Action Plan

June, 2022

Table of Contents

General Information:

Project name	*BETTER - Stimulating regional innovation through better e-government services*
Partner organisation	*P1 Municipality of Genoa*
Other partner organisations involved (if relevant)	*-*
Country	*Italy*
NUTS2 region	*ITC3 Liguria*
Contact person	*Ms. Enrica Spotti*
E-mail address	espotti@comune.genova.it
Phone number	*+39 0105572485*

Genoa (IT), Birmingham (UK), Gävle (Sweden), Tartu (Estonia) and Nyíregyháza (Hungary) have been working together since 2019 in the framework of the Interreg Europe project BETTER.

The partners are all public authorities selected for their specific abilities related to the project topic: Genoa and Birmingham had been working together on digital tools in the first call IE "Pure Cosmos" project and wanted to strengthen their competence in regional innovation strategies; Tartu, Gävle and Nyíregyháza bring to the partnership their expert skills in digital transformation and RIS.

BETTER wants to offer an innovative approach to a crucial priority for the EU: **encouraging public authorities to develop Regional Innovation Strategies, in which e-government solutions can stimulate regional innovation chains** (as well as improve their services).

K**ey issues** of the project and **focus** of the learning process are:

- Physical and virtual infrastructure to support innovation;
- How to develop and apply new innovative products and services;
- Processes to support new business models and cross-sector (private-public-community) cooperation;
- People and skills to make it happen.

This **Action Plan** describes the lessons learnt during the **Exchange of Experiences process** and how those will be utilized to **improve the policy instrument** tackled by the Municipality.

The learning process we use to elaborate the RAP:

We have been working to achieve the project objectives **through a process of learning on both project** level (the Exchange of Experiences process: Thematic Events, Study Visits, Import Workshops, etc.) **and partner level** (through the involvement of the Regional Stakeholder Group and MA).

In particular, the following learning stages are completed:

**Stage 1**. ASSESS NEEDS, ASSEMBLE GOOD PRACTICES trough:

- THEMATIC EVENTS that involve staff and Regional Stakeholders, focusing on the project objectives;

- REGISTER OF GOOD PRACTICES to collect and document the good practices that are relevant to partners' needs;

- BETTER RIS Matrix as a management tool to ensure that Project Partners' learning needs are met, and to provide a guide on good practices to enable policy makers to decide upon investment priorities.

Stage 2. OBSERVE GOOD PRACTICES by in-depth STUDY VISITS using the register of good practices.

Stage 3 ADOPT GOOD PRACTICES by 'IMPORT WORKSHOPS'. Experts from other partners assisted the importing partner and regional stakeholders to import their good practices and draft their Regional Action Plan.

We've also ensured the involvement of our **RSG** during the whole project through online meetings, communications and – when possible – in person meetings. We had them as guest expert or participants to events. We also ensure they had access to the materials related to the study visits and workshop, so they can actively be involved and updated on the project activities in general.

The involvement of the **MA** was also crucial: we worked very closely to set out learning needs, to discuss good practices to offer and to set our action for the RAP.
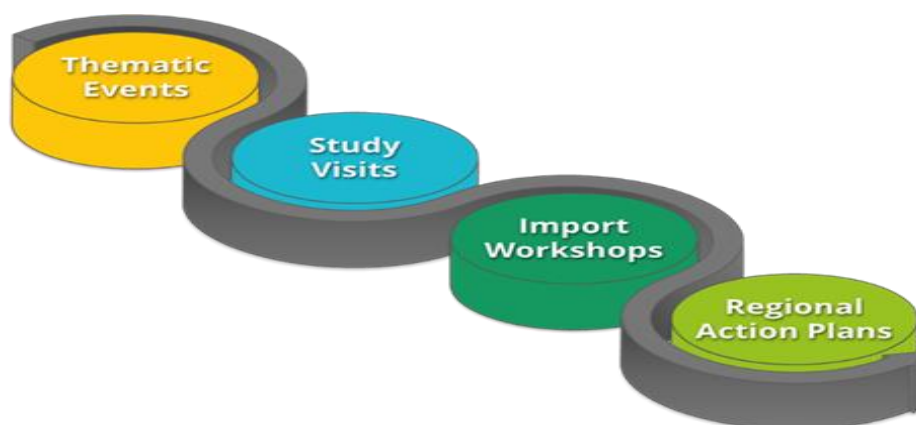
Image courtesy of Municipality of Nyíregyháza

Policy context

POLICY INSTRUMENT

Policy type	☒ *Investment for Growth and Jobs programme*
	☐ *European Territorial Cooperation programme*
	☐ *Other regional development policy instrument*
Policy name	*OP-ERDF 2014-2020 of Liguria Region* *REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe)*

Policy instrument addressed:

The **OP-ERDF 2014-2020 of Liguria Region**, in particular **TO 1 "Research and innovation",** in line with the overall regional innovation strategy, focuses on enhancing the research and innovation system as a driver of regional development and territorial competitiveness. Furthermore, the Ligurian Operational Programme contains, in **TO 2,** the **priority 2c** that is completely dedicated to **strengthening the application of ICT for e-government services**; the goal is the strengthening of the regional system, upgrading the regional ultra-broadband infrastructure and service innovation by re-using the existing infrastructure, in line with the objectives of the European Digital Agenda and of the Italian Digital Agenda.

This is the starting point for the development of **"transversal system actions" towards the digital P.A. model** based on: dematerialization of processes, interchange of data, creation of large records certified and certifying and open databases, provision of common services at the level the process of simplification and enable the implementation of Open Government, and "sectoral actions" with the dual objective of increase territorial cohesion and competitiveness, primarily addressed to areas of specialization on the territory.

The **need of improvement** through the abovementioned objectives is caused by the following weaknesses:

- limited diffusion of the technologies in the processes of digitalization of public services, both inside the institutions and towards external users;

- not always adequate accessibility of websites and the relative diffusion of telematic services;

- not yet widespread and exploited regional eGovernment with interoperability by users (citizens, businesses, intermediaries), simplification for citizens and enterprises: dematerialized, integrated and interoperable digital services, improved access to public data (open data);

- simplification of processes: payments, procedures, infrastructures etc.;

- absence of artificial intelligence applied to e-government solutions.

The impact of COVID-19 on the project's activities and objectives:

The pandemic had an undeniable impact on the Exchange of Experiences process – both within the partnership and regional stakeholder group. Being unable to travel for a long period of time had an impact mainly on the interregional learning process, at its beginning stages; we had to reconsider the way we communicate with our stakeholders and MA, due to the pandemic related restrictions and we also had to establish an effective way to share and gain information and knowledge from the partners.

On a positive note, we got the chance to attend a higher number of events thanks to the online format, so – once we get used to the new technology - we got to consume a wider range of knowledge and really explore the partners' GPs.

