European Commission

DIGITAL CITIES CHALLENGE

Digital Transformation Strategy for the city of Pori

Artificially Intelligent Pori

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Digital Cities Challenge

Digital Transformation Strategy for the city of Pori: Artificially Intelligent Pori

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Table of contents

Executive Summary: Pori digital transformation

Pori – 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 the city of Pori through the integration of advanced technologies. The initiative fosters complementarities and synergies between existing policies involving digital priorities (e.g. economic development, sustainable and clean growth, circular economy, digital skills, AI and robotics etc.) and the newly planned policy actions supporting digital transformation.

The ambition is that Pori will act as model for other Finnish and European cities. By developing and testing novel policy levers in a collaborative approach with the involvement of other cities as peers it 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 Pori to advance and capture the benefits of digital transformation.

The implementation of the digital transformation trajectory in the city of Pori

In Pori, the Digital Cities Challenge was launched in 19 / 20 June 2018 with a first study to the city on behalf of the expert team. In parallel, the city completed the Digital Cities Self-Assessment Tool, leading to the collection of 22 contributions on behalf of the local community of stakeholders. On the basis of this information, the city team (i.e. city representatives supported by a team of external experts) developed the current digital transformation strategy. The process was carried out interactively, as the team organised at least five local stakeholder workshops aimed at validating findings and collectively building the strategy and identifying key priorities. In addition to this, city representatives participated in four Digital City Challenge academy seminars which brought together representatives from all other participating cities, in light of sharing experiences and exchanging thoughts on the results of the Challenge.

The digital transformation strategy for Pori: Artificially Intelligent Pori

The city of Pori is a traditional industrial city where a transformation of the industry has been a big challenge since the 1990s. In the beginning of 2000, Pori managed to diversify the industry areas, develop university education and maintain the positive development in the area. This pattern has given Pori a stronger resilience against economic turmoil. However, jobs and

turnover in the industry are declining and there is a clear need for renewal, competitiveness and growth in the region.

The aim of the city of Pori is to boost traditional and heavy industries on the path to modernisation with AI, robotics, automatisation and other digitalisation technologies. In this industrial renewal, the city wants to leverage both the knowledge and networks of leading companies in AI and robotics in its territory to accelerate the transition from traditional and heavy industry to 4.0 industry, and simultaneously improve public services through digitalisation. At the same time, this change provides ICT companies with new business opportunities for growth.

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

To become the most significant and attractive city in Northern Europe for AI, automatisation and robotics in the industrial sector.

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

- Advanced infrastructure and open data facilitating swift digital pilots and transformation of businesses and services.
- Functional operating models and platforms for launching digital pilots and programmes.
- Provision of specific funding and support services for the growth and internationalisation of digibusiness.
- Active and committed digibusiness community – including both start-ups and existing industry companies.

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

- Enhancing digital infrastructure which supports digital solutions provided by both companies and the city.
- Building systematic operational models for pilots and tests by utilising existing models, benchmarking and gained experience (Robocoast as a leading example).
- Utilising innovative public procurement and national public funding in order to boost the growth in local digibusiness.
- Creating new funding instruments in order to support the growth and collaboration in local digibusiness.

- Supporting multisectoral learning by providing education, training and peer review possibilities on digitalisation for companies.
- Strengthening an active AI ecosystem and national/global awareness of the region.

The strategy roadmap for the city of Pori

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 10 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: building vivid AI ecosystem activities, organising the first Pori AI week, as well as utilising innovative public procurement, e.g. reverse auction, in order to chance the role of city's towards more active and collaborative manner. In addition, the 5G Pilot and automatisation of building permit processes provided by the city 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.

The outlines of the governance of the digital transformation strategy have also been defined:

- Strategy ownership: The digital transformation strategy of Pori is owned by the city itself and especially the department of Economic Development and Growth. One of the key resources for strategy management, in parallel to the city, is Prizztech Ltd, a regional non-profit business development company (owned by the city and surrounding municipalities).
- Strategy steering and oversight: The steering committee will be nominated by the city and it will consist of representatives from the key stakeholder groups: the city/ Department of Economic Development and Growth and the Department of ICT, Prizztech, University Consortium of Pori, Satakunta University of Applied Sciences, Satakunta chamber of commerce and companies. The steering committee has clearly a strategic role, and its main responsibilities will relate to accepting the strategy plans, sparring and guiding the strategy process and monitoring the accomplishment of the set targets. The steering group will meet every second month and internal communication and collaboration between the meetings will be supported by a modern, digital online tool.
- Strategy implementing agents: The main strategy implementing agents at the city level are the department of Economic Development and Growth as well the ICT department with a tight collaboration with Prizztech. The strategy implementation will be supported

in the city by specific change agents identified in each division. The central role of the agents relate to identifying and generating development activities implementing the strategy. The work of change agents will be coordinated by the ICT department. In addition, the University Consortium of Pori (UC Pori) and Satakunta University of Applied Sciences (SAMK) will play a significant role in implementing the programme. Responsible for day to day management is the City of Pori. The instance responsible for day-to-day management will also be responsible for financial management and providing the monitoring data of the progress and results made.

Last but not least, a performance framework for the strategy has also been designed in light of conducting regular monitoring and appraisal of strategy implementation.

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 city of Pori. 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 Pori

The city of Pori is a traditional industrial city which is currently facing a digital transformation. Transformation of the industry has been a big challenge in the Pori area since the 1990s, when the globalisation started to change structures of the industry. In the beginning of 2000, Pori managed to diversify the industry areas, develop university education and maintain the positive development in the area. This pattern has given Pori a stronger resilience against economic turmoil. However, jobs and turnover in the industry are declining and there is a clear need for renewal, competitiveness and growth in the region.

Based on the digital maturity assessment, the digital infrastructure of Pori is well-developed, and the competitiveness of local industry serves as a good starting point for the transformation. Digital transformation is shown in all dimensions assessed. The city is a forerunner in especially in infrastructure and support services. Areas in which the city is catching up are finance, open data (esp. communication of the already opened data sets) and digital skills.

The current strategic framework of Pori (including e.g. Pori Agreement, the well-being, vitality and the education development programmes as well as upcoming city's IT and digitalisation strategy & plan) forms a solid starting point for digital transformation. Behind the strategic targets there is a common understanding that the city and its citizen's vitality develops through the growth of the city, and the growth, in turn, is based on new digital innovations launched by companies and public sector.

At the moment, Pori has several on-going programmes and projects on AI, IoT and robotics which all rely on strong collaboration between public and private sector actors. The growth of automation and robotics has been significant, and it has contributed to the vigour of the whole region. One of the main players in the industrial renewal is the Robocoast cluster consisting over 100 companies**.** While automation and robotics companies are acting as forerunners, many companies, especially the small ones, in other sectors are just taking their first steps towards digitalisation. In addition, there is lack of skilled and talented digital/AI-professionals in the city, as well as need for finance for boosting digital transformation.

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

3. Mission and Ambition statements

Based on the Vision and Ambition Workshop held in Pori on 7th September 2018, a common vision and ambition for the city's digital transformation and industrial modernisation were defined.

Mission statement

«To become the most significant and attractive city in Northern Europe for AI, automatisation and robotics in the industrial sector. »

Vision and ambition statements:

1. **«Advanced infrastructure and open data facilitating swift digital pilots and transformation of the business and services »**
   - Local logistics and IT infrastructure should be supportive for the growth of industry (transport, 5G).
   - The information about open data available and offered by the city and by companies should be collected and disseminated more systematically among key players.
   - In parallel to open data, new business opportunities should be offered via opening public and industry processes for ICT companies and start-ups for further development. This, in turn, will improve public services and industry competitiveness as well as support ICT companies' growth and internalisation.
2. **« Functional operating models and platforms for launching digital pilots and programmes »**
   - There is a need for a more systematic approach to find bottom up solutions for companies. The key tools to boost the approach are e.g. hackathons, living labs, innovation competitions etc. (identification of needs, pilots).
   - The city has a central role as an enabler and as a client to create pilot markets and possibilities for piloting.
3. **« Provision of specific funding and support services for the growth and internationalisation of digibusiness »**

- Education for start-ups and existing companies should be further strengthened in the field of AI, automatisation and robotics.
- Companies should be provided with relevant physical operational environment, business services, funding possibilities, peer support etc.

