

# **Municipalities' understanding and importance of the concept of Smart Cities: an exploratory analysis in Belgium.**

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## **Executive Summary**

Smart City is a fuzzy concept which is not yet well defined and it is not fully understood (Anthopoulos and Vakali 2012; Lazaroiu and Roscia 2012). Smart Cities can be seen to embody specific characteristics that include digital infrastructure, ICT usage, business-led, urban development, high-tech and creative industries, social capital, environmental and social sustainability (Caragliu, Bo, and Nijkamp 2009; Hollands 2008). However, due to the lack of a proper conceptualization, defined method or credentials (Angelidou 2015; Nam and Pardo 2011), cities claim themselves 'Smart' with self-congratulatory note (Hollands 2008). Moreover, the different orientations of the concept are challenged in the academic literature, especially the techno-centric approach and the central position of private companies. Despite the increasing popularity of Smart Cities, there are few rigorous analytical or statistical analyses of the concept and its application on territories (Caragliu, Bo, and Nijkamp 2009; Hollands 2015; Kitchin 2015; Vanolo 2014).

With reference to the 3RC framework (Kummitha and Crutzen, 2017) which critically analyses the various stages in the development of the field, the aim of this paper is to study how Belgian municipalities understand the concept of Smart City in 2016. How do Belgian municipalities approach the phenomenon Smart City? Which focus in Smart City -sustainable, technologic, creative and human-do attract Belgian municipalities? We response to these questions thanks to a comprehensive territorial analysis of the country, a presentation of current trends on Smart Cities in the three Belgian regions, and the construction of a typology of municipalities' understanding of the phenomenon. We also analyses how these understandings impact priorities and Smart City developments of Belgian municipalities. We investigate how they affect municipal priorities in the six Smart City dimensions and their state of development in some key Smart City fields. Finally, we examine how do our typology is related to the municipal perception of difficulty to set up Smart City projects and the relevance of the concept for their territories.

The data used comes from the results of a quantitative research amongst Belgian municipalities leaded in 2016 by the Smart City Institute. The research points out key statistical observations around the Smart City phenomenon in Belgium. The data were collected through an online survey: 40 questions were sent to the 589 municipalities of Belgium, 113 municipalities fully participated to the survey. It represents a response rate of 19%. The sample is representative of the population (Belgian municipalities) in terms of geography (Wallonia, Flanders and Brussels) and in terms of nature (rural versus urban municipalities). We use the responses of several questions selected into this quantitative research to produce our analysis.

A typology with 4 different understandings (Technical, Holistic, Oriented and Inexistent) emerged from our analyses. The typology is relevant when we take into considerations the intrinsic characteristics of the Belgian territory. The relations between the nature (urban, rural), the size (small, medium, large) and the institutional affiliation (Flanders, Brussels and Wallonia) of municipalities are statistically significant with our understandings. However, the results are not conclusive between our typology and the priorities of municipalities in the six dimensions Smart City as well as for their progress in some Smart City fields. The exploratory results show that municipalities without understandings or with a technical understanding are mostly located in small and rural municipalities. These municipalities reject largely the concept of Smart City for their territories and consider complicate to launch Smart City projects. Conversely, medium and large-sized municipalities develop mostly a specialized or holistic understanding of the concept. They consider the phenomenon relevant for their territories, even if they esteem relatively complicate to implement such Smart City projects. Therefore, the results of this study show a dichotomy of understanding and acceptance of the phenomenon Smart City between rural and urban municipalities. The comeback of urban policies on territorial issues, as well as competitions and collaborations between cities, can reinforce this phenomenon. Another possible explanation is the current lack of adaptability of the concept for small and rural areas. Finally, the influence of regional and national Smart City strategies can also explain the difference of understandings.

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