

January 2018



Expression of interest template

Expression of interest template

1 General Instructions on the template

You must use the structure of the present template in order to prepare your Expression of Interest. You are kindly requested not to modify or delete any sections.

- ◆ You may delete all the parts of instructions including instructions written into brackets and in Italics format ([italics]).
- ◆ The maximum total length of sections 1 to 4 of your Expression of Interest shall not exceed 12 pages in total (including figures and tables) with the following page limits for each section:

Section of the template	Recommended page number
Section 1 – Presentation of the city and its ecosystem	4 pages
Section 2 – Digital ambition	3 pages
Section 3 – Impacts	3 pages
Section 4 – Staff and other assets	2 pages

- ◆ The minimum allowed font size is 10. Please use the same page margins as in this template

2 Structure of the Expression of Interest:

START PAGE COUNT

1. Presentation of the city and its ecosystem
 - 1.1 Presentation of the city
 - 1.2 Facts and figures
 - 1.3 Innovation ecosystem
2. Digital ambition
 - 2.1 Policies involving digital transformation dimensions
 - 2.2 Participation in projects related to digital transformation (regional, national and European)
 - 2.3 Timeline
3. Impacts
 - 3.1 Achieved / expected impacts
4. Staff and other assets
 - 4.1 Team of professionals
 - 4.2 Stakeholders involvement
 - 4.3 Resources

STOP PAGE COUNT

Annex I: Letter of intent of participation of stakeholders (not mandatory)

Annex II: Additional documentation to support the EoI (not mandatory)

City	Padua
Organisation	Municipality of Padua
Responsible (Name, Role, email)	The Major, Mr. Sergio Giordani

Expression of interest

1 Presentation of the city and its ecosystem

1.1 Presentation of the city: Padua (Padova)

Padua is the capital of the Padua Province, located in the Veneto region, North-East of Italy and it ranks 3rd in the list of the main cities of the Veneto region, following Venice and Verona. Padua also ranks 14th in the full list of the Italian municipalities in terms of economic and social relevance. In geographical terms, the province of Padua is a central wide area all along the Brenta river till the Adriatic sea, and it includes the entire urban area around the municipality of Padua (93,03 km²). From west to east, the territory typically shows the multiple Mediterranean landscape features: the Euganean Hills with the famous thermal area, the fertile Veneto lowland rich in waters and navigable rivers; the Venetian lagoon and the sea, close to cities such as Venice and Chioggia; the Southern part of the province borders extend to the Adige river. In terms of demographics, the province counts **936.274 inhabitants (2016)**; it ranks first in the region (with 19.1% up to the total amount of Veneto region, i.e. 4,907,529 inhabitants) and 13th in the overall ranking of the Italian provinces in Density standard. On top of that, Padua is at the core of a wide metropolitan area, within a radius of about 10 km around the capital, including about **437 thousand inhabitants**, equal to 46.7% of the population of the entire province, an area that, indicatively, can be roughly placed among the **top ten Italian municipalities by demographic entity**.

Padua is an entrepreneurial city: 88.615 enterprises located in the city and 19.332 in the nearby province, resulting in a vital entrepreneurial ecosystem of **107.947 enterprises**, typically SMEs but also large companies, generating a turnover of EUR 38,7 billion. Padua is the first province of Veneto region in terms of number of operating companies, ranking 9th in Italy (10th, excluding agricultural activities, with a total of industrial and tertiary companies reaching 76,223 units). Main sectors: agriculture, manufacturing industry - such as design, furniture, fashion, mechatronic, construction –, tertiary sector (wholesale and retail, real estate, HORECA, and ICT which showed a *boom* recently: **2905 ICT and digital companies in Padua, ranking 1st for the Veneto region and 7th at national level**). The metropolitan area has a concentration of ICT companies among the highest in Italy: taking as a reference all the Italian provinces by ICT density, **Padua area ranks 2nd in Italy in ICT, following the province of Milan (4.3%), while the entire province of Padua ranks 6th in Italy**; tourism (the largest EU SPA Resort with 160 hotels; 5M overnight stays in 2016, in particular outbound tourism; 32.000 accommodations in hotels); craft trades (26.043 units; 10th at national level and 1st at regional level). The labour market shows 387.000 employed people, ranking 2nd for the Veneto region and 11th in Italy. The employment rate - as the ratio between employed and population in age work (over 15 years) - is equal to 63.3%, a value significantly higher with respect to the national average (57.2%). **Padua Province GDP as per 2015 is equal to EUR 26,7 billion, ranking 9th at national level and 1st at regional level.**



