NEWSLETTER

FEBRUARY 2022

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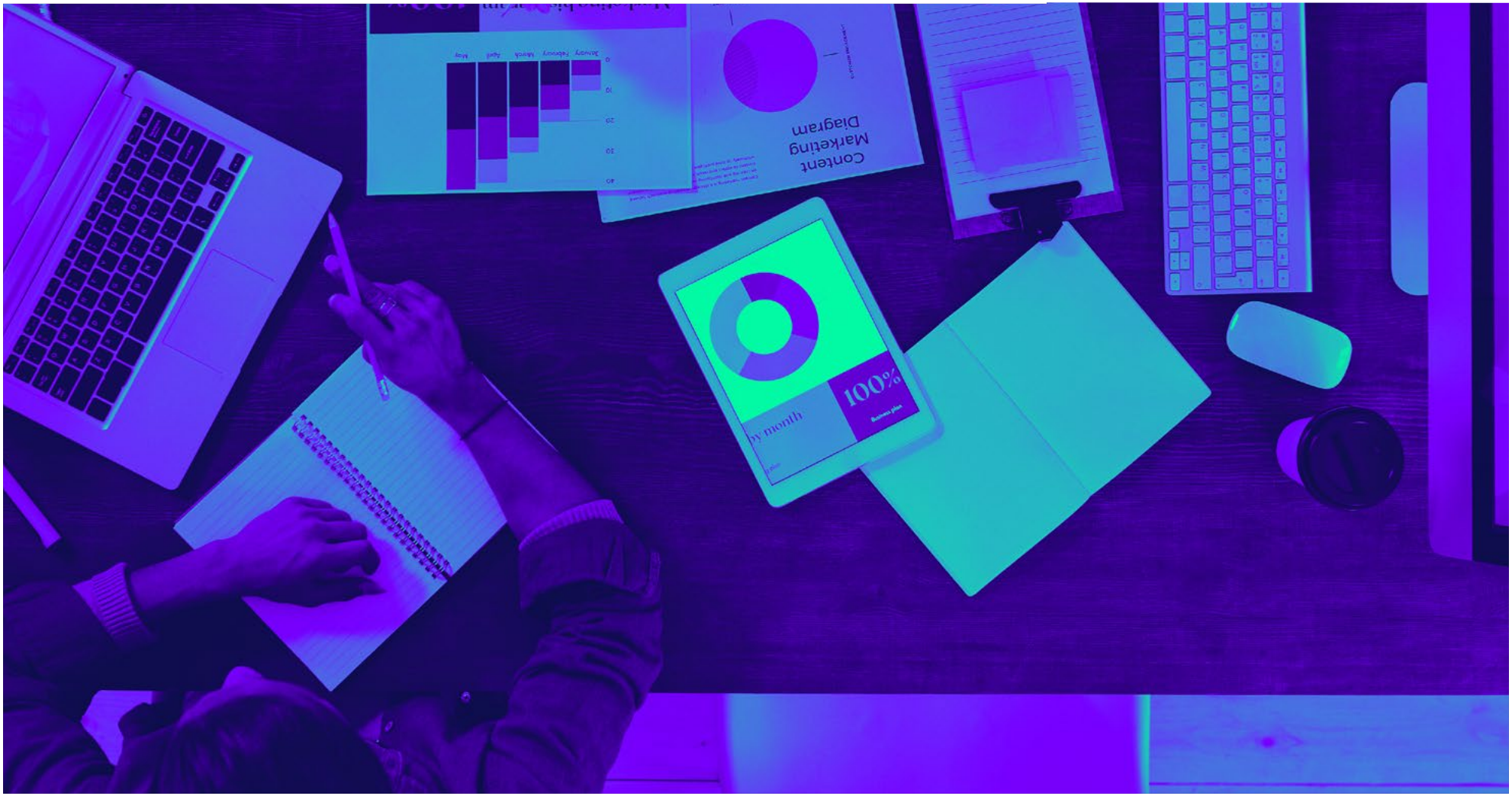

