
DATA COLLECTION OF THE ENVIRONMENTAL SURVEY IN CITIES: DATA VALIDATION

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Abstract

Istat National Statistical Program includes an annual survey named “Environmental Data Survey in cities”. It collects environmental information about the capital municipalities of all Italian provinces and metropolitan cities to provide an automatic framework for monitoring of the urban environment and supporting the administrations to guarantee a safe and healthy environment in cities. Prior validation executed on surveyed data during early data collection, permit to ensure a good quality of the data since the start of the data acquisition process. Furthermore, a new approach based on validated data of previous editions with the addition of auxiliary sources is proposed. The proposed methodological approach uses a metalanguage to represent the rules in formal logic. This methodology makes possible to build a highly automated and generalized validation process. The result is increased efficiency of the process itself, higher data quality and consumed resources reduction. Automatic interoperability with the municipalities contributes to increase efficiency of the overall process. The system reduces monitors burden automating most tasks such as the interception of measurement errors, discontinuity of time series and other outliers. The result of the work is an integrated system of generalized services that will function on a formal level useful in many different contexts.