1.2 Facts and figures

Data	Result
City Population	The population of the city of Padua is 209,829 inhabitants (2016) , 53% females and 47% males, 59.7% population aged from 18-64 (125.610), 25.5% are 65+ (53.671), and the remaining 14.2% aged from 0-17 (31.120). Italians are 84.3% of the total population of the city, while foreign represent the remaining 13.7%. Padua metropolitan area included about 437 thousand inhabitants, equal to 46.7% of the population of the entire province, an area that, indicatively, can be roughly placed among the top ten Italian municipalities by demographic entity.
Metropolitan area population (e.g. an area consisting of a densely populated urban core and its less-populated surrounding territories, sharing industry, infrastructure, and housing)	Padua is at the core of a wide metropolitan area , within a radius of about 10 km around the capital, including about 437 thousand inhabitants, equal to 46.7% of the population of the entire province, an area that, indicatively, can be roughly placed among the top ten Italian municipalities by demographic entity. Furthermore, the overall area, and the Northern part of the Paduan territory, results strongly integrated with the economic system of the other three major provinces of Venice, Vicenza and Treviso, thus creating the core of the wider so called "Venetian economy", one of the most relevant at national level. In the last decade, the city has undergone important urban changes, with the construction of new modern executive and residential buildings and with a deep renewal of the road network, articulated around the construction of the city ring road and the tramway of Padua. The industrial area of Padua (i.e. ZIP) was founded in 1946 in the eastern area of the city, and since then has continuously expanded and developed. It is one of the largest industrial areas in Europe, with an area of 10 million and 500 000 m ² .
Average annual population growth during the last five years (since 2013)	Demographics of the capital showed a slight decrease in recent decades for the benefit of the nearby municipalities (the overall Province of Padua), even though this phenomenon has been partly attenuated in the last years. In 2016, 1,547 were born (7.4 %), the dead 2.591 (12.3 %) with a natural increase of -1.044 units compared to 2015 (-4.9 %). On 31 December 2015, out of a population of 210,401 inhabitants, there were 33,395 foreigners (15.9%). Families have an average of 2.09 members. Moreover Padua is with 2253.96 inh / km ² , the most densely populated city of Veneto.
Employment rate (ratio of employed to working age population from 15 to 64 years)	The labour market shows 387.000 employed people , ranking 2nd for the Veneto region and 11th in Italy. The employment rate - as the ratio between employed and population in age work (over 15 years) - is equal to 63.3%, a value significantly higher with respect to the national average (57.2%). The employment structure by sectors of the province reflects the prevalence of tertiary activities. The employees in the tertiary sector constitute, in fact, the major part (249 thousand units equal to 64.4% of the total) with a prevalence of employed persons in services (172 thousand units, 44.6%) when compared to trade-tourism (76 thousand units equal to 19.8% on the total of employed in the province). The industry employees show 129 thousand units (33.5% of the total), 105 thousand units in industry specific sectors (27.3% manufacturing, energy, extraction) and 23 thousand in construction (6.1%). Agricultural employment is marginal (~8 thousand workers for one 2.1% of the total).
Main economic sectors	Main sectors: industry (manufacturing such as design, furniture, fashion, mechatronic, construction), tertiary sector (wholesale and retail, real estate, HORECA, ICT) – which showed a boom recently: 2905 companies in Padua, ranking 1st for the Veneto region and 7th at national level; agriculture. It should also be noted that the metropolitan area has a concentration of ICT companies among the highest in Italy: taking as a reference all the Italian provinces by ICT density, the area around the capital ranks 2nd in Italy following the province of Milan (4.3%), while the entire province of Padua ranks 6th in Italy; tourism (5M visitors in 2016, in particular outbound tourism); craft trades (26.043 units; 10th at national level and 1st at regional level). The overall economic situation at national level is characterized by a trend showing an average positive GDP in 2016 (+ 1%), which shows the greatest increase since 2010 due to the partial recovery of investments and of the domestic demand, albeit with a more contained trend for exports which partly suffered from the instability of international markets. The national outlook also reflects the province of Padua economic trend, which confirms to be positive.

1.3 Innovation ecosystem

Padua Municipality and the Town Council set up a high-level panel of stakeholders (the “**Paduan Stake-holders High-Level Panel**”, or SHHLP) to lead and drive the “Digital Transformation Strategy” – i.e. our original so called “**Padua Digitrans 2021**”. — as better described in Section 2 (Digital Ambition). The panel gathers together the main key- high innovative entities and organizations active in the city — in some cases extended to a broader regional or interregional spread — forming an “*unicum*”, as they clearly stated in the Letter of Support in the Annex. They represent the main relevant categories of the innovation ecosystem in Padua: the University, Public Authorities and Agencies, Innovation Hubs and Startups Incubators, Public and Private Associations, Industries, Non-For-Profit entities, educators and volunteers. The mentioned panel of stakeholders “as a whole” is found due to a common vision on innovation carried out by the Municipality. A commitment to set up a strategy for the “Digital Transformation” of the city in a 3-years term was agreed. Each of the partners gave its commitment for a common result in “one strategy - one action”, by maximizing the efforts, optimizing participation, and sharing stakeholders’ projects in the digital realm, while clear, definitive is the willing to cooperate in line with “**Padua Digitrans 2021**” strategy. A shared framework, gives the unique “SHHLP” panel the fundamental guarantee that everyone will work aligning to a set of transparent “intelligent directionalities”, respecting autonomies, according to a smart coordination for time and costs saving. The Municipality, who retains the governance in the frame-worked group, will manage a “smart-governance” mechanism through an open, accessible, understandable and continuous calls for ideas and contributions around a “mission-oriented” roadmap of progressive goals, according to a S.M.A.R.T.E.R. management (with Evaluation and Readjustment features). Through the implementation, hosting and systemic delivery of “Academy Seminars” and info-days, the SHHLP together with the Municipality will mobilize a larger pool of stakeholders to gather inputs and collect commitments to the identified Strategy Pillars (for i.e.: in detecting rules and parameters and build the units of grade for the “**Digital Standard**”, so that a grained compliance with each sector of civic, and industrial landscapes – and their peculiarities — will benefit from a full bottom-up stream of *trusted* information coming by a trusted network of stakeholders and insights-providers). The list of participants to the “**Paduan Stake-holders High-Level Panel**” (SHHLP) result the following:

