

# Good Practices Repository

of responsible ICT Research and Innovation with SSH input



Title of the initiative

## IAQOS – Intelligenza Artificiale di Quartiere Open Source (Artificial Intelligence for Open Source District)

### Description of the Initiative

IAQOS is an artificial intelligence able to collect Big Data and it has been funded by the Italian Ministry for Cultural Heritage. The project uses art and design to transform data into knowledge useful for understanding and solving neighborhood problems. The first manifestation of IAQOS is an artificial child, designed to forge empathic relationships with the inhabitants and involve them in participatory action at the service of urban regeneration. Small artificial intelligence will come to life online and offline, through social networks and interactive art installations with which you can physically interact with people. IAQOS artificial intelligence will study the quality of the neighborhood's relational ecosystem as the first theme, how different cultures dialogue, meet and live together, gathering, analyzing and returning data to the inhabitants, and implementing a series of strategies to enable the inhabitants to understand the data and use it in new ways (inclusive workshops, events, art installations, visualizations) and to tackle the problems of the neighborhood together.



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The project is structured on different levels:

- the creation of an open source IA dedicated to neighborhoods, reusable and freely applicable to other cities and different themes;
- a digital inclusion intervention in which art and design are the strategies to drastically increase the accessibility and usability of technologies;
- the acquisition of skills on AI and their critical implications (from ethics, to privacy, to algorithmic bias),
- experimentation on AI to create new models of active participation, representations of knowledge that are more "human" and empathic.

IAQOS integrates different technologies that use Artificial Intelligence on the one hand to make natural interaction modes available and, on the other, to analyze human expressions (such as gestures, speech, text) and relationships between people to understand the occurrence of recurrent phenomena and their meaning. From the first point of view, we refer to the technologies that are typical of the Affective Computing: the computer vision, the gestural interaction, the analysis of natural language, in which the Artificial Intelligence is used to transform unstructured data (the spoken, images) in structured data (for example by classifying the topics people talk about, or to recognize a gesture). From the second point of view, we will use Machine Learning technologies to try to recognize recurrent forms in the data (and, therefore, in the phenomena they describe) and, therefore, the processes that led them to exist: a kind of understanding that enables them to formulate practical hypotheses on interventions (in this case relational and social inclusion) imaginable as communities, artists, social innovators, organizations and institutions. The technologies underlying the project are made available by the HER Research Center - Human Ecosystems Relations, scientific and technological support of the project ([www.he-r.it](http://www.he-r.it))

A major innovation will be the way data is collected and delivered. Contrary to what happens in most cases in today's society, where the data industry is essentially an extractive industry, in IAQOS data will be collected not "from" or "on" people, but "with" people, using "privacy by design" methodologies and urban artistic performance as an opportunity to bring people together in the public space, around common goals.



## Artificial Intelligence, Citizens, Brain, Knowledge, Arts, Street Art

### Type of Output of Initiative

Training or sharing information about the integration of SSH advice into ICTs | Design of new SSH-inclusive ICTs | Establishment of a Community of interest

### Country(ies) involved

Italy

### Geographic scale of the initiative

Local (Municipality)

### Website

<https://iaqos.online/site/>

### Status of the initiative

Running

### Users' target group(s)

ICT developers / researchers | SSH scientists / researchers | Policy makers | General public level | Local Administrations

### RRI dimensions involved

It has been taken into account the ethical impact. (Ethics)

The requests of civil society have been evaluated. (Public Engagement)

The representatives of civil society have been provided with the knowledge and skills to actively participate in the initiative. (Science Education)

The outcomes of the activities have been / are being published for free access. (Open Access)

### SSH disciplines involved

Arts | Languages and literature | Anthropology | Human geography | Sociology

## ICT domain involved in the initiative, both for the activities and as for output.

Components and systems, Cyber-Physical Systems, Miniaturised Electronic Systems, Thin, Organic Electronics

Content technologies and information management, big data, open data, languages learning and teaching technologies, creative technologies, gaming and new interactions technologies

## Method used to exchange information and knowledge to include the RRI principles into the ICT research and innovation processes

Cooperative workshops | Focus groups | Round tables | Adaption of the (digital) content | Train on the best use of the solution

## Participation and engagement of people and organizations in the implementation of the initiative

They all participate into a funded project/initiative

Voluntary basis | As activity of their work

## Number of people participating

100+

## Number of organizations participating

4

## Number of events held

13 (planned 50+)

## Number of researchers (ICT+SSH) involved

21

## Number of women involved

12

## Number of joint discussion themes

Free text

## Who sustained the cost / effort

Shared among participants

## How it is / has been funded this initiative?

Public funding

## Notes

It's an ongoing project, more information are available as events are held

