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Standardizing Terminological Work in the Armed Forces of Ukraine: A Translation-Oriented Approach to Interoperability

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Abstract

This paper substantiates the need to standardize terminology governance in the Armed Forces of Ukraine as a strategic component of defence standardization, multilingual military communication, and interoperability. Based on an author-developed draft framework entitled "Terminological Work. Fundamental Principles" the study reconstructs a unified model of terminology management based on the stages of collection, description, processing, and presentation. Particular attention is paid to translation-oriented terminography, terminology databases, and concept harmonization in Ukrainian-English military communication. The article suggests that regulated terminology management improves the quality of standards, translations, doctrinal texts, and digital language resources, thereby strengthening institutional memory, conceptual coherence, and operational compatibility with NATO partners.

KEY WORDS: *military terminology standardization; translation-oriented terminography; defence standardization; interoperability; military translation.*

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1. Introduction

The contemporary security environment is characterized by rapid technological change, multinational force employment, and a continuous circulation of doctrinal, operational, and technical information across languages. Under such conditions, military effectiveness depends not only on weapons systems and command arrangements but also on the precision of the conceptual and linguistic instruments used to describe them. Inconsistent terminology produces more than stylistic variation: it affects interpretation, translation, planning, training, procurement, and joint decision-making. In multinational settings, terminological discrepancies may slow coordination, distort operational intent, and create avoidable risks in both routine staff work and high-pressure operational contexts.

For the Armed Forces of Ukraine, the issue has a distinctly strategic dimension. Since the beginning of large-scale defence transformation and the intensification of cooperation with NATO member states and partners, the volume of bilingual and multilingual military communication has grown substantially. Ukrainian military institutions translate standards, doctrines, training materials, procurement documentation, tactical guidance, technical manuals, and educational resources while simultaneously producing original Ukrainian-language texts that must remain interoperable with allied terminology. In this environment, terminological work can no longer be treated as an auxiliary linguistic exercise. It must be understood as an institutionalized component of defence standardization and of the broader architecture of military interoperability.

The purpose of this article is to substantiate the need for a unified approach to terminological work in the Armed Forces of Ukraine and to analyze the methodological potential of the proposed framework "Terminological Work. Fundamental Principles" as a framework for standardizing terminology management in the Ukrainian defence sector. Particular attention is given to translation-oriented terminography because it directly links concept harmonization, multilingual documentation, and practical military communication in Ukrainian-English language pairs. The study suggests that standardized terminological work strengthens doctrinal coherence, improves translation quality, supports digital terminology management, and contributes to operational interoperability. References to NATO terminology management [1;

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2], ISO principles of terminology work [3; 5; 6], and the current Ukrainian draft framework confirm that standardization of terminological work should be institutionalized rather than left to dispersed local practice.

This position is consistent with the general theory of terminology and modern approaches to terminology management, which emphasize the role of concept-oriented analysis and systematic standardization in professional communication [8; 9; 11].

The proposed approach to terminological work is grounded in a combination of national and international normative sources. At the national level, the draft framework builds upon the principles of Ukrainian standardization and on the existing body of military standards governing terminology, linguistic support, and the structure of military normative documents. At the international level, it is aligned with NATO terminology policy and with ISO standards that conceptualize terminology work as a concept-oriented discipline rather than a purely lexical one. This dual foundation is essential because Ukrainian military terminology develops simultaneously within the national language system and within the multinational defence environment where interoperability requires conceptual comparability.

A concept-oriented understanding of terminology is especially important for military communication. According to ISO-based terminology science, the primary unit of analysis is the concept, while the term functions as its linguistic designation. Such an approach makes it possible to distinguish between conceptual equivalence and mere lexical similarity. This distinction is crucial in military translation because formally similar terms may designate different doctrinal realities, whereas different lexical forms may refer to the same operational concept. Therefore, terminological work should start not with isolated words but with the identification, delimitation, and harmonization of concepts within a structured subject field. Such an approach corresponds to the classical concept-oriented theory of terminology developed by Eugen Wüster and further elaborated in contemporary terminology science [8; 11].

The draft framework also reflects the logic of NATO agreed terminology, where standardization seeks not to eliminate all variation mechanically but to ensure a controlled and transparent system of preferred, admitted, deprecated, and obsolete designations. In the Ukrainian context, this principle is highly productive because it enables the regulation of synonymy, the treatment of borrowed and native forms, and the reconciliation of Ukrainian terminological practice with NATO documentary usage. At the same time, the proposed framework preserves the priority of the Ukrainian language system and of national linguistic norms, which is particularly significant when creating or selecting Ukrainian equivalents for foreign military terms. In this sense, the framework synthesizes the requirements of national terminology standardization, military standardization practice in Ukraine, NATO terminology policy [1; 2], and international terminology science [3; 4; 5; 6].

