Fondazione Giannino Bassetti
for Responsibility in Innovation

InformAria.

A Co-creation Process to Design Information Tools on Air Quality in Milan

www.mosaic-mission.eu

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The European Context. The MOSAIC Project

MOSAIC is a research project funded by the European Commission under the Horizon 2020 Framework Programme. Its main aim is to study, test and evaluate the effectiveness of co-creation to address broad challenges, such as the Grand Societal Challenges of the European Union or the Sustainable Development Goals of the United Nations. These major issues are at the heart of the agenda of the European Commission, which has introduced five key Missions in its Framework Programme for Research and Innovation funding, Horizon Europe. Within one of these Missions – the Climate-Neutral and Smart Cities Mission (Mission "Cities"), which provides support to 112 European cities to achieve climate neutrality by 2030 – MOSAIC is testing its multi-stakeholder approach.

The co-creation methodology developed within MOSAIC has been tested in two pilot cities – Milan in Italy and Gothenburg in Sweden – both participating in the Mission 'Cities'.

Thanks to the research activities and experience gained in these two cities, MOSAIC has developed tools and recommendations that can also support other cities or territories in embarking on co-creation paths to achieve their own sustainability goals.

The Local Context. The InformAria Process in Milan

The pilot experience conducted in Milan within the MOSAIC project was called InformAria.

The project was developed through the collaboration between the Giannino Bassetti Foundation - a Milan-based civil society organisation that has been involved in responsible innovation for 30 years and is one of the partners in the MOSAIC project – and the Green and Environment Department of the Milan Municipality, which has been involved since the proposal phase of the MOSAIC project. Besides taking place in continuity with the Mission Cities, InformAria's activities are also in line with the objectives of the Air and Climate Plan (Piano Aria e Clima, or PAC), the strategic document of the Municipality of Milan for the mitigation of air pollution, aimed at protecting citizens' health and environment towards a more sustainable city. More specifically, InformAria is placed in 'Area 5' of the Plan, 'Milano Consapevole: a city that adopts conscious lifestyles.'

AMAT (Agenzia Mobilità Ambiente e Territorio - Mobility, Environment and Territory Agency), a municipally owned company that is responsible for monitoring air quality in the city, also participated in the initiative.

The recipient of the process was the municipal administration itself, which is therefore also the potential funder (or co-funder) and provider of the innovations co-created in the process to the city.

The Approach

The methodology pioneered by MOSAIC (and thus by InformAria) is called co-creation, i.e., an open and participatory approach to the innovation process, which entails the involvement of various societal actors to develop concrete solutions (products or services) through a structured and facilitated process. More specifically, the co-creation experimented through MOSAIC envisages the participation of stakeholders from all components of the 'quadruple helix': representatives from the world of governance and public institutions, research, business, civil society (citizens and associations/organisations).

MOSAIC's approach was developed to be functional to the local context and was grounded in continuous dialogue with the city government, thanks to a strong tie to municipal policies.

MOSAIC developed its methodology by paying particular attention to the theme of inclusiveness and accountability, by trying to involve civil society as much as

possible (and in particular those who do not normally participate in this type of process), and by initiating a reflection on the need to recognise and reward the contributions of participants in co-creation.

The process consisted of several main stages (see next section) and was coordinated and facilitated by the Bassetti Foundation.

The Stages of the InformAria Process

Preparatory Activities

The Challenge Definition

Before embarking on the actual process, the Bassetti Foundation, in dialogue with the Green and Environment Department of the Municipality of Milan, carried out a series of preparatory activities. The first was the selection of the '*challenge*', guided by four binding factors:
- the link of the *challenge* with the objectives of the Climate-Neutral and Smart Cities Mission
- linking the *challenge* to local climate policies ([Piano Aria e Clima](#))
- the possibility of involving all the actors of the quadruple helix in the process: public administration, research institutions, companies/ innovation businesses, citizens, and civil society representatives
- the focus of the *challenge* on a goal to be pursued rather than on a potential solution already identified upstream (e.g., informing about air quality and not developing an app to inform about air quality).

