens the motivation for app-development. KPIs: 9,10
Operational objective 8: Help for start-ups and other companies to benefit from alternative funding projects	Linked to ambition statement 2 and 4: To foster smart mobility and autonomous driving, we have to strengthen collaboration between science and industry To help our local companies attracting and keeping IT-Talents we have to lay a good foundation in education of IT-Talents and support of the companies to keep them	Integration of start-ups in the OIL. Perhaps creation of a platform which can help start-ups to get all information they need. KPIs: 11,12,13,14,15

In our Workshop, the City and the Stakeholders came to the Conclusion, that these 8 OOs are the most important objectives when it comes to the digital maturity of Gelsenkirchen. There were some other objectives coming up in the Workshop, so we tried to find a way to put all the interests for digitisation in these 8 topics. They aren’t in a special order. But we want to concentrate on the Operational objectives 3 and 6. We think by fostering projects especially regarding these OOs, we can get synergies to help improving the other OOs.

## 5. Digital strategy roadmap and planned activities

---

The roadmap is the component of the digital transformation strategy that describes the practical implementation of the strategy, including priority activities and governance. Priority activities refer to the specific actions through which the strategy will be implemented. An activity can be described as a tangible and concrete action, which has a beginning and an end, accompanied by a specific objective and resources for its implementation. The results of activities (**i.e. outputs**) are meant to contribute to reaching the operational objectives identified in the previous section.

### 5.1. Overview of proposed activities

The digital transformation strategy for the city of Gelsenkirchen will be implemented through a group of activities, identified in the framework of the Digital Cities Challenge. Activities are meant to contribute to reaching the operational objectives defined in the framework of the strategy, which in turn will contribute to the city's ambition and mission. The list of priority activities may be expanded with time. For now, the city has decided to implement 23 activities, as described in the following table:

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
<b>BOGESTRA Free Wi-Fi</b>	OO3, OO8	BOGESTRA, Gelsen-Net	Building a regional free public Wi-Fi network for customers of the local public transportation. This roaming network is extensible and easy adaptable to other cities and Wi-Fi networks.
<b>OIL: Open Innovation Lab</b>	OO3, OO4, OO5, OO6, OO7, OO8	City of Gelsenkirchen, Gelsen-Net	The Open Innovation Lab project aims to implement, test, and explore the benefits of using smart city applications that are efficient, portable, and ready to use in an open, regionally accessible test field. It should be proven that savings can be achieved via the Smart City applications, which can also be expressed in an increase in speed.
<b>ZE-Online</b>	OO3	City of Gelsenkirchen	In the project, a uniform, digital, central questionnaire and the digital data acquisition for the capture of the object data of the real estate sold in NRW is to be realised. Further pre-processing programs ensure quality assurance and transfer to the central database of the state of North Rhine-Westphalia. Real estate purchasers will be provided with an internet portal (browser-based application and / or app)
<b>DIKA-Bot</b>	OO3, OO7	City of Gelsenkirchen	It is an open-source chatbot that communicates automatically with the citizen via common messengers like Facebook Messenger or Skype. The citizen can ask about the opening hours of the authorities to the city about the Facebook Messenger and gets automatically an answer
<b>IVOD</b>	OO7	City of Gelsenkirchen	The project aims to facilitate the provision and discovery of open data, as well as to improve citizen proximity. Intensive research creates a versatile yet simple style that authorities use to provide their data. A software component then analyses existing and new

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
			formats for display options. If the present data format is suitable, another software component should enable the automatic generation of an interactive visualisation (diagram) determined to be suitable
<b>7. Sinn</b>	OO3, OO6, OO7	City of Gelsenkirchen, University of applied Science	"The seventh sense of digitisation in regions" provides SMEs and citizens in NRW with quick, free and uncomplicated awareness videos and guidebooks that help to confidently deal with the new digitisation processes in the regions
<b>Smartphone-Bürger ID</b>	OO3	City of Gelsenkirchen, XignSys GmbH	<p>The smartphone should be used as the key to the Citizen ID. The aim is to achieve the level of trust "substantial". The emerging base technology makes it easy, yet safe, to make communities, countries and companies, eGovernment and Smart City applications available to citizens.</p> <p>The strong authentication of the citizen by smartphone, with the secure collection of personal data and the flexible use of the Citizen ID, should form the basis for all future personalised applications in eGovernment and Smart City.</p>
<b>LoRaWAN</b>	OO3, OO6, OO4	City of Gelsenkirchen, Gelsenwasser	<p>The city of Gelsenkirchen will work with GELSENWASSER AG to develop and set up a consumption data management system. It will be used for the continuous and reliable collection of energy and consumption data of gas, electricity, heat and water of all urban buildings by means of counters with LoRa communication. The transmitted data is encrypted (LoRaTLS) into the GELSENWASSER AG built LoRaWAN (Low-Power-Wide-Area-Network) radio network fed for evaluation in a consumption data management system for the municipal real estate.</p>