The novelty of this study lies in the development of an operational model of terminological work based on an author-developed draft framework and in its prospective application to contemporary bilingual military lexicographic resources.

2. Materials and Methods

This article applies a normative-analytical and translation-oriented methodology. The principal material of the research is the author-developed draft framework entitled “Terminological Work. Fundamental Principles”, supplemented by the conference abstract that formulates the broader research problem and strategic rationale for the study. The draft framework is treated not only as an adopted regulatory document in preparation but also as a methodological model that systematizes the procedures, requirements, and quality criteria of terminological work in the military sphere.

The research method combines document analysis, conceptual synthesis, and interpretive modelling. First, the provisions of the draft framework are examined in order to identify its core principles, stages of terminological work, requirements for terms and definitions, and translation-related provisions. Second, these provisions are interpreted through the lens of defence interoperability and multilingual military communication. Third, the article reconstructs a coherent procedural model that can be used by military translators, subject matter experts, standard developers, doctrinal authors, and terminology managers.

The research is qualitative in nature. It does not attempt to measure the statistical effect of terminology standardization on operational performance. Instead, it focuses on methodological robustness, institutional applicability, and the explanatory value of the proposed framework. Such a focus is justified at the current stage because a normatively grounded and conceptually coherent procedure is a prerequisite for later empirical validation, database implementation, and user-based assessment.

A further stage of the research involves the practical validation of the proposed framework through its application to contemporary English–Ukrainian military lexicographic resources developed after 2022. The rapid expansion of bilingual military dictionaries and glossaries during the full-scale war has resulted in large-scale terminological datasets reflecting operational, doctrinal, and technological usage. These resources provide an empirical basis for testing the methodological robustness of the framework.

Within this framework, selected dictionaries will be analysed using the proposed model of terminological work, including the stages of collection, description, processing, and presentation. This approach will make it possible to assess the degree of conceptual consistency, equivalence of translation pairs, and compliance with the requirements for terms and definitions. In addition, the analysis will allow for the identification of recurrent inconsistencies, synonymic variation, and gaps in standardization.

The results of this validation are expected to provide both qualitative and quantitative indicators of the effectiveness of the proposed framework. In particular, it will be possible to measure the level of terminological consistency, frequency of

deviations from unambiguity principles, and the distribution of preferred and non-preferred terms. Such empirical testing will demonstrate whether the standard functions effectively in real-world conditions and will support its further refinement as an operational tool for terminology management in the Armed Forces of Ukraine.

Discussion and Results

The analysis demonstrates that terminological work in the Armed Forces of Ukraine should be organized as a continuous and institutionally regulated process rather than as a set of isolated translation or editing decisions. The draft framework proposes a unified algorithm that includes four interconnected stages: collection, description, processing, and presentation of concepts and their designations. This sequence forms the operational core of terminology management.

The stage of collection presupposes a systematic search for relevant concepts and terms in normative acts, national standards, military standards, NATO and allied documents, scientific literature, dictionaries, databases, and other authoritative sources. In military practice, this stage is especially important because doctrinal, tactical, technical, and legal terminologies often intersect. A concept that seems transparent in one subject field may require clarification in another. Therefore, collection must be comprehensive and source-sensitive.

The stage of description requires the precise verbal formulation of concepts, including their delimitation from adjacent notions and their contextual interpretation within a given military domain. This stage transforms raw lexical material into a conceptually structured body of knowledge. It is here that terminological work reveals its epistemic function: terminology does not merely name reality but organizes professional knowledge about it.

Processing involves the ordering and systematization of the collected material. Terms are grouped according to thematic relations, hierarchical relations, and other concept-system links. Synonyms, foreign-language equivalents, sources, and status labels are recorded in an organized format that can later support standardization, publication, and digital management. The processing stage is also where harmonization takes place: discrepancies between competing sources, language variants, and doctrinal traditions are analysed and resolved.

Presentation is the stage at which terminological results become usable for the target audience. Depending on institutional needs, presentation may take the form of a terminological military standard, glossary, dictionary, terminology database, online platform, or integrated terminology management system. In the defence sector, the usability of presentation is a strategic issue. Terminological resources must be accessible, searchable, updateable, and suitable for both human use and digital integration.