Government retainer(s)		
Name	Municipality of Padua	
Responsible for the “ Padua Digitrans 2021 ”	The Major, Mr. Sergio Giordani, Dr. Alberto Lorenzoni, Eng. Alberto Corò, Dr. Daniela Luise segreteria.sindaco@comune.padova.it	Will retain the governance of the Programme, enact the call for contributions, rule and legislate in consistence with the “Digital Transformation Strategy” and converge all the actions to “ Padua Digitrans 2021 ”
Academia		
Name	University of Padua	Will deliver the workshops and disseminate the “Padua Digitrans 2021” philosophy. Will collect the interests from Departments and Tech-Transfer academic programmes, and serves as a pivot in the crucial translation of the SoTA to real implementation within the framework of “ Padua Digitrans 2021 ” scheme and vision.
Responsible for the “ Padua Digitrans 2021 ”	Prof. Fabrizio Dughiero fabrizio.dughiero@unipd.it	
Research		
Name	CNR - ITIA (Institute of Industrial Technologies and Automation)	Will dedicate specific Research outputs undertook in its fund of knowledge and high-technical expertise as well as results of projects undertook also at EU level. For instance (but not limited to): <ul style="list-style-type: none"> • Netchallenge (NMP2010-2013): project to develop non-hierarchical networks in manufacturing eco-systems. • CD-NET (Italian project under the flagship framework “Fabbrica del Futuro” – Factory of the Future, 2016). • Disrupt (NMP2017-2019): project to develop a platform to support companies in managing disruptive events.
Responsible for the “ Padua Digitrans 2021 ”	Dr. Rosanna Fornasiero rosanna.Fornasiero@itia.cnr.it	
Name	X23 Srl (Private Research Centre)	Will catalyse multidisciplinary Digital pioneering projects , applying advanced research, and committing a bland of high skills in R&D, growth and Scale-up process . Will bridge the gap in the value chain, connecting R&D to Pre-industrialisation and go-to-market steps.
Responsible for the “ Padua Digitrans 2021 ”	Dr. Giuseppe Laquidara Guseppe.laquidara@x-23.org	
Public Bodies, Agencies, Associations and Consortia		
Name	Camera di Comercio di Padova (The Chamber of Commerce)	Will implement and work on several crucial projects within the “ Padua Digitrans 2021 ”, such as “Digital Campus”, “PID” (Punto Impresa Digitale), “Crescere in Digitale”, “Ultranet”. Moreover, the vision gets down the infrastructural detail as in the crucial projects included in “ City as a Trusted Service ” paradigm, where specific actions devoted to Digital Signature, Digital Residency, Electronic Trade, Transactions and Invoicing, and “SUAP” (Sportelli Unici Attività Produttive) are all linked by a common factor.
Responsible for the “ Padua Digitrans 2021 ”	Dr. Andrea Galeota andrea.galeota@pd.camcom.it	
Name	ZIP – Zona Industriale Padova	The ZIP Consortium is developing a project devote to Industrial

Responsible for the “Padua Digitrans 2021”	Dr. Alberto Cecolin info@zip.padova.it	Housing related to the existing industrial building management within the Paduan extra-large Industrial Zone, using state-of-the-art geographic systems and Open Source resources to meet both the innovation and regulatory requirements (Digital Administration Code, provides that the PA is incentivized to choose Open solutions). ZIP will use a satellite GIS system based on European satellite data and in particular on the Copernicus program network. The information will be contained within a database on cloud architecture, the accesses will be open and linked to a system of "trusted" networks.
Name	CNA – Confederazione nazionale dell'artigianato e della piccola e media impresa	Will provide almost 160 employees in the 16 territorial offices, offering services ("City as a Trusted Service" model). CNA network will gather <i>trusted data</i> about the market trends thus promoting direct participation in the policy making phases by citizens, participating in the "Smart Communities" framework of Paduan "Digital Transformation Strategy". Will organise meetings with industries on digitization subjects, and advice 500+ ICT companies for fundraising phases. CNA collaborates with the University (as part of the "UniSmart Padova"), with Galileo Visionary District and Talent Garden Padova. Will play specific actions on #Farmweb project, deliver free seminars and train on digital-skills.
Responsible for the “Padua Digitrans 2021”	Dr. Caria Ventura c.ventura@pd.cna.it	
HUBs of Industries, Organisations and Hosts within the Paduan Entrepreneurial fabric		
Name	Talent Garden Padua (TAG)	Will work constantly to spread the digital culture and to improve the use of digital devices and technologies not only for its own members but also, and mainly, for the local communities, offering quality training opportunities for communication professionals, seminars for entrepreneurs and managers. Will make fully available to the “Padua Digitrans 2021” under the “Smart Community” Pillar, a few crucial programmes such as: “Trainings for Taggers and Friends”, “Digital Meeting”, “Video-making courses for smartphones and tablets”, “Facebook Mastery” – promoting an organic improvement of digital skills at cultural, creative, private initiative, self-entrepreneurial level.
Responsible for the “Padua Digitrans 2021”	Dr. Pierluigi Ancilotto padova@talentgarden.it	
Name	Paradigma Exponential Hub	Will participate to “Padua Digitrans 2021” supplying services to start-ups and spinoffs to create their own exponential business models, and prepare to deliver their value proposition to the market, the community around, the institutions. Will support the Paduan Public Agencies, in particular implementing the 4.0 model and support in strategies well-referred to EU. Some remarkable projects Paradigma will run in the “Padua Digitrans 2021” framework: “Next” (advanced future mobility for city and industry, infrastructural relationship with Padua Municipality and ZIP for real implementation), “01Pay” (blockchain based crypto-complementary-currency, crucial to the “City as a Trusted Service” scheme); “EXOO23!Radical” an innovative acceleration programme licenced by X23 to boost startups, SMEs, high-growth companies through challenges and a blend capital raising strategy.
Name	Parco Scientifico Galileo (the Visionary District)	As a reference player for Paduan innovation and growth of companies and people, will commit in Digital Campus complex, integrated and disruptive campaign of actions with the specific mission of education and dissemination and hosting specific training sections to Corporate Responsibility, Sustainable Innovation, Design for Sustainability, Eco-design, Social Impact and Impact Investments .
Responsible for the “Padua Digitrans 2021”	Dr. Francesca Gambarotto info@galileovd.it	
Non-for-profit Organisations		
Name	Fondazione Fenice	Creating the “ Digital Campus ”, a training centre on skills, innovation and digital inserted within the so called “ Parco Europa di Padova ”, through the re-design of the industrial building located in via Zamboni. Within the Campus a series of innovative courses will be delivered on digital subjects, such as: APP Developer, Expert in Digital/ICTs Project Cycle Management, digital skills in BIM/REVIT/3DS/WRAY, Creativity and YouTube video-making. Moreover, Fondazione Fenice is committed to “ Digitrans 2021 ” to host systemic sessions for dual-training systems learning:working, and supports Paduan schools and education bodies in collateral curricula.
Responsible for the “Padua Digitrans 2021”	Dr. Andreas Spatharos spatharos@fondazionefenice.it	

