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TECHNICAL COMMUNICATION

**Vol. 3**

European Association for Technical Communication –  
tekom Europe e.V. (Ed.)

# **Proceedings of the European Academic Colloquium on Technical Communication 2014**

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# **Proceedings of the European Academic Colloquium on Technical Communication | Vol. 3**

edited by

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## Preface

The volume at hand is the outcome of the third *European Academic Colloquium on Technical Communication Studies*, which was held on November 10, 2014 in Stuttgart, Germany. This annual conference is organized by tekomp Europe and targeted at European scholars in the field of technical communication and its related disciplines, such as translation, multilingual communication, localization, terminology, and information management. Since 2011, the *European Academic Colloquium on Technical Communication Studies (EAC)* has served as a significant venue for dissemination and sharing of technical communication research and practices in a European context.

The EAC 2014 program and the contents of these proceedings show a diversity of research and practices drawing on processes of content, language and design and reflecting further progress in understanding and analyzing these processes. The contributions address diverse aspects that range from examining writing rules, searching for domain-specific information, and improving technical communication through corpus-based terminology to technical communication education including qualifying competencies, job profiles, and curriculum development.

**Georg Löckinger** draws a parallel between the user profile of technical writers and that of professional translators. Both language professionals handle large amounts of (multilingual) language data and use similar search techniques and special language reference tools to meet their information needs and gather domain-specific information. Relying on relevant international ISO standards, Löckinger argues that a recent model of translation-oriented reference tools may be implemented in technical communication as well. He adopts a three-stage approach to outline how a future research project on special language reference tools for technical writers may be designed on the basis of the prototype science platform TES4IP. The aim of this project will be to map the exact information needs and preferences of technical writers with regard to special language reference tools.

In their contribution on text optimization at sentence level, **Michael Meng and Markus Bader** focus on passive constructions in German. Style guides and rule catalogues in their striving for syntactic simplicity typically argue against the use of the passive in technical documentation and other forms of professional communication as a contraindication for easy-to-read texts. But do passives really have a processing disadvantage and should they be banned for that? Building on experimental research by Ferreira (2003), Michael Meng and Markus Bader tested whether the results are transferable to German.

The conclusion that can be derived based on their empirical studies is that there is no reason to abandon the usage of passives per se. The decision whether to use active or passive in a sentence should solely be driven by functional considerations as well as considerations regarding information structure and communicative fit.

**Yvonne Cleary** looks at content creation processes from an educational point of view. Since so far there is no universally-agreed standard curriculum, the question arises what content is to be included in a technical communication curriculum. Cleary reports on a research study based on surveys and interviews conducted with practitioners in Ireland examining their educational backgrounds, typical work tasks and experiences, attitudes to qualifications in technical communication, and recommendations regarding Irish technical communication curricula. Findings from this study reveal the multiple tasks that a technical communicator must master. Professionals with a qualification in technical communication are considered to fulfil the role requirements in a more efficient manner. With respect to training, findings suggest a dominance of in-house training, with a focus on software and new media tools. Key recommendations for curriculum development include increased emphasis on rhetoric and writing practice, structured authoring (including DITA), interviewing, and internships within programs.

**Michael Fritz and Daniela Straub** present tekomp's recently launched cross-industrial and practice-based "Competence Framework for Technical Communication." The framework describes the industry needs on the basis of an empirical survey with about 300 stakeholders. The multilayered framework discerns seven process steps of content development together with the respective knowledge, competencies, and action-oriented skills that are needed to fulfill the tasks given with each process step. Moreover, besides "areas of competence" and "fields of competence," the taxonomy specifies the underlying "thematic blocks" with "teaching contents" and "learning objectives." Required skills for supporting tasks such as terminology work or management processes will be described at a subsequent stage. The authors stress that, when developing the taxonomy's four descriptive dimensions and four hierarchical levels, existing (inter)national concepts and tools (such as the EQF, ESCO, and DIN) were taken into account. The Competence Framework is available online to all users and interested persons as a multilingual, interactive profiling tool that can be adapted according to the users' individual needs. For example, it can be used for recruitment purposes, career planning, and curriculum and training measures development.

**Sandrine Peraldi** focuses on the role of terminology as “a moving science” in that it fosters scientific and technical communication and the transfer of increasingly complex specialized multilingual knowledge, especially in emerging and rapidly evolving sciences. Peraldi argues that multilingual term bases should no longer be thought of as a mere inventory of terms, but as pedagogical tools and a source of structured information and knowledge. However, such innovative repositories are scarce and are characterized by conceptual shortcomings. To illustrate the importance of structuring specialized knowledge and terminology, the author gives an overview of an online multilingual and terminological knowledge base, MacroDico, which was developed as an Applied Research Project in the field of nanotechnology. While representing several terminological challenges, the project aimed at identifying key concepts and terms through a corpus-based analysis of the lexical and discursive patterns and the genre conventions of the socio-professional community. To ensure that the needs of several categories of users were met, translators cooperated with computer engineers. Peraldi concludes by discussing three potential use cases.

Finally, a sincere and warm Thank You goes out to all of you who contributed to this volume: the authors for their valuable contributions to the discipline, the participants in the colloquium for their enthusiasm and feedback, the editors for their meticulous work and for keeping track of time, and tekomp Europe for its generous logistic and financial support. We also want to especially acknowledge our keynote speaker **Hans van der Meij** from the University of Twente for sharing his useful insights and great work on instructional videos with us.

We wish you a good read and a Happy New Year!

Antwerpen/Karlsruhe, November 2015

Birgitta Meex & Sissi Closs, on behalf of the Review Board



Georg Löckinger

# Designing State-of-the-art Reference Tools for Technical Writers

## Abstract

In the present paper, we argue that technical writers have a user profile similar to that of professional translators when it comes to the use of special language reference tools (section 2). Based on knowledge about the practice of technical writing, we assume that a recent model of translation-oriented reference tools can serve as a blueprint for tailor-made language resources in technical writing as well (section 3). To explore this further, we outline the design of an ongoing research project following a three-stage approach. The research project is intended to generate new knowledge on technical writers' information needs and search techniques (section 4). Then, we discuss how the TES4IP service platform, a prototype for exploiting and managing large amounts of language data, might be used for technical writing or in an empirical study about technical writers' information needs (section 5). Finally, we conclude in section 6.

## 1 Introduction

Technical writers use language as the principal means for conveying information to their target audience. This is why technical writers must regularly search for domain-specific information to cover their professional needs. In doing so, they may face problems such as the following:

1. They need to do their research in a growing number and range of different language resources, e.g. terminological databases, text corpora, taxonomies, classification systems, thesauri, dictionaries of various kinds, etc.
2. The relevant information sources are scattered over different media, or they are not accessible from a single user interface.
3. They must use several computer applications that typically have different user interfaces and do not interact with each other in a systematic and ergonomic way.

These difficulties are due to the fact that standard reference tools and language resources do not fully reflect technical writers' information needs and search techniques.

In principle, technical writers deal with four forms of domain-specific information: object-related information, concept-related information, designation-related information and context-related information. When a technical writer encounters a single difficulty in text production, for example when he or she does not fully understand the concept denoted by a given designation, he or she might have to search in several places to solve this difficulty. With standard reference tools and language resources, this activity may be more time-consuming than necessary. Furthermore, many standard tools and resources focus on one type of domain-specific information only, while technical writers often need the broader picture.

Based on recent research about translation-oriented special language dictionaries, the present paper draws a parallel between professional translators' information needs and those of technical writers. A comparison of these two groups of language workers reveals that technical writers' profile as users of special language reference tools is quite similar to that of professional translators. Taking the technical writer user profile as a starting point, it is discussed how a recently published model of dynamic terminology and full-text databases may be implemented in state-of-the-art reference tools for technical writers. Also, some thoughts are presented on how an innovative language resource bundle could be combined effectively with relevant language technologies in an existing prototype for the management of large amounts of language data.

## **2 Technical writers as users of special language reference tools**

Using previous works by Geeb (1998:40ff.), Löckinger (2014:63ff.) models professional translators as users of reference tools based on three pillars: user's prerequisites (i.e. pre-existing competences), user's situation (in which he/she uses a reference tool), user's intention (his/her objective when using a reference tool). Refined and adapted for technical writers, the relevant concept model, designed according to ISO 24156-1:2014, looks like the following:

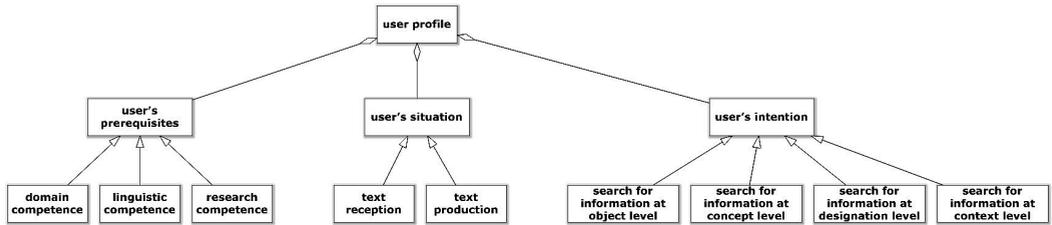


Figure 1: Profile of technical writers as users of special language reference tools.

In Figure 1 above, the UML aggregation symbol  $\diamond$  represents a partitive relation in the terminological sense, with the unfilled diamond end pointing towards the comprehensive concept (whole). That means, for instance, that “user’s prerequisites” are one part of the “user profile” in this concept model. The UML generalization symbol  $\triangleleft$  represents a generic relation in the terminological sense, with the unfilled arrowhead pointing towards the generic concept. That means, for instance, that “linguistic competence” is a user’s prerequisite. In the following, the above concept model is described in greater detail to outline what type of users technical writers are.

## 2.1 User’s prerequisites

For user’s prerequisites, Löckinger (2014:64) describes three competences for professional translators that can also be applied to technical writers, with the underlying competence concept being defined here according to ISO 9000:2000, 3.9.12, as “demonstrated ability to apply knowledge and skills.” Domain competence thus caters to the application of knowledge in a specific subject field, such as mechanical engineering. Linguistic competence relates to the ability to apply language skills, in particular when reading and writing texts. Research competence covers the ability to decide where and how to search for missing pieces of information.

All of the three above-mentioned competences mainly depend on an individual’s education/training and his or her professional experience. For instance, a mechanical engineer assuming the position of technical writer will typically have an expert-level competence in his or her domain, but lack some linguistic and research competence. On the other hand, a language professional (trained technical writer, translator, terminologist, etc.) will very well know how to use language and to carry out the necessary research, but he or she will have only limited competence in mechanical engineering.

Real-life experience indicates that technical writers might have no domain competence at all (for instance, when assuming a new position at a different company) or some domain competence at differ-

ent levels, the highest of which would be that of an expert with relevant education/training or professional experience. Depending on the language(s) in which a technical writer produces texts, his or her linguistic competence might generally be at lower levels (e.g. limited language skills in non-native language) or be developed to a very high degree (e.g. excellent mastery of native language). Research competence, too, might be there to a varying extent, again ranging from rather modest to expert levels.

## 2.2 User's situation

With regard to the user's situation, technical writers need domain-specific information at least for two different language-related activities: text reception and text production.

Technical writers might have some gaps in the relevant types of knowledge both when they read texts (e.g. an expert colleague's draft of instructions for a certain type of machinery) and when they write texts (e.g. when they work on instructions themselves).<sup>1</sup> Thus, special language reference tools for technical writers must be designed for both text reception and text production activities. A major difference between technical writers and professional translators is that the latter focus on translation, a very specific language-related activity that not only involves text reception and text production, but also includes a context-specific transfer of knowledge between two cultures and languages.

## 2.3 User's intention

The user's intention describes what people want to achieve when consulting a reference tool. Technical writers need domain-specific information at four different levels (cf. Löckinger (2014:65)). Thus, their intention is to

- search for information at object level,
- search for information at concept level,
- search for information at designation level, or
- search for information at context level.

The first type of intention means that technical writers often need information on the object concerned (in the sense of ISO 1087-1:2000, p. 2: "anything perceivable or conceivable"). Such information might relate to technical details of a material object, e.g. an engine, or to background knowledge on an immaterial object, e.g. a conversion ratio. The second type of information is related to the concept level, with concept being defined as a "unit of knowledge created by

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<sup>1</sup> For a detailed account on knowledge and communication gaps in the technical communication process, see Fischer (2013).

a unique combination of characteristics” (ISO 1087-1:2000, p. 2). Typically, this information is sought after by asking questions such as “What is the meaning of X?” or “What is X?”, with definitions being the most prominent type of information needed. Information at designation level (designation: “representation of a concept by a sign which denotes it;” ISO 1087-1:2000, p. 6) means linguistic and non-linguistic expressions proper that are used to designate concepts and objects (such as the term “mechanical engineering” or the symbol  <sup>2</sup>). Information at context level relates to “text which illustrates a concept or the use of a designation” (ISO 1087-1:2000, p. 12), such as “Mechanical engineering is a fast-evolving field.”, where the term “mechanical engineering” occurs in a natural-language environment.

## 2.4 Interim conclusion

We can conclude from the above that technical writers as users of special language reference tools are comparable to professional translators. The major differences are that a) the user’s situation “translation” is typical for professional translators, but not for technical writers; b) domain, linguistic and research competences of the two user groups generally follow a slightly different pattern: while there might be no difference in the possible range of domain competence, professional translators typically demonstrate higher levels both in linguistic and research competence.

## 3 Applying Löckinger’s (2014) model to technical writers

In the revised version of his doctoral thesis, Löckinger (2014:132) presents a Unified Modeling Language (UML) formalized model of novel translation-oriented special language dictionaries.<sup>3</sup> The model is based both on the relevant scholarly literature and the author’s professional experience that he has gained as a translator and terminologist in various professional settings.

<sup>2</sup> Source: Austrian *Straßenverkehrsordnung 1960* (road traffic regulations), section 52, number 24.

<sup>3</sup> Löckinger (2014) is written in German. For an English summary of the doctoral thesis, see Löckinger (forthcoming).

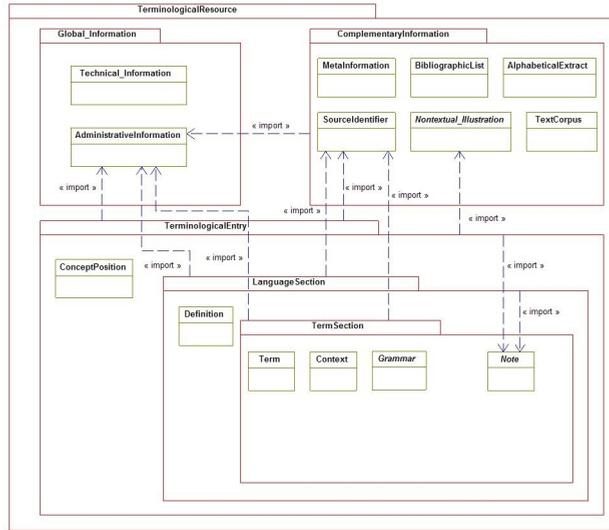


Figure 2: Löckinger’s (2014:132) data model, depicted in its most general view.

Figure 2 above shows a UML package diagram<sup>4</sup>. The objects that look like tabbed filed folders are called packages; they contain classes, i.e. rectangles that in turn represent data fields or similar information containers, which can be used to enter and modify actual data in dedicated software. The names of packages and classes are written according to UML conventions. Wherever possible, the names themselves and their semantics correspond to data categories in the international data category registry ISOcat ([www.isocat.org](http://www.isocat.org)), which is maintained by ISO Technical Committee 37 “Terminology and other language and content resources.” Relying on the relevant international standards, notably ISO 16642:2003, ISO 26162:2012, ISO/IEC 19505-1:2012 and ISO/IEC 19505-2:2012, guarantees due consideration of state-of-the-art data modeling principles in terminology work and also helps to make the model above interoperable and compatible with other language resources to a maximum extent. Furthermore, it is noteworthy that the formalized model above may be used for any domain or language combination. Based on UML, it is a blueprint for novel reference tools to be designed and implemented for professional translators.

Given the technical writers’ user profile outlined in section 2, we see that Löckinger’s (2014:132) data model is applicable to technical writers as well as to professional translators. The most obvious

4 In Figure 2, the “import” arrows indicate that some classes/data fields are used in several packages. A more detailed account of the underlying UML principles and conventions is beyond the scope of this paper. Interested readers may consult books such as Fowler (2007) or Booch/Rumbaugh/Jacobson (2005). The UML specification itself is freely available at <http://www.omg.org/spec/UML/>.

difference in implementation would be that a special language reference tool for technical writers need not be bilingual or multilingual and that translation-specific data categories are not needed either: the data category */transfer comment/*, for instance, provides the translator with details to consider when dealing with a concept/designation during the translation process. Thus, the model depicted in Figure 2 could serve as a basis for designing novel special language reference tools for technical writers. A more detailed research project could build upon the model and use parts of Löckinger's (2014:152ff.) research design where appropriate (see next section).

#### 4 Designing a research project on the use of special language reference tools by technical writers

There are only few publications that deal with technical writers' information needs and their strategies and techniques to find the domain-specific information that they need in their daily work. Consequently, what follows is a rough outline of a research project that draws on Löckinger's (2014) empirical study with professional translators. The following Table 1 provides an overview of this research project which could shed a new light on technical writers' information needs and their preferences with regard to special language reference tools.

Stage	Description
<b>Stage 1: literature review</b>	Extensive review of relevant literature
<b>Stage 2: survey on technical writers' information needs (exploratory research)</b>	<p>Written survey for active technical writers, complemented by oral interviews where necessary, dealing with the following points:</p> <ul style="list-style-type: none"> <li>▪ reasons to consult reference tools</li> <li>▪ types of information needed and searched for</li> <li>▪ types of reference tools used</li> <li>▪ professional profile (reflecting the variables of the user profile discussed in section 2)</li> <li>▪ ...</li> </ul> <p>Based on the results, Löckinger's (2014) model of translation-oriented special language dictionaries may need to be adapted for technical writers.</p>

Table 1: Outline of a future research project involving technical writers.

<b>Stage 3: empirical study (prototype testing)</b>	<p>Testing of a prototype (see next section) for its suitability in technical writers' daily work of text reception and text production. The research design could take the form of</p> <ul style="list-style-type: none"> <li>▪ a user experiment according to Wiegand (1998:820) involving an experimental group and a control group or</li> <li>▪ usability testing that includes research on the content of the prototype.</li> </ul>
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## 5 Integrating existing resources and technologies into one tailor-made language resource

This section describes a recent prototype that could be used for the research project outlined above. Furthermore, it illustrates how technical writers could use the prototype in their daily work or in an empirical study.

### 5.1 TES4IP service platform

In a recent Austrian research project, “Terminological Services for the Intellectual Property Domain” (TES4IP), a prototype was developed to support the use and management of large amounts of language data. The prototype takes the form of a non-public online service platform consisting of four modules:

- a) “Search Engine” (for exploring document libraries),
- b) “Term Extraction and Co-occurrence Analysis” (for extracting and analyzing terminologies),
- c) “Part-of-Speech Based Search” (for exploring documents using part-of-speech patterns),
- d) “DGT-TM Search” (for exploiting parts of the freely available and multilingual parallel corpus “DGT-TM”<sup>5</sup>).

For the preparation and operation of the service platform, state-of-the-art language technologies are used, such as automatic indexing, part-of-speech tagging, segmentation, etc. Although the prototype service platform was designed for information professionals such as thesaurus experts and translators, it includes many features that could be of use to technical writers as well. A state-of-the-art reference tool for technical writers should ideally include three main components: a terminological database, text corpora (language data not produced by human or machine translation) and translation memories (language

<sup>5</sup> DGT-TM is a large translation memory repository consisting of EU legislative texts in the 24 official languages of the European Union. It is freely available at <https://open-data.europa.eu/de/data/dataset/dgt-translation-memory>.

data produced by human translation). The current TES4IP prototype covers the latter two types of language resource, which is why that combination should be used in the empirical study of the research project described above (see section 3).

## 5.2 Using the TES4IP service platform for technical writing

This subsection contains a collection of screenshots accompanied by short descriptions of the relevant features of the TES4IP service platform. The below is intended to illustrate tasks that technical writers 1) might accomplish in practice using the existing prototype or 2) might put to the test in an empirical study. The text corpora used for the screenshots are a collection of operating instructions for coffee machines and “DGT-TM” (see footnote 4).

### a) Search for designations, limiting the results to a certain number of designation parts

The screenshot displays the TES4IP service platform interface. At the top, it shows 'Home Page', 'Bedienungsanleitung EN', and 'Term Extraction ...'. Below this is a navigation bar with tabs for 'Term List', 'Co-Occurrence', 'Collocations', and 'Results'. The 'Term List' tab is active. A search query 'milk' is entered in a text box, and a dropdown menu shows '2' parts. A 'load terms' button is visible. Below the search bar is a table with the following columns: 'id', 'Term', 'Docs', 'Occurren', 'Parts', 'Results', and 'Co-Occurrence'. The table contains 20 rows of results for the term 'milk'.

id	Term	Docs	Occurren	Parts	Results	Co-Occurrence
1	milk system	16	373	2	-results-	-compute-
2	milk pipe	30	244	2	-results-	-compute-
3	milk foam	28	218	2	-results-	-compute-
4	milk container	24	104	2	-results-	-compute-
5	Milk system	15	83	2	-results-	-compute-
6	Milk foam	19	59	2	-results-	-compute-
7	hot milk	22	46	2	-results-	-compute-
8	vacuum milk	9	38	2	-results-	-compute-
9	milk specialties	8	35	2	-results-	-compute-
10	frothing milk	20	31	2	-results-	-compute-
11	milk carton	9	30	2	-results-	-compute-
12	milk preparation	24	27	2	-results-	-compute-
13	heat milk	24	24	2	-results-	-compute-
14	Hot milk	8	22	2	-results-	-compute-
15	ml Milk	8	21	2	-results-	-compute-
16	milk cooler	13	21	2	-results-	-compute-
17	milk residues	18	21	2	-results-	-compute-
18	JURA milk	6	21	2	-results-	-compute-
19	U Milk	12	20	2	-results-	-compute-
20	milk sprays	20	20	2	-results-	-compute-

Figure 3: TES4IP service platform screenshot (term list in “Term Extraction and Co-occurrence Analysis” module).

The above screenshot shows the “Term List” tab in the “Term Extraction and Co-occurrence Analysis” module. What we see is the result of a search using the term “milk” and the search criterion

“strings of characters must consist of two parts separated by space characters” (option “2” in dropdown list).

**b) Provision of statistical data on the number of documents in which a search expression appears and on the number of occurrences of the search expression itself**

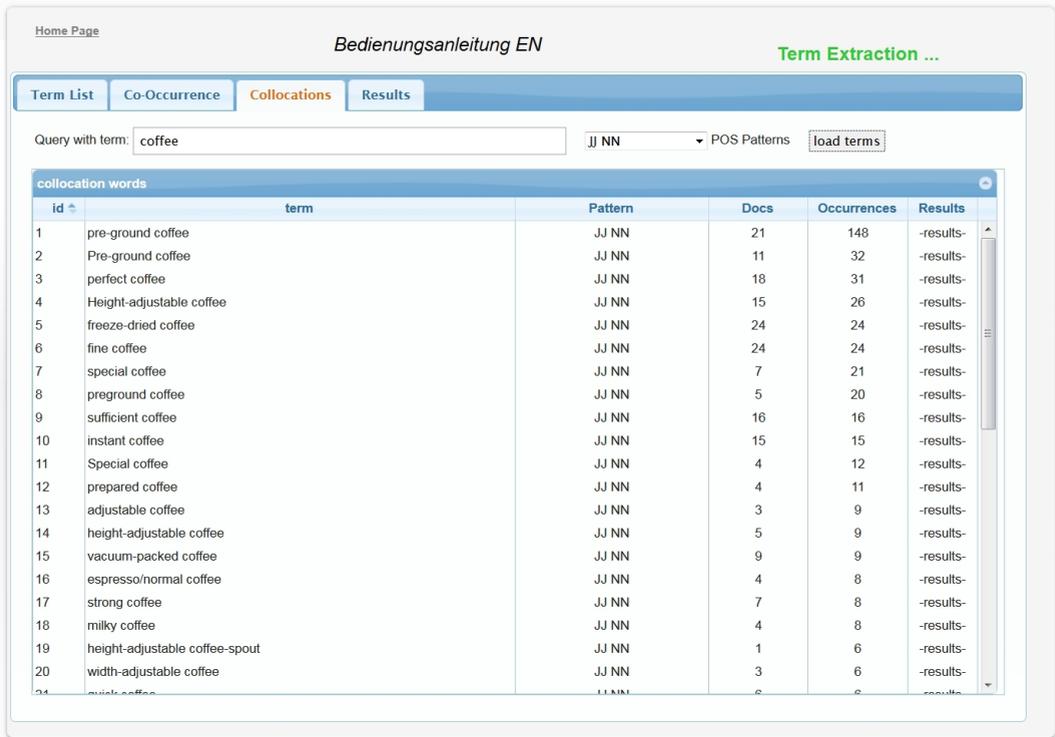


Figure 4: TES4IP service platform screenshot (collocations in “Term Extraction and Co-occurrence Analysis” module).

The above screenshot displays the “Collocations” tab with the result of a search using the term “coffee” and the search criterion “part-of-speech pattern = adjective + noun” (option “JJ NN” in dropdown list). The results list contains two columns providing statistical information: “Docs” informs us in how many documents of the text corpus the term “coffee” occurs in combination with various adjectives in front of it, while the “Occurrences” column states how many instances of each collocation have been found in the entire text corpus.

**c) Displaying the results of searches based on part-of-speech patterns**  
See Figure 4 above.

#### d) Text snippet preview with context around the search expression

Home Page Bedienungsanleitung EN Term Extraction ...

Term List Co-Occurrence Collocations **Results**

search results

id	snippets	type	length
6	<b>GB-5732150900.PDF</b> ... MILK AND <b>HOT MILK</b> (WITHOUT COFFEE) To obtain frothed milk only without coffee or <b>hot milk</b> only without coffee ... ... FROTHED AND <b>HOT MILK</b> (WITHOUT COFFEE) .....13 15 ... ... button (or <b>hot milk</b> if pressed twice consecutively) 8. One milk with coffee button (or frothed milk if pressed ... /home/hadoop1/Downloads/delonghi/GB-5732150900.pdf	pdf	422
7	<b>GB-5713214281.PDF</b> ... Making <b>hot milk</b> To make <b>hot milk</b> without froth, proceed as described in the above section, making sure ... ... Making <b>hot milk</b> .....14 Cleaning the ... ... Cappuccino/ <b>hot milk</b> selection ring a12. Steam nozzle (removable) a13. Water tank a14. Power cable a15. Cup ... /home/hadoop1/Downloads/delonghi/GB-5713214281.pdf	pdf	8534
8	<b>GB-5732147800.PDF</b> ... MILK AND <b>HOT MILK</b> (WITHOUT COFFEE) To obtain frothed milk only without coffee or <b>hot milk</b> only without coffee ... ... FROTHED AND <b>HOT MILK</b> (WITHOUT COFFEE) .....13 15 ... ... button (or <b>hot milk</b> if pressed twice consecutively) 8. One milk with coffee button (or frothed milk if pressed ... /home/hadoop1/Downloads/delonghi/GB-5732147800.pdf	pdf	369
9	<b>GB-5713215281.PDF</b> ... making <b>hot milk</b> (without froth) To make <b>hot milk</b> without froth, proceed as described in the above section ... ... Making <b>hot milk</b> (without froth) .....14 Cleaning the cappuccino maker after use. .... /home/hadoop1/Downloads/delonghi/GB-5713215281.pdf	pdf	2617
10	<b>GB-5713211731.PDF</b> ... milk and <b>hot milk</b> (WITHOUT COFFEE) .....33 Cleaning ... ... (or <b>hot milk</b> if pressed twice consecutively) 28 C8. LATTE MACCHIATO button: delivers 1 macchiato ... ... milk and <b>hot milk</b> (WITHOUT COFFEE) 1. After attaching the milk container, position the container pointer ... /home/hadoop1/Downloads/delonghi/GB-5713211731.pdf	pdf	748

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In the screenshot above we see what happens when we have clicked on “-results-“ in the “Term List” or “Collocations” tab. Upon doing so, the user is provided with text snippets (mini-contexts) in which the search expression appears in various files of the text corpus.

#### e) Direct linking to original files

See Figure 5 above, where a click on a value in the “type” column would open the relevant original file (in this case a PDF file).

Figure 5: TES4IP service platform screenshot (text snippets in “Term Extraction and Co-occurrence Analysis” module).

### f) Traditional search in a translation memory repository