4. **« Active and committed digibusiness community – including both start-ups and existing industry companies »**

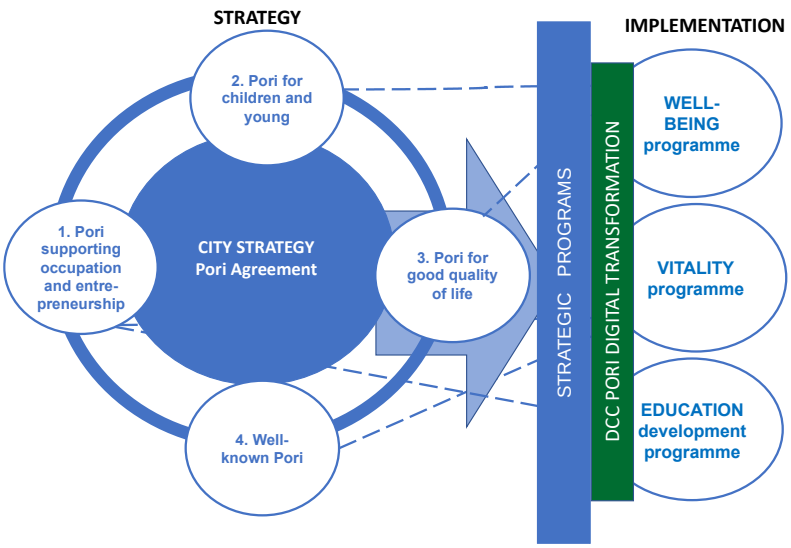
- Companies' commitment to the DC vision should be strengthened, as well as support them to think 'big' in their own business. The aim is to have a common goal to growth and success, and to have ambition synergies among key stakeholders.
- An ecosystem of 20 AI start-ups should be set as a goal. The ecosystem should be supported with relevant services, e.g. as regards the physical operational environment, business services, funding possibilities, peer support etc.
- Collaboration between companies, and towards research & education institutes as well as towards the city, should be increased.

4. Artificially Intelligent Pori: Digital Transformation Strategy for the city of Pori

4.1. Strategy orientation

The current strategic core of Pori forms a solid starting point for the city's digital transformation strategy, where the competitiveness of local industry is in focus. The digital transformation strategy and its targets are well aligned with the strategic objectives of the city strategy, the Pori Agreement as well as with the Well-being, Vitality and Education development programmes. See Figure 1 and Box 1 for a short description of these strategies and programmes.

Figure 1 The strategic framework for the digital transformation strategy in Pori.



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

The City of Pori is committed to low carbon economy, digitalisation and quick piloting. These intentions are in the city strategy and in the "Pori Agreement", the two documents which form the main governance tool for the City Council.

According to **the Pori Agreement** digitalisation will be utilised to provide public services and pilots by adopting new processes and procedures. The city will be developed as a place for businesses to flourish and grow. In this respect, the attractiveness of the city will be supported, and e.g. potential external investors will be taken account.

Based on **the city strategy**, the city is supporting: 1) occupation and entrepreneurship by enhancing the city's competitiveness and vitality, as well as better transport connections and network; 2) good and safe childhood and growing up; 3) good quality of life, by providing modern public services and reducing inequalities in income and well-being; and 4) attractiveness of the area where Pori is seen as a centre for action and collaboration.

The well-being, vitality and education development programmes are linked to the city's digital challenge. The well-being programme supports comprehensive welfare and well-being of the citizens with an attractive, comfortable and safe environment which can be partly ensured with digitalisation (e.g. public, digitalised service processes enhance smart and smooth daily live). Based on the vitality programme, Pori will strengthen the local business with good public business services, tight collaboration between the city and companies and ensuring quick permitting procedures. In addition, the welfare fund, launched in 2018, is promoting the digitalisation of everyday live by funding e.g. mobile applications with support schoolchildren's hobby activity as well as general activity towards physical exercising.

The strategic framework of the city is implemented e.g. via several public programmes and projects. The most central programme related to the digitalisation is **the AI Programme**, where the city has two pillars for digital development: one for supporting the renewal of traditional industry and another for providing public services with the help of AI. The concept and the aims of the programme are strongly in line with Pori's digital ambition and vision identified during the DCC process.

The digital transformation process will be also be strongly supported by the upcoming city's IT and digitalisation strategy & plan coordinated and implemented by the ICT department. The strategy will further boost opening city datasets, providing the citizens with new e-services and ensuring effective digital infrastructure with relevant sensors and real-time

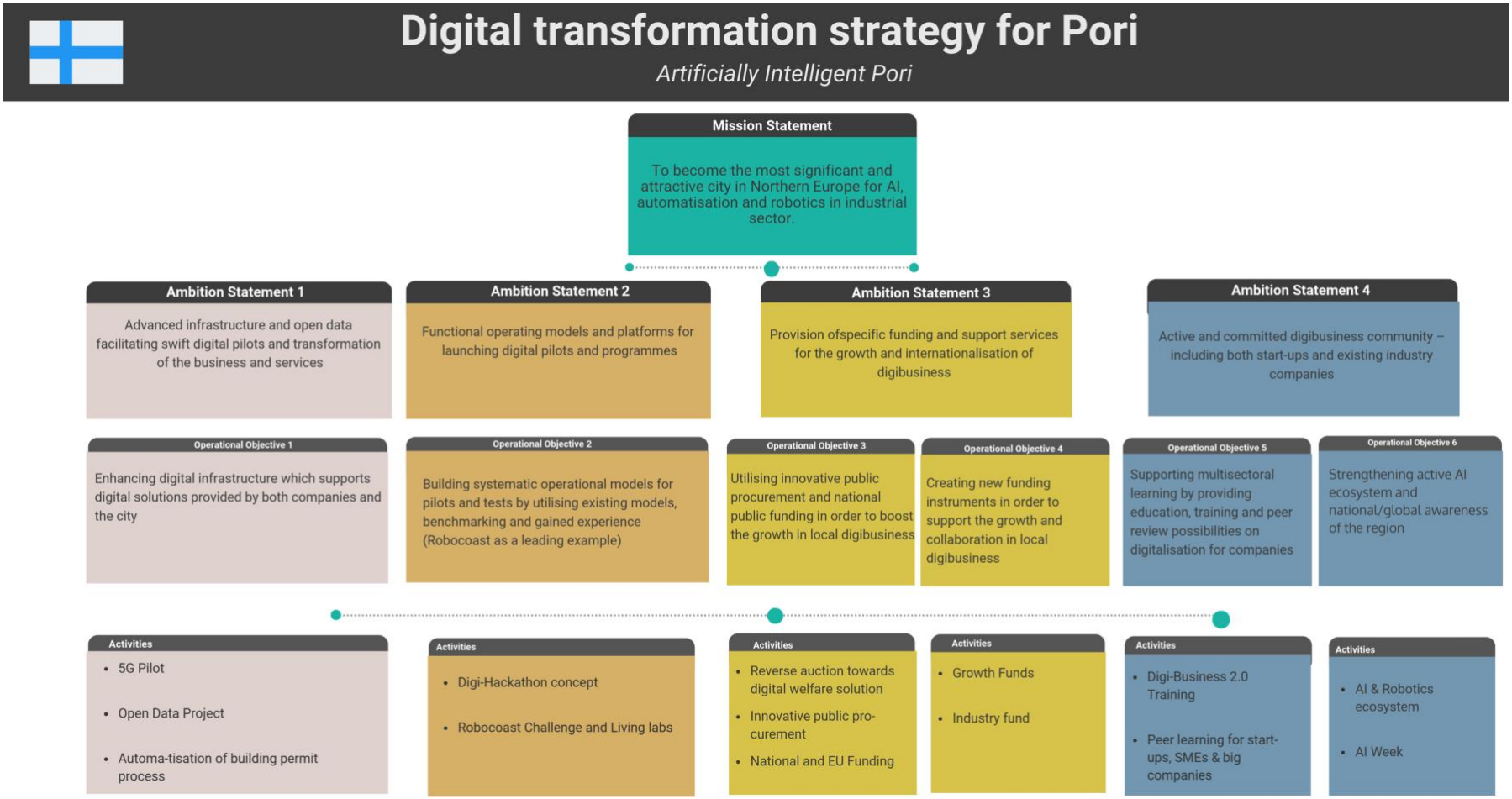
data. That will create opportunities for companies to utilise the open and sensor data as well as let them create applications to streamline city's process, thus making everyday life easier. In addition, city as a test/pilot platform and customer will give a convincing reference to the application provider to grow its business.