2

Digital Ambition

2.1 Policies involving digital transformation dimensions

Digital Transformation is not only related to the technological investments, but has much more to deal with **strategy, processes, and knowledge**. Padua city has recognised that the enhancement of new technologies represents a large opportunity for social and economic growth, thus is in-progress implementing the European Digital Agenda's strategic objectives for favouring investments in **digital infrastructures**, improving the life quality of the **citizens**, maintaining competitiveness of **businesses and industry**, and ultimately for increasing the **digital public services**. When coming to digital transformation, Veneto region has not reached the European benchmark yet; however, our region does show higher performance than the national average and is accelerating to close up the remaining gap: over **398 million¹ euros of public investments** were allocated for the extension of the ultra-wide band for a is “future-proof” network infrastructure. Aligning to the main EU Digital Agenda policies/strategies set out at regional/national (Italy) level, **Padua City** set up a set of *strategic plans, financially well-covered* and with the contribution of experienced senior professionals and stakeholders towards a full “Digital transformation”. A precise “**Strategy**” is based on:

1. **Veneto Digital Agenda 2020 (DGR n. 978 del 27/06/2017)**: it defines the strategic commitment to promote Company-and –Digital Economy in its territory. It is focused on two important dimensions:
 - a. **The 1st** related to 3 transversal drivers enabled by technology infrastructures, e.g. value of digital development, importance of human resources in innovation processes, capacity building empowerment.
 - b. **The 2nd** is oriented towards **10 vertical ecosystems** (or *priority areas*) such as: business, agrifood, infrastructure and mobility, tourism, public administration, health-care, social services, smart communities, human capital and digital skills, cultural heritage.
2. **Smart Specialisation Strategy Veneto (S3 – RIS 3 Veneto)**: it indicates the new strategy for research and innovation to reinforce the related policies. The S3 identifies **4 areas of specialization** (and related topics)– Agrifood; Smart/Sustainable Living; Smart Manufacturing; Creative Industries.
3. **Italy's Industry 4.0 Plan (Veneto region exploitation)**: it provides a wide array of measures promoting Innovation and Competitiveness under a “4.0” logic. The creation of innovative regional networks in different sectors will develop a **consistent set of initiatives in 4 groups of interconnected specializations**: Smart Agrifood, Sustainable Living, Smart Manufacturing and Creative Industries.

The resulting new strategy – i.e. the “**Padua Digitrans 2021: Towards a full ‘City as a Trusted Service’**” – is the result of a smooth collective, participatory process where Paduan Public and Private Organisations, Authorities and Municipality Agencies, Enterprises and SMEs, Research Bodies and the Academia, backboned by citizens, Trade & Consumers Associations, joined together to identify priorities for the territory (*quadruple helix approach*). On top of the mentioned 3 main policies, **innovation drivers** were detected, **challenges and obstacles** defined, **key-enabling technologies** approached, a systemic “**technology transfer**” promoted and **key skills and competences training programme** launched to boost a digital transition. The strategy is based on some key areas:

¹ Veneto Statistical Report 2016

- **Infrastructure improvement:** increasing investment, employment, efficiency of research and technological innovation. Empowerment of value chains, post-production services, capacity in differentiation.
- **Technology foresight:** identification of medium- and long-term trajectories to drive commitments.
- **Company creation and Cross Fertilization:** scouting, mapping, rating and grading territory excellences, overcome isolation, systematically prescribe additive innovation, predict trends, prescribe models for success.
- **Conscious and participated governance:** continuous interaction between policy makers and stakeholders (the “**Paduan Stake-holders High-Level Panel**”, SHHLP) to fine-tune models and readjust digi-policies.

Key-enabling factors: Competitiveness, Innovation, Skills, Trust, Citizen Centred Policies, Swarm Motility to predict/intercept trends. The “**Padua Digitrans 2021**” strategy is structured as a “mission oriented” scheme around a key main vision: **Padua city will be conceived as a “City as a Trusted Service”**, i.e. its competitive advantage will be sought in the synergy between *digital technologies* in the service of *human-centred needs and vision*, where digital innovation is at the core of an ubiquitous trusted-services-provider (*city-sensing, crowd-sensing, cluster/cloud infrastructures, continuous dissemination of notifications, bottom-up policies, smart services, swarm motility/mobility intelligence*, etc.). Such an innovative strategy to increase the digital level *disruptively*, will drive the creation of a Paduan “**Digital Degree**”, i.e. an evolutionary standard in a few crucial digital pillars, such as: “Economy”, “Smart Communities”, “Digital Skills”, “Smart-Living”, “Network Fitness”, “Smart Mobility”, “Intelligent Government”, “Shared Planning”, “Priority to the Environment”, “Full Green Energy”, distributed on a few logical topics, such as: the “Digital Skills and Jobs Initiatives”, the “Digital Personalised Services”, the “Digital Ubiquitous Governance Code”, the “Digital Tactical Dashboard for a Sustainable Living”, the “4.0 Digital Paradigms in Industry”. On top of that, the 3-years strategy will be built upon **4 main pillars as follow:**

→ **PILLAR #1. Digital Agenda Priority: DIGITAL FOR INDUSTRIES.** {(S3): SMART MANUFACTURING}. Topic: **The “Digital Index” for Paduan industries’ metaheuristic evaluation (Paduan Digital Degree).** Objectives: **(A)** To create a Digital Index as a metric system to rank industries, their digital readiness, and measure the ratio between their consumption and their contribution to enrich the city. **(B)** To do so, it is tactical to stimulate R&D investments, encouraging aggregation and cross-fertilization, so to generate long-lasting collaborations in the graph of the networks and create an array of comparative values in the real market. Tactical actions will counteract the low propensity to invest in research by SMEs, maximising the use of public funds and innovative “Open Innovation”. **(C)** To promote local excellence, improving the supply chain in a 4.0 paradigm.

