

# Processing of Mobile Network Operator data for Official Statistics: the case for public-private partnerships.

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## **Abstract**

This paper discusses the motivations for and various aspects related to the potential partnership between statistical offices and Mobile Network Operators (MNO) to leverage MNO data for the computation of official statistics related to presence and movement of people. MNO data are complementary to other data sources that are already available to statistical offices (e.g., survey data, administrative registers). The combination of such diverse data can lead to a new generation of statistical products, produced more timely and with higher spatial and temporal resolution than traditional statistics. This enables statisticians to gain more accurate and up-to-date insight into various aspects of human mobility and related socio-economic phenomena (e.g., tourism flows, presence and residence, commuting patterns, use of transportation means and many others), with clear benefit for the process of policy design and evaluation, and in general for public interest purposes. At the same time, we show how such collaboration may enable the MNO to gain better and deeper understanding of their customer basis and behavioural patterns. In other words, the potential combination of input data from MNOs and from statistical offices bear potential benefits for both the public and private sides of the partnership. Such potential opportunities however come with a number of challenges at various levels: technical (e.g., interoperability, need for infrastructure), legal (e.g., privacy and GDPR compliance) and organisational that are discussed throughout the paper. We show that the whole process can be designed to prevent potential conflicts between the public and private interests – e.g. by the provision of adequate protection for business confidentiality, methodological quality and process transparency – while at the same time maximizing synergies bringing mutual gain. In other words, the partnership model should neither be seen as a risk to the MNO business nor a diminution of the role and independency of Statistical offices, but rather as an additional opportunity for both sides. The paper discusses also aspects related to the fair sharing of the operational costs (technical and organizational) associated to the establishment and maintenance of partnerships, and the national vs. European dimensions of such collaborative models with particular focus on the complementary roles of National Statistical Institutes (NSI) and Eurostat. The paper includes concrete references to two particular cases of study on (i) the quantitative analysis of social segregation and (ii) estimation of pollution exposure. Finally, while the focus of this paper is on partnership models between official statistics and MNO, many elements of the discussion apply as well to other segments of the private sectors, and might taken as input to advance the future vision of public-private partnerships for joint data analytics.