Given the focus on digitalization, there is no doubt that the forced evolution towards new technologies and improved ways of communicate had an impact not only on the project's activities, but also on **the development of the project in terms of contents, learning needs, policy decisions, priorities for policy makers.**

The unprecedent economic, social and health crisis that has been affecting the member states, **forced the lawmakers to act with specific, immediate and extraordinary measures that impact the economy.**

The additional resources provided from the EU as **Recovery Assistance for Cohesion and the Territories of Europe ('REACT-EU')**, guarantee assistance for fostering crisis repair in the context of the COVID-19 pandemic and its social consequences and for preparing a green, digital and resilient recovery of the economy.

In order to **complement the actions already available under the scope of support of the ERDF**, as Investment for Growth and Jobs programme, as extended by Regulations (EU) 2020/460 and (EU) 2020/558, Member States are allowed to use the REACT-EU resources, also, in the sectors most

affected by the COVID-19 pandemic and needing rapid revitalisation, **such as support to SMEs, tourism and culture, for investments contributing to the transition towards a digital and green economy,** for investments in infrastructure providing non-discriminatory basic services to citizens, and for economic support measures for those regions which are most dependent on sectors most affected by the crisis.

The work of the Municipality has been highly influenced by the national and international policies and now more than ever the focus has to be on **overcome the actual crisis with innovative, collaborative and engaging policies** to achieve a structural change, focusing on **innovation in the public sector and raising the awareness, trust and e-governance skills of the citizens**. Improving the existing measures in place concerning innovation and e-governance and creating new ones about awareness-raising and citizen participation can help ensuring that truly innovative and user-friendly solutions are born and they will be used by the target group.

RAP Idea: General Background

The process we went through to select the GPs and the actions we decided to implement, **could not ignore the social and economic needs that the pandemic crisis imposes to put at the center of the national and local agenda**.

In this context, modern technologies and opportunities offered by digital solutions represent the key factor to respond to the moment of crisis and, at the same time, **innovate the digital services offered to citizens and business in the area, encouraging the ecological transition of the entire system**.

It was necessary to rethink the way in which the public administration approaches **design of innovative digital services by focusing on the end user**, starting from the **observation and comparison** of the different emerging needs, to guarantee an **effective, simple and responsive service** given the needs of the stakeholders involved (citizens, tourists, SMEs and small independent business).

The IDEA:

During the period of restrictions due to COVID-19, one of our colleagues was reached by a business asking if he would have been interest to buy traditional Sardinian local product. They offered a great choice from a selection of local fresh products and offered to ship everything to him. When he asked why they had thought he could have been interested in buying typical products from Sardinia region, they said that they were contacting people all over Europe with a typical Sardinian surname, assuming they could be interested in buying and support business and products from their / their family's "homeland", especially if they haven't got the chance to travel back to visit any time soon.

The marketing strategy was successful and made him and his team think how the public administration could help and support local Ligurian small business living a deep crisis during the pandemic due to the challenge to adapt to the novelties of e-commerce, also because of the "peculiarities" of their commercial offer, bringing back - at the same time - tourists to visit and discover the city in a new, innovative and phygital way.

Challenges:

According to sector studies, in just one month since the beginning of the health crisis due to Covid-19 there has been an **evolutionary leap of 10 years towards digital**: the purchasing habits and

behaviors of Italian consumers have shifted in favor of e-commerce, which has guaranteed continuity of service for numerous activities and for citizens.

The need is to implement the digital achievements of recent years, **taking advantage of new technologies to expand the knowledge for implementing regional services** and products and not to forget the small and medium-sized local realities in need and the preservation of the peculiarities of **historic small business and traditional crafts**.

Besides **small commercial activities and SMEs**, also **tourism** is one of the sectors most affected by the crisis following the pandemic and Liguria Region is suffering major economic consequences.

The objective is:

1) to **welcome tourists back** by simplifying the touristic offer and making their visit more interactive and also for citizens and locals to experience the city in a new prospective;

2) to help the business sector, especially the small retail one, considering the new consumer behaviour and the evolutionary leap towards digital that we are witnessing.

The strategic objective is to develop a **tourist-cultural and social ecosystem** through the promotion of the city, on foot or by electric public transport, aimed at citizens and tourists, who also have the possibility of purchasing high quality organic products, controlled, verified and produced locally.

The project is based on the **integration and optimization of existing systems (portals, apps, ticketing, etc.), using new features, apps and with the AI & Partnership Intelligence**, in order to analyse processes and re-engineer, the models used and the resulting strategies can also be put to use in other contexts, for example in the metropolitan area.

The digital transition, which the Administration intends to achieve with the **phygital project,** follow these strategic lines:

- The digitization of **information paths** to facilitate access for tourists;

- The **usability and technological interoperability of territorial tourist services and digital services for citizens;**

- The digitization of **UNESCO material assets,** which become intangible thanks to enabling technologies.

In this way, the Administration contributes to re-launch the Historic Centre, already an UNESCO World Heritage Site, **promoting tourist-cultural products and services, strengthening the knowledge of traditional and local crafts, promoting visits to the Historic Centre to virtually**

attract and loyalty new local, national and international tourism.

The opportunity: support the retail trade and give visibility to local businesses

*a view of Genoa historic center

The city of Genoa and its **historic center** (the bigger one in Europe) have all the potential to make its historical, artistic and cultural heritage a lever for the revival and development of the city.

In addition to the enormous difficulties related to the Covid-19 pandemic, every day **the small-local business lives an unequal competition with large-scale organized distribution (GDO), supermarkets, department stores and shopping centers increasingly present in the different neighborhoods of Genoa.**

It is clear the need to support with tools already available the small city trade, heart and blood of the local food, wine and commercial tradition, a reference point for the community also for social purposes and inter-generational exchange, as well as typical and high-quality organic products.

In this context, modern technologies and the opportunities offered by digitalization represent the key factor to respond to the crisis and, at the same time, innovate territorial commercial activities, encouraging the ecological transition of the entire system.

Small and medium-sized local businesses need to advertise their business and to do so through available tools. In a substantially improvised way, neighborhood stores are taking a new path, the one of the **digital marketplaces.**

Phygital definition

Phygital is the concept according to which it is possible to use technology to build a bridge between the digital and physical worlds, with the aim of providing the user with unique interactive experiences. The term is used to define all the actions in order to create **an integrated ecosystem in which the physical and digital worlds coexist.**

There are three elements closely related to the concept of phygital:

- **Immediacy**: ensuring that things happen at a precise moment;

- **Immersion**: making the user protagonist of the experience;

- **Interaction**: generate an exchange, necessary to activate the most physical and emotional part of the purchase process.

To achieve an authentically phygital experience, it is essential that there is a technology that can promote immediacy and immersion on one side, while on the other hand physical interaction must be introduced in order to engage the user.