→ **PILLAR #2. Digital Agenda Priority: DIGITAL SKILLS.** {(S3): SMART MANUFACTURING}. Topic: **Digital Skills and Jobs Initiative, Digital Innovation Hubs.** Objectives: **(A)** To promote actions for specialised training specifically related to *digital skills* and *innovation* in the industry. The aim is to decrease the distance with the hype trends in digital solutions. Similarly, measures will be put in place to support lifelong learning programs, through innovative teaching [in the new “**Digital Campus**”]. **(B)** To launch innovative acceleration models to digital start-ups/spin-offs). A focus on *female entrepreneurship* will be also put in place.

→ **PILLAR #3 Digital Agenda Priority: PUBLIC ADMINISTRATION.** {(S3): SMART SOUSTANBLE LIVING}. Topic: **“An ubiquitous governance for sustainable living through personalised and trusted services”.** Objectives: **(A)** To promote a more widespread use of ICTs, and fully-digitise public administration services. Bridging the gap and allow a “**City as a Trusted Service**” model to be played by the Public Administration. The full exploitation of (Open-) Data, the adoption of smart-tools to predict, understand, measure and prescribe smart-policies in line with the trends, will provide circular and “spherical” patterns to be accessed-used by/provided to citizens. Social inclusion and stimulating social responsibility (both to individual, civic associations, and entrepreneurs) will be impacted positively. Pillar 3 is instrumental to Pillar 1 and 2 and vice-versa for only sound and dynamic relationships on field can reveal measurable values and trends.

→ **PILLAR #4. Digital Agenda Priority: SMART COMMUNITIES.** {(S3): SMART SOUSTANBLE LIVING}. Topic: **“A sustainable Mobility: Digitising Industrial Housing Energy Efficiency”.** Objectives: **(A)** To support actions towards environmental&energy sustainability, in particular for reconversion of decommissioned industrial area, to achieve a full environmental&energy sustainability and a long-term sustainable growth. Significant experience was released in specific projects focussed on industrial housing sector and reconstructing (**Web@GIS**), where a semi-supervised merit-based processor will assign reconverting areas to smart-communities capable to demonstrate highly impact initiatives on digital bases.

2.2 Participation in projects related to digital transformation

We are listing here a first batch of projects run and implemented by the Municipality. The full list, including the various projects developed and implemented/to be implemented with a large group of stakeholders is included in Annex II.

Projects already on-going, in final phase, or inherited by previous City Boards	
“UGB - Urban Green Belt” — A European project for the participatory management of public and private green spaces	European Project
“City Public Data Centre” — A Networked Padua Smart Data Centre for Public Administrations.	Regione Veneto, Municipality of Padua, Verona, Treviso, Vicenza — AND: University of Padua, Province of Padua, ARPAV

“City Data Management” – Data Cube with descriptive and statistical analysis tools, improved with Big Data technologies and clustering, predictive features.	Regione Veneto, Municipality of Padua, Verona, Treviso, Vicenza
“Low Power Low Rate” – Sensoring the City within an evolutionary network.	Municipality of Padua, AcegasAps
“Extensive Sensoring System” – A Network of Networks (NNs), i.e. high-connected networks of sensors in the environmental, mobility, lighting management fields with a IOT logic framework	Municipality of Padua, AcegasAps, ARPAV
BPM 2.0 – “City as a Trusted Service” – Accessible system with advanced back-office dashboard and semi-supervised workflow managing citizens’ application and processing	Regione Veneto, Municipality of Padua
“Digital Surveillance” – Application of novel technologies to Urban Security	Municipality of Padua – eProcurement on-going
“Smart Mobility” – Advanced management of the urban enlarged congestion zone, and restricted-traffic areas	Municipality of Padua – eProcurement on-going
“MaBi”, Digitising Museums, Archives and Libraries (2MI+ digital files achievable via web-applications, open licensed)	Municipality of Padua
“Soft City”, demonstrating the remarkable potential of digital technology as key pillar to leverage for to raise investments in the city of Padua	Confindustria Padua, Municipality of Padua, Chamber of Commerce, University of Padua
“SUAP”, aggregating the municipality services provided to the enterprises	Padua Municipality, Chamber of Commerce.
“Digi-Street Markets”, test the use of POS technology for digital payment related to OSAP and TARI fee by street peddlers	Padua Municipality.
“#Farmweb”, Free help-desk targeted to enterprises for providing guidance in the digital realm	Padua Municipality.
“Web @GIS”, a digital system to manage the industrial housing in the Padua Industrial Area (Zona Industriale Padova – ZIP) by the use of advanced geo-localisation and Open Source tools and technologies.	Padua Municipality, ZIP Consortium