Based on these elements, and after a series of meetings in which the City of Milan and the Bassetti Foundation took part, the challenge definition phase was closed. In November 2022, through a structured discussion led by the Bassetti Foundation, the following challenge was identified: 'the co-creation of a tool that allows citizens and city users to make informed decisions on air quality in Milan and adopt appropriate behaviour, based on measured data'.

The Public Call and the Communication of the Initiative

After the necessary internal steps within the Municipality, InformAria officially started with the launch of a **public call** for all interested actors to apply to participate in the process.

The call, open to all the components of the so-called 'quadruple helix', was published at the end of January 2023 and remained open for about a month (until the end of February 2023). The text of the call was written by the Municipality, with the support of the Bassetti Foundation, in order to share with potential participants all the elements of the process already from the application stage, ensuring transparency.

In addition to the application procedures, the public call provided information on the project and policy framework, the structure of the initiative, the admission requirements, the criteria for selecting the participants and the technological proposals developed by the working groups during the process, the benefits of participation (participants joined on a voluntary basis), and the intellectual property of the solutions developed by the participants.

The call was published on the Municipality of Milan's webpage dedicated to the Air and Climate Plan ('**Milano Cambia Aria'**) in a specific section dedicated to the InformAria project — which then became the 'place' for collecting the updates and materials produced throughout the process — and was launched at an online event organised by the Bassetti Foundation and the Municipality of Milan.

The creation of a specific space for the communication of InformAria's activities was crucial in order to guarantee the transparency of the process, both toward the participants and the entire population. The possibility of hosting InformAria content on an official website of the Municipality certainly guaranteed legitimacy and visibility of the project.

The *Gathering*

Fifty-seven people responded to the call, some of whom were rejected because they did not meet the admission requirements (e.g., because they were no connected to the Milan area).

The 40 participants eligible for the process (18 citizens/representatives of civil society organisations, eight representatives from the research field, 11 representatives from industry, and three representatives from the Municipality administration) therefore met for the first time in the plenary session to launch the process (the ***Gathering***) on 3 March 2023, at the Castello Sforzesco in Milan[1], for a full day (6 hours plus lunch) (see Annex 1).

During the introductory part of the meeting, the Bassetti Foundation presented the process, framing it within the MOSAIC project and the Climate-Neutral and Smart Cities Mission, clarifying the objectives and working methods. The Municipality of Milan framed the initiative from a local policy perspective, while AMAT provided an overview of the air quality monitoring system in Milan and the developments expected in the short term.

For the remaining part of the day, the meeting followed a structured format developed by the MOSAIC project partners and tailored by the Bassetti Foundation. The meeting was led by the Bassetti Foundation team, supported by other project partners: StickyDot (MOSAIC Coordinator) and ERRIN (European Regions Research and Innovation Network).

As a result of the discussion, participants engaged in a collective reflection on the challenges and opportunities related to developing information tools on air quality and its effects on health and came up with initial concrete ideas to respond to the *challenge*.

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1   All meetings of the InformAria process were held in locations of high symbolic value owned by the Municipality of Milan.

Around these ideas, three multi-stakeholder groups were formed, which then worked together in the later stages of the process towards the development of technological solutions to be proposed to the Municipality.

In the last half hour of the day, thanks to a template provided and illustrated by the facilitators, the groups laid the foundations for continuing their collaboration in the following months, sharing their contacts and deciding through which channel they would communicate in the future.