The immersive experience can start with the **navigation of digital maps**: the user can move within the virtual city independently and explore the alleys of the historic city center by immersing himself in a walk that offers the opportunity to visit the beauties of the territory and invites you to shop to local businesses.

The system can also add a virtual layer to the user who is visiting the (real) places by proposing *push* notifications with offers and curiosities or appointments for events with the option to save bookmarks for a virtual visit or purchases to be made at a later time, inserting products in the cart or appointments in the agenda.

Phygital Tourism in the Historic Center of Genoa:

The Historic Center of Genoa is a real open-air museum. Streets, parks, libraries, *"caruggi"*, shops, old palaces and historic buildings, are the places where to develop **street art**, **light installations**, **light games**, **sensory experiences** (made of sounds, music, scents and flavors of the city), temporary installations and historical reconstructions to activate new innovative forms of relationship between technology, contemporary arts, urban context, history and nature, involving subjects at local, national and international level.

In summary, there are all the features to attract tourism and all system components to fully enjoy the city.

The "*traditional*" places of culture, monuments, ruins, historic buildings, but also museums and libraries, are sometimes at risk of expressing their full potential more for their architectural features, than for the treasures they have inside.

Instead, there are places that speak to the contemporary citizen/tourist only if they open to the city and overcome the historical conservative function, at best sacred.
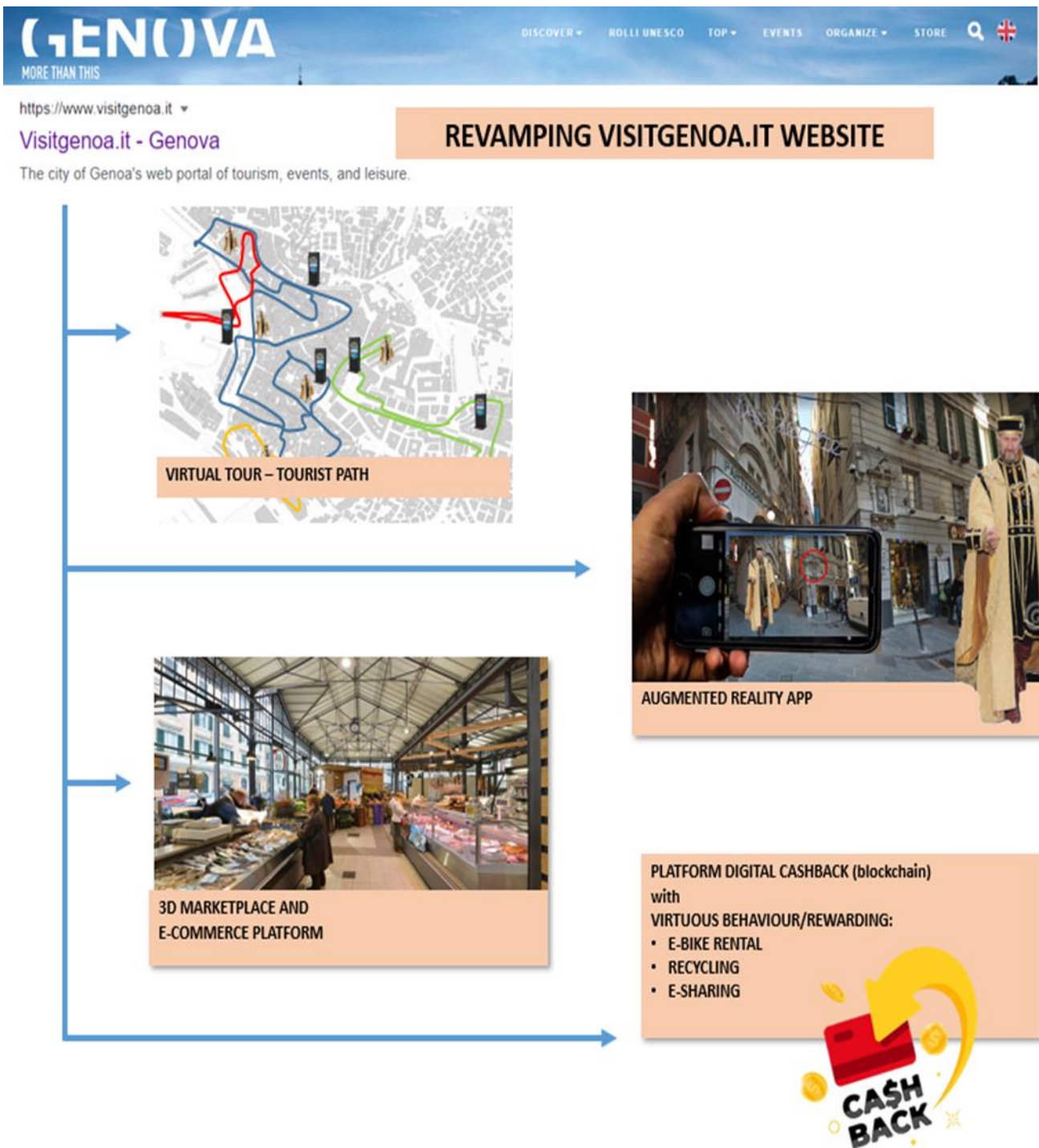

* *Piazza San Matteo, Genoa*

* *Historic Bottega, Attilio Cavo, Genoa*

1. Detailed Action:

ACTION 1 – Rationalize the Touristic Portals and Designing the Touristic Offer in Genoa:

Background and key learning points from the Exchange of Experience process:

Users can discover the heritage and excellence of the city in terms of Tourism & Cultural Heritage, through the portals *www.visitgenoa.it* or *www.museidigenova.it*, but also *www.genovacitypass.it* or the Rolli Palaces App, to buy museums and sightseen **tour** tickets. **Besides different payment services**

and platforms. The wide and diverse variety of portals for different touristic activities can lead to confusion and dispersion of the users looking for easy to understand, simple and fast results.

It is necessary to make the whole service closer to the user needs: the main objective of this action is to simplify, rationalize the touristic portal offer, fostering the user experience and cutting steps through process mapping, improving the service as a whole in a holistic view, putting the developer in the user's shoes.

The current state: variety of portals for users

During the interregional leaning phase, we focused on a new and efficient way to provide innovative services to the community.

The exchange of experience process has been eye opening to better understand our needs as a public body **and to dive deep into a better way to design innovative e-services using** the Design Thinking method.

During an **initial learning phase**, in Gävle, at the first *Thematic Event (29-30 of October 2019)*, we

had the chance to learn what kind of physical and virtual infrastructure can better support the process for innovation.

During the TE held in *Tartu (27-29 of January 2020*) we discussed about the development and application of innovative products and services, regarding in particular public administration products and services to enable business innovation (good practices concerning the development of accelerators, incubators, HUBs) and their self-sustainability, e-governance solutions for a win-win public-private partnerships and how can public administration designs facilitation processes to support and create opportunities for open innovation.