DIGITAL CITIES CHALLENGE – Digital Transformation Strategy

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
<b>Infrastrukturdatenbank</b>	OO7	City of Gelsenkirchen	The Information or POI database offers you extensive information about infrastructures in Gelsenkirchen. You can currently research more than a thousand objects and display the results in lists or export them in Excel spreadsheets for further use. The offer is constantly being expanded and independently maintained by the responsible departments.
<b>Blockchain für Genehmigungen</b>	OO3	City of Gelsenkirchen	For various reasons, the city of Gelsenkirchen issues licenses (license, building permit, etc.) for companies and individuals. Efficient validation of permits is currently not feasible, as there is no possibility of comparison. With the help of blockchain technology, it is basically possible to provide greater protection against manipulation, to work more efficiently and to create more transparency. The validation can be done by anyone using the smartphone for free and does not require registration for the use of the service.
<b>Stromausfall.de</b>	OO3, OO7	ELE	The citizen can report power failures via this platform and also see in which areas there has recently been a power outage. In addition, utilities and distributors can provide information on what power outages they are aware of and what they have already taken care of
<b>AR Customer Support</b>	OO3	ELE	This project aims to improve customer service in all areas. The customer can by sharing his mobile phone through an app, the customer advisor gives the opportunity, for example. with the help of the camera to make an accurate picture of the problem. Thus, the service can be accelerated, which drastically reduces the waiting time on the phone, but the customer service is also more efficient and qualitative

*DIGITAL CITIES CHALLENGE – Digital Transformation Strategy*

<b>Activity name</b>	<b>Link to Operational Objectives</b>	<b>Main implementing partner (i.e. owner of the activity)</b>	<b>Brief description and goals</b>
<b>“Pokemon” for Grid</b>	OO2, OO3	ELE	Within this project, accurate data will be collected at which point in the ground which cable or pipe is located. In this way, a precise picture of the position of the pipes can be seen in advance in construction projects so as to make the work more effective.
<b>/futureWork</b>	OO6, OO1, OO3	University of applied science	Creation of a living Lab for digital working New technologies should integrate seamlessly and as imperceptibly as possible into a consortium of creative minds and strengthen cooperation and creative outcomes, while preserving the quality of analogue methods and processes.
<b>/blockchain</b>	OO6, OO2, OO3	University of applied science	Development of an open-source blockchain that facilitates the development of new business models and more efficient business processes. Regional companies will develop and get to know applications for their business in the pilot project.
<b>/smartreha</b>	OO6	University of applied science	In the course of the project digitisation technologies will be improved within the rehabilitation work. One of the planned goals is to improve telemedicine work at home rehabilitation. For further support in rehabilitation, an electronic inter-institutional file is also created.
<b>/3Dmapping</b>	OO6, OO7	University of applied science	Practical testing to enable navigation within buildings. Through the use of 3D indoor scanning technologies, high-resolution photographic material of the building is created. By analysing the material and forming a data point cloud, POIs with information can be stored. The aim is to further explore the opportunities available to enable more efficient building management.
<b>/digibusiness</b>	OO6, OO8	University of applied science	The project supports companies in developing new digital business models. For this purpose, an instrument will be developed which