The digital transformation strategy of Pori will deepen the current strategic framework since it provides more concrete tools for achieving the city's main strategic objectives related to competitiveness and attractiveness.

Potential internal spill overs have been noticed in the city management, and the synergies between city's IT management and services provided to business have been identified. In the future, the vitality programme and internal IT management plan will be coordinated more tightly at the strategic level, and upcoming strategic objectives, as well as concrete steps to be taken, will be communicated to the relevant stakeholders, both at internal and at external level.

The following figure (Figure 2) provides an overview of the full digital transformation strategy for the city of Pori. The individual components are described in further detail in the following sections and sub-sections.

Figure 2 Overview of the Digital Transformation Strategy for the City of Pori



4.2. Operational objectives

Operational objectives reflect the means through which the city of Pori 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 Pori has identified six operational objectives for its digital transformation strategy.

The operational objectives are derived from the results of the DCC workshops held. Rich and fruitful discussions as well as ideas generated in the workshops have been valuable input for the DCC process. Active participation of local key stakeholders has strengthened engagement towards the joint, concrete and realistic efforts to be made.

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

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

Operational objectives	Link to ambition statements	Rationale
Operational objective 1.1 Enhancing digital infrastructure which supports digital solutions provided by both companies and the city	Linked to Ambition statement 1: Advanced infrastructure and open data facilitating for swift digital pilots and transformation of the business and services Secondary link to the ambition statement 4: Active and committed digibusiness community	• Need to open city processes and data to support digital development • Need for secure operational infrastructure for digital transformation in collaboration between the city and companies, especially telecommunications, ICT and digital service companies • Need to encourage local industrial companies to open their data and processes for further development and business opportunities
Operational objective 2.1 Building systematic operational models for pilots and tests by utilising existing models, benchmarking and gained experience (Robocoast as a leading example)	Linked to Ambition statement 2: Functional operating models and platforms for easily launching digital pilots and programmes Secondary link to the ambition statement 4.	• Need to launch new operational models (a concept of operation) and strengthen the existing ones (e.g. Robocoast) in order to better realise Pori's mission as well as to create new public and commercial digital services • Utilising Robocoast activities as benchmark
Operational objective 3.1 Utilising innovative public procurement and national public funding in order to boost the growth in local digibusiness	Linked to Ambition statement 3: Provision of specific funding and support services for the growth and internationalisation of digibusiness	• Need to utilise innovative public procurement and reverse auction in order to provide more business opportunities to digital companies (city as a client; new ways to collaborate with companies) • Need for increasing the awareness about the national public funding instruments to local industry companies (e.g. Business Finland funding (AI Business programme, Growth Engines funding) • Need td to increase knowledge on EU funding, providing funding examples and experience on application process
Operational objective 3.2 Creating new funding instruments in order to support the growth and collaboration in local digibusiness	Linked to Ambition statement 3	• Need to provide new funding possibilities for RDI and piloting, as well as for seed and early stage growth of digibusiness

Operational objectives	Link to ambition statements	Rationale
Operational objective 4.1 Supporting multisectoral learning by providing education, training and peer review possibilities on digitalisation for companies	Linked to Ambition statement 4 Active and committed digibusiness community – including both start-ups and existing industry companies	• Need to provide training and education for local companies for their digiboost (current lack of digital skills and expertise)
Operational objective 4.2 Strengthening active AI ecosystem and national/global awareness of the region	Linked to Ambition statement 4	• Need for a stronger AI ecosystem with start-ups in order to have business and start-up communities fully engaged in the development and implementation of digital transformation • Need to raise Pori's awareness and image as an area of active AI ecosystem

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 Pori 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 10 activities, as described in the following table.

A detailed presentation of each activity is presented in the Appendix I.

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
Activity 1.1.1 Piloting 5G network and new (business) possibilities provided by 5G technology	Linked to Operational objective 1.1	City of Pori, ICT department	Piloting 5G network and new (business) possibilities provided by 5G technology. Conducting a pilot in the Pori harbour or in the specific industry environment. Expected outcomes: experiences and lessons learned (technologically and businesswise) for future 5G solutions, and possibilities for internationalisation.
Activity 1.1.2 Launching of city open data portal	Linked to Operational objective 1.1	City of Pori, ICT department	Creating a publishing plan for the city open data as well as launching of open data portal (technically under the city website). Activating also industry companies to provide their open data. Expected outcomes: increasing awareness of public open data available, activating utilisation of open data, and providing new business opportunities based on the data available for ICT companies.
Activity 1.1.3 Automatisation of building permit process	Linked to Operational objective 1.1	City of Pori, ICT department	Digitalising the whole building permit process in the city. The process will be automatised by utilising software robotics. Expected outcomes: shortened permit process and customer-oriented service available 24/7, and more efficient use of resources.
Activity 2.1.1 Creating and piloting the concept of DigiHackathon for students.	Linked to Operational objective 2.1	SAMK, UC Pori	Creating and piloting the concept of DigiHackathon for students. The concept will serve as a pre-operational stage for the Robocoast Challenges/ MatchINDUSTRY Lab event. Expected outcomes: new business opportunities, more competitive processes, collaboration between business and education, and employment opportunities.
Activity 2.1.2 Strengthening the concept of Robocoast Challenges (former MatchINDUSTRY Lab) as well as living labs by designing	Linked to Operational objective 2.1	Prizztech	Strengthening the concept of Robocoast Challenges (former MatchINDUSTRY Lab) as well as living labs by designing the concept for growth companies and sectors. Providing new environments for piloting.

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
the concept for growth companies and sectors.			Expected outcomes: new business opportunities and customer-based innovations, renewal of industry, support for internal R&D in companies, speeding up product development and ensuring its cost effectiveness.
Activity 3.1.1 Changing the role of city's public procurement towards more innovative public procurement	Linked to Operational objective 3.1	City of Pori	Chancing the role of city's public procurement towards more innovative public procurement, e.g. utilising reverse auctions. For example, organising a reverse auction or challenge competition in order to find new welfare solutions (digital solution(s) which supports the wellbeing of citizens). Expected outcomes: new business opportunities and customer-based innovations, collaboration between public and private sector, increasing innovativeness of SMEs -> new solutions and business, boosting a catalytic impact of public procurement, strengthening interaction between the client (the city) and service providers (companies), and improving the quality of public services.
Activity 3.2.1 Establishing new growth fund for start-ups and for micro and small companies as well as to strengthen digitalisation in companies	Linked to Operational objective 3.2	City of Pori, Finnish Business Angels Network	Establishing new growth fund especially for start-ups and for micro and small companies. Learning and utilising the experience gained. Utilising existing resources/strategy alignments (e.g. Hyvinvointiraha/Welfare fund instrument). Expected outcomes: profitable business development and growth, and increasing number of growth-oriented start-ups.
Activity 4.1.1 Developing the concept of DigiBusiness training for SMEs	Linked to Operational objective 4.1	Prizztech	Developing the concept of DigiBusiness training for SMEs. Training supports companies' preparedness and ability to utilise digitalisation on their own business (financial management, sales, marketing, production). The focus is to boost digital skills of entrepreneurs. Expected outcomes: enhancing digital skills in SMEs, and increasing productivity.

