Towards new models of information sharing

Camille Dubedout[1] and Manuel Munier[2][0000−0003−0282−4508]

[1] ANSSI
Université Grenoble Alpes
Paris, France
camille.dubedout@univ-grenoble-alpes.fr
[2] LIUPPA
Université de Pau et des Pays de l'Adour, E2S UPPA
Mont-de-Marsan, France
Manuel.Munier@univ-pau.fr

Abstract. The proliferation of data exchange within cities in recent years has raised a number of challenges for the various stakeholders involved at local level, such as private digital service providers and local authorities. These challenges, which arise at every stage of data processing, from sharing to storage, call for the creation of new rules governing the transparency, quality and traceability of exchanged data. Commonly shared, these new rules are likely to foster trust between different types of stakeholders with regard to exchanged data, and encourage the equitable sharing of digital resources, particularly between public and private stakeholders.

Keywords: Data governance · Commons · Accountability · Traceability.

1 The rise of data exchange

Since the development of the Internet and the rise of the World Wide Web in 1989, data exchanges have increased exponentially. In just a decade, we have moved from the era of exchanging exabytes of data to that of zettabytes (10^{21} bytes).

This evolution is particularly evident with the advent of "smart cities", known in France as "Smart cities and territories." These urban areas utilize data processing technologies to promote the circulation of data between public and private actors. According to the French Data Protection Authority (CNIL), a smart city is defined as *"a new concept of urban development. It involves improving the quality of life of city dwellers by making the city more adaptive and efficient, using new technologies which rely on an ecosystem of objects and services"*. Data exchanges within these cities and territories are facilitated by multiple communication networks, data capture tools, and actuators (like connected devices). These technologies not only collect various types of data but also increasingly enable actions on the environment. The proliferation of data exchange through connected devices has led to the creation of new services in diverse areas such as transport, energy, waste management, water management,