Timeline

Title of activities	Responsible managing authority	Period
“UGB - Urban Green Belt”	European Project	2017~2020
“City Public Data Centre”	Regione Veneto, Municipality of Padua, Verona, Treviso, Vicenza — AND: University of Padua, Province of Padua, ARPAV	2017~2020
“City Data Management”	Regione Veneto, Municipality of Padua, Verona, Treviso, Vicenza	2017~2020
“Low Power Low Rate”	Municipality of Padua, AcegasAps	2017~2020
“Extensive Sensoring System”	Municipality of Padua, AcegasAps, ARPAV	2017~2020
BPM 2.0 – “City as a Trusted Service”	Regione Veneto, Municipality of Padua	2017~2020
“Smart Mobility”	Municipality of Padua – eProcurement on-going	2017~2020
“MaBi”,	Municipality of Padua	2017~2020
Soft City	Confindustria Padua, Municipality of Padua, Chamber of Commerce of Padua, University of Padua	2017~2020
SUAP	Padua Municipality, Chamber of Commerce of Padua	2017~2020
Digi Street Markets	Padua Municipality	2017~2020
#Farmweb	Municipality of Padua	2017~2021
Web @GIS	ZIP Consortium	2018~2021

3 Impacts

3.1 Achieved / expected impacts

Policy and related planned/implemented projects:

Priority: Digital Industries AND Digital Skills (Pillar #1, Pillar #2) Topics: An Innovative Digital Index for Industries' impact, readiness to compete, crucial assets understanding and evaluation.			
Expected Impacts: We expect that the original " Digital Standard " stimulating the shift to a smart, 4.0 paradigm in process automation and smart-manufacturing within the so called "SMART-FACTORIES", will result in an extended collaboration within the subsidiary economy and, furthermore, the whole city eco-system starting from those entities at the pace of innovation. This will mean a change of cultural mind set first in place; then, the capacity to understand trends and need in a continuous iteration and effectively evaluate / predict any impact generated. The shift towards a full 4.0 paradigm is expected to entail ubiquity of services . This will pave the way to adopt better digital infrastructures, advanced goods logistics, excellence in productivity, high quality of work and citizens' life.			
Indicators	Prosperity	o Employment rate	
		o Economic performance	
		o Innovation	
		o Attractiveness and Competitiveness	
	Planet	o Energy & Mitigation	
		o Materials, water and land	
		o Pollution and waste	
	Propagation	o Scalability	
		o Investments, Sales acceleration, Exponential Growth, ROI to social fabric	
Means of verification	Prosperity	o % Employment rate improvement	
		o % GDP increase	
		o Knowledge sharing, open data increasing	
		o New companies and residents	
	Planet	o Reduced energy consumption in industry	
		o Raw materials and resources efficiency increase	
		o Reduced waste, pollution	
	Propagation	o % of technology adoption	
		o % of replicated success cases	

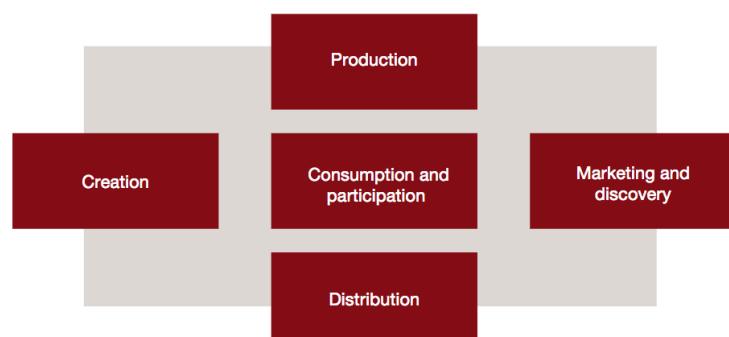
Priority: Public Administration (Pillar #3) Topics: DigitAll Enterprise.		
Expected Impacts: We expect the improved " City as a Trusted Service " paradigm, i.e. digital services provided to enterprises and citizens will disrupt Paduan processes in " fitness " of our networks, knowledge sharing, enabling entrepreneurs to improve their business effectively at every level (from company creation to access to public funds, to tax payment). The diffusion of <i>trusted</i> , fast and high quality e-services to companies and citizens will attract novel residency in our city districts, will serve as model for the region (Veneto) and the Norther-East interconnected area, and will facilitate the widest participation of companies from across the Union to get a Paduan residency through specific facilitation measures. The " City as a Trusted Service " model should be seen as the beating heart of the "Digital Transformation Strategy" — inspired to significant experiences of highly innovative " <i>smart-government</i> " such as the e.Residency in Estonia — and a driver for <i>spherical impacting</i> the City (and the wider province and Region) in the broadest sense.		
Indicators	People	o Diversity and social cohesion
		o Organisation
		o Community involvement
		o Increased number of integrated new digital services provided
		o Multi-level and "smart-governance"
	Governance	o Economic performance
		o Innovation
		o Attractiveness and Competitiveness
	Prosperity	o Scalability
		o Replication
		o Replicability performance
Means of verification	People	o % of participation of businesses and citizens to the city life and degree of comfort
		o Increased cooperation with stakeholders
		o Improvement of the quality and transparency of the administrative processes
		o Increased quality of the city administration
		o Increased support in the delivery of smart policies
	Governance	o % GDP increase
		o Knowledge sharing, open data increasing
		o New companies and residents
		o Reduced waste, pollution
	Prosperity	o % of digital services usage
		o % of new companies getting the residency in Padua (including the out-of-town)
		o % of replicated success cases