Activity name	Link to Operational Objectives	Main implementing partner (i.e. owner of the activity)	Brief description and goals
Activity 4.2.1 Building vivid AI ecosystem	Linked to Operational objective 4.2	City of Pori, ICT Department and Department of Economic Development and Growth	Building a more active and vivid AI ecosystem (including city, companies, citizens, as well as education and research actors) by several concrete cases: • Gamified Occupational Safety Training -project • AI and Gamification Hackathon Events • Personal Gamified Safety –TrainingApp • Artificial Intelligence - Choice of Profession Expected outcomes: references, peer review possibilities, collaboration with gaming industry, examples of adopting AI, automation and robotics to business environment.
Activity 4.2.2 Organising AI Week	Linked to Operational objective 4.2	City of Pori, ICT Department and Department of Economic Development and Growth	Promoting regional AI competence with a new event concept: AI Week (Pori in the AI spotlight). Utilising collaboration between local actors (e.g. Fake Intelligence) as well as benchmarking of similar kind of event concepts (e.g. ICT Week in Turku). Expected outcomes: raising awareness of regional AI business and expertise, and strengthening the utilisation of AI.

5.2. The pilot activities: 5G Pilot and Automatisation of building permit process

In order to begin the implementation of the strategy, the city of Pori has decided to carry out a first set of pilot activities: piloting 5G network technology and providing an automatised building permit process. Both these activities are concrete examples of collaboration between public and private sectors which also will provide new services to the citizens.

The pilot activities were selected by the DCC roadmap workshop participants. The selection criteria were the following: the activity should be concrete, feasible, easy to start with and have a potential source of funding. The selected activities also contribute to the broader implementation of the strategy by boosting local ICT and industry as well as supporting the visibility of the region.

In the 5G pilot project, 5G technology as well as new (business) possibilities are tested most likely in Pori harbour (plan B is to have a pilot in the copper industry park). New business opportunities are especially related to the business-to-business market, but consumer interface shouldn't be forgotten. The activity will offer new possibilities especially to ICT companies and large national network operators. The expected results from the pilot are technological and commercial experiences and lessons learned for future 5G solutions as well as possibilities to scale the business also in an international context. The potential funding sources for the pilot are the City of Pori, 5G network operators, Business Finland as well as pilot companies. The timeframe for the pilot is 2019-2020 where a designing phase will be taken place in 2019 while the pilot is conducted in 2020. The owner of both pilot activities will be the city of Pori, Department of ICT.

Another key pilot project will be a digitalisation of the whole building permit process provided by the city. The process will be automatised by utilising software robotics, which support business opportunities to potential service providers. The pilot will improve the accessibility and easiness of public services for citizens, companies and other actors. Automatisation of the building permit process will provide the clients with a shortened permit process and customer-oriented service available 24/7 (not depending on time or place, only on having an online network available). In parallel to these benefits, the digital process supports a more efficient use of resources at the city level. The pilot will be mainly funded by the city itself but in 2018 the Ministry of Finance granted Pori a minor funding for an initial testing phase. The Ministry funding enabled initial testing and collaboration with local ICT/AI companies in order to identify the most relevant technology to proceed with. The timeframe for the implementing is 2019-

2020. Naturally the electronic permit process will be available onwards and lessons learned from the pilot can be utilised in automatisation of other public processes.

5.3. Timetable for implementation

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

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

Activity	Jan-Jun 2019	Jul-Dec 2019	Jan-Jun 2020	Jul-Dec 2020	Jan-Jun 2021	Jul-Dec 2021	Jan-Jun 2022	Jul-Dec 2022	Jan-Jul 2023
Activity 1: 5G Pilot (Pilot activity)									
Activity 3: Automatisation of building permit processes (Pilot activity)									
Activity 2: Open Data Portal									
Activity 4: DigiHackathon concept									
Activity 5: Robocoast Challenges and Living labs									
Activity 6: Innovative public procurement									
Activity 7: Growth Fund									
Activity 8: DigiBusiness Training									
Activity 9: Vivid AI & Robotics ecosystem									
Activity 10: AI Week									

6. Strategy governance

The outlines of the governance of the digital transformation strategy of Pori are as following: The digital transformation strategy of Pori is owned by the city itself and the department of Economic Development and Growth is in the lead. One of the key resources for strategy management, in parallel to the city, is Prizztech Ltd, a regional non-profit business development company (owned by the city and surrounding municipalities).

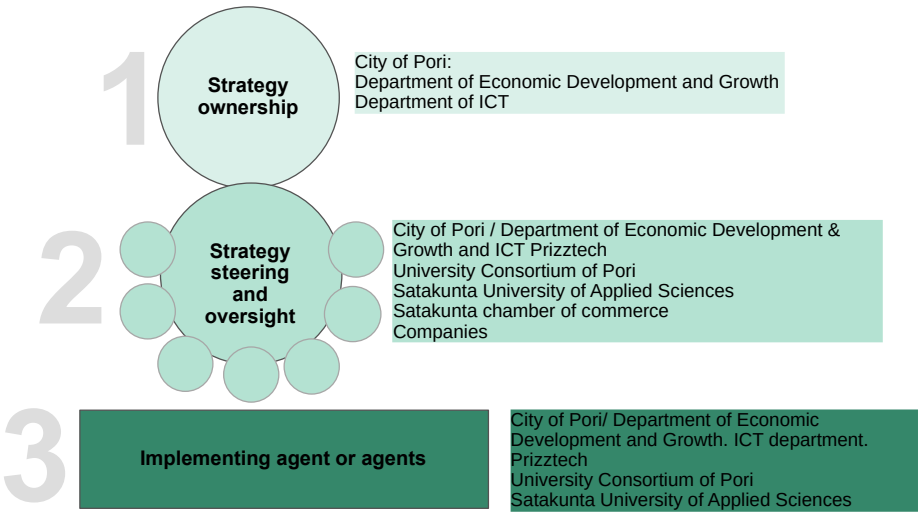
The steering committee will be nominated by the city and it will consist of representatives from the key stakeholder groups: the city/ Department of Economic Development and Growth and the Department of ICT, Prizztech, the University Consortium of Pori, Satakunta University of Applied Sciences, Satakunta chamber of commerce and companies. The steering committee has clearly a strategic role, and its main responsibilities will relate to accepting the strategy plans, sparring and guiding the strategy process and monitoring the accomplishment of the set targets. The steering group will meet every second month and internal communication and collaboration between the meetings will be supported by a modern, digital online tool.

The main strategy implementing agents at the city level are the department of Economic Development and Growth as well the ICT department with a tight collaboration with Prizztech. The strategy implementation will be supported in the city by specific change agents identified in each division. The central role of the agents relates to identifying and generating development activities implementing the strategy. The work of change agents will be coordinated by the ICT department. In addition, the University Consortium of Pori (UC Pori) and Satakunta University of Applied Sciences (SAMK) will play a significant role in implementing the programme. In addition, collaboration between start-ups and ICT companies and the city divisions will be crucial in strategy implementation.

Responsible for day to day strategy management is the City of Pori. The instance responsible for day-to-day management will also be responsible for the financial management and providing the monitoring data of the progress and results made.

Figure 3 presents an initial governance structure for the implementation phase of the strategy.

Figure 3 The governance scheme for the digital strategy.



7. Monitoring and evaluation of the Digital Transformation Strategy

In order to monitor and assess progress achieved as part of the digital transformation strategy, a performance assessment framework has been developed by the city team. In addition, the team has outlined preliminary evaluation plans and resources as part of an early evaluation plan.

7.1. Performance assessment framework

Strategy implementation and results monitoring will be conducted by the City of Pori, Department of Economic Development and Growth on the basis of the performance assessment framework presented in Appendix VII. Three levels of monitoring indicators and targets have been defined:

- **Outcome indicators** have been established at the level of the Ambition Statements.
- **Intermediate outcome** indicators have been established at the level of operational objectives.
- **Output indicators** have been established at the level of activities.

The Department of Economic Development and Growth will be in charge of collecting data on all strategy monitoring indicators. However, it's expected that activity implementing partners will also play a key role in generating, collecting and sharing performance data. This information will be used for internal monitoring and reporting purposes. As such it will be communicated to the steering committee on a regular basis.

The performance assessment framework will surely evolve as the city enters the full strategy implementation phase. The regularity and depth of monitoring will also be further specified by the steering bodies.

