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Technical expertise: names collection, office treatment, features beyond a single sovereignty and international cooperation

Role of artificial intelligence in evidence-based geographical names management

Summary**

Artificial intelligence presents transformative opportunities for addressing long-standing challenges in geographical names standardization. Artificial intelligence technologies demonstrate value in processing vast quantities of historical documentation, managing multilingual considerations and implementing consistent romanization of non-roman scripts.

Practical applications have shown promising results in several areas. Test cases using untrained artificial intelligence (Claude 3.5 Sonnet) successfully performed complex tasks, including Bulgarian Cyrillic romanization, multilayer romanization of Sorani geographical names with academic, International Phonetic Alphabet and English gazetteer variants, and extraction and alignment of medieval Norwegian proper nouns with modern forms. Only standardization based solely on phonemic transcriptions turned out to be less successful.

However, preventing artificial intelligence-related issues such as hallucination and misattribution requires robust quality control measures. The implementation of human-in-the-loop and expert-in-the-loop methodologies provides essential oversight. The former ensures regular operational review by human operators, while the latter incorporates subject matter experts for complex cases involving Indigenous names, culturally sensitive locations or deep historical expertise.

Recommendations include encouraging Member States to develop artificial intelligence-enhanced standardization frameworks, establishing guidelines for evidence evaluation and quality control, and promoting knowledge-sharing across jurisdictions. Success requires careful integration of automated processing with

* GEGN.2/2025/1.

** The full report was prepared by Peder Gammeltoft (Norway), Norwegian Language Collections, University of Bergen. The report will be available at https://unstats.un.org/unsd/ungegn/sessions/4th_session_2025/, in the language of submission only, as document GEGN.2/2025/6/CRP.6.

human judgment and expert knowledge, thereby creating systems that enhance standardization efficiency while maintaining cultural sensitivity and accuracy.

The capabilities demonstrated suggest that artificial intelligence will play an increasingly important role in geographical names standardization, in particular when combined with appropriate human oversight and cultural expertise.