

Motivation and the need for the revision of ISO 19157:2013 Geographic information – Data quality

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ISO 19157:2013 Geographic information – Data quality (ISO 19157) is the standard published by the International Organization for Standardization (ISO) and its Technical Committee 211 on Geographic information/Geomatics (ISO/TC211). The purpose of this standard is to provide framework for defining, measuring and reporting spatial data quality (ISO, 2013). For each standard ISO/TC executes a systematic review at least every five years, and for ISO 19157 a ballot has been opened in the period between October 2018 and March 2019. As a result, from all national standardization bodies or liaisons eligible to vote, 19 confirmed the standard, 3 suggested to revise it, and 14 abstained from voting on standard's revision process. In most cases, such result would not lead to a revision of a standard, but the reasons given in the three suggestions for revision convinced the ISO/TC211 committee to put the ISO 19157 up on the agenda for the project management group (PMG) during the plenary meeting week in Maribor in May/June 2019. Based on PMG's suggestion, the ISO/TC211 has resolved to revise ISO 19157 and started a new *ISO/NP 19157-1 Geographic information – Data quality – Part 1: General requirements* in July 2019.

One of the main reasons iterated through various comments supporting the call for revision, was the need to update the definition and the use of standard's terminology. Terms such as accuracy, uncertainty and correctness seem to have confusing definition, and use throughout the standard, and other terms, such as 'trustworthiness' or 'trueness' were suggested for consideration. Interestingly, a comment has been made that the main term from ISO 19157's title – data quality – has never been defined in the standard, and suggestion has been made that it should be included. However, perhaps it is now time to discuss whether the very term 'data quality' and related evaluation framework sufficiently covers the need of the main spatial exchange currency: the 'spatial resource'. Spatial resources are spatial data and metadata (e.g. found through spatial data portals), spatial services (e.g. used in cloud-based spatial applications), sensors for spatial observations and measurements (e.g. deployed in sensor observation networks), or other spatial things published to the web in the form of spatial vocabularies, spatial ontologies, linked spatial data.

Hence, one of the most important work during the revision will be the terminology harmonization. In this respect, the project team will not only be reviewing information resources available within ISO, such as ISO 8000-2:2018, ISO/IEC 98-3:2008 or ISO/IEC 25000 series (ISO, 2018; ISO/IEC, 2008; ISO/IEC, 2019), but we will also reach for related standardization efforts among ISO's direct liaisons and outside ISO. Among the most prominent of these efforts are: the World Wide Web Consortium (W3C)'s Data Quality Vocabulary (W3C, 2016) and Open Geospatial Consortium (OGC)'s Geospatial User Feedback (OGC, 2016).

But the terminology is not the only aspect of the revision. We aim at reviewing ISO 19157's ability to support the best practices in publishing resources on the web (van den Brink et al., 2019) and approaches to define and assess quality of these web resources (Debattista et al., 2016; 2017; Zaveri et al. 2016). Moreover, we aim at critically revise the 'usability' of ISO 19157 both, the term 'usability', which is currently defined too briefly and, at the same time, too widely (which impedes its applicability), and also documented 'usability' of the standard itself, for instance as demonstrated by OGC's Testbed 13 experiments (OGC, 2018a; 2018b).

In this presentation we will summarize the main reasons for revision of the ISO 19157 and provide participants with the outline and timetable for the revision. During the discussion we hope to elicit participants view and opinion about current state of ISO 19157 and receive valuable suggestion to include into the list for consideration during the initial phases of this standard's revision.

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