7.2. Strategy evaluation plan

In addition to monitoring the progress of strategy implementation, the Digital Transformation Strategy for Pori will undergo an internal evaluation within the next 2 years. The objective of the evaluation mainly be to verify the extent to which expected strategy results have been achieved, review the relevance of selected strategy priorities and objectives, and review the efficiency of strategy implementation and governance schemes. The evaluation questions guiding the evaluation will be defined by the City of Pori, Department of Economic Development and Growth with the support of the steering committee. The internal evaluation will be comprehensive.

An additional impact evaluation may be conducted after 6 years of strategy implementation. The impact evaluation will be mainly focused on assessing strategy outcomes and likelihood of impact.

When relevant, individual activity managers will be encouraged to conduct activity-specific evaluations and assessments. The information drawn from activity evaluations and assessment will feed into the general strategy evaluations.

8. Results achieved and next steps

The whole DCC process and the strategic journey taken so far (by the end of April 2019) has been very beneficial and relevant for the city of Pori. The peer learning among the DCC community as well as external advisory and consultancy provided have been a central and crucial input for the city. In addition, the systematic and scheduled strategy process has proven to be a practical and well-working operational framework for the activities taken.

In turn, the DCC process has provided a great kick-off for digitalisation in Pori. Enhancing digitalisation is currently stronger than ever on the local agenda and a shared factor for several key stakeholders. The DCC process has also supported the themes and activities of the ongoing AI Programme. Local collaboration has crystalised the role of key stakeholders as well as strengthened ideas of the essential activities needed. One of the key results from the DCC process is definitely an active and committed group of local stakeholders which will create a central base for strategy implementation. In parallel to the local level, interaction with other DCC cities has generated new ideas and provided a relevant channel to share experiences at the city level.

It will be important to ensure a systematic implementation phase after this great start. The main question to be answered is how to keep up with the good work in Pori? During the implementation phase the digital transformation strategy should be concretised with several activities which are also showed to local public and private actors even if they are not yet involved. The role of communication and the visibility of the activities gained make the difference. The communication department of the city will play a relevant role in spreading the news and supporting local commitment among the stakeholders.

One of the key challenges in the strategy implementation is gathering sufficient funding. Project funding where several public and private funding sources can be available is one solution to the problem. Currently the city is budgeting for the year 2020 and allocation for digitalisation projects is strongly on the city's agenda.

In the coming months central concrete steps for implementing the digital transformation strategy are related to the pilot activities, organising the first DigiHackathon and strengthening the local collaboration especially between the city and SAMK as well as the city and UC Pori in order to plan joint activities to be taken when the students are back in action after the

summer. The DCC process has already tightened the city's bond also at the EU level, since Pori is participating to a call of an URBACT III project with seven other cities in Europe. In addition, Prizztech is actively searching for an collaborative actor in Europe to Robocoast within Digital Innovation Hubs in Robotics and AI. This activity is strongly supported by the thematic expert, Uwe Haass from Roboconsult. The most promising partners for Robocoast come from Slovakia and the Basque country. The aim of the collaboration is to work for practical (robotics and automation) solutions for the local industry with the regions which share the ambition in the digital transformation, as well as an interest to strengthen regional competitiveness.

In parallel to the first implementing activities the city will further formalise the governance structure and is planning to have a first steering committee meeting before the summer vacations in July 2019. Since the summertime is very hectic in Pori due to several large events (Suomi Areena[1] and Pori Jazz[2]), which attract thousands of tourists, the city won't rest but it will utilise the national and international publicity of the events also in the terms of the Artificially Intelligent Pori.

[1] https://suomiareena.fi/in-english

[2] http://porijazz.fi/en/

Appendix I: Detailed presentation of activities

Activity 1: 5G PILOT	
Link to operational objective	OO1: Enhancing digital infrastructure which supports digital solutions provided by both companies and the city
Description	Piloting 5G network and new (business) possibilities provided by 5G technology. Conducting a pilot in Pori harbour or in the specific industry environment. **target population**: ICT companies, network operators **means of delivery**: collaboration with national 5G operators **expected outcomes**: experiences and lessons learned (technologically and businesswise) for future 5G solutions, possibilities for internationalisation **conditions for success**: reliable 5G network available in the specific pilot area, necessary critical mass for piloting
Timeframe	2019-2021 Start: Q2/2019 (planning), Planned completion: Q2/2021
Indicators to be achieved	• Number of 5G pilot environments by 2021: 3 • Number of 5G applications: 10
Estimated cost and source of funding	100 000 € Potential sources of funding: City of Pori, 5G network operators, Business Finland funding, pilot companies
Organisation / unit in charge of delivery	City of Pori, ICT Department (ownership of the activity) Prizztech, National network operators (Elisa, DNA)

Activity 2: OPEN DATA PROJECT	
Link to operational objective	OO1: Enhancing digital infrastructure which supports digital solutions provided by both companies and the city
Description	Based on a publishing plan to be created, a new public web portal will be launched to provide the city's open data for all interested actors. The portal and possibilities available will be marketing to potential users/target population. In addition, possible industry data will be shared trough the portal. **target population**: ICT companies **means of delivery**: public web portal (technically part of the city's website structure) **expected outcomes**: increasing awareness of public open data available, activating utilisation of open data, providing new business opportunities based on the data available

Activity 2: OPEN DATA PROJECT	
	conditions for success: correctness of open data, timeliness, user friendliness, machine language, recognising possible sensitiveness of the data, critical mass (ICT and industry companies)
Timeframe	2019-2022 Start: Q2/2019 (planning), Planned completion: Q2/2022 (ongoing process onwards)
Indicators to be achieved	• Number of open datasets by 2020: 160 • Number of real time information datasets by 2022: 20
Estimated cost and source of funding	*estimated cost not available* Potential sources of funding: City of Pori
Organisation / unit in charge of delivery	City of Pori, ICT department (ownership of the activity)

Activity 3: AUTOMATISATION OF BUILDING PERMIT PROCESSES	
Link to operational objective	OO1: Enhancing digital infrastructure which supports digital solutions provided by both companies and the city
Description	Digitalising the whole building permit process in the city. The process will be automatised by utilising software robotics. **target population**: clients needing building permit **means of delivery**: automatisation solution **expected outcomes**: shortened permit process and customer-oriented service available 24/7, more efficient use of resources **conditions for success**: smooth and speed permit process, reliability of process provided
Timeframe	2019-2021 Start: Q2/2019, Planned completion: Q2/2021 (ongoing process onwards)
Indicators to be achieved	All building permits provided by the city are in digital form by 2021
Estimated cost and source of funding	*estimated cost not available* Potential sources of funding: the city, the Ministry of Finance (funding for initial testing)
Organisation / unit in charge of delivery	City of Pori, ICT Department (ownership of the activity)

Activity 4: DIGIHACKATHON CONCEPT	
Link to operational objective	OO2: Building systematic operational models for pilots and tests by utilising existing models, benchmarking and gained experience (Robocoast as a leading example)
Description	Creating and piloting the concept of DigiHackathon for students. The concept will serve as a pre-operational stage for the MatchINDUSTRY Lab. **target population**: growth companies in the region **means of delivery**: active discussion and collaboration with companies **expected outcomes**: new business opportunities, more competitive processes, collaboration between business and education, employment opportunities **conditions for success**: funding, companies' willingness to collaboration, finding active and innovative student groups
Timeframe	2019-2022 Start: Q3/2019 (planning), Planned completion: Q4/2022
Indicators to be achieved	• Number of DigiHackathons organised by 2022: 4 • Number of participated students: 350 students in total
Estimated cost and source of funding	5000 €/ hackathon Potential sources of funding: companies utilising the hackathon concept, the city
Organisation / unit in charge of delivery	Satakunta University of Applied Sciences (SAMK) (ownership of the activity) University Consortium of Pori (UC Pori)

Activity 5: ROBOCOAST CHALLENGE AND LIVING LABS	
Link to operational objective	OO2: Building systematic operational models for pilots and tests by utilising existing models, benchmarking and gained experience (Robocoast as a leading example)
Description	Strengthening the concept of Robocoast Challenges (former MatchINDUSTRY Lab) by designing the concept for new growth companies and sectors. Strengthening the concept of Living Lab's for new growth companies and sectors. Providing new environments for piloting. **target population**: growth companies in the region **means of delivery**: active discussion and collaboration with companies **expected outcomes**: new business opportunities and customer-based innovations, renewal of industry, support for internal R&D in companies, speeding up product development and ensuring its cost effectiveness **conditions for success**: funding, companies' willingness to collaboration and co-creation, necessary critical mass for piloting and testing
Timeframe	2019-2021 Start: Q3/2019, Planned completion: Q4/2021

