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TERMINOLOGICAL STANDARDIZATION IN DOMAIN-SPECIFIC TEXTS

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In today's interdisciplinary environment, terminology unification is vital for global communication. Standardizing domain-specific terminology – from engineering to IT – ensures unambiguous understanding of professional concepts, a prerequisite for effective cross-disciplinary exchange.

Terminological standardization is generally understood as the process of organizing and maintaining a unified system of terms within a specific field to ensure clarity and consistency in communication [1]. This process is grounded in the fundamental principles of terminology studies, particularly the concept that a term is a linguistic sign representing a concept within a professional knowledge system. Accordingly, standardization involves establishing a precise correspondence between a term and the concept it denotes.

The International Organization for Standardization (ISO) has developed a number of documents defining key approaches to terminology work. In particular, the DIN ISO 10241-1 standard specifies requirements for creating and structuring terminological entries in standards and establishes rules for both monolingual and multilingual terminological records [2]. This standard is based on the principles set out in ISO 704, «Terminology Work – Principles and Methods», and applies to all standards containing terminological entries.

Modern terminology work increasingly draws on Semantic Web technologies and the principles of Linked Data. As researchers note, the development of standards for terminological resources has evolved from traditional ISO approaches, through XML-based models (in particular TBX – TermBase eXchange), to modern semantic web standards such as SKOS (Simple Knowledge Organization System) and OntoLex [3, p. 2]. These tools ensure interoperability of terminological resources and greatly facilitate the automation of terminology work.

Practically, standardization is achieved through domain-specific glossaries and databases. For instance, Dialogue:Wiki (Cross Domain Fusion) records multiple definitions for the same term across disciplines. As seen with the term «model», which varies from computer science to earth sciences, standardizing these meanings is crucial for overcoming interdisciplinary communication barriers.

One of the key trends in contemporary terminological standardization is the adoption of inclusive practices. In 2025, the IEEE Standards Association approved the IEEE Std 3400-2025, «Standard for the Use of Inclusive Language in Technical Terminology and Communications». This document defines principles

for avoiding biased or discriminatory terminology, encourages the use of human-centered language, and ensures accessibility. It also provides a list of discouraged terms and recommends alternatives, such as replacing «master/slave» with «primary/secondary» and «whitelist/blacklist» with «allow list/block list».

Another important trend is the response to the challenges of digital transformation. The international standard ISO 25639-1:2025, «Exhibitions and Events – Part 1: Vocabulary», developed with experts from 25 countries, introduces terminology reflecting the convergence of offline and online formats, including physical, hybrid, and virtual exhibitions. The standard also incorporates concepts of intellectual property and event heritage protection, aligning with the United Nations Sustainable Development Goals.

Thus, terminological standardization in domain-specific texts is a dynamic process that adapts to the needs of the modern scientific and technical environment. The main directions of development include:

- transitioning from static dictionary documents to digital platforms with semantic links;
- using Semantic Web technologies to ensure interoperability of terminological resources;
- applying principles of inclusivity in technical terminology;
- systematically recording interdisciplinary differences in term definitions.

Effective terminological standardization therefore requires coordinated efforts from specialists across different fields, active use of modern terminology management tools, and continuous updating of regulatory frameworks in line with the demands of the digital age. Future research should focus on developing methods for automated terminological standardization using artificial intelligence technologies and integrating terminological resources into a unified digital platform of scientific knowledge.

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