"OPEN SESAME" – TOWARDS A NEXT GENERATION TERMINOLOGY MANAGEMENT SYSTEM

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The existing diversity of languages for special purposes leads to their their commonly highly complex and thoroughly differentiated terminologies. Getting an overview has become almost impossible without appropriate terminology management systems. Existing terminology management systems cannot effectively accommodate regular changes, updates of or additions to multilingual terminologies. While the deficits are becoming more and more obvious, new perspectives are emerging at the same time. Those new perspectives include the integration of terminology bases, the revelation of partially overlapping domain-specific terminologies as well as an increased accuracy of linguistic modelling. The methodical framework is founded on a solid semiotic basis. Based on this novel trilateral model of a linguistic sign both the interconnectedness of terms within terminologies and the clear separation of domain-specific language use can be achieved. Its semiotic foundation as well as its possible application in an integrative approach to terminology elaboration and terminology use will be introduced in this article.

1. Introduction

In a globalized world, cross-company collaboration often requires cross-language collaboration. Even within different departments of one organization inconsistent use of terminology can be observed (Hurst, 2009). Given the increasingly international context of interdisciplinary collaboration consistent multilingual terminologies are becoming more and more important for the preparation and translation of documents (Warburton, 2001). In addition to the ever increasing complexity of existing specialized terminologies, also their magnitude is continuously growing.

It is a commonly recognized fact that non-conformance costs occurring in preparation and translation of documents (especially requirements specifications) rise with the number of activities after an error has happened (Maier, 2008). If for example requirements are poorly stated, deliverables may never meet the needs of the customer. Ultimate consequences of such poor performance could range from disappointment or loss of future business, to even litigation (Adler, 2000). Extensive additional costs resulting from faulty or unclear texts can be avoided by gathering, defining and consistently using a shared terminology as early as possible (Wright, 2001). However, at this point this knowledge has only insufficiently been applied in practice. For this reason this paper introduces a wholistic methodical framework which incorporates the communication process in its entirety and ties it to an integrative approach of terminology management. This methodical approach helps to avoid the currently existing problems in the future.

− The solicitation and subsequent formulation of requirements can be seen as a communicative process which involves stakeholders from different application domains (Adler, 2000) Based on a hierarchical structure of speech production and speech reception natural language semantics has been identified as a key factor for misunderstandings. Due to language change and (cross-)linguistic variation and semantics the need for a methodical approach to terminology management is ever increasing.
Research concerning current semiotic basis of the standards of terminology work clearly demonstrates that the existing approaches to model terminologies in an increasingly international and interdisciplinary context are insufficient. Based on the novel trilateral model of a linguistic sign it is possible to account for even slight differences in meaning.

The trilateral model of a linguistic sign is incorporated into a new terminology management system which serves as a basis for the collaborative elaboration of a terminology in an interdisciplinary context (Massion, 2006).

The terminology management system IGLOS (acronym for "intelligent glossary") integrates different aspects. It links the processes of document life cycle management and terminology management. Based on the co-operation of different tools a comprehensive framework emerges which helps to improve the overall quality of requirements specifications in natural language. Terminology management systems (TMS) become the core of extensive terminology management.

2. The role of communication

The development of increasingly complex technical systems usually starts with a verbal requirements specification. Additionally the development of technical systems can be characterized as a social process. The joint cooperation of many persons by means of intense discourse requires a binding agreement of uniform rules for natural language. The more stringent those rules are, the less tolerance is left for (mis-)interpretation (Cushing, 1994). However, in reality requirements still are characterized by lexicological vagueness caused by the different use of ambiguous terms. In order to clearly communicate several semiotic aspects of natural language have to be taken into consideration. The interrelation of semiotic aspects and the cognitive aspects of speech production and speech reception have become a primary focus of linguistics in general and in the research of language for special purposes in particular [Bau01]. A synopsis of the cognitive processes involved in communication is shown in figure 1 (cf. Schnieder, 2008).

- The process of speech production starts with recognition. Tacit (implicit) knowledge is transformed into explicit knowledge (Nonaka et al., 1995). The individual develops concepts which embed the combined tacit knowledge and which allow its communication.

- The next step is the conceptualization which refers to references and predications (Austin, 1955; Searle, 1969). For successful communication binding agreements for the relation between language and the mental representation of objects (i.e. concepts) are required. At this stage it is important that semantic errors due to ambiguity are prevented (Shreve, 2001). By means of a proper concept-term assignment the correct concept is referred to and because of a proper modeling of the concept’s properties and characteristics a complete and unambiguous predication can be performed (Schnieder, 2008).

- The formulation of a complete message takes into consideration the structural and grammatical rules that define how the symbols in a language are to be combined to form words, phrases, expressions and other allowable constructs (Evans et al., 2006). Allowed combinations of symbols are defined and invalid combinations excluded.

- Articulation means the coding of the message into audially perceivable linguistic signs whereas writing refers to the coding into visually perceivable linguistic signs. Characters are the least identifiable linguistic subunit (sigmatic level). The ASCII-Code or the Unicode are universal character sets which form the basis for character encoding meaning the representation of characters as a set of ordered bits.
Transmission is the process of propagating an information from the sender to the receiver. Based on the transmission medium this can be a point-to-point or point-to-multipoint connection.

The extraction of meaning from speech is a complex process. The task of auditive analysis is to analyse the acoustic information stream generated by the sender so as to decode the talker's message, isolating it, if necessary, from other acoustic information (or noise). In case the receiver reads a text the equivalent task would be visual analysis, where the reader decodes symbols or codes to interpret their meaning.

During lexical identification the receiver combines the elementary sub-units to form words, phrases and other allowable constructs of speech taking into account the structural and grammatical rules of the language in question (Evans et al., 2006).

The next step is the interpretation where the pragmatic context is reflected. Now all information to extract the information is available, which can be seen as a constructivist process (Glaserfeld, 1995).

As soon as the information has been successfully interpreted it can be memorized, i.e. the newly required knowledge is incorporated into the recipient’s mental structures.

The discussion of the processes of speech production and speech reception clearly demonstrates that terminology (lexical knowledge) is of utmost importance. It becomes clear that the terminology necessary for successful communication should not be taken for granted. Due to its outstanding importance it should become the subject of dedicated management activities. Terminology management as a new discipline includes a lot more than archiving and defining terms as seen in usual dictionaries. Terminology management faces a whole series of unprecedented challenges:
− **Language change**: Phonetic, morphological, semantic, syntactic and other features of a language vary over time (Keller, 1994) as human knowledge is constantly advancing. While it used to be possible to work with new editions of specialized dictionaries that were published in certain intervals, this method has become inappropriate due to the ever increasing speed of progress and the huge amount of theories and publications. The definition of a term is only valid while the characteristics of the concept remain unchanged. As soon as a characteristic, a characteristic value or – in case of an extensional definition – a hyponym changes, it leads to a change of the term, making a new definition necessary. New scientific trends – and also single authors – use terms in altered contexts, causing a generalized definition to become incorrect overnight. Accordingly, it is necessary to regularly control and update existing terminologies. Moreover, a standardized terminology serving as a normative reference can be of considerable relevance for legislation. A specific state of terminology also has to be reconstructable in retrospect, which calls for a comprehensive release management and revision control.

− **(cross-)linguistic variation and semantics**: A homogenous linguistic community is mostly fiction. Instead, heterogeneity is predominant (Finch, 2000). Every single member of a linguistic community chooses a prevalent form of speech (variety) based on the current communicative situation. In linguistics the term variety is defined as a subset of a natural language which amends and modifies the respective language, but can not exist on its own (Finch, 2000; Chambers, 2009). Precise modeling of the semantics of languages for special purposes in an interdisciplinary context, leads to the attribution of a term to a specific variety for which it is considered to be valid (Dubuc et al., 1997).

A closer look at existing terminology management systems reveals that there is still high potential for adequate illustration of languages of special purposes. Shortcomings of existing terminology management systems are presented in Seewald-Heeg et al., 2006; Schmitz, 2001) and (Schnieder et al., 2009).

### 3. A semiotic foundation by a trilateral linguistic sign model

The basic standards for terminology work (cf. ISO, 2000a; ISO, 200b and (ISO, 2007)) consider a term to be the interrelated combination of a concept – meaning unit of knowledge – and its designation to become an element of a terminology. Thus, a term is a linguistic sign (Finch, 2000). In lexicography and lexicology, linguistic signs are synonymously called lexeme or lexical element (Lutzeier, 2003; Wolski, 1989). Depending on prevalent perspective (linguistics or philosophy of language) a great number of different models of a linguistic sign can be found (Finch, 2000). These basic understandings of what a linguistic sign is have undergone a significant change during the scientific discourse in semiotics (Keller, 1995). In the following, the word 'term' will generally be used for a linguistic sign, even though a linguistic sign consists of more than just the combination of 'concept' and 'designation'.

According to the Swiss linguist Saussure (Saussure, 2006) the linguistic sign consists of two sides, the expression (signifier) and the conceptual content (signified) which are inseparably interwoven, as the definition of the term has shown before. Accordingly, the (inter-)national basic standards of terminology work is explicitly based on such a bilateral sign model, which is reflected in the fact that we speak of the level of terms (signified) and the level of designations (signifier). Having said that, since according to Saussure the linguistic sign is regarded independent from any particular context, this approach alone is not appropriate for examining the communication across different languages for special purposes. At the same time, communicative problems in language for special purposes often emerge from the significant semantic differences due to context dependence.
The linguistic of the 20th century discourse after Saussure picks up the bilateral sign model and enhances it. Linguistics does not stop at describing a language system or looking for explanations for linguistic problems that are exclusively intrinsic to language systems, but also considers additional social, functional and cognitive aspects (Finch, 2000). Against the background of functional differentiation of languages in languages for special purposes (Chambers, 2009), Saussure's bilateral sign model has to take into consideration pragmatics in order to adequately model the way in which context contributes to meaning. In this article, the bilateral sign model of basic standards of terminology work is extended to a trilateral sign model. After the first overview, the constituents of the metalinguistic model of terms (cf. figure 2) are explained in more detail in the following course of this paragraph.

![Figure 2: Trilateral Model of a Linguistic Sign](image)

The metalinguistic model of terms therefore comprises the following constituents:

- The designation (signifier): A concept's (see below) representation using linguistic (e.g. appellation) or other means (symbols, formulas). According to lexicography and lexicology the signifier (Saussure, 2006) or designation (ISO, 2000a) is also called lemma. (Lutzeier, 2003; Wolski, 1989).

- The actual 'concept' (signified): According to (ISO, 2000a), terms are defined as "unit of knowledge formed by an amount of objects and determining their shared characteristics using abstraction". Terms are used for identifying objects, gaining a common understanding about objects, as well as organizing objects mentally (Arntz et al., 2004). In the trilateral model of a linguistic sign, the term is represented by its definition (Bessé, 1997; Pozzi, 2001).

- A variety classifying denotation and term into a context of use (Dubuc et al., 1997), the respective language for special purposes. The variety is considered an essential constituent of the metalinguistic model of a linguistic sign.

Additionally, the actual concept (signified) can be described using its extension, intension and relations to other terms according to (ISO, 2000a). Those constituents of a term are usually put into words by definitions. Definitions require a proper knowledge of a concept's extension as well as its intension and relations.
4. IGLOS as a terminology management system of the next generation

Based on the aforementioned problems of synchronous and overlapping (multilingual) terminologies within languages for special purposes, a terminology management system (TMS) of the next generation has to meet the following requirements:

- **Mastery of domain specificity**: Heterogeneity dominates the field of languages (for special purposes). "Specialized languages differ from general languages especially by their vocabulary. Every specialist area develops its own terminology, the special terms of which making it possible for the experts to communicate" (Gooch, 2005; Teuber, 2001). Usually, communication problems arise out of the lack of knowledge concerning language use specific for a certain specialist area. This increase in differentiation causes communication problems to occur just as much among specialists as between specialists and "laymen". In order to overcome these problems, terms should be considered fundamentally determined by the domain or rather the specialist area they belong to in order to make clear distinction between context-specific homonyms. For the documentation of terminology, classification systems (classification of subject areas, e.g. ICS or DDC) should be adopted (Graham et al., 2001). Moreover, it has to be possible to model project-specific and company-specific contexts of use.

![Diagram: Domain specificity in the trilateral model of a linguistic sign](image)

- **Supporting a diachronic perspective**: Due to the constant development of language, terms that did not exist before have to be classified into a terminological structure, and existing entries have to be changed or deleted, if necessary. A normatively binding terminology serving as the standard also plays a role in legislation. It has to be reconstructable in retrospect at any given time. Therefore, a capacious release management and revision control is needed in order to be able to refer to and reconstruct the terminology valid at a given point of time (cf. figure 4). Technically this can be achieved by means of a URI (Unified Resource Identifier) which clearly references (sub-)sections of the language system at a given time. This is especially important for contractual and legal requirements (Weissinger, 2008). Since especially terms belonging to the terminology of a specific language for

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1 Following the Swiss linguist Ferdinand de Saussure the term "synchronous" denotes the occurrence of a linguistic phenomenon at the same time or having the same period

2 ICS = International Classification for Standards; DDC = dewey decimal classification

3 The fundamental differentiation between a diachronic perspective (change of language over time) and synchronic perspective (analysis of linguistic phenomena at one point of time) was introduced by the linguist Ferdinand de Saussure.

4 The term language system denotes a system of linguistic units or elements used in a particular language
special purposes display close and very specific connections to and dependencies on each other, revision control of relations that are intrinsic to the terminological structure are as important as revision control of individual terms.

Figure 4: Diachronic representation by means of an unambiguous "Uniform Ressource Identifier" (URI)

- **Organization by relational context**: Terms do not exist isolatedly. Their relational contexts constitutes them. There are numerous types of possible relations. Their application depends on the particular cognitive interest underlying the modeling of a specific terminology. Therefore, it has to be possible to freely create arbitrary relation types that are able to depict linguistic, causal and functional relations in detail (cf. figure 5).
Figure 5: Flexible relation types
By means of the relations linguistic signs assimilate into a system. Actually, they only
obtain their linguistic relevance through their position within the language system.
Thus, it is essential to examine the terms’ context and its dependency on other terms,
which requires to depict the various relations of a term adequately (cf. figure 6). Once
there are certain systemic structures available for the terminology of a specific subject
area it can serve as a knowledge base (Graham et al., 2001). Terminology systems
help structuring, organizing and connecting resources of knowledge both within a
specific specialist area as well as between different ones.

Figure 6: The IGLOS model of a linguistic sign in a systemic context

5. An integrative approach to terminology elaboration and terminology use
Terminology work is a cooperative effort of many different people with different
educational backgrounds, thus appropriate tool assistance is needed. "The continuous update
of a common and shared terminology should be the mutual responsibility of both technical
writers and translators" (Graham et al., 2001). Since terminology is used throughout the
organization an infrastructure for terminology work needs to be established, as well as a
procedure approved by the community of experts which guarantees that a consistent
terminology including correct translations is available for cross-company and/or cross
language communication (Teuber, 2001; Hurst, 2009).

Subsequently the integrative approach to terminology elaboration and terminology use will
be described in more detail. The process described combines methodical aspects with a tool
support of the cognitive processes of speech production and speech reception. This can be
seen as a contribution to a less fault-prone communication in the development phase of a complex technical system. This approach is integrative with respect to the following aspects:

- **Domain integration**: creation of an interdisciplinary and multilingual terminological basis.

- **Spatial integration**: web-applications allow for collaborative and distributed terminology work at different locations, between different business divisions as well as beyond the boundaries of the respective organization.

- **Tool integration**: the terminology management system IGLOS is the core element of a cooperative network of tools for speech technology.

- **Process integration**: As a part of a cooperative network of tools the terminology management system IGLOS is interwoven with the authoring process (document preparation) and terminology management.

- **Collaborative writing**: In industry settings, collaborative writing takes the form of multiple participants who provide input according to their experience, rules and ability to invest time in a project (Lowry *et al.*, 2003). Furthermore documents are written collaboratively at different locations, in different languages, with individual spelling styles and incongruent vocabulary. In order to get an understandable result those individual contributions need to be integrated and harmonized in terms of syntax and semantics in order to form one consistent comprehensive document (Haberland, 2008).

The integrative approach is depicted in figure 7.

![Figure 7: Integrative approach to terminology elaboration and terminology use](image-url)

**5.1. Terminology management process**

Consistently maintaining, sharing and applying a terminology within the organization (and beyond) calls for a coherent methodical framework (Hurst, 2009). Because of the omnipresent language change this is always an iterative process. The elaboration of a shared terminology is performed in the following steps:
− **Term excerpton**: Existing terms and definitions are collected from different sources. On the one hand side this can be new term proposals which have been submitted by users through a web-client (Glöckle *et al.*, 2008). On the other hand side existing texts can be analyzed using term extraction tools. The terms that are used most frequently will be a first starting point for the subsequent steps of the terminology management process (Wright, 1997; Zerfaß, 2008a).

− **Term validation**: The critical examination and editing of the extracted terms will be done by terminologists. The terminologists need to carefully evaluate the results of the term extraction tools – the terms used most frequently may not be the most important ones (Zerfaß, 2008b). In this phase the terminologist performs research on underlying concepts, provides equivalents or creates new designations for concepts which have not yet been named. The result of this phase is a draft terminology with definitions, preferred terms for each language and deprecated terms which may not be used and should be avoided in the future (Haberland, 2008).

− **Terminology agreement**: The draft terminology prepared by the terminologist will be approved by an interdisciplinary board which is composed of all stakeholders (e.g. product managers, technical writers, marketing, …). The process of terminology agreement can be supported by a web-application which informs all stakeholders of changes in the terminology and requests them to cast their ballot for term acceptance or deprecation.

− **Term translation**: The terminology previously agreed on will be translated, if possible, into all required target languages. In case there are no or only inexact foreign language equivalents this needs to be made explicit in order to avoid future mistakes during document translation.

− **Translation check**: Validation of the translated terms and definitions will be performed by native speakers (Glöckle *et al.*, 2008). In the course of this translation check all parts of the terminological entry will be checked for their completeness and correctness. A special focus is laid on term equivalents (e.g. translations and synonyms).

− **Terminology dissemination**: The terminology will be made available in all required languages to all users (possibly in different data formats) (Melby *et al.*, 2001). It is now available for quality assurance in the process of document preparation and translation (Glöckle *et al.*, 2008; Haberland, 2008). This will be described in more detail in the following section.

5.2. **Terminology during the document lifecycle**

The document lifecycle describes the process which stretches from the creation of a document, its use during the workflow of system development to its long-term storage in the archive for the required retention period. A document's lifecycle can be seen as a document's sequential transition through the following phases:

− **Preliminary investigation**: Before starting to write the document the author gathers the required information from already existing documents. Text reception is improved significantly if the author has the chance to look up unknown or ambiguous terms in an electronic glossary. This fosters understanding of the subject matter and error propagation in the authoring process is avoided in the first place (Roelcke, 1999). Although many different glossaries exist, those do currently not allow for the integration into authoring tools. Furthermore the terminology they provide is neither checked and approved by experts nor does it sufficiently clarify the meaning of the terms by means of concept relations.
- **Document creation**: The author starts to write the document. In the course of text production the electronic glossary gives advice about the correct term and its meaning exemplified with its paradigmatic relations (Roelcke, 1999; Shreve, 2001; Wettengel et al., 2001). After having written the text the author can perform some checks to improve the quality of the prepared document. Term checking tools support evaluation if the permissible terminology has been applied in the document. This way, the terminology management system integrates into the process of text production and ensures that terms are used consistently at the source. This consistent use of terminology in the source documents helps to improve quality as well as efficiency of subsequent translation significantly (Hurst, 2009). In addition to this semantic check controlled language checkers examine if additional linguistic rules (e.g. spelling style and permissible syntactical structures) have been incorporated in the document (ASD, 2007; Kohl, 2008).

- **Document release**: The document prepared by the author is subject to a review. Multiple users will review the document and will point out errors and submit corrections and suggestions they want in the document to the author. The author can either accept or reject comments. The document is updated based on the reviewers' change requests and corrections until the document will be released.

- **Document translation**: At first the document is only available in the source language. Often translation into one (or several) other target language(s) is required. Translation is a challenging cognitive task. Translation memory systems can support the translator by making the knowledge base of previously approved translations available. A controlled language checker can be used to validate that the spelling style and permissible syntactical structures that have been applied in the text are also available in the target language.

- **Translation check**: Usually the check of the translation is performed by native speakers. Mother-tongue speakers can properly evaluate linguistic nuances, permissible grammatical constructs and the appropriateness of the spelling style.

- **Document distribution**: Finally, the document will be made available to the users. In case of a requirements specification it serves as the basis for the subsequent implementation of the automation system. In case of an operating manual or maintenance manual it is the basis for operational safety of the automation system. In both cases it becomes very clear that the correctness and precision of natural language is of utmost importance.

5.3. **Cooperative network of tools for speech technology**

The previous sections has shown that tools for speech technology in general and terminology management systems in particular can contribute to quality assurance in the preparation of documents. Complexity of natural language texts can be decreased significantly thus reducing misunderstandings and non-conformance costs. The application of the tools previously mentioned calls for a terminological base which serves as a reference for the permissible and generally agreed on language use. The term base contains all data which is necessary to evaluate whether the use of a specific term is allowed or forbidden (Soukup-Unterweger, 2007). The terminology management system IGLOS can support this task and thus is the core of the cooperative network of tools for speech technology.

**Term Checking Tools**: Tools for terminology checking are used during the preparation of the document. They compare the text prepared by the author with the content of a terminology database. They search project-specific glossaries and available terminology databases for words and groups of words in the source texts and ensure that the permissible terminology has
been used. In case deprecated terms have been applied this can be indicated to the author so that the document can be revised accordingly.

**Controlled Language Checker:** Controlled natural languages are subsets of natural languages obtained by restricting the grammar and vocabulary in order to reduce or eliminate ambiguity and complexity (Göpferich, 2007). One example of a controlled natural language specification is the simplified technical English stipulated by the Aerospace and Defence Industries Association of Europe (ASD, 2007), which helps to increase the quality of technical documentation in the aviation industry. This language restricts the writer and enforces the abidance to grammatically simple sentences, encourages the use of active instead of passive or suggests the use of nouns instead of pronouns (to eliminate this source of ambiguity due to unclear reference). When applied to a requirements specification simplified technical English leads to a document which is easier to interpret by a reasonably intelligent person (Adler, 2000). A controlled language checker is a software application, which helps authors to comply with a controlled language specification. The result of this check should be a document which is easier to read (and understand) and is better to translate (Kohl, 2008). Complex grammatical structures, as well as excessive use of synonyms and unclear references are avoided to eliminate misunderstandings (Drewer et al., 2007).

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**Figure 8: Connection between the terminology management system and tools of speech technology**

**Translation Memory Systems:** A translation memory is a database that stores segments that have been previously translated. A translation-memory system stores the words, phrases and paragraphs that have already been translated and assist human translators. The translation memory stores the source text and its corresponding translation in language pairs called “translation units”. Translation memories are typically used in conjunction with a dedicated computer assisted translation (CAT) tool, word processing program, terminology management systems, multilingual dictionary, or even raw machine translation output. A translation memory consists of text segments in a source language and their translations into one or more target languages (Pich, 2008).

**Terminology extraction tools:** The goal of terminology extraction is to automatically extract relevant terms from a given corpus. By using terminology extraction tools given corpora can be analyzed in order to identify what terms have been most frequently used. The result of terminology extraction are lists with term candidates which need to be validated. It has been mentioned before that the frequency of use is not an indicator of the importance of a term. As soon as the relevant terms have been identified and validated they are included in
entries in the terminology management system. Currently available term extraction tools allow for the extraction of simple and complex terms from monolingual documents (monolingual tool) or from a bilingual aligned corpus (bilingual tool). Bilingual tools allow for the assignment of terms to their probable translation. Of course, this foreign language equivalent is subject to a subsequent validation (Zielinski et al., 2006).

6. Conclusion

It is a well-known fact that innovations in the different fields of science and economy are achieved by crossing boundaries, just like the fact that most of those boundaries are mainly of a linguistic nature. Enabling communication in the first place and furthermore improve mutual understanding is a key factor for success. The necessity to depict language with its entire complexity and all its multi-faceted interrelations has become a vital issue for all scientific disciplines.

The idea for IGLOS evolved from the cooperation of the Institute for Traffic Safety and Automation Engineering and the Department of German Linguistics, both part of the Technical University of Braunschweig, Germany. Its goal, rather than developing a glossary like any other, is to create the possibility to model a highly networked terminological structure which helps to transcending omnipresent linguistic boundaries between individual scientific disciplines, making communication possible where lack of understanding, misunderstanding and rejection used to prevail.

A project that deals with interdisciplinary communication requires an interdisciplinary approach. Engineers, computer scientists and linguists have designed an approach using an epistemological base, which is expected to accomplish more than any other terminology management system so far. IGLOS is currently being tested intensely within the scope of various European research projects in the field of satellite navigation, which is characterized by the need of an interdisciplinary cooperation of traffic systems engineering and aerospace technology. In order to do this currently existing terminologies are integrated into the IGLOS, are cross-linked and validated by domain experts. The result is accessible to all persons involved in the project via a web interface and can be continuously commented, amended and improved. The feedback from industrial practice is thus used to improve both the IGLOS terminology management system itself as well as the interdisciplinary terminology incorporated in it. This future technology in particular has a strong need for a methodical approach to expedite the development of, agreement on and distribution of a shared terminology. Only if a terminology management system is applied when developing and using this terminology we hope to keep up with the ever-increasing technological (and of course terminological) change in an interdisciplinary context (Teuber, 2001).

7. References:


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