Activity 5: ROBOCOAST CHALLENGE AND LIVING LABS	
Indicators to be achieved	• Number of the challenges organised by 2021: 10 • Number of participated companies: 150 in total
Estimated cost and source of funding	*estimated cost not available* Potential sources of funding: European regional development fund (ongoing i9 project, Satakunta DigiHealth, Robocoast R&D Centre – Robotics Living Lab for Companies)
Organisation / unit in charge of delivery	Prizztech (ownership of the activity)

Activity 6: INNOVATIVE PUBLIC PROCUREMENT	
Link to operational objective	OO3: Utilising innovative public procurement and national public funding in order to boost the growth in local digibusiness
Description	Chancing the role of city's public procurement towards more innovative public procurement, e.g. utilising reverse auctions. **target population**: SMEs **means of delivery**: activating companies to participate to the call for proposals, implementing innovative-based public procurements **expected outcomes**: increasing innovativeness of SMEs -> new solutions and business, boosting a catalytic impact of public procurement, strengthening interaction between the client (the city) and service providers (companies), improving the quality of public services **conditions for success**: operational and strategic change in the city's public procurement
Timeframe	2019-2021 Start: Q3/2019, Planned completion: Q4/2021 (ongoing process onwards)
Indicators to be achieved	• Number of reverse auctions organised by 2021, target: 3 • Utilisation rate among the departments by 2021: 40% of the city departments have utilised innovative public procurement or equivalent
Estimated cost and source of funding	*estimated cost not available* potential sources of funding: City of Pori
Organisation / unit in charge of delivery	City of Pori (ownership of the activity)

Activity 7: GROWTH FUND	
Link to operational objective	OO4: Creating new funding instruments in order to support the growth and collaboration in local digibusiness
Description	Establishing new growth fund for start-ups and for micro and small companies as well as to strengthen digitalisation in companies. The funding will be allocated for starting and developing business. Utilising existing resources/strategy alignments (e.g. Hyvinvointiraha/Welfare fund instrument) **target population**: start-ups, SMEs seeking for growth **means of delivery**: private equity firms **expected outcomes**: increasing number of growth-oriented start-ups, profitable business development and growth **conditions for success**: establishment of the funds, profitable operational models
Timeframe	2019-2023 Start: Q2/2019 (planning), Planned completion: Q2/2023 (ongoing process onwards)
Indicators to be achieved	• Amount of capital by 2023: 5 M€ • Number of committed funding partners by 2023: 5
Estimated cost and source of funding	50 000-100 000€/fund potential sources of funding: private equity firms, City of Pori, Finnish Business Angels Network
Organisation / unit in charge of delivery	City of Pori (ownership of the activity) Private equity firms, Finnish Business Angels Network

Activity 8: DIGIBUSINESS TRAINING	
Link to operational objective	OO5: Supporting multisectoral learning by providing education, training and peer review possibilities on digitalisation for companies
Description	Developing the concept of DigiBusiness training for SMEs. Training supports companies' preparedness and ability to utilise digitalisation on their own business (financial management, sales, marketing, production). The focus is to boost digital skills of entrepreneurs. **target population**: SMEs **means of delivery**: activating and networking of companies **expected outcomes**: enhancing digital skills in SMEs, increasing productivity **conditions for success**: funding, demand for training (companies' willingness to participate)
Timeframe	2020-2022 Start: Q1/2020, Planned completion: Q4/2022
Indicators to be achieved	• New training concept ready and piloted by 2020 • Number of companies participated in the training by 2022: 45 in total • Number of participants = 150 persons in total

Activity 8: DIGIBUSINESS TRAINING	
Estimated cost and source of funding	400 000 € potential sources of funding: European Social Fund
Organisation / unit in charge of delivery	Prizztech (ownership of the activity)

Activity 9: BUILDING VIVID AI ECOSYSTEM	
Link to operational objective	OO6: Strengthening active AI ecosystem and national/global awareness of the region
Description	Building more active and vivid AI ecosystem by several concrete cases: • Gamified Occupational Safety Training -project (ESF project) • AI and Gamification Hackathon Events • Personal Gamified Safety –TrainingApp (case Outotec) • Artificial Intelligence - Choice of Profession These cases will provide participants with e.g. references, peer review possibilities, collaboration with gaming industry as well as examples of adopting AI, automation and robotics in business. **target population**: regional AI and robotics ecosystem actors **means of delivery**: wide spectrum of public-private partnership and concrete R&D&I collaboration **expected outcomes**: new competitive and profitable business opportunities, regional growth and competitiveness, concrete collaboration and true community, visibility and increased awareness of AI Pori **conditions for success**: funding, actors' willingness to collaborate, level of awareness
Timeframe	2019-2022 Start: Q2/2019 (planning), Planned completion: Q4/2022 (ongoing process onwards)
Indicators to be achieved	• Number of pilots and applications in the case projects = 30 in total • Number of stakeholders involved in the case projects: 1000 in total
Estimated cost and source of funding	50 000 € potential sources of funding: project funding, City, Prizztech, UC Pori, SAMK, private companies
Organisation / unit in charge of delivery	The City of Pori/ ICT Department, Department of Economic Development and Growth (ownership of the activity) Prizztech

Activity 10: AI WEEK	
Link to operational objective	OO6: Strengthening active AI ecosystem and national/global awareness of the region
Description	Promoting regional AI competence with new event concept: AI Week. Utilising collaboration between local actors (e.g. Fake Intelligence) as well as event benchmarking. Utilising an existing concept of Robotex International: organising the global event in Pori. **target population**: regional and national AI and robotics ecosystem actors **means of delivery**: wide spectrum of public-private partnership and concrete R&D&I collaboration **expected outcomes**: raising awareness of regional AI business and knowledge, strengthening the utilisation of AI, new competitive and profitable business, regional growth and competitiveness, **conditions for success**: funding, actors' willingness to collaborate, level of awareness
Timeframe	2019-2022 Start: Q2/2019 (planning), Planned completion: Q4/2022
Indicators to be achieved	• Number of participants in AI Week, target = 500 • Number of sponsors and partners in AI Week = 40 in total
Estimated cost and source of funding	50 000 € potential sources of funding: City, Prizztech, UC Pori, SAMK, private companies
Organisation / unit in charge of delivery	The City of Pori/ ICT Department, Department of Economic Development and Growth (ownership of the activity) Prizztech

Appendix II: Performance assessment framework

1. Strategy outcomes

	Expected result	Monitoring indicator	Baseline	Target	Timeframe	Means of verification
Ambition statement 1	Advanced infrastructure and open data facilitating for swift digital pilots and transformation of the business and services	Monitoring indicator 1: Digital infrastructure available for testing	The baseline in April 2019 = 0 (number of digital infrastructure available for testing in the city)	5 different digital infrastructures (5G, IoT etc.) available for testing purposes by 2024	2019-2024	Data generated and collected by the City of Pori, Department of ICT. Central data: number of digital infrastructures available, number of digital applications provided and tested in the infra
Ambition statement 2	Functional operating models and platforms for easily launching digital pilots and programmes	Monitoring indicator 2: Strong level of participation (activity) among companies in digital pilot and testing activities	Establishment of the baseline: Number of events on digital topics in 2018 (e.g. MatchINDUSTRY Lab), the number of companies involved/participated (estimation)	Increasing the number of companies involved / participated in digital events and activities by 30%	2019-2024	Data generated and collected by Prizztech and the City of Pori, Department of Economic Development and Growth Central data: number of companies participated in pilots, hackathons and other activities boosting digitalisation
Ambition statement 3	Provision of specific funding and support services for the growth	Monitoring indicator 3: New growth fund for start-ups and	Baseline: No growth fund available in April 2019	The fund is established and is on a solid base by 2022	2019-2022. The establishment of the fund in 2020.	Data generated and collected by the fund to be established, e.g.