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“ Five H2020 e-governance projects, funded under the DT-GOVERNANCE-12 call, decided to join efforts in the Data Driven Policy Cluster to raise awareness about the use of the European cloud infrastructure in policy making within the Public Administrations. ”

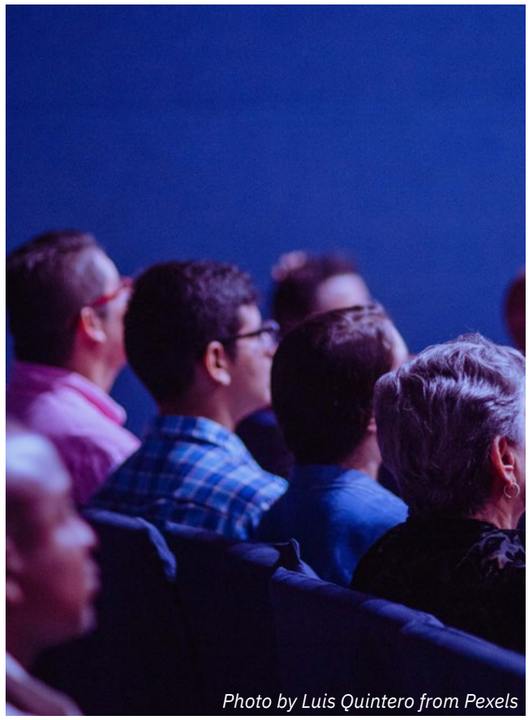


Photo by Luis Quintero from Pexels

EVIDENCE BASED POLICY MAKING IN EUROPE CONFERENCE

AI4PublicPolicy (Automated, Transparent Citizen-Centric Public Policy Making based on Trusted Artificial Intelligence), DECIDO (eviDEnce and Cloud for more InformeD and effective pOlicies) DUET (Digital Urban European Twins for smarter decision making) IntelComp (A Competitive Intelligence Cloud/HPC Platform for AI-based STI Policy Making) Policy Cloud (Cloud for data-driven policy management) published in November 2021 a Roadmap (available in Zenodo) for using European cloud infrastructures for public administrations and policy making.

The joint roadmap aims to describe how the Data Driven Policy Cluster contributes to using the European cloud infrastructure for public administrations, encouraging the public sector decision makers to embrace digital disruption and new innovative technologies in order to make more sustainable policy based on real-time information, predicted impact and citizen input.

Digital technologies have changed the world. Today people expect faster, seamless, on-demand services from their providers, and Governance is no exception. For better public services which make life easier for citizens. Public Sector decision making needs to become more agile, breaking down data silos to combine day-to-day tactical decisions with longer term policies and strategies. Disruptive technologies such as Digital Twins, Artificial Intelligence (AI) and High Performance Computing (HPC) unlock new opportunities for decision making through visualisations, simulations, predictions and intelligence that enhance transparency, increase public sup-

port and involvement, and optimise resources, handling data sources too large or complex to be handled by conventional tools.

To support this transformation, the five pan-European projects and initiatives dedicated to using cloud for data-driven policy, have joined forces to raise awareness about their cross cutting work on data and cloud-based tools for data-driven decision making.

In doing this, the five projects organised on 9th and 10th of December 2021 the first Summit on the Evidence Based Policymaking in Europe. In the first day, policy experts discussed on how to go from data to decision making. Given the complexity of our societies and the rapid generation of data, the discussion was focused on how public authorities can transform the usually slow, deliberative policy making process to one that is more agile and responsive, which develops better evidence-based policies which adapt as new data comes to light, and which are trusted, understood and contributed to by relevant stakeholders. Three Evidence Based Policy Cases (on e-Health, Climate Change and Mobility) were illustrated.