After assessing our needs and in order to explore further how to better design innovative e-services, we had the chance to learn from Gävle (*Study Visits in 27th of October, 2021 and 1st February 2022*) how service design works in Gävle Municipality and in particular: the "method" *Innovationsguiden* (Innovation Guide) by the Swedish Association of Local Authorities and Regions, the organization of the "*Digital renewal*" team, start, set-up and collaboration with other teams/professions, integration and working with the mindset/methodology within the municipality, examples of working methods in different projects. Regarding in particular e-services design, the partner showed us examples of developed processes/ e-services end the benefits for the end-user as well as the municipality**.**

These are the main lessons we have learnt **during the learning process are**:

a) the importance of design **services** *having the end user in mind (human centred design)*: to design better services, you need a holistic view of the service itself and focus on the user journey;

b) digitalization **is not a "***technical issue*"*, but it is all about evolvement of society, cultural and behavioural changes, business development, processes, change management, innovation, culture and leadership;

c) *simplification is key*: reduction in process time, eliminate unnecessary steps, rationalize what you already have;

d) *networking and collaboration:* SMEs engagement is crucial, but **so is** business support**.**

What is Design Thinking/Service Design?

"It´s not just a method, it´s a mindset"

Service design is a process of development to create solutions from the user's perspective, together with the end users.

Service design aims to **manage** and design infrastructures, people and communication strategies with the **goal** of improving the interaction between user and business/public bodies.

It is a way of solving complex problems in undefined situations, a person-centred method based on the generation of multiple possibilities and different hypotheses.

It can be defined as a style of thinking that combines:

- deep empathy towards users;

- immersion in the context of the problem to be faced;

- creativity for the generation of solutions and observations;

- a data-driven approach when it comes to assessing the quality of solutions.

With this new vision, the user and his experience are **at** the center, practical and innovative solutions are found to recreate, redesign, rethink the service and its usability by the end user. Starting from an existing object, we try to renew it in order to improve it.

The Design Thinking process is structured in 3 fundamental steps:

- Definition of the problem: starting from the study of the target (customers who use that product /service) and working in multidisciplinary teams, the problem is identified through steps: exploring reality, brainstorming of solutions, project hypothesis, **e**valuation of solutions**. T**he analysis starts **by identifying** all points of view, determining the touchpoints (points of contact between offer and demand) in order to identify the best solution;

- **Possible** answer**s** to the problem **(try and fail)**;

- Discussion of the solution.
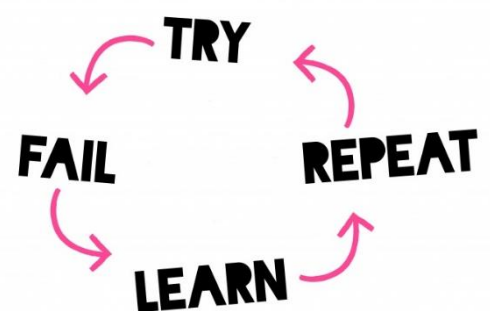
The connection between Design Thinking and Service Design

Service Design is the practical application of Design Thinking.

The method can be used for uncertain contexts and complex phases (e.**g.** the beginning of an innovation process). The core of service design thinking is precisely the user and his experience at each touchpoint (User-centred vision as in Design Thinking), always working with empathy.

Even in-Service Design, the same processes as Design Thinking are used and work in multidisciplinary teams to stimulate creativity and analysis.

Doing service design means improving services starting from the needs and desires of the user and experimenting with new approaches to design for and with him an effective **costumed** journey. Service design therefore aims more than to create connections, to design interactions in a more universal perspective, considering the whole (*holistic view*), with the possibility of acting on the general trend even during construction.

It is a new way of thinking and is proving to be increasingly effective for user, internal resources and business, which today require professionals in the sector to design better strategies and to create new types of services.

How we adapt the lessons learnt during the project to the local context: analysis and method

The idea is to approach the action from a new prospective, starting with a holistic view of the service, taking the user role, and asking ourselves how to facilitate, simplify and make easier for them to enjoy the visit of the city in a short/medium period of time, having an interactive experience.

First of all, it is necessary to link the elements of technological innovation and the tools chosen to channel information and services building a good organizational model that allows the stakeholders involved to make the most of their characteristics and also the system to work properly.

From the service design and e-services/digital solutions adopted in Gävle Municipality, we learnt that the first step to design innovative services is **to appoint a stable working group**, composed by staff members/experts originally from different departments of the organization, working together for the duration of the project in an agile and interactive way. The idea of having different expertise and competences from the municipality staff coming along in a semi-permanent and organized way is something new for our organization, engaging also stakeholders and end-users, making them an active part of the process.

Due to the complexity of the project and the need to ensure specific and continuous technical-administrative support for the implementation of the interventions, it is therefore necessary to put together a **working team at a strategic level**, adding thematic sub-tables if useful for the different project components, keeping in touch with stakeholders.

As for the **methodology**, we learnt that simplification is key: do less, observe the end-user needs through process mapping and a holistic view of services: the working group will be activated in an interactive mode through brainstorming, process mapping, observation and use of DATA for the first project phases, supported by statistical elements, informations, studies, case studies, etc. to be found or available. It will be **crucial to get in touch with the organizations/associations** that represent the business (Chamber of Commerce, Historical Retails Association) to better understand their needs and develop the design idea**: w**orkshops, interviews/dialogues will be organized to deepen the point of view of the business representatives.

Once the potential and feasibility have been analyzed, each project phase will consider the actual and potential infrastructures as well as the available solutions (make or buy).

The project aims to complete elements already existing and in use, and create some specific products defined within work packages (*deliverables*)**, in particular:**

1) E-Platform (using the CMS centralized model) to aggregate all the DATA, services, graphic elements, audio and video;

2) Web-App for guided tour, new path in the old city center, marketplace design, with augmented reality;

3) Web-Portal for visiting the historical center and have access to the **virtual market.**

These are also some of the different design components to manage:

- analysis, design and implementation of infrastructure, e-commerce platform, service display channels;

- for the digital marketplace: collection and publication of the contents of each store, 360° visit of the store, physical and virtual *URL* for video calls or access to social networks, images and videos of the store, list of products, price and discounts, quality chain, territorial specificity of the product, etc.;

- support service: editorial, technical and journalistic support for promotions and shop details;

- coordinated system management, administration and first and second level call-center.

Technologies and connectivity requirements:

Enabling infrastructure is outside the scope of this project, but this project cannot prescind **from** the implementation of services and project concept.

It will be essential to have a mix of technologies and connectivity **tools**, although outside the design perimeter, but **necessary** and capable of enabling the development and use of digital services of innovative solutions that will be applied in tourism, cultural, economic and social (Ultra Broadband; Wi-Fi; 5G; Augmented Reality; Three-dimensional visualizations; Audio and video components; Systems interoperability; Sensors; Video-surveillance systems; Intelligent lighting; Data analysis systems).