The Ideation Phase

The three working groups that had formed at the end of the *Gathering* then began their own process of refining their ideas. During this phase, the Bassetti Foundation carried out four main actions:

1) Checked that the groups were balanced (e.g., in terms of the presence of all four helices) and, where possible, without forcing the participants' will too much, suggested some adjustments, such as asking two representatives from the research community to move to a group where the research helix was not represented.
2) Facilitated the work of the groups (a facilitator was assigned to each group) and guided the dialogue between the participants, bringing the discussion back within the scope of InformAria when necessary, providing the participants with a workspace (physical and online), and providing templates for setting objectives according to the various work phases.
3) Organised (online) plenary sessions for discussion between the three groups (providing templates for presentations), in which the Municipality and AMAT also participated. During these plenaries, it was possible to integrate the participants' expertise with external expertise through the involvement of experts (also at the request of participants).
4) Acted as a bridge between the public administration and the participants.

The ideation phase took place mainly in **plenary sessions** (common to the three groups) and in **group sessions** (sometimes in sub-groups), both online and in presence, and lasted just over a month. This stage of the process was crucial in order to move from an abstract idea to a shared and concrete representation of the tool to be co-created.

In the last two weeks of the ideation phase, thanks to a template prepared by the facilitators, the three groups described their project ideas in detail. Then, they handed them over to the Bassetti Foundation, which, together with

the Municipality of Milan, checked the relevance and appropriateness of the work done. This step represented a moment of **selection**, and only the most structured and clear ideas were able to move on to the project phase (two out of three groups accessed the following phase).

In order to value the expertise of the participants who could not make it to the next stage, they were offered the opportunity to constitute the InformAria **Advisory Board**, with the task of providing useful suggestions and insights to the groups that went on to the project stage. Four participants accepted the invitation and, following an online presentation session from the two active teams, returned their feedback to the two groups. To facilitate the feedback, the Bassetti Foundation developed an *ad hoc* template and organised a second online discussion session.

The Project Phase

The project phase consisted mainly of group meetings (facilitated by the Bassetti Foundation). A key element was also an in-person plenary session held in mid-May at the Museo del Risorgimento in Milan, where participants shared detailed progress reports with representatives of the Municipality and AMAT. During this occasion, they were encouraged to exchange suggestions between the two groups, in particular on criticalities, strengths and communication strategies to be adopted to advertise the technological tools developed.

Given the advanced state of the solutions, it was essential at this point in the process to have all participants sign a **Non-Disclosure Agreement** to protect the intellectual property of the technological solutions on the basis of what was established upstream in the process.

In this phase, the participants focused on the concrete implementation of the technological tools.

In order to have a more structured idea of the Milan population's experience on air quality and to define some practical aspects of the tools to be developed, the participants expressed the need to address the city's inhabitants directly as potential users of their products.

This resulted in a **survey**, with questions developed by the participants of both groups on the basis of their specific objectives, under the supervision of the Bassetti Foundation researchers. The administration of the questionnaire was outsourced to a specialised agency. The results confirmed the starting

assumptions of the technological solutions and the fundamental elements of their development.

The Delivery to the Municipal Administration

The solutions were officially presented to representatives of the Milan Municipality in a **final working event** on 8 June 2023, at the Civic Aquarium in Milan. Here - in addition to the participants of the two groups, the representatives of the Advisory Board, the Bassetti Foundation, the Municipality of Milan (Department for the Environment and Green Areas, ITeD Technological and Digital Innovation Department, Mobility Department, Green and Environment Department, Cabinet of the Mayor) and AMAT (Energy and Climate Area of the Environmental Transition Department) - representatives from two local foundations interested in this type of process and solutions, were also present as observers. To protect the participants' work, they were asked to sign a Non-Disclosure Agreement.

To foster discussion within the municipal administration, the two groups also produced two **reports** containing a detailed description of the technological solutions, by following a template prepared by the Bassetti Foundation (see Annex 2). The reports were delivered to the Municipality in the first half of July.

The Uptake from the Municipality of Milan

The Municipality has committed to respond to the proposals received from InformAria participants at a **public event** during Milan Green Week on the 29 September 2023.

Beyond the implementation of the two solutions by the Municipality, the impact of MOSAIC resulted also from the great interest in the adopted process by the Green and Environment Department of the Milan Municipality.

In fact, the people from the Municipality involved in the process are considering other areas to which this type of approach could be applied in the near future, extending the impact of InformAria beyond the MOSAIC project.

The Evaluation from the InformAria Participants

The sustainability of the process and its potential application to other areas were confirmed by InformAria participants, who – between June and July 2023 – were asked to complete an **evaluation questionnaire** (Annex 3).

88.2 % of the respondents considered InformAria's co-creation process applicable to areas such as mobility, planning of green areas, city and suburban infrastructure, and civic education.

The questionnaire clearly showed that the opportunity to participate in InformAria activities and to contribute to the common good was a source of gratification for the groups. Approximately 90% of the participants expressed an extremely high degree of satisfaction with the process (between 8 and 10, on a scale of 1 to 10, where 10 is the highest score), and the percentage rises to 100% when the degree of satisfaction concerns the solution developed by their group.

The assessment of the respondents was also positive in terms of the enhancement of skills: over 90% of the participants felt valued in their group work and, at the same time, appreciated the contribution received from external experts during some of the plenary sessions.

The valorisation and integration of different competencies also outside the job context was one of the aspects most appreciated by participants, together with the possibility of collaborating, exchanging points of view, and confrontation thanks to professional and effective facilitation, the bottom-up approach, the possibility of contributing to solving a collective problem felt by the community, and the opportunity to meet new people.

Some participants suggested that longer timing and/or the organisation of additional face-to-face meetings could have improved the quality of the course, as well as more opportunities for feedback from the Municipality.

Finally, the evaluation questionnaire showed that InformAria brought participants closer to opinions different from their own, as well as to what happens within the public administration (all participants gave a positive score between 7 and 10).

Lessons Learned and Recommendations for Potential Replication

From the InformAria experience, several success factors emerged that are important to take into account when transferring this type of process to other contexts:

- **Clearly identify the *challenge*.** It must be easily understood by potential participants without a predetermination of possible solutions. Before the *Gathering*, it is important to organise a preparatory training meeting with the presence of experts (in the fields of science, technology, and social sciences) who can provide reliable background information and interact with the participants. The presence of experts is desirable throughout the process.
- **Playing in advance.** Internal or external contingencies can very easily lead to an extension of the time needed to complete the various steps of the co-creation process. It is necessary to organise activities in such a way as to have some flexibility and be ready to adapt.
- **Sharing to build trust.** Building trust between the different actors in the process is possible, but it is also easy for a lack of agreement on the objectives and rules of the process to lead to criticism and abandonment of the activity. In order to develop a transparent, trustworthy process that triggers virtuous mechanisms of collaboration, it is essential to clearly define the rules of the game (e.g., to establish from the application stage the issues related to the intellectual property of solutions, the benefits of participation, the absence Lessons Learned and Recommendations for Potential Replication – or presence – of rewarding mechanisms, etc.).
- **Working together, but 'facilitated.'** Facilitation is crucial for the effective process conduction and requires a lot of investment in terms of time. It is necessary that the process rests on a solid foundation and, at the same time, on the ability to assess, adapt, and respond to detailed issues. Continuous liaison between the facilitators who follow the different groups is essential.
- **Communicating is part of the process.** Public communication is an integral part of the process and must be planned and organised from the very beginning.
- **Checkpoints.** Not all the groups that form at the *Gathering* may be able to proceed to the next stages of the process: providing checkpoints to possibly stop (or convert) the activities of these groups is important to avoid a waste of energy by participants, facilitators and the Municipality.

Annex 1 - InformAria – The *Gathering*

AGENDA

3 March 2023 | Milan, Panoramic Room, Castello Sforzesco

9.30-10.00 | Welcome Coffee

10.00 - 11.00 | Institutional greetings, introduction to the process, and data on air quality and health

- Institutional greetings – Elena Grandi, Councillor for Green and Environment, Municipality of Milan
- The MOSAIC project and the Milan pilot– Angela Simone, Giannino Bassetti Foundation
- InformAria and the Air and Climate Plan– Caterina Padovani, Milan Municipality
- Milano Cambia Aria - Christina Paci, Milan Municipality
- Air quality: local scale monitoring in support of the Air and Climate Plan – Silvia Moroni, AMAT

11.00 - 12.45 | Group work

12.45 – 13.00 | Plenary presentation

13.00 - 14.00 | Lunch

14.00 - 16.30 | Ideation of initial proposals and formation of working groups

16.30 - 17.00 | Information on next steps and closing of the meeting.

Annex 2 - Project Proposal Template

Participants

The Idea
General description

Objective/s of the Information Tool

Target

Benchmarking
What is already there (if and how it differs from the group's proposal)

The Proposed Solution
Sources of data and information
Description of the tool (you can also insert pictures and describe them)
Technologies used

Messages to Be Conveyed
(unless described elsewhere)

Strengths

Potential further Developments

Unsolved Issues

Possible Promotion Activities

Estimated Development Costs

Annex 3 - MOSAIC Milan Questionnaire

Hello, **if you live in Milan or are a city user,** we ask you to participate in this research. You will be helping citizens and professionals in various fields, from academia to industry, from schools to the world of associations, who, through the MOSAIC project, have met together **to create new ways of informing Milan citizens about sustainability**. These people are giving their time and expertise to the city, and by filling in this questionnaire, you will make their work more effective.

You will also contribute to the success of a European project dealing with air quality. MOSAIC is financed by the European Union, within the framework of the Horizon 2020 research and innovation programme (Grant Agreement no. 101006382). The project partner for Italy is the Giannino Bassetti Foundation. The Municipality of Milan participates as the main stakeholder.

The data you share below will be collected, used, and stored in accordance with the **General Data Protection Regulation 2016/679** ("GDPR") on the protection of persons with regard to the processing of personal data and the movement of such data. The collected questionnaires are **completely anonymous**.

* Indicates a mandatory question

1. **You are ***
Select all applicable entries

☐ Female
☐ Male
☐ I prefer not to answer

2. **Which of the following age groups do you belong to? ***
Select all applicable entries

☐ 10-14
☐ 15-19
☐ 20-24
☐ 25-29
☐ 30-34
☐ 35-39
☐ 40-44

☐ 45-49
☐ 50-54
☐ 55-59
☐ 60-64
☐ 64-69
☐ 70-74
☐ 75-79
☐ 80-84
☐ 84-89
☐ 90-94
☐ 94-99
☐ 100+

3.   What is your education level? *

Select all applicable entries

☐ Primary school
☐ Middle school
☐ High school
☐ University Degree
☐ Postgraduate studies

4.   Do you live in Milan? *

Select all applicable entries

☐ Yes
☐ No

5.   How many days do you spend on average in the territory of the Municipality of Milan during the week (by day, we mean a prolonged period in the 8:00 a.m. – 8 p.m. range)?

Select all applicable entries

☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7
☐ None

6.   In which area do you live or spend most time? *

Select all applicable entries

☐ Zone 1: Historic centre
☐ Zone 2: Central Station-Bicocca
☐ Zone 3: Città studi-Lambrate
☐ Zone 4: Vittoria-Forlanini
☐ Zone 5: Vigentino-Chiaravalle-Gratosoglio
☐ Zone 6: Barona-Lorenteggio
☐ Zone 7: San Siro-Baggio-Trenna
☐ Zone 8: Fiera-Gallaratese-Quarto Oggiaro
☐ Zone 9: Garibaldi Station-Niguarda
☐ None in particular

7.   How much time do you spend outdoors on average in Milan in your week (including sports activities and excluding as far as possible time spent on public transport or in the car)?