A particularly significant result of the draft framework is its strong translation-oriented dimension. The framework conceptualizes the translation of terms and definitions as part of practical terminography rather than as a secondary operation that occurs after standardization is complete. This position reflects the reality of contemporary defence communication, where standards, manuals, and doctrinal texts circulate across languages, and where terminological choices directly affect understanding, training, and interoperability.

Translation-oriented terminography is valuable because it establishes a direct connection between concept analysis, bilingual equivalence, and the creation of reusable terminological resources. The draft framework explicitly links terminological work to terminology databases, terminology management systems, and computer-assisted translation environments. Recent research on multilingual terminology standardization also emphasizes the growing importance of digital environments, semantic interoperability, and terminological resources designed for multilingual communication and translation workflows [7]. This perspective reinforces the relevance of integrating terminology databases and terminology management systems into contemporary military communication and translation practices.

This is methodologically important for at least three reasons. First, it promotes consistency across distributed translation workflows. Second, it preserves institutional memory by storing validated equivalents and definitions. Third, it reduces the risk of ad hoc translation solutions that may later spread through doctrinal or educational materials without proper validation. This understanding is also supported by research in terminology management, which highlights the importance of integrating terminological resources into translation workflows and knowledge management systems [9; 10].

The analysis also shows that effective military terminological work requires the permanent involvement of subject matter experts. Military terminology is inseparable from doctrine, tactics, logistics, engineering, intelligence, communications, medical support, armament, and other specialized domains. Linguistic competence alone is insufficient when the concept itself must be verified against professional reality. The cooperation of philologists, translators, and domain experts therefore becomes a structural requirement rather than an optional enhancement.

Another important result concerns the quality requirements formulated in the draft framework for terms and definitions. A term must be systematic, transparent, stable, unambiguous, concise, stylistically neutral, derivationally productive where necessary, linguistically correct, and harmonized with the broader concept system. The preference for native-language forms, where appropriate equivalents exist, is combined with the need to preserve interoperability with NATO terminology and with international documentary practice. This balance is especially relevant for Ukrainian military terminology, which must simultaneously maintain linguistic normativity and participate in multinational professional communication.

The requirements for definitions are equally consequential. Definitions should be unique within the relevant subject field, conceptually consistent, system-based, complete enough to distinguish the concept from neighbouring ones, concise, unambiguous, and linguistically accurate. They should avoid encyclopedic overload and should formulate the concept

through essential features rather than through doctrinal commentary. Such an approach increases the reliability of standards and strengthens the methodological connection between terminological description and practical use.

Taken together, these results support the central thesis of the article: terminological work functions as an enabling infrastructure for defence standardization, military translation, multilingual knowledge management, and interoperability. When terminology is collected, validated, harmonized, and technologically integrated in a systematic way, it becomes a resource that improves the coherence of military communication across institutions and languages.

From a practical perspective, the proposed framework can influence at least four institutional domains. In defence education, it can provide a shared terminological foundation for teaching military English, translation, and subject-specific professional communication. In doctrine development, it can ensure that newly introduced concepts are named and defined in a controlled manner before they diffuse across manuals and training documents. In procurement and technical documentation, it can support more reliable translation of equipment-related terminology and reduce ambiguity in specifications. In digital transformation, it can underpin structured terminology repositories that interact with translation memory systems, corpus tools, and other language technologies.

The model is also relevant for the management of emerging terminology connected with new weapons systems, unmanned platforms, cyber defence, information operations, and other rapidly developing subject fields. In such domains, lexical innovation often outpaces terminological validation. A standardized methodology helps institutions decide when to preserve an international borrowing, when to create a Ukrainian equivalent, how to document preferred and admitted variants, and how to maintain traceability of changes over time. This is particularly important for preserving continuity across successive editions of standards, manuals, and glossaries.

Equally important is the role of quality assurance. The draft framework emphasizes review, expert assessment, and feedback mechanisms. These measures are not secondary editorial steps; they are part of the terminological life cycle. A term that has been conceptually justified but not operationally tested may still cause misunderstanding in training or field communication. Therefore, terminology management should include a feedback loop between normative development and practical use. Such a loop allows institutions to refine terminological resources while preserving overall system coherence.

To operationalize the provisions of the proposed draft framework, terminological work can be represented as a structured and cyclic process, as illustrated in Figure 1.