2. Sub-Activities:

A) *Phygital development and revamping of the website «Visit Genoa»;*

B) *Augmented Reality APP;*

C) *Digital Marketplace;*

D) *Rewarding Mechanism.*

A) Phygital development and revamping of the website «Visit Genoa»

VIRTUAL TOUR – TOURIST PATH

The starting point and source of information is the model of Google Maps to walk in the Old Town with a trust guide. Then will be included, within a system of maps of the city (a model of *Google Map*s customized) as many POI (Point of Interest) as each point of cultural, artistic, historical interest, museums, churches, shops, site for waste collection, historical "*botteghe*":

- Business points of interest will be experienced by entering the store (will be possible to do a virtual 360º visit and the video-call with the shop owner): the POI will contain the list and the card of all the products on sale, it will activate the shopping cart, the home delivery service and the possibility of receiving orders directly on the most used messaging apps (e.g. WhatsApp or Telegram) or book the purchase;

- **<u>Cultural, historical and artistic points of interest</u>** can activate, by clicking or using the automatic activation of proximity systems, the generation of *push* notifications for the display of interactive guides: it is much more amusing to discover the city finding in the *piazza* and in front of the historic buildings famous and historical characters (in the form of holograms, found with geo-localization and proximity systems that interact with Augmented Reality) in the streets of the historical center illustrating to the user everything about the history and the traditions of the city.

The goal will be to reconnect citizens and tourists to an innovative experience that, hopefully, creates new paths and curiosity. An experience that reawaken the needs of sociality, technological progress and sharing that are typical of our socio-economic context and that become a real opportunity to rethink the contemporary city and to enhance its historic center, also and especially in an ecological key.

Tradition, history, culture, community can and must become attractive pole of a new way of conceiving the urban context, the services to the community, the common goods; a smarter way, safe and sustainable, that links the challenge of new technologies to a city more inclusive and contemporary starting from the 113 hectares of its Old Town.

In the new website, the user will activate the stored paths, create new ones and activate the virtual tour functions.

From the CMS (content management system) of "Visit Genoa" the user is able also to store:
• 	Paths;
• 	Place the path on the portal and georeferenced it;
• 	Avatar and audio guide videos.

It is possible to realize, in addition to the stored paths, new paths joining the Point of Interests chosen by the user; the path realized, which must be on the streets covered by street view, can be saved in the reserved area in the CMS.

By selecting a route, the user can activate the **Virtual Tour function**: on Street View the user takes the chosen route. The presence of a POI provides the opportunity to stop the tour to listen to the avatar or enter sightseen illustrated by 360º photos.

The user can follow the path, listen to the avatar, visit the interior of an architectural site: all these actions entitles the user to win "Green Coin" that will be collected on blockchain.

B) Augmented Reality APP:

APP AUGMENTED REALITY
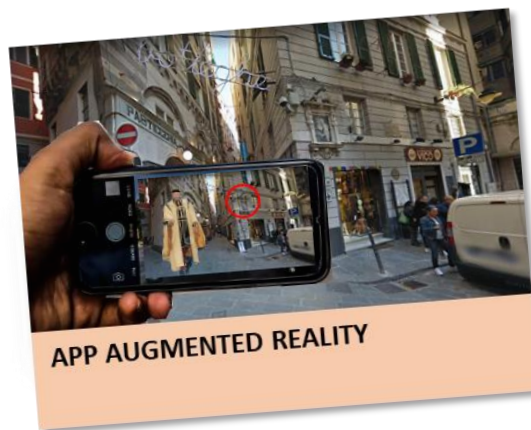
In the APP will be provided extremely contained features. In fact, in order to avoid unnecessarily overload and simplifying the steps, we plan to send all the features back to the website. By entering the CMS of «*Visit Genoa*» **the APP will store the paths, holograms and audio guides, and will be able to accompany the user through the streets of Genoa.**

Through the camera of the mobile phone will be displayed the real surroundings with the overlay of arrows that indicate the chosen path. The approaching of a Hologram/POI will activate an Alert (sound or vibration) to warn that the user can activate information about what they are seeing.

It is possible to store in the "reserved area" POI to listen at another time, through the "bookmark" function.

Listening to the avatar entitles you to "Green Coin" that will be collected on blockchain.

C) Digital Marketplace

Marketplace 3D

The apps, thematic portals, social networks, the digital counters are accessible by everyone, also through their smartphone. These tools are in fact the most appropriate ways to provide services, promote paths, learn about initiatives and events, discover little-known local excellences and peculiarities, reach the stores, their products and gadgets and be able to buy them at any time.

Anything that does not involve physical movement in the city helps to reduce pollution and waste of time.

Today, as in the past, it has always been the **Market Square (*Piazza del Mercato*)**. The challenge is to create a digital version, accessible anytime and anywhere, through digital channels, thus allowing users to live a new shopping experience and giving business an additional tool to boost sales and reach a wider consumption base.

Through a web app, if you are physically present on site, but also online through a dedicated website, in the real or virtual journey to the historic center of the city of Genoa, the user will then find theirselves immersed in a virtual Market Square, a **three-dimensional city municipal market** where they can virtually enter and enjoy an alternative shopping experience.

The market will be pictured within a defined artistic frame, with the art nouveau style of the city markets, with rooms-desks-shops left and right on several floors and spaces in the center.

The search will allow the user to view the stores (each with a 360 $^\circ$ vision), get in direct contact with the owner via phone and video-call, connection to social networks and YouTube video channel, but also of course access to the list of products placed in the cart.

If users are physically located in the Historic Center of the city, they are able to see and visit the virtual market positioned in augmented reality. From home, instead, the user can visit a dedicated website, with an extraordinary visit inside the virtual market 3D.

At the heart of the virtual 3D municipal market, a mega screen will contain the offers of the day, advertising, sales, discounts, certification of products, promotions.

At the exit of the market, open to four directions of orientation there will be references to the model Google Maps system to regain continuity of service.

Inside the virtual market the user can hear in the background the noises of the market, the Genoese music that recalls it, the shouters of sales of the benches, etc., to recreate the atmosphere of the reality and develop a truly immersive experience.

The innovative character of the proposal lies both in the use of a mix of new technologies, visual arts, development of sensory experiences, games of light and music, lighting and in experimentation within a geographical context, cultural and social so particular, characterized by the presence of a priceless historical, cultural and artistic heritage, immersed in a large city center made of alleys, arches, squares and *caruggi* where the past is the foundation of the present.

The virtual market will collect the adhesions of other shop-owners available to enter the virtuous system of international promotion of products and goods.

Some products will be clickable, the click opens a tab on the product with information of various types. Product information comes from Visit Genoa's CMS. Buying products entitles you to Green Coin that will be collected on blockchain.