In the second day, the goal of the conference was focused on how to go from digital disruption to digital adoption. The convergence of Cloud, Big Data and AI has already caused considerable transformation across Government. With citizens demanding better experiences as their expectations shift towards quick, seamless and personalised services, now is the time for Public Sector decision makers to embrace digital disruption and new innovative technologies to make more and more sustainable policy based on real-time information, predicted impact and citizen input. The three sessions were focused on the co-creation & consultation with citizens & stakeholders, Policy Impact Analysis & Prediction, and legal, ethical & standards challenges and constraints in a digital world.

The results and recommendation of the first summit will be reported in the DECIDO Policy Brief report. ■

Unsplash photo by Guillaume Périgois

EVIDENCE-BASED POLICY MAKING IN PRACTICE: MAPPING SERVICES AND DATA TO THE NEEDS OF THE PUBLIC SECTOR

Deliverable brief:

In an upcoming deliverable, DECIDO investigates best practices related to the current deployment of big data and cloud technologies in the public sector. The overall concept of DECIDO is based on the creation of a bridge between Public Authorities and EOSC with a twofold objective: on the one hand, to widen the use of the European Cloud Infrastructure services and data to Public Authorities, on the other, to enable and prompt Public Authorities to use appropriate infrastructures, services, data and methodologies to apply a more evidenced informed approach to policies.

DECIDO wants to encourage the use of EOSC Services and Data by the public sector and on the other hand, DECIDO wants to enable and encourage public authorities to apply a more evidence-based approach to policies through a series of practical recommendations and best practices.

In this early deliverable of the project, we provide an overview of the existing landscape of relevant projects, initiatives and commercial solutions that DECIDO can build on and learn from in order to fulfil its mission. In a soon to be released deliverable, DECIDO has conducted analysis of the services and data made available by EOSC and other sources, mapping them to the needs and challenges of the public sector. This analysis will be used as a basis for the implementation, which will consist of two phases of experimentation to test the DECIDO solutions in four pilots around Europe.

Different projects, similar challenges

In total, 20 projects, similar in scope to DECIDO, have been analysed.

Although all of the analysed projects have different scopes, they often encounter similar challenges:

- They work with different datasets from different and heterogeneous data sources in a distributed infrastructure environment;
- They encounter ethical, privacy and legal concerns when collecting different types of data;
- They have to manage trust and transparency considerations;
- They all face issues when identifying the right EOSC services, tools and emerging technologies that are available.

We asked these projects what they could learn from their own project outcomes, and how they would optimise the use of big data and cloud technologies for evidence-based policy making, aimed at policy makers at EU and national level.

Among the project analysed, we find ongoing H2020 projects leveraging cloud technologies, big data and machine learning for policy making, such as POLICYCLOUD, BD4NRG, AI4PublicPolicy, SoBIGDATA++, ETAPAS, ACROSS, Search and Rescue, Urbanite, URBANAGE, illuMINEation and CloudButton. Next to these ongoing projects, a range of finished H2020 projects have been surveyed too, as well as EOSC as a whole, and the results of the study ‘Data Analytics for Member States and Citizens’ have been considered.

Need for Tools, Collaboration Channels, and a Dataset Catalogue:

Some of the tools provided by EOSC have already been used in other projects and have already reached high maturity; they can be mapped to the technical needs of public authorities and administration when dealing with big data processing in distributed infrastructures.

Data Publishing, Sharing, Showcasing and Preserving:

Zenodo is the general-purpose repository that enables researchers, scientists, projects and institutions to share, preserve and showcase multidisciplinary research results (data, software and publications) that are not part of the existing institutional or subject-based repositories of the research communities. It is founded in the trustworthy CERN data centre and is used by more than 50K researchers and 3K communities all over the world.

EGI Online Storage allows to store data in a reliable and high-quality environment and share it across distributed teams. Data can be accessed through different standard protocols and can be replicated across different providers to increase fault-tolerance

DataHub allows to publish a dataset and make it available to a specific community or worldwide across federated sites, conforming to required policies, as well as conducting data analysis and processing.