Select all applicable entries

☐ Less than 3
☐ From 3 to 5
☐ From 5 to 10
☐ From 10 to 20
☐ From 20 to 30
☐ From 30 to 40
☐ More than 40

8.   Do you practice sport on a regular basis? *

Select all applicable entries

☐ Yes
☐ No

9.   If yes, where do you practice it most? *

Select all applicable entries

☐ Indoor (gym, school, home)
☐ Outdoor (neighbourhood/road, park, sports field)

10.   How do you rate your health condition? *

Select all applicable entries

☐ Sporty
☐ Active
☐ Sedentary
☐ Fragile
☐ At risk

11.   In case you chose 'fragile' or 'at risk', can you briefly explain why?

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12.   Do you engage in competitive or amateur outdoor sports in the territory of the Municipality of Milan (including cycling or brisk walking)?

Select all applicable entries

☐ Less than 2 hours per week
☐ From 2 to 4
☐ From 4 to 8
☐ From to 15
☐ More than 15
☐ I do not play sports in the Municipality of Milan

13.   Do you use any applications or tools (apps, smartwatch) to monitor your lifestyle? *

Select all applicable entries

☐ Yes
☐ No

14.   If yes, what tools do you use to monitor your lifestyle?

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15.   Do you know the quality of the air you breathe? *

Select all applicable entries

☐ Yes, I keep myself informed constantly
☐ Yes, I keep myself informed sometimes (2-3 times a week)

☐ Yes, but I rarely stay informed
☐ No, I do not stay informed

16.   Do you think that air quality has a significant effect on health? *
Select all applicable entries

☐ Yes, definitely
☐ Yes, only for certain subjects
☐ No

17.   How do you rate the air quality in Milan? *
Select all applicable entries

☐ Excellent
☐ Good
☐ Sufficient
☐ Poor
☐ Very Bad

18.   On a scale of 1 to 5, how important do you think it is to receive information on these aspects (1 not very important, 5 very important):

☐ Air quality
☐ Health consequences of exposure to air pollutants
☐ Actions to protect health from air pollution
☐ Behaviours that reduce environmental impact
☐ Sources of air pollution
☐ Days above limits (and costs incurred by communities)

19.   How do you inform yourself now about air quality? *
Select all applicable entries

☐ I do not inform myself
☐ Through printed newspapers
☐ Through online newspapers
☐ Through the municipal/AMAT/ARPA website
☐ Through internet search engines
☐ Through social media
☐ Through apps
☐ Other:

20.   If you inform yourself through an APP, which one is it?

_____

21.   On a scale of 1 to 5, which of these viewers do you find most useful in providing information on air quality? (1 not very useful, 5 very useful):

☐ Screens located on bus/tram shelters
☐ Area B/C entrances
☐ Screens placed in the waiting areas of public offices (e.g., post office, registry office, etc.)
☐ BikeMi screens
☐ Screens placed in underground stations
☐ Screens placed in train stations
☐ Advertising screens placed on the street
☐ Other (please specify)

22. On a scale of 1 to 5, how important do you think it is for the Municipality of Milan to inform citizens and people who transit through the city about the air quality they breathe? (1 not very important, 5 very important)

23. On a scale of 1 to 5, how important do you think it is to receive information on these aspects (1 not very important, 5 very important):

☐ Air quality
☐ Health consequences of exposure to air pollutants
☐ Actions to protect health from air pollution
☐ Behaviours that reduce environmental impact
☐ Sources of air pollution

24. Do you think you could change your habits if you were aware of the effects of air quality on you?
Select all applicable entries.

☐ Yes
☐ No
☐ Maybe

25. Would you be willing to share your data to improve the air quality around you? *

Select all applicable entries.

- ☐ Yes, if it is my anonymised city travel data (my name will never be identified by the information management system)
- ☐ Yes, if it is my anonymised health data (my name will never be identified by the information management system)
- ☐ Yes, if it is both types of anonymised data
- ☐ No, in no way

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