The administration will implement an agreement that each owner must sign and for which it undertakes to set up a plastic free area, to use biodegradable bags, to carry out the separate disposal of waste, to request zero km products, to verify the quality and treatment of products (organic and without exploitation), commitment to switch to LED lighting, to use electrical means for deliveries or use of certified and qualified delivery companies, etc.

Training and approach to digital: for the success of the initiative, it will be crucial to help business get closer to digital sales channels and create new business opportunities. In fact, it will be necessary to consider the possibility of offering (free of charge) to exhibitors simple training guidelines on how to open and manage an online store; concrete support for merchants and artisans in the city to reach their customers, near and far.

From the Market the user can access an external e-commerce portal of the typical products of Genoa, with no data passages. Buying from the e-commerce portal typical products, km0 products and plastic free products, entitles the user to gains Green Coin that will be collected on blockchain

D) Rewarding Mechanism:

Users can also accumulate points through sustainable and virtuous behaviour (e.g. bicycles and/or electric vehicles rent, use of public transport, etc...).

Through a "Registration form" (check OpenID) users can enter a reserved area, to find:

    a. Custom path logging;

    b. Green coins collected;

    c. Bookmarks Using blockchain, the reserved store area the green points available to use.

The user will have his own digital wallet related to the blockchain in which the green-coin collected will be stored and consumed.

The user will check with the supplier the applicable rules for the definition of the actions and the relative API to expose. Collected points can be used for gadgets, discounted tickets, etc...

The points used are communicated to the blockchain which will decrease the value of the accumulated points.

Players Involved:

1. Liguria Region – Managing Authority;

2. Liguria Digital - develops the digital strategy of Liguria Region and the associated bodies for the citizens, businesses, tourists and the Ligurian public administration;

3. Chamber of Commerce - autonomous body that performs functions of general interest for the business and consumer system and promotes the development of the provincial economy;

4. Regional Stakeholder Group – made up of various representatives from public, private sector organisations that represent the decision makers for the region;

5. Software house;

6. Staff of the Municipality.

Funding Sources:

OP-ERDF 2014-2020 of Liguria Region and sources for REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe), including reimbursement for Staff costs.

The project has been approved by the Municipality:

Project Id Code	Ge6.1.1c
State of Implementation	technical-economic feasibility

Annexes

Action descriptive sheets, timeframe and planned costs

A) Phygital development and revamping of the website «Visit Genoa»

NAME	Phygital development and revamping of the website «Visit Genoa»
SCOPE	The strategic objective is to develop a tourist-cultural and social ecosystem through the promotion of the city, on foot or by electric public transport, aimed at citizens and tourists.
MAIN OUTCOMES	The main outcome will be an E-Platform (using the CMS – Content Management System – centralized model) to aggregate all the DATA, services, graphic elements, audio and video, characterized by: ● Website with several new functions (e.g. "Virtual guide") ● Totem Touch Points in strategic points of the city
DESCRIPTION	The portal Visit Genoa is the tourist's first contact with the tourist-cultural offer of the city. The aim is to create a portal that transforms the way of approaching the study of the destination of users' journey: the scope is not only to tell what are the attractions of the city, but is that the guest will learn to search for and then appreciate everything that Genoa hides and which is nice to discover by turning every corner. The first goal is to Update and redesign "Visit Genoa" - The city of Genoa's web portal of tourism, events, and leisure - with the following activities: ● Integration and optimization of existing systems (portals and APP) referable to the Municipality of Genoa ● Update the website with the *Phygital* Tool ● Creation of the coordinated image for the "destination brand" ● Revamping of Visit Genoa to update the safety and accessibility standards set by AGID (the Italian Agency for Digitalization) ● Possibility to purchase a unified card for entrance to the Museums which includes (if required) public transport in the city. If requested, the possibility of discounts and free tickets for teachers must be provided. ● Function What to see in Genoa according to the time availableProposals for tourist routes and indications for public transport ● Curiosities and stories function. ● Create a space dedicated to tourists and citizens who intend to post stories, curiosities, news, videos, photographs and reviews about Genoa and their stay in the city is added to the home page.

Regarding the Phygital tool, the main goal is the Implementation, within the "Visit Genoa" portal, of a series of services and technologies designed to offer tourists, before coming into contact with the Genoese reality, an immersive experience of visiting the city and its historical, artistic, cultural and social context:

- On the first page, in parallel with the search for the cards relating to the POIs (Points of Interest), some recommended routes will be proposed and you will be given the opportunity to create a personal route according to your interests.

- Once his/her itinerary has been created on the 2D map of the city, the user can start the virtual tour function.

- The virtual tour will be created by mounting 360 ° photographs in succession that will give the tourist the impression and the possibility of following the itineraries set as if they were really in Genoa.

- In a similar way, it will be possible to access and visit the interiors of structures (e.g. historic shops, churches, loggias ...) which will be appropriately highlighted along the way.

- The "virtual guide", a 3d avatar will indicate the POIs and can provide, if desired, information and curiosities about them.

- In order to personalise the tourist's experience, it will be allowed to memorise the routes set, remember the POIs deemed necessary for further investigation, collect the points obtained for virtuous behaviour thanks to the aid of a blockchain-based system or similar system and check which ones free gifts user have the right, a registration form and a private area will be created. (for further information see the section "Rewarding Mechanism")

- Registration will also allow the guest to be updated on the events that will take place in the area.

Third, the Purchase, configuration and installation of four Totem Touch Point with Digital Signage circuit

- The Totems will be installed in strategic points of the city subject to agreements with the Municipality of Genoa and the other entities involved.

- They will constitute one of the physical channels of access to allow the use of the services made available by the city's Tourist, Cultural and Social Ecosystem.

EXPECTED IMPACTS	- An all-encompassing portal for tourists and citizens - An easier way for the user to find information about the city - A new immersive Touristic experience (thanks to the phygital Tool)
INVOLVED STAKEHOLDERS	- Municipality of Genoa: project owner, holds a decision-making role - Liguria Digitale S.p.A, in-house company of the Municipality of Genoa. They are responsible for the website design and development

	● A.S.Ter. S.p.A., in-house multi service company of the Municipality of Genoa, which will be involved for the Totem installation
FINANCIAL PLAN	● Phygital tools, Visit Genoa portal and Destination brand design and development - REACT EU funds (50.000 € - 120.000 €) ● Totem Purchase - REACT EU funds (40.000 € - 70.000 €)

SCHEDULE	● Design:
	   ○ Web portal: 01/07/22 - 31/07/22
	
	● Development:
	   ○ Web portal and Phygital tools: 01/09/22 - 30/03/23
	
	● Totem development and installation:
	   ○ Aster quote: 01/06/22 - 30/06/22
	   ○ Approval of superintendency permits: 01/06/2 - 30/09/22
	   ○ Totem purchase and installation: 01/07/22 - 30/11/22