Priority: Smart Communities (Pillar #4) Topics: "Digital Standard" for Sustainable Mobility; Industrial Housing; Logistics; Energy Efficiency; Creativity and Private Initiative; Women Entrepreneurship; Vulnerable sustained inclusion and strong values' exploitation.		
Expected Impacts: We expect a consistent improvement of the optimal integration of key enabling technologies, ICT and advanced materials in the first place, well matched with the needs emerging from society and its challenges. In particular energy efficiency , and a fruitful innovation in capacity of manage Economic Dispatch at a very-grained level avoiding waste and obtaining the best optimisation possible from our sources; furthermore, Safety and Security , with significant results in public health and wellness, the Reconversion/Regeneration at urban and environmental level impacting on generation of new interconnected areas, Housing Programme including industrial ones or abandoned industrial areas impacting on bottom-up entrepreneurial initiatives thus on youth employment rate , and systemic fostering to creativity and private initiative . A specific policy and programme for fostering women self-entrepreneurship in digital jobs will raise their digital skills and sustain a strong community of WDEs (Woman Digital Entrepreneurs) , as well an enlightened view increase the number of migrapreneurs: in particular, the attractiveness of Padua University (one of the most relevant in Italy and Europe) will be at the core of systemic interconnection with scientist refugees . As a result, we expect a remarkable improvement of well-being in cities and of their citizens.		
Indicators	Planet	o Climate Resilience
		o Resilient Communities w/ unique peculiarities
		o Recovered Territory
		o Eco-systemic approach
	People	o Health
		o Safety

		<ul style="list-style-type: none"> o Health o High-rate industriousness o Creativity, Highly Networked Private Initiatives o Quality of housing and the built environment
	Governance	<ul style="list-style-type: none"> o Multi-level governance, participated policies, fast iteration public bodies ~ individuals
	Prosperity	<ul style="list-style-type: none"> o Economic performance o Innovation o Attractiveness and Competitiveness
	Propagation	<ul style="list-style-type: none"> o Scalability o Replicability performance
Means of verification	Planet	<ul style="list-style-type: none"> o Increased resilience of vulnerable areas and/elements o Stimulating bio-diversity and nature/heritage conservation
	People	<ul style="list-style-type: none"> o Improved quality of life and healthy environments o Lowered the rate of incidents o Increased income-mix areas, high quality of public spaces and accessibility of good housing to the society
	Governance	<ul style="list-style-type: none"> o Increased % GDP, rate of simplification initiatives, PPP-scheme success cases
	Prosperity	<ul style="list-style-type: none"> o New Smart communities o Number of buildings reconverted
	Propagation	<ul style="list-style-type: none"> o % of replicated success cases o Extent of the recovered territory o Coordinated programme(s) with other cities and at a regional level o European Consortia and/or networks created, or participating in o High-skilled immigrants, Padua as a HUB for innovation and focal point for Digital ICTs

It is particularly important to look closely at the prevailing myth of “**digital erosion**”, i.e. the idea that digital trends, AIs, and ICTs in general led to a slowdown in growth and a *loss of jobs*. Several studies we undertook – basing on contemporary literature and analysis — demonstrate that a much more **fluid and “creative” ecosystem architecture** in production and life-style is evolving, and a **novel jobs-generative ecosystem architecture** is raising. Ubiquity of services, precision and micro-components, industry 4.0 paradigm, grained creation of values, wider participation in processes, personalised marketing and distribution, smart-consumption, circularity and “*spherical*” patterns as in spine-cord of productive economy, recovery of free-time and private initiatives, enlightened vision inspired to sustainability and long-run horizons, improved education and life-long-learning initiatives — all of that is fundamentally supported by an inherent digitised infrastructure and “*digit-Lemmas*” of an universal language, which generates an unprecedented variety of skills, expertise, jobs opportunities, while optimises citizens’ working time, public authorities performances, deliveries continuous services in a smoother *symphonic* process. **Padua strongly believes in that vision: that's why we put together a panel of partners and stakeholders to build, all together, a “Digital Transformation Strategy”.**

New creative ecosystem architecture



Source: Strategy& analysis

4

Staff and other assets

4.1 Team of professionals

Mr. Arturo Lorenzoni (male) – Senior Project Manager for the implementation of “Padua Digitrans 2021”

Deputy Mayor at the Municipality of Padua since July 2017, with delegation to the territory and urban sustainable development, university, mobility, traffic, Agenda 21, digital agenda programme, ICT services, housing, accessibility. He teaches Energy Economics and Electricity Market Economics at the School of Industrial Engineering - University Padua.

Mr. Alberto Corò (male) – Particular Team of the PM Degree in Electronics Engineering, since 2015 Executive Officer at the ICT Dept. of the Municipality of Padua, responsible of the Digital Conservation at the Municipality. In charge of the POR-FESR Plan Axis 6 OT2 (Digital Agenda) at the Municipality. Coordinator of the regional capital cities for the POR-FESR Thematic Obj. 2 - Axis 6.

Mrs. Daniela Luise (female) — Particular Team of the PM

Since 1989 working at the Environmental Dept. of the Municipality of Padua, in charge of the application of the first environmental regulations up to current development. EU Master Degree in Environmental and Sustainable Development Management at the University of Ferrara in 1999.

Mrs. Domitilla Paccagnella (female) – Particular Team of the PM

Degree in Political Sciences. Responsible for the EU project office. Within the office, the Urban Authority of Padua is set up for the implementation of “SISUS” (Sustainable Urban Development Strategy) in the Padua urban area co-funded by the POR-FESR 2014-2020 Axis 6.

Mr. Enrico Fiorentin (male) – Particular Team of the PM

Management engineer, PhD in Engineering Management, since July 2017 councilor at the Padua Municipalit. Post the Master's Degree in Management Engineering (2013), he obtained the PhD in Management Engineering and Estimation (2017) at the University of Studies of Padua

4.2 Stakeholders involvement

RESEARCH, EDUCATION, HI-TECH and/or DIGITAL EXPONENTIAL MODELLING

The University of Padua: Dating back to 1222, the University of Padua is one of Europe's oldest and most prestigious seats of learning. It offers its students 32 departments, 37 doctoral degree courses activated this year, 2 international doctoral degree courses and 44 research and service centres across the spectrum of sciences, medicine, social sciences and humanities, with more than 2,000 professors and researchers employed.