	Expected result	Monitoring indicator	Baseline	Target	Timeframe	Means of verification
	and internationalisation of digibusiness	micro companies to strengthen digitalisation in companies			The operation is settled by 2022.	annual report of the fund
Ambition statement 4	Active and committed digibusiness community – including both start-ups and existing industry companies	Monitoring indicator 4: Strong AI ecosystem with new companies and actors	Baseline = In April 2019 the number of AI companies in Pori is around 10.	Reaching the level of new 20 AI companies in Pori by 2022	Timeframe 2019-2022	Data generated and collected by Prizztech (central sources: Statistics Finland, Robocoast, Vainu.io software)

2. Strategy intermediate outcomes

	Expected result	Monitoring indicator	Baseline	Target	Timeframe	Means of verification
Operational objective 1.1	Enhancing digital infrastructure which supports digital solutions provided by both companies and the city	Monitoring indicator 1.1.1Number of digital applications provided in test and pilot activities Monitoring indicator 1.1.2 Number of applications provided based on the city/company open data	Both baselines in April 2019 = 0	Number of applications provided by 2022: 7 Number of applications based on city/company open data by 2020: 5	2019-2022	Data generated and collected by Prizztech and the City of Pori, Department of ICT
Operational objective 2.1	Building systematic operational models for pilots and tests by utilising existing models, benchmarking and gained experience (Robocoast as a leading example)	Monitoring indicator 2.1.1 Number of workable operational models (existing and new ones) available strengthening public-private collaboration as well as to boost the local business	Establishment of the baseline: number of operational models utilised by the city (2018)	Increasing the number of operational models by 30% by 2022	2019-2022	Data generated and collected by the City of Pori, Department of Economic Development and Growth
Operational objective 3.1	Utilising innovative public procurement and national public funding in order to boost the growth in local digibusiness	Monitoring indicator 3.1.1 Number of local companies participating in innovative public procurement and/or reverse auction Monitoring indicator 3.1.2 Number of new digital solutions created through innovative public procurement	Baseline = No history of reverse auctions or innovative public procurement used by the city	Number of the participated companies by 2023: 30 in total New digital solution provided by 2023: 10 in total	2019-2023	Data generated and collected by the City of Pori (Public procurement notices and annual reports)
Operational objective 3.2	Creating new funding instruments in order to support the growth	Monitoring indicator 3.2.1 Number of	Baseline = 0 (there is no growth fund in the city in April 2019)	Number of the companies funded	2019-2023	Data generated and collected by the growth fund

	Expected result	Monitoring indicator	Baseline	Target	Timeframe	Means of verification
	and collaboration in local digibusiness	companies funded by new growth fund Monitoring indicator 3.2.2 Number of the local growth companies ranked at national level (e.g. Finnish Gazelles)	Establishment of the baseline = Number of the local growth companies ranked at national level in May 2019	by the growth fund by 2023: 15 Number of nationally ranked companies by 2023: 3		
Operational objective 4.1	Supporting multisectoral learning by providing education, training and peer review possibilities on digitalisation for companies	Monitoring indicator 4.1.1 Number of participants in awareness raising events organised in the area of digital transformation	Baseline: Number of participants in awareness raising events organised in the area of digital transformation = 6000 participants (2018) (based on the DCC KPI)	Number of participants: 7000 persons per year	2019-2023	Data generated and collected by the event organisers/providers (List of participants, feedback from the participants)
Operational objective 4.2	Strengthening active AI ecosystem and national/global awareness of the region	Monitoring indicator 4.2.1 Number of actors in Pori's AI ecosystem Monitoring indicator 4.2.2 Media hits gained during the AI week	Establishment of the Baseline = Number of relevant key actors in Pori's AI ecosystem (estimation by May 2019) Baseline: Number of the members in the Robocoast cluster 2018 Establishment of the Baseline related to media hits: number of media hits where Pori and AI/robotics/ digitalisation is mentioned (2019)	Increasing the number of ecosystem actors by 30% by 2022 Number of media hits per event = 200	2019-2022	Data generated and collected by Prizztech and other event producers/organisers Data generated and collected by the Department of Communication, the city of Pori

3. Strategy outputs

	Expected result	Monitoring indicator	Target	Timeframe	Means of verification
Activity 1.1.1	Piloting 5G network and new (business) possibilities provided by 5G technology	Monitoring indicator 1 Number of 5G pilot environments Monitoring indicator 2 Number of applications utilising 5G technology in the pilot project	Number of 5G pilot environments by 2021: 3 Number of 5G applications: 10	2019-2021	Data generated and collected by the City of Pori and/or the coordinator of the 5G pilot project
Activity 1.1.2	Launching of city open data portal	Monitoring indicator 1 Number of open datasets provided in the portal Monitoring indicator 2 Number of city datasets offering real time information	Number of open datasets by 2020: 160 Number of real time information datasets by 2022: 20	2019-2022	Data generated and collected by the City of Pori, Department of ICT.
Activity 1.1.3	Automatisation of building permit process	Monitoring indicator 1 Amount of building permits provided in digital form	All building permits provided by the city are in digital form by 2021	2019-2021	Data generated and collected by the City of Pori, Department of Housing and Environment
Activity 2.1.1	Creating and piloting the concept of DigiHackathon for students.	Monitoring indicator 1 Number of DigiHackathons piloted/organised Monitoring indicator 2 Number of persons participating in the hackathon	Number of DigiHackathons organised by 2022: 4 Number of participated students: 350 students in total	2019-2022	Data generated and collected by the organisation responsible for the DigiHackathon (SAMK,/the city/Prizztech/company/other)
Activity 2.1.2	Strengthening the concept of Robocoast Challenges (former MatchINDUSTRY Lab) as well as living labs by designing the concept for growth companies and sectors.	Monitoring indicator 1 \Number of the Robocoast challenges organised Monitoring indicator 2 Number of companies participating in the challenges	Number of the challenges organised by 2021: 10 Number of participated companies: 150 in total	2019-2021	Data generated and collected by the organisation responsible for the Robocoast challenge (Prizztech/a company/ other)
Activity 3.1.1	Changing the role of city's public procurement towards more innovative public procurement	Monitoring indicator 1 Number of the reverse auction organised by the city Monitoring indicator 2	Number of reverse auctions organised by 2021, target: 3 Utilisation rate among the departments by	2019-2021	Data generated and collected by the City of Pori (Public procurement notices and annual reports)

	Expected result	Monitoring indicator	Target	Timeframe	Means of verification
		Number of city departments utilising reverse auction or innovative public procurement	2021: 40% of the city departments have utilised innovative public procurement or equivalent		
Activity 3.2.1	Establishing new growth fund for start-ups and for micro and small companies as well as to strengthen digitalisation in companies	Monitoring indicator 1 Amount of capital gathered for the fund Monitoring indicator 2 Number of committed funding partners	Amount of capital by 2023: 5 M€ Number of committed funding partners by 2023: 5	2019-2023	Data generated and collected by the growth fund
Activity 4.1.1	Developing the concept of DigiBusiness training for SMEs	Monitoring indicator 1 DigiBusiness Training concept ready and tested Monitoring indicator 2 Number of participants/companies in the DigiBusiness training	New training concept ready and piloted by 2020 Number of participants (companies) in total in the training by 2022: 45 Number of participants = 150 persons in total	2020-2022	Data generated and collected by the training organisation/provider as well as from the participants (feedback)
Activity 4.2.1	Building vivid AI ecosystem activities	Monitoring indicator 1 Number of pilots and applications tested in the following cases: Gamified Occupational Safety Training -project as well as AI and Gamification Hackathon Events Monitoring indicator 2 Number of stakeholders involved in planning and testing in Gamified Occupational Safety Training - project, AI and Gamification Hackathon Events, Personal Gamified Safety –TrainingApp and Artificial Intelligence - Choice of Profession	Number of pilots and applications = 30 in total Number of stakeholders: 1000 in total	2019-2022	Data generated and collected by Prizztech/the city/the company/other organisation responsible for the project/event/application