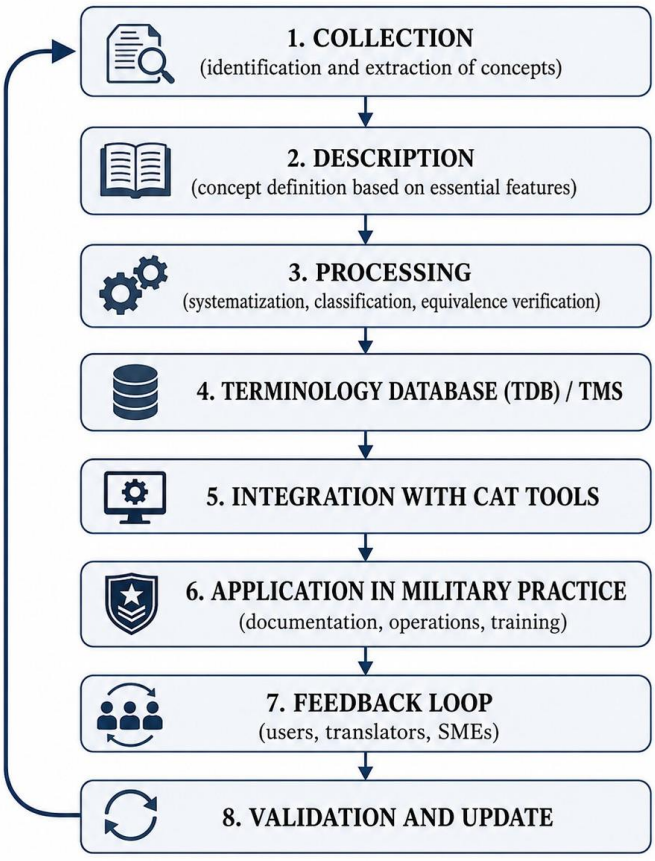

Figure 1. Operational Cycle of Terminological Work (author's development based on the draft framework).

The proposed model does not replicate a single ISO standard but represents an operational synthesis of ISO-based principles of terminology work adapted to the needs of military terminology management. The proposed operational model of terminological work reflects a cyclic and system-oriented process integrating conceptual, linguistic, and technological components. The cycle begins with the collection of concepts from normative, doctrinal, and operational sources, followed

by their conceptual description in accordance with the principles of ISO 704. At the processing stage, terms and definitions are structured into coherent concept systems, ensuring consistency, unambiguity, and equivalence across languages. The integration of terminology databases (TDB) and terminology management systems (TMS) with computer-assisted translation (CAT) tools enables the practical application of standardized terminology in multilingual military communication. The feedback loop, involving subject matter experts, translators, and end users, ensures continuous validation, updating, and adaptation of terminology to evolving operational needs. This cyclic model demonstrates that terminological work functions not as a static linguistic activity but as a dynamic and operational mechanism directly supporting interoperability, accuracy, and efficiency in military communication.

The significance of standardized terminological work extends beyond the narrow sphere of dictionary-making or editorial regulation. In military institutions, terminology has direct operational consequences because it participates in planning, instruction, reporting, procurement, training, and interaction with partners. A terminological mismatch may appear minor at the lexical level while producing major practical consequences at the procedural or conceptual level. This is particularly evident when military texts are translated under time pressure or used by personnel with different doctrinal backgrounds. In this respect, the Ukrainian experience is analytically important. The current defence transformation requires simultaneous adaptation to national legal and linguistic norms, rapid incorporation of new technological vocabulary, and close coordination with NATO-based documentation. These processes generate a dense contact zone where terms emerge, compete, shift in status, and require validation. Without a unified framework, institutions may rely on fragmented local solutions, inconsistent glossaries, or translator intuition. The draft framework offers a way to move from dispersed practice to regulated terminology governance.

The translation-oriented perspective of the framework deserves special emphasis. In many practical settings, terminology management remains reactive: translators encounter a problematic term, search for a temporary equivalent, and continue the workflow. By contrast, the model analysed in this article is proactive. It treats terminological resources as strategic infrastructure that should be built in advance, maintained collaboratively, and integrated into digital tools. Such a model corresponds to the needs of contemporary military organizations, where the volume of multilingual data makes manual consistency control increasingly unsustainable.