CNR-ITIA: CNR-ITIA strategic mission is the growth of competitiveness and sustainability of manufacturing in Italy and Europe through industrial innovation. TCNR-ITIA acts as a strategic player in the continuously updated definition of the European, National and Regional vision on the manufacturing sector, through the participation in initiatives and platforms devoted to the formulation of new paradigms in the area of Manufacturing.

X23: Committed to innovation, research, growth and scale-up, X23 is a private and independent, multidisciplinary, self-sustaining research centre founded in 1999, registered at MIUR at #60954DHH. X23 catalyses multidisciplinary pioneering projects, applying its own methodology, and committing a bland of high skills in R&D, growth and scale-up

process to make them unfold into the real world. Innovation is our passion. We are deep into the digital technologies applied to skills, entrepreneurship, R&D and we cooperate with 250+ international organisations across the globe.

GALILEO SCIENTIFIC PARK (at Padova Innovation HUB): The Galileo Scientific and Technological Park (PST) is a Consortium company participated by the Chambers of Commerce of Padua, Treviso, Vicenza and Belluno, the University of Padua, the Municipality and the Province of Padua, the Cassa di Risparmio di Padova and Rovigo Foundation, and Veneto Innovation. PST's mission is summarized by the motto "*know how to innovate*", supporting the competitive ability of companies.

ENTREPRENEURIAL HUBS, INNOVATION and BUSINESSES CENTRES

Paradigma, Exponential HUB: Paradigma is a new, self-sustainable, replicable and scalable innovation centre for exponential technologies, engaging a social and economic broad impact. Thanks to an experienced team of advisors and professionals, Paradigma selects advanced and excellent start-ups and spinoffs to create their own open innovation model, asset based, to supply products and services to an ecosystem of SMEs, investors and institutions.

Talent Garden (TAG): Talent Garden Padova is a co-working space, open 24 hours per day, dedicated to freelancers, agencies and start-ups operating in the fields of communication, especially web and digital.

CNA: CNA Padova is a category association specialized in the craft and SMEs system, both those that perform production and manufacturing, and those that perform services and processes. CNA associates about 5,000 companies in the Paduan territory. CNA's mission is to make the most of small and medium-sized businesses, promoting their digital skills, economic progress, fundraising campaigns, and social impact.

PUBLIC AUTHORITIES

Chamber of Commerce of Padua: The Chamber of Commerce of Padua intends to act as a point of reference and as a driver for the socio-economic development of our province, serving businesses, consumers and other stakeholders with efficiency and professionalism. The Chamber of Padua is committed to contribute to achieve growth and development for the province not only limited to the "business eco-system" but also in the broader framework to the general interests of local economies.

INDUSTRIAL BODIES

The whole "ZIP Consortium" of Padua: 10.5 million m², 1400 industries, 7 km of tracks; 5 service centres with post offices, hotels, restaurants, banks, professional offices, services to businesses and individuals; 30 km optic-fiber ring). The Industrial Area of Padua Consortium is a public entity founded in 1956. Main shareholders are the Municipality of Padua, the Province of Padua and the Chamber of Commerce of Padua. The foundation purpose was to act as an enabler for the economy of the territory, creating infrastructures and offering tailored services to facilitate the industries and enterprises growth.

NON-FOR-PROFIT, CIVIL SOCIETY

Fenice Foundation: Fenice Foundation is a non-for-profit dealing with sustainable development, renewables, new business models. The Foundation created a Green Energy Park by the recovery of an abandoned area of 5 ha. fully dedicated to the development of renewables and green energy solution and to consultancy services.

Padova University Alumni Association: It represents the entire community of University Alumni and it promotes the cultural and professional growth of its associates, bringing value at the same time to the University of Padua in terms of attractiveness and prestigious. The scope of the Association is to value the role of the Alumni by involving them in the university day-by-day activities and sharing their ideas and experiences.

UniPapiro Association: UniPapiro is a social and cultural association founded on 2016 with a view to bring value to the city cultural heritage by enhancing the historical tradition of the Degree Papyri. Working in close relationship with the Municipality of Padua, a digital Historical Archive was created: it gathers together the main and relevant historical Papyrus in the history of the University of Padua and it can be access via web on the Association website.

4.3 Resources

The overall financial resources to cover the implementation of the 3-years strategy will come from multi-channel resources:

1. In-kind funding from the Municipality;
2. In-kind contribution from the entities belonging to the "**Paduan Stake-holders High-Level Panel**", or SHHLP, contributing to the projects on the basis of the memorandum stated on the LOS annexed;
3. Structural EU funds
4. Inherent co-funding of the aforementioned on-going projects delivered at common factor

It has to be pointed out that the actual Town Council was recently appointed, thus the assessment of the financial resources to be allocated is still in progress and needs to be carefully check out. However, basing on the Budget Departments of the Municipality, the laws on force, and expenditure projections drawn by previous financial years, **we estimated a funding need equal to at least 5M Euro to achieve the missions set under the "Padua Digitrans 2021" Programme for the "Digital Transformation Strategy"** (— while the running projects have already been and are working in full cooperation though their implementation partners, with approx. **4,5M Euros**). **It seems remarkable, then, that the programme undertakes on a sound financial footing.**

In terms of equipments, Padua – as a high-income zone, with per capita income (in terms of purchasing power parity) at roughly +45% of the national average, structurally counts on solid legacy in investments. Reason wsy, the City is equipped of material and professionals resources — as seen, for instance, in the description of the broad Industrial Zone of Padua (ZIP). Partners belonging to SHHLP committed to make available experts and senior people on an ongoing basis.

The support from the EU in defining the strategy and related implementation plan will be key to further assess the first-hand estimation and to define a clear plan of action.

5

- ◆ Annex I: Letter of intent of participation of stakeholders (not mandatory)
- ◆ Annex II: Additional documentation to support the expression of interest (not mandatory)

DIGITAL

Cities Challenge

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CHALLENGE