**Type of Contribution: POSTER**

**Empowerment of citizens to become smart citizens**

**Tobias Siebenlist,** Heinrich Heine University Düsseldorf, Germany

**Agnes Mainka,** Heinrich Heine University Düsseldorf, Germany

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# Introduction

New concepts, actions and plans for transforming cities into Smart Cities (or smarter cities) are emerging around the world (Shapiro 2006; Hollands 2008). Smart cities are not only about digitizing facilities, introducing e-government and open government, but also about taking citizens with them in this transformation. A part of the population will become smart citizens and may be more interested in their environment, their city. In this transformation, the opportunities for participation play a significant role. During this transformation process, data is generated which is collected and processed by sensors in, e.g., lanterns, traffic lights and all types of sensors. Individual devices are connected to the internet and operate intelligently: Networked devices form the Internet of Things (Zanella et al. 2014), and citizens can participate. However, many of these devices are proprietary, or there has been no attention paid to making the data available to the city and then, in a further step, to turning it into open data available to all citizens. This contribution describes a way to become a smart citizen and his or her opportunities to actively participate in the development and especially scientific investigation of his or her city. They become able to research on their own or accompanied by researchers: Citizen science (Bonney et al. 2009).

**Theoretical Framework**

Various projects have already shown that many citizens are interested in such opportunities to get involved in their city. Air pollution measurements are carried out with self-made sensors (via civic hacking) and visualized on interactive maps. Free internet is realized by public Wi-Fi routers and applications are accomplished with sensors via devices and technologies in the IoT area. In this context, the technology LoRaWAN and the project The Things Network should be mentioned. However, all these things must be easy to do. Entry into citizen science must be low-threshold so that citizens without in-depth technical knowledge are motivated and enabled to participate.

One way of doing this is to create communities that deal with specific topics, regularly exchange information and work together on projects. Many communities or labs have already been formed to address such issues. An example of this is the Open Knowledge Labs (OK Labs), which were initiated by the Open Knowledge Foundation (OKF). These are loose associations of interested persons with different professional backgrounds, which have a common goal: The work with open data, the dissemination of knowledge as well as transparency and access to (public) data. The diversity of the different actors is an essential aspect of OK Labs: A project or problem is considered from many different perspectives and thus approached holistically. The resulting products and data are open and use free licenses. Therefore, these can be used and developed further by everyone. Also, interested parties and beginners can enter the topic in a low-threshold manner and are given the opportunity to exchange ideas and gain an introduction to various issues.

However, the organization of such groups also raises the question of suitable places where meetings can take place. Since these are loose get-togethers of people and there is usually no association behind it, which can offer rooms in the different cities, suitable locations must be identified first. These are currently coworking spaces, non-profit organizations or technology companies that provide a limited area with Wi-Fi. Libraries are another possible public meeting place. Some libraries are experiencing a shift towards community centers and providing citizens with access to the latest technologies (e. g. library labs). These are all suitable places to bring people of different professional backgrounds together and provide them with the necessary technical equipment to create places of development. Libraries offer themselves as a model for the future since they are independent of companies and already see themselves as an offer or service partner for citizens. Via Open Innovation the citizens can participate in the libraries innovation process and contribute to such a shift (Henkel et al. 2018). Face-to-face interaction for knowledge workers is a central requirement for a city to become an Informational city (Mainka, 2017). It seems to be the case that the possibility of face-to-face communication also has a positive influence on the meetings of such groups. One of our research interests is to investigate this and find success factors for the organization of such meetings.

**Conclusion**

This contribution focuses the interaction of these two aspects. How can citizens be empowered to become smart citizens and where does this happen? There is a need for technical entry opportunities without significant hurdles, but citizens must also be empowered and encouraged to participate in this process. This is based on open data, open standards, and transparent processes. Furthermore, people need urban places to get together and work on such projects. Co-working spaces, non-profit organizations or libraries are examples of such areas, which are already in use. This contribution is part of an ongoing study on citizens' ability to participate and the reasons for it. We start with the Open Knowledge Labs and similar meetings and refer to Germany for the present results. We refer to the places where meetings take place, the reasons for their choice, the people taking part and their motivations as well as the projects that have been initiated. However, the structure and focus of the study is not limited to Germany and will include other countries in the future.

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