	Expected result	Monitoring indicator	Target	Timeframe	Means of verification
Activity 4.2.2	Organising AI Week	Monitoring indicator 1 Number of participants Monitoring indicator 2 Number of sponsors and other partners in AI week	Number of participants, target = 500 Number of sponsors and partners = 40 in total	2019-2022: The first AI Week organised in 2020, the second in 2022	Data generated and collected by the event producer (organisation)

Appendix III: Relevant Good practices

The following examples can be seen as good practices boosting digital transformation in Pori and in the whole Satakunta region:

Community

- **Robocoast cluster**. The cluster consists of over 100 companies and promotes the modernisation of the industry and services by developing new robotics solutions together with a large network of industrial and research partners. The cluster has recently joined the Robocoast DIH, which is a member of the European Digital Innovation Hub Network (robotics) coordinated by the European Commission (DG Connect). The DIH status and branding can be further utilised in internalisation activities and awareness raising of the region.
- **MatchINDUSTRY**. MatchINDUSTRY is an annual industry contact and meeting event with the aim of helping the companies of marine, technology and energy industries to strengthen their supplier chains and find new business and technology partners. The two-day event starts with the Pre-Event where the themes of Industry Renewal and Innovations are explored in the form of keynote presentations and workshops. The second day is the contact and meeting event where the aim is to help the companies to strengthen their supply chains and find new business and technology partners. The event is organised by Prizztech.

Digital competencies of companies

- **DigiBusiness project 2016-2017**, coordinated by Prizztech, improved the digital capabilities of local entrepreneurs and, consequently, developed their business. The target groups of the project were small and micro-entrepreneurs/small businesses, and the project focused on digital solutions on financial operations, sales and marketing communications. Over 100 entrepreneurs participated in short meetings which aimed more at showing the possibilities of digitalisation for entrepreneurs, and almost 50 participated in actual trainings. The project resulted also in two digital solutions: the first is an online tool for assessing a company's digital status, and the second is an online short guide for digibusiness.

Digital skillset

- **Business and technology services for companies – Apparaatti**. The concept of 'Apparaatti', organised by Satakunta University of Applied Sciences, lowers the threshold between companies and students to work together. It offers companies the possibility to get up-to-date views about their business and on the technologies used. In Apparaatti, the students refine companies' product and service ideas. Students can also work with their own business ideas. Partly as a result of Apparaatti, the entrepreneurs of the Satakunta region have the most experience in student cooperation. A large majority of entrepreneurs (81.7%) see SAMK increasing the appeal of the region (a national inquiry by the Federation of Finnish Enterprises).
- **Activities in boosting research and entrepreneurship capabilities in robotics sector**. Satakunta University of Applied Sciences (SAMK) supports the success story of the Satakunta Robocoast cluster with the establishment of a global **Robocoast Research and Development Centre** to Pori. The centre of automation, robotics and artificial intelligence will be exploited by international companies establishing their own R&D units in the centre. During the three-year project (2018-2020), the operation, operational model, facilities and common-use laboratories will be built to be a part of the success story of Satakunta Robocoast.
- The research teams at Robocoast R&D Centre have published nearly 200 international peer-reviewed research papers mainly on solving real-world problems. The project volume of the research is more than 20 ongoing projects, total budget of 4.5 million euros. Active project cooperation includes with more than 100 companies. In addition, the research has triggered two successful start-up companies: HeadAI and CI Computational Intelligence.
- In the centre, research on automation, robotics and artificial intelligence will be completed by work-oriented studies as well as with the framework of 'Effectual entrepreneurship' helping students to recognise own entrepreneurial skills in the thematic area**. The Robotics Academy and AI Academy** in SAMK are providing students with a work-oriented approach. Studying in the Academy is project-based learning. Students work in small groups to solve the research and development tasks that have come from companies, the students basically work as a R&D service provider. All students have a mandatory entrepreneurship course focusing on internal entrepreneurship, its meaning for working life and as an incentive for employment. Entrepreneurship capabilities together with Academy knowledge transfer provide a

strong basis for building capabilities needed for the next level of digitalisation, automation, robotics and AI.

Finance

- **Pitching sessions for companies.** Satakunta Chamber of Commerce in tight collaboration with Satakunta Business Angel Network organises pitch sessions every few months. Companies are allowed to present their business idea for about five minutes, local business angels will make their comments and questions. At the end of the event, there is time for interaction and discussions. Currently Satakunta Business Angel Network consists of about 30 people. Business angels are business people who have good experience, networks and the desire to help start-ups and growth-seeking businesses. Often angels invest in companies together and fit their roles according to their own strengths.

Governance and leadership

- **Pori agreement.** The Pori agreement was signed in 2017 by all political parties presented in the City council. The agreement includes the strategic coordinates and mindset for overall city development for the period of 2017-2021. The agreement together with the city strategy form the main governance tool for the City Council.

Infrastructure

Quick permitting procedures. Internet interaction between the City of Pori and citizens & businesses are well-adopted. The permit processes provided by the City of Pori have been totally digital since May 2018. The shift provides an opportunity for more effective case handling. The total number of applications per year has been around 800 in Pori and this level is estimated to remain stable in the future. Digital solution ensures quick and user-friendly permitting procedures.

Appendix IV: Bibliography

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Appendix V: Stakeholders consulted

NAME	ORGANISATION
Anne-Mari Järvelin	4FRONT
Anu Holm	SAMK
Ari Eklund	Prizztech Oy
Cimmo Nurmi	Vice Rector, Satakunta University of Applied Sciences
Elli-Mari, Sulonen	City of Pori
Essi Vanha-Viitakorpi	Prizztech Oy
Hanna Koskela	4FRONT
Hannu Heiskanen	Aurubis Finland Oy
Harri Ketamo, Chairman	HeadAI Oy
Heikki Haaparanta	City of Pori
Ismo Lindfors	Porin Vesi
Jaana Simula	Head of Culture Services, City of Pori
Jani Nurmi	Hubble Oy
Janne Hankaankorva	DNA
Jari Multisilta	Rector & CEO, Satakunta University of Applied Sciences
Jari Taimi, Chairman	Pori Entrepreneurs
Jari-Pekka Niemi	Service Director, Prizztech Oy
Jarkko Mäkivaara	Aqva.Io
Johanna Huhtala	Municipality of Eurajoki
Jouko Hautamäki	City of Pori
Jouko Pärssinen	Tieto Finland Oyj
Juha Harttunen	Enersense International Oyj
Juha Lindberg	Pori Energia Oy
Jukka Lohivuo	Business Finland
Jyrki Anttonen	CFO, Cimcorp Oy
Kari Ollila	CEO, Finnish Business Angel Network, FIBAN
Karla Viitala	City of Pori
Katja Laitinen	Acting Director of Regional Development, The Regional Council of Satakunta
Kimmo Halme	4FRONT
Kristiina Laine	City of Pori
Lauri Hirvola	CFO,Satakunnan Osuuskauppa
Marko Lehtimäki	Development Director, Prizztech Oy
Mika Riikonen	BAU Director, Insta Automation
Mikko Hörkkö	Managing Director, Elinar Oy
Mikko Kotiranta	Prizztech Oy
Mikko PuputtI	Prizztech Oy
Mikko Saari	Virelabs Oy
Minna Nore	Chair, Satakunta Chamber of Commerce
Nina Kivi	City of Kokemäki
Olli Luoma	City of Harjavalta
Pauliina Harrivaara	Prizztech oy
Petri Kokko	Elisa Oyj

NAME	ORGANISATION
Pirita Ihamäki	Prizztech
Riku Ihalainen	Ficolo Oy
Salla Rajala	City of Pori
Sami Hyrynsalmi	Tampere University of Technology
Sami Lahti	Koivu Solutions
Sami Suuriniemi	Hubble Oy
Sari De Meulder	CEO, Pori Harbour Ltd
Tarmo Lipping	Winnova
Timo Rautalahti	General Manager, Boliden Harjavalta
Timo Widbom	City of Pori
Tomi Lähteenmäki	City of Pori
Ulla-Kirsikka Vainio	Environment and legal services, City of Pori
Uwe Haass	RoboConsult
Veikko Lamminen	Etteplan Oy

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