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## Report on the experiments testing the impact of citizen science methods on the quality of participatory practices

Based on Deliverable D4.2

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Deliverable 4.2 is aimed at showing, in real cases, how citizens' engagement in data collection and sharing might be used to co-construct public policies, not only by providing useful data, but also by engaging citizens in a co-decision process based on public deliberations.

Concretely, the goal of this study was to research how engagement in citizen science might be a tool to constitute arenas for high-quality deliberations. In particular, research was focused on how to (i) co-construct citizen science projects with local executives in order to collect data to be used in public policy design; (ii) integrate participants to these programs into online deliberative arenas where they can make recommendations regarding the corresponding public policy and discuss them.

In light of the above, a citizen science-based approach to collect data for environmental psychology studies was implemented. The pilot study, launched together with two French municipalities, Libourne (Southwest of France, 25000 habitants) and Melesse (Northwest, 6000 habitants), was aimed at developing a co-decision process regarding the regulation of public lightning, and showing how citizens' engagement could foster online public deliberation and co-decision regarding the issue. The deliberation that citizens were asked for was expected to focus on the general issue of darkness in cities and its perception by the habitants, as well as on the public policy decision itself, that is, the places where light-extinction should apply, the seasonality and the time range of extinction.

The research utilized two means: a contributory science platform named SPOT ("Science participative, obscurité et territoires"— citizen science, obscurity and territory) which launched on the first of April 2022 and closed on the last of June 2022, and two 2 months-field research campaigns in both cities, led from April to June (before the launch of the platform), and from July to September (after the end of the program), with the employment of both questionnaires and semi-directed interviews.

At the end of the 3-months experiments, the SPOT platform achieved a total 44 participants out of the two municipalities, too few to allow a robust analysis of the data from the platforms. However, the field studies gave relevant insights regarding the obstacles to citizens' participation, and allowed to formulate recommendations to improve the concrete implementations of the *co-decision through contributory science* model.



Figure 1. Homepage of the SPOT online platform.



Figure 2. Citizen science protocol, as presented to the participants in the platform.

One thing to note, is that the SPOT platform was designed as a citizen science project in environmental psychology, so it was mostly dedicated to the collection of one's feelings and perceptions, rather than objective facts. This required expression of individuals' emotions seemed to be quite confusing for some inhabitants of Melesse and Libourne, thus interrogating the role of social sciences for public policies, and the way this role is perceived by citizens.

The field studies on the other hand, highlighted that: first, not all topics are equally mobilizing, the preexisting politicization of the issue is a strong driver of citizens' engagement; second, the use of deliberative online platforms should not prevent the institutions from developing offline tools (meetings, workshops, faceto-face communication in the public space) to foster citizens' engagement. When applied to participatory democracy, the online and offline dimensions of the co-decision making process should be carefully articulated in order to make ICTs real facilitators of public deliberations. This approach to participatory democracy might be particularly fruitful for those kinds of issues characterized both by a need for scientific data and a strong political conflictuality.

Without denying the relevance of criticisms addressed to contributory science and the methodological limitations of the study, the authors defend in this experiment a model of genuine democratization of public policy making through contributory science, at the local scale, proposing to go further in the path towards participatory democracy, by associating contributions to data collection with the possibility to enter a deliberative arena feeding into a co-decision process.