DIGITAL CITIES CHALLENGE – Digital Transformation Strategy

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
			should facilitate the search for business models. In addition, easier access for regional small and medium-sized enterprises to the relevant digitisation trends should be created.
<b>/I-Care</b>	OO6,	University of applied science	The project aims to empower people in need of care, disabled and disabled people in their living, living and working environments. Among other things, the concept "living in community" should be developed. The goal is to create a visual collage: "What does the care world of Emscher-Lippe look like in 2040?". Through the various analyses, laboratory situations and workshops, the knowledge in nursing companies and companies is to be extended to digital solutions for the practice.
<b>/openregio</b>	OO6, OO7	University of applied science	The project builds on existing databases and also allows non-IT-talented people the evaluation of data. The objectives of the project are: Development of a publicly accessible information system for different target groups, Continuous provision of quantitative information in a standardised form of a key figure system, structuring of data collection on school, transport and communication infrastructures, economic structures, etc. Identification of target group-specific relevant information
<b>/scouts</b>	OO6, OO3	University of applied science	The project discovers new technology potentials for companies. By using the "Digitisation Scouts", contact is established between the science and the user and the digital process is formed on both sides. Conversations and workshops then provide for the individual digital concept.
<b>/students</b>	OO6, OO2	University of applied science	In order to meet the opportunities and challenges of digitisation with fresh ideas, the project / students will create a cooperative web

*DIGITAL CITIES CHALLENGE – Digital Transformation Strategy*

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
			platform that brings companies together with students. Companies receive digital solutions and new project approaches through student research. Topics that are too short in everyday business life offer students rich practical experience and exciting research findings.
<b>NLS – Next Level Sports</b>	OO3,OO6	University of applied science, Medicos auf Schalke GmbH und Co. KG	Creation of new sports and exercise offers with special value for prevention, competitive sport and rehabilitation through the use of new, digital technologies; Development and testing of information and health system solutions for sports and exercise in the Open Innovation Lab Arena Park; Building a mixed reality sports and development community in the Ruhr area; Development of a business model for the preparation of an economic exploitation of the research and development results (company foundation or joint venture)

## **5.2. The pilot activity: BOGESTRA Free Wi-Fi**

In order to begin the implementation of the strategy, the city of Gelsenkirchen has decided to carry out a first pilot activity: BOGESTRA Free Wi-Fi

We wanted to choose a pilot activity, which has a great impact on the citizens of our City. With a free Wi-Fi in our City Centre, we made a good start. Now we want to widen this network to our local Buses and trams. Therefore, we collaborate with our local transport company. The BOGESTRA is also working in our neighbour City Bochum so we start spreading a Free Wi-Fi-Network all over the Ruhrdistrict. With the roaming capability between all access points, our citizens just need to single sign in in one network.

With this project, we naturally also want to increase the attractiveness of public transport. On the one hand, to reduce pollution in our city and on the other hand to offer a better service for the provision of buses and trains with the help of the user data.

In addition to that, we wanted a pilot activity, in which our citizens can see the digitisation. In the Open innovation Lab, which we are building, many companies can test projects for our digital future. Nevertheless, the realisation in the City will take a little. Therefore, with this pilot activity we have a direct help for our citizens to make their life easier.

The BOGESTRA is in charge for this activity, but the City of Gelsenkirchen is of course helping when it's necessary.

## **5.3. Timetable for implementation**

It is foreseen the strategy will be implemented for the next 3 years. Activities will be gradually implemented, on the basis of the following indicative timetable.

DIGITAL CITIES CHALLENGE – Digital Transformation Strategy

Table 2 Timetable for the implementation of the digital transformation strategy for the city of Gelsenkirchen

Activity	Jan-Jun 2019	Jul-Dec 2019	Jan-Jun 2020	Jul-Dec 2020	Jan-Jun 2021	Jul-Dec 2021	Jan-Jun 2022
BOGESTRA Free Wi-Fi							
OIL: Open Innovation Lab							
ZE-Online							
DIKA-Bot							
IVOD							
7. Sinn							
Smartphone-Bürger ID							
LoRaWAN							
Infrastrukturdatenbank	Already implemented						
Blockchain für Genehmigungen							
Stromausfall.de	Already implemented						
AR Customer Support	In planning	No timetable available					
“Pokemon” for Grid	In planning	No timetable available					
/futureWork							

*DIGITAL CITIES CHALLENGE – Digital Transformation Strategy*

Activity	Jan-Jun 2019	Jul-Dec 2019	Jan-Jun 2020	Jul-Dec 2020	Jan-Jun 2021	Jul-Dec 2021	Jan-Jun 2022
/blockchain							
/smartreha							
/3Dmapping							
/digibusiness							
/I-Care							
/openregio							
/scouts							
/students							
NLS – Next Level Sports							



**DIGITAL**  
Cities Challenge