At the same time, the implementation of the proposed model requires institutional support. Terminology databases need maintenance, version control, access regulation, and update procedures. Subject matter experts need mechanisms for participation and review. Translators need training in terminology management rather than only in text transfer. Standard developers need clear procedures for resolving synonymy, ambiguity, and conceptual divergence across documents. Therefore, the proposed framework should be seen not only as a set of linguistic prescriptions but also as a blueprint for organizational practice. The broader theoretical implication is that interoperability should be interpreted not solely as technical compatibility or procedural alignment but also as conceptual-linguistic compatibility. Operational cooperation depends on shared or at least harmonized conceptual frameworks, and these frameworks become visible and actionable through terminology. Hence, terminological standardization is not peripheral to interoperability; it is one of its linguistic preconditions.

A further discussion point concerns institutional sequencing. The introduction of a terminology standard does not automatically create terminological coherence; it creates the procedural conditions under which coherence can be built. For this reason, implementation should proceed in several coordinated directions. First, an authorized institutional mechanism is needed for selecting priority subject fields in which standardization is most urgent. These may include operational planning, command and control, intelligence, logistics, armament, engineering support, military education, and emerging defence technologies. Prioritization is essential because the defence sector produces terminology at a pace that exceeds the capacity of purely ad hoc review.

Second, terminology work should be integrated with existing document-production cycles. New standards, doctrinal publications, manuals, training syllabi, and bilingual teaching materials should be screened for terminological novelty and conceptual inconsistency before publication. Such integration would allow terminology management to function preventively rather than retroactively. Instead of correcting divergent usage after it has spread across institutions, military organizations can stabilize concepts at the stage when documents are drafted and approved.

Third, the success of the proposed model depends on the creation of interoperable digital infrastructure. Terminology databases should not exist as static appendices or isolated spreadsheet repositories. They should support structured entries, status marking, source tracking, version history, search functions, cross-references between concepts, and export options for use in translation environments. In the long term, such databases can become part of a broader knowledge-management ecosystem that links doctrine development, translation memory, corpus analysis, and educational content design. For the Armed Forces of Ukraine, this would be especially valuable because institutional memory must be preserved despite rapid organizational change and personnel rotation.

Fourth, terminology governance requires role differentiation. Not every participant in the process performs the same function. Subject matter experts verify conceptual adequacy; linguists and military philologists assess linguistic correctness and system coherence; translators evaluate equivalence and usability in bilingual communication; standardization specialists ensure conformity with document structure and regulatory requirements; database administrators maintain technological continuity. A mature terminology system therefore depends on coordinated expertise rather than on the isolated authority of any single professional group. The framework is important precisely because it provides a shared procedural space within which these roles can interact.

Finally, implementation must include training. Terminology culture does not emerge automatically from the existence of a standard. Personnel involved in drafting, translating, reviewing, and teaching military texts should understand the difference between a term and a casual lexical choice, between conceptual equivalence and approximate lexical

resemblance, between a preferred designation and an admitted or deprecated variant. Without such awareness, even well-designed terminology resources may be underused or misapplied. Consequently, the practical adoption of the standard should be accompanied by methodological guidance, sample workflows, and educational modules for the relevant professional groups.

These considerations reinforce the main argument of the article. Terminology standardization is not merely an exercise in lexical tidiness. It is a form of institutional coordination that connects language, knowledge, doctrine, technology, and operational practice. In the contemporary defence environment, where multilingual information moves quickly and decisions often depend on conceptual precision, terminological work becomes one of the hidden infrastructures of military effectiveness.

The study confirms that terminological work in the Armed Forces of Ukraine should be understood as a strategic and operational capability embedded in defence standardization rather than as an auxiliary linguistic activity. The author-developed draft framework entitled "Terminological Work. Fundamental Principles" offers a coherent methodological framework for organizing terminology management through the stages of collection, description, processing, and presentation. This framework establishes clear quality requirements for terms and definitions, institutionalizes expert involvement, and integrates translation-oriented terminography into the logic of military standardization.

The article has shown that the practical value of such standardization lies in several interrelated outcomes: improved conceptual clarity, greater consistency of bilingual and multilingual military documentation, enhanced translation quality, stronger institutional memory, and better conditions for interoperability with NATO partners. The linkage between terminology databases, terminology management systems, and computer-assisted translation tools further increases the relevance of the model in contemporary defence communication.

The Ukrainian case demonstrates that terminology standardization can serve as a transferable model for other armed forces undergoing rapid transformation, multilingual documentation growth, and alignment with international standards. Further research should test the proposed framework through its application to contemporary bilingual military dictionaries and digital terminology resources, as well as through empirical evaluation of user practices and translation workflows. Nevertheless, even at the current stage, the evidence is sufficient to conclude that standardized terminological work is a necessary condition for coherent military communication and for sustainable interoperability in a complex geopolitical environment.

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