Data Anonymization:

Amnesia is a tool that allows end users to anonymize sensitive data to share them with a broad audience. The service enables the user to guide the anonymization process and decide on a flexible trade-off between privacy guarantee and data utility. The service is offered through a web interface that allows users to explore the anonymized data visually and also offers a Rest API

Data Analysis and Processing :

Notebooks-Jupyter Notebooks is an environment based on Jupyter and the EGI cloud service that offers a browser-based, scalable tool for interactive data analysis. The Notebooks environment provides users with notebooks where they can combine text, mathematics, computations and rich media output

EGI Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers.

The services described are used in conjunction so that the authentication provided through the EGI Check-in service spans the remaining process, while data stored on DataHub can be made available through to the Notebooks and the EGI Cloud Compute where, for example, can be anonymized with Amnesia.

Furthermore, EOSC does not yet provide a dataset catalogue, collecting useful datasets with public information available to support evidence-based policy making. This is part of the plan for the development of EOSC and might be available in the next 2 years, toward the end of the DECIDO project.

DECIDO will build on these recommendations and include best practices of the deployment of big data and cloud technologies in the development of the DECIDO portal: an easy-to-use portal define, manage and evaluate public administration policies in a collaborative manner leveraging services and data offered by EOSC, and by external service and data providers, including Public Administrations themselves. The DECIDO project should also establish strong communication channels so as to learn and share knowledge about appropriate tools to facilitate collaboration and cross-fertilisation. ■

Unsplash photo by Bianca Ackermann

GREEK PILOT: POWER OUTAGE IN HALKI ISLAND

Halki is a small Greek island located in the Aegean Sea, only a few miles far from the west coast of the island of Rhodes. The power distribution network of islands usually faces many problems, since virtually all small islands depend on the electricity provided by the mainland or by nearby bigger islands. As we learn from the deputy mayor Mr. Roussakis, Halki is majorly energy dependent on the larger neighboring island of Rhodes.

The Greek pilot will focus on handling the emergency situation of power outages and within this framework, in June 2021, the Greek city network "Sustainable City", a DECIDO partner, initiated first contacts with representatives of the Municipality of Halki. The island of Halki, a pioneer island-municipality in the field of energy and sustainability, faces incidents of power outages during extreme weather events but mostly during the summer tourism peroid, when the island's population and energy demands increase significantly.

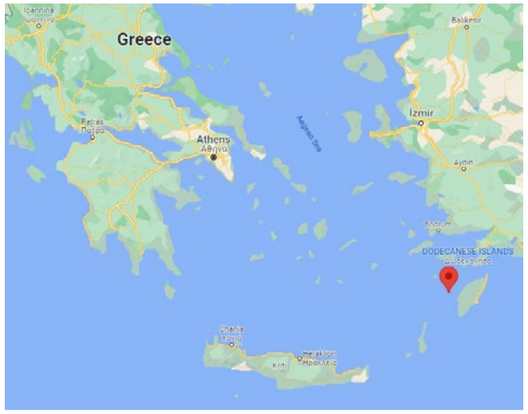
People generally consider a power outage as something temporary – and in most cases, just a little frustrating – but for a community the consequences can be far more serious than a simple internet disconnection, even catastrophic sometimes. Public buildings and infrastructure of significant importance, such as hospitals, police stations and fire departments can severely malfunction leading to even endangering the citizens' lives.

After detecting the problem of sudden power outages, the Municipality wanted to develop a resilience policy for power outages with the aim of mobilizing the competent authorities in such events and informing citizens about the municipal buildings that still have power. Moreover, representatives mentioned that there is no concrete and specific policy and planning to handle such events of energy insecurity and all the subside effects (e.g., creation of an alert, informing citizens). A group of representatives of Municipality and other local authorities had been formulated to handle such events but without implementing a specific plan.

This is where DECIDO intervenes! By the first quarter of 2022, preparations for the pilot have already begun. Halki's vice mayor Mr. Roussakis, who is responsible for Planning and Development Actions has expressed his deep interest to be actively involved into the DECIDO project and executives of the Municipality have been informed and agreed on the future implementation of the pilot and even offered to participate and assist in the formulation of a plan for dealing with sudden power outages and in its immediate and on-site implementation in the future.

The representatives of local government want to know (a) when a power outage is highly likely to happen in their region, (b) which municipal buildings (or infrastructures such as pump stations) are of the greatest importance and must still have power under these circumstances, (c) how to best mobilize the competent authorities to face these events and (d) how to provide citizens with information about municipal buildings where they can go to stay safe.

Their needs are going to be met by the anticipated DECIDO platform which, backed by the European Open Science Cloud (EOSC) infrastructure, will provide the Municipality of Halki with the tools that it needs to co-create, adapt and implement a new evidence-based policy for the management of the island's power outage phenomenon. ■



Map view with Halki location

Archive image: View of Halki, Greece

Archive image: View of Halki, Greece

TURIN HACKATHON: A FIRST OCCASION TO EXPERIENCE CO-CREATION PROCESSES WITHIN DECIDO

The Turin Hackathon experience was held in the framework of the General Assembly of DECIDO, on 27th January 2022: its goal was to experiment, for the first time within this H2020 project, a policy co-creation process based on evidence.

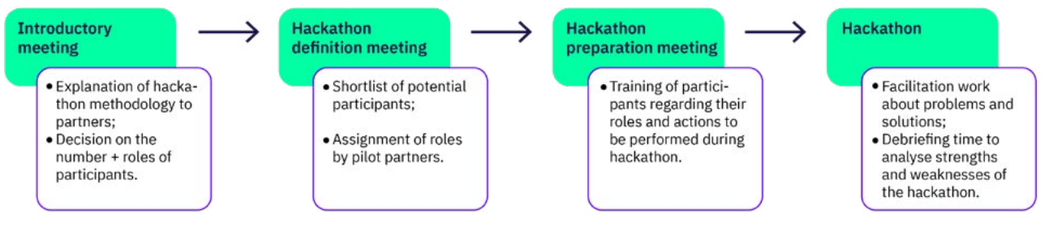
This hackathon experience was preceded by a preparatory work that began almost two months earlier, on 1st December 2021, the day on which the representatives of the City of Turin, of Volontariato Torino (Vol.To) and of CPD Association (a local organisation taking care of people in difficulties) met together to start familiarising with hackathon as a new methodology aimed at simulating real processes in order to better analyse and understand them for a future real implementation. During hackathon experiences, based on Serious Gaming model, each participant is asked to represent one category involved in a real process: so the exercise it's useful to identify the needed functionalities in view of the future running of co-creation paths, that will constitute the core activity of all pilots (in Italy as well as in Greece, Finland and Spain).

During the preparatory meeting it was decided that hackathons should have been two, one dedicated to flood emergency and one dedicated to social emergency resulting from a pandemic. In the end 12 people in total took part: 6 in the flood emergency hackathon and 6 in the social emergency hackathon. So each hackathon counted on 1 facilitator, 1 rapporteur, 1 representative of the institutions, 1 representative of citizens, 1 expert in the field and 1 representative of associations. In the framework of each hackathon, 1 participant assumed the role of "process owner", i.e. the person more aware of the specific issue and the principle inspirer of the discussion.

After the preparatory meeting, the following one was held on 12th January 2022: in this occasion were shortlisted the potential participants to each hackathon, that were then invited to two other meetings (on 17th and 18th January) in order to be trained on the roles assigned and on actions to be taken. In these occasions were also identified specific competences, abilities, needed data and tools.

In the morning of 27th January, the first hackathon dedicated to flood emergency finally took place: the working group has performed an exercise on the effectiveness of emergency communications - especially those transmitted by SMS - sent by Civil Protection in anticipation of a flood risk. Often the language used does not allow recipients to understand the real extent of a risk, with the result that citizens and entrepreneurs may ignore or underestimate the warnings - not protecting themselves and their economic activities – or, on the contrary, they may take them too seriously, temporarily blocking their business even if not necessary. For this reason, the owner of a Small-size enterprise (SME), specifically a bar along the bank of the river Po, located in the Murazzi area, one of the pilot sites of the Turin experimentation, was also present at the hackathon.

Starting from this assumption, the facilitator helped the people involved in let their concrete problems emerging: the difficulty of being aware of the real extent of an emergency that is about to occur; the scarce comprehensibility of the received messages, often too synthetic and full of obscure technical terms; the complicated calculation of reaction times to an alert, since it often arrives too late, when the reduced time frame makes no longer possible to completely save the equipment of a business activity.



The second task of the facilitator was helping participants in identifying possible solutions, to be discussed in group to verify their feasibility: at the end of this phase the hypothesis of creating modular and evolutionary alert messages appeared the most promising one. This type of messages, starting from basic information on the weather alert, are able to immediately provide - upon request - an access to other more in-depth information through multimedia links focused on further online resources. A solution of this type proves to be extremely inclusive: it guarantees all citizens common information, while leaving each person, according to her/his needs and competences, the possibility of obtaining more details to better understand the nature of the potential reported emergency.

The same procedure was adopted also in the afternoon of 27th January, when the second hackathon dedicated to social emergency resulting from a pandemic took place: the starting point was the socio-economic crisis following the Covid-19 pandemic, that led to an increase in the number of citizens in economic difficulties. This has therefore resulted in increased requests for basic necessities with a simultaneous growth of food waste risk. Many products bearing the "Minimum Conservation Term" (TMC) written on packaging are at risk of being thrown into the garbage because they are no longer considered consumable.

The "Minimum Conservation Term" (TMC) is the date until which a food product retains its specific properties, when appropriately stored: it's indicated with the words "Best before" and is not mandatory for some product categories. Unlike what happens with the expiration date, which indicates the date by which a product must be consumed, a product that passed the TMC has not expired and can still be consumed.

There is currently no computer system allowing CPD Association (which stores food products for people in difficulties) to update the "best before" information on the packages crammed into its warehouse and ready for distribution; there are also no communication strategies to effectively assure recipients about the edibility of the earned products that have already passed their TMC: as a result, the sum of these two problems risks increasing food waste.

At the end of the hackathon the most promising solutions appeared printing labels with a similar graphic design to the labels bearing information on the energy consumption of household appliances: infact they could definitely communicate, based on colours, how long each product will still be edible. Other solutions where introducing an application providing more detailed information on the products and starting an education initiative to explain and clarify to recipients of food packages the real meaning of "best before", with the help of familiar and trusted volunteers.

The Turin hackathon experience was very useful to understand the possible impact of future co-creation sessions that will be carried out as part of the transnational pilots: an added value was undoubtedly the possibility of realizing hackathons in presence - of course in compliance with the social distancing rules to counteract Covid19 - with representatives of all the other organisations of the consortium connected in videoconference: they were protagonists in the debriefing phase, when strengths, weaknesses and possible improvements were carefully examined. ■

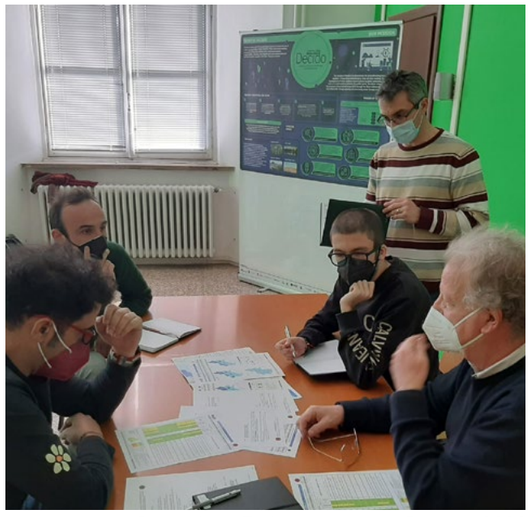


Image from Turin's hackathon, January 2022

Unsplash image of Turin's skyline by Fabio Fistarol

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