MILESTONES	● 31/07/22 web portal design ● 30/03/23 web portal development ● 30/11/22 Totem Installation ● 31/12/22 Totem Quality control and testing ● 30/05/23 Final Integrated Testing and final reporting - end of the action

RISK ANALYSIS	- The availability and the possibility of exchanging data and information, within the limits set by the web platform task, or by the overall budget planned for it, do not present, in principle, insurmountable technological difficulties following a strong organisational commitment. - Lack of any external specialized technical support required for the development of the web platform within the budget limits and within the time frame foreseen by the project. - Changes in the technologies used for the development of the web platform. - Frequent changes in web platform requirements and specifications. - Lack of clarity can manifest itself in the form of miscommunication from stakeholders, vague project scopes, or unclear deadlines. The result can be a lack of visibility due to compartmentalised work, budget overruns, missed deadlines, changing requirements, needing to change project direction, or disappointing results. - Due to the complexity of the project and the need to ensure specific and continuous technical-administrative support for the implementation of the interventions, it will be necessary to proceed with the appointment of a Working Group, which will carry out its activities until the conclusion of all project activities.

B) Augmented Reality APP

NAME	Augmented Reality APP
SCOPE	Promoting touristic, cultural services and typical products, strengthening the knowledge of traditional and local crafts, promoting visits to the Historic Center to virtually attract and retain new local, national and international tourism with a mobile app.
MAIN OUTCOMES	The main result will be a Web-App and mobile app for guided tour, including paths in the old city center with augmented reality
DESCRIPTION	The activity involves the supply of a Mobile App whose objective will be the provision of innovative services aimed at creating a Digital Experience for tourists and citizens and improving Digital Engagement. There will be developed mainly the following functions: - Registration of the profile. "POI (Point of Interest) Around you" It allows to view the active multimedia POIs around the user's position - the user could select a POI

	○ then, click on "show me the way" ○ The APP leads the user to the desired POI ○ During the journey, if you meet other points of interest, a vibration warns you of the presence of multimedia data and the user could see the content - Reserved Area ○ The APP will be able to show the amount of points collected (see the section D - Rewarding mechanism) , set Phygital "thresholds" and warn the achievement of objectives as well as providing information on how to spend the points with any stakeholders ○ The stored POIs and routes are displayed - Guide ○ The user chooses a path that he or she intends to follow. If previously registered; the user can also choose personal saved routes among others by browsing the Visit Genoa WEB app. ○ Based on its geolocation, it is conducted to the starting point of the chosen tour ○ Once the path has started, the user is shown, with augmented reality signals, the path to follow. ○ When he or she reaches a POI, an alert (acoustic signal, or vibration) points out the availability of an augmented reality experience Play Phygital (e.g. an Holographic virtual assistant with audio comments on the POIs located on the route, eventually could be activated also by QR codes) ○ The user can stop listening to the audio guide or continue on his path, with the possibility to store the POI in the reserved area - Purchases ○ see the section "Digital Marketplace"
EXPECTED IMPACTS	- Make tourist visits more interactive - Allow local inhabitants to experience the city in a new perspective
INVOLVED STAKEHOLDERS	- Municipality of Genoa: project owner, holds a decision-making role - Liguria Digitale S.p.A, in-house company of the Municipality of Genoa. They are responsible for the app design and development - Chamber of Commerce, Local associations and organizations in the sector of tourism and entertainment (e.g. historic associations, faith based groups,..), will contribute to insert and update contents (e.g. curiosities, events, 360° photos, etc.) - Commercial operators, e.g. the historical shops will update 360° photos of the interiors

	● Local Business associations (Confcommercio, Confartigianato, Confindustria,...) will inform and encourage local shopkeeper and craftsmen to register on Phygital app and update contents on their own activities
FINANCIAL PLAN	● Phygital APP design, development and content creation - REACT EU funds (40.000€ - 80.000€)
SCHEDULE	● Phygital APP design: start 01/07/2022, end 31/07/2022 ● Phygital APP development : start 01/09/22, end 31/10/2022 ● Content creation: start 01/07/2022, end 30/11/2022
MILESTONES	● 31/10/2022 app development ● 30/11/2022 content creation ● 31/01/2023 Quality control and testing ● 30/05/2023 Final Integrated Testing and final reporting - end of the action
RISK ANALYSIS	● The availability and the possibility of exchanging data and information, within the limits set by the app development task, or by the overall budget planned for it, do not present, in principle, insurmountable technological difficulties following a strong organizational commitment. ● Lack of any external specialized technical support required for the development of the app within the budget limits and within the time frame foreseen by the project. ● Changes in the technologies used for the development of the app; ● Frequent changes in app requirements and specifications; ● Changes in external systems with which the new app must operate. ● Lack of clarity can manifest itself in the form of miscommunication from stakeholders, vague project scopes, or unclear deadlines. The result can be a lack of visibility due to compartmentalized work, budget overruns, missed deadlines, changing requirements, needing to change project direction, or disappointing results.

C) Digital Marketplace

NAME	Digital Marketplace
SCOPE	The aim of the activity is to virtualise the reality of the city's municipal market and local shops to allow users to explore the city's typical food, wine and craft offerings.

MAIN OUTCOMES	The main outcome is the creation of a support tool for the city's small trade, which is increasingly competing with supermarkets, department stores, shopping centres and e-commerce. In particular it will be created a 3D virtual marketplace that includes: ● Showcase of typical products ● Showcase of local crafts ● Showcase of shopkeepers (self-register on the CSM) who can be contacted by video call or telephone ● Food and wine shop and recipe book
DESCRIPTION	The activity consists in recreating the spaces of the Genoese City market in order to realise a navigable version that serves as an informative showcase for local products and represents, as in reality, the digital meeting point of the city's productive and social life. Upon entering the market, the user is immersed, also acoustically, in a typical local market (enriched by historic shops and shops which will be grouped inside in spaces identifying specific product categories - Patisseries, Fresh Pasta, Clothing, Handicrafts, etc..) and walks through it freely. Typical products, or products giving rise to typical recipes, are highlighted by a symbol; clicking on them takes the user to a specific tab. From the product card, one can access a list of shops that offer it for sale. This information is obtained from the form that the seller fills in and keeps updated, and which can be found in his private area. In addition, in the virtual tour through the streets of Genoa, the user will encounter symbols indicating various activities, including: ● Entrance to affiliated shops; ● Entrance to historic shops. By clicking on the shop symbol the user can see its shop windows and what is on offer. Once having seen the shop window, the user can decide to enter the shop or return to the tour. Upon entering the shop, the user will be able to take a tour via 360° photographs to visit the interior, access the product list, and make a video call to talk to the staff. The Marketplace, unified for the market and the shops, is planned to connect to one or more e-commerce platforms, external to the public administration, to enable online purchases. The tool will allow the shopkeeper and craftsman to showcase their goods by easily and quickly updating their shop windows (even on a daily basis). For shopkeepers and artisans, who must be identified individually, access to their private area must be exclusively via the National Digital Identity System (SPID). Once logged in, they will have to fill in a form with the following business data: ● Company name

	- Address - VAT number - Product category It is possible to enter a telephone number and an email but also to indicate whether they are available to initiate a video call. It is necessary to enter the products made available and it is always possible to change what is displayed in the product showcase. In the 3D virtual marketplace, this data will be used for the metadata necessary to search for merchants supplying a particular product. Optionally, photos or 360° photos can be included, these are used in the 3D marketplace and in the virtual tour should the user decide to enter the shop. The target group is identified with foreigners, Italians and Genoese tourists, who want to travel the streets of Genoa and thus come into contact with the city's service offer.
EXPECTED IMPACTS	- Increased number of customers due to greater accessibility of the shop - Improved customer interaction with the shop environment due to the digital technology - Improved knowledge about local products and local culture, in a sustainable perspective - Relaunching the city's small trade, which is increasingly competing with supermarkets, department stores, shopping centres and e-commerce
INVOLVED STAKEHOLDERS	- Municipality of Genoa: project owner, holds a decision-making role - Liguria Digitale S.p.A, in-house company of the Municipality of Genoa. they are responsible for the marketplace design and development - Chamber of Commerce: autonomous body governed by public law that performs functions of general interest for the business and consumer system and promotes the development of the provincial economy - Local Business associations (Confcommercio, Confartigianato, Confindustria,...) in order to inform and encourage local shopkeepers to register on the marketplace - Dealers and commercial operators who can subscribe to the marketplace and provide their products to users
FINANCIAL PLAN	Design and development of the Market 3D and content creation - REACT EU funds (50.000€ - 100.000€)
SCHEDULE	**Design** of the Market 3D: 01/07/22 - 31/07/22 **Development** of the Market 3D: 01/09/22 - 31/12/22

	● **Content realisation:** 01/07/22 - 01/31/23
MILESTONES	● 31/12/2022 realising product showcases, identifying and mapping historical shops ● 30/04/2023 Quality control and testing ● 30/05/2023 Final Integrated Testing and final reporting - end of the action
RISK ANALYSIS	● The success of the project is dependent on the active cooperation of all project participants, who are involved in the activities for which they are responsible. In particular, to develop the "Digital Marketplace" action, it is essential to involve a large number of merchants, in order to create a dense network of shops ● The level of digitisation of the local dealers must be sufficient to ensure good integration with the platform and enable a complete virtual experience for users ● The usability of resources and services to be made available by third parties (e.g. data, premises, tools, etc.) must be ensured ● The system must be flexible enough to allow the later addition of shops to the database

D) Rewarding Mechanism:

NAME	Rewarding Mechanism
SCOPE	The objective is to create a tourist, cultural and social ecosystem in which tourists feel attracted, welcomed and ultimately retained, creating an induced activity to support local business and craft activities.
DESCRIPTION	Users will be able to register to a private area in order to personalise their experience and collect points obtained for virtuous behaviour and for exploring Genoa's historical shops and museums, with the help of a blockchain-based or similar system and check which free gifts they are entitled to. Physical devices will be integrated into the system to monitor and certify virtuous behaviour (e.g. using QR codes to certify visits to museums/churches/shops and with the creation of data streams to certify the purchase of goods or services). Discounts and vouchers for virtuous behaviour - called "Genovini" - can be collected for example through the following actions: • Use of electric vehicles • Use of public transport • Separate waste collection • Looking in a shop window • Entering a shop

- Listening to the guide's explanations of points of interest

- Entering a palace, museum, church, etc...

On the updated Visit Genoa site, in the section Phygital, the tourist will find:

- Registration form and instructions to collect "Genovini"

- For those who, registered, have already been in Genoa and have implemented virtuous behaviors, evidence of the points collected and virtual and / or physical rewards obtainable

Alternatively, tourists can monitor the status of their points via the app.

The target group is identified with tourists, foreigners, Italians and Genoese, who want to travel the streets of Genoa and thus come into contact with the city's service offer.

MAIN OUTCOMES	The main result will be the APP, a tool through which it will be possible to view the amount of points collected and which will alert users with notifications when targets are reached. It will also provide indications on how points can be spent at possible stakeholders.
EXPECTED IMPACTS	• Creation of long-lasting customer relationships through user loyalty; • Promotion of sustainable purchasing habits and sustainable mobility
INVOLVED STAKEHOLDERS	• Municipality of Genoa: project owner, holds a decision-making role • Liguria Digitale S.p.A, in-house company of the Municipality of Genoa. It is responsible for the development of the rewarding mechanism and of its integration in the whole system (app, on-line website) • Investee companies (AMIU, AMT, Musei, etc..): being citizen service providers will be indispensable in promoting, verifying and awarding credits for the virtuous behaviour of tourists and citizens • Commercial operators and tourism activity operators. They have the role of allocating incentives to users when they use certain services/make certain purchases
FINANCIAL PLAN	Design and development of the rewarding mechanism – REACT EU funds (10.000€ - 80.000€)
SCHEDULE	• **Web portal design**: 01/07/22 - 31/07/22 • **Web portal development**: 01/09/22 - 30/03/23
MILESTONES	• 30/03/2023 web portal development • 30/04/2023 Quality control and testing

	• 30/05/2023 Final Integrated Testing and final reporting - end of the action
RISK ANALYSIS	• Understand who the customers are, which segment they represent what their preferences are and assess the technical limitations of the systems and tools used
	• Designing balanced incentive systems, receiving rewards should not be too easy to measure actual loyalty to the company. On the other hand, the effort should also not be too high, because it can be very demotivating for the customer, especially if the reward is low
	• Lack of clarity on how the reward system works (how loyalty levels are collected, how rewards are applied, what the rules are, etc.)
	• Finding sponsors who are interested in entering the reward mechanism
	• Difficulties in finding agreements between the companies involved and difficult interoperability between their information systems for the creation of data flows confirming the use of certain services

Genoa, 27.06.2022

Name: Giuseppe Materese

Role: Project Manager

Organization: Municipality of Genoa

Signed:

Declaration:

On behalf of the Intermediate Body, to which the managing authority has delegated several functions for managing the REACT-EU (Recovery Assistance for Cohesion and the Territories of Europe) funds, we are stating by signing the present document that the action outlined in this Action Plan has been approved (Project Id Code Ge6.1.1c) and the Municipality is committed to implement the changes outlined in this document.

Genoa, 27.06.2022

Name: Geronima Pesce

Role: Responsible for the Intermediate Body, Director of the Department of Economic Development

Organization: Municipality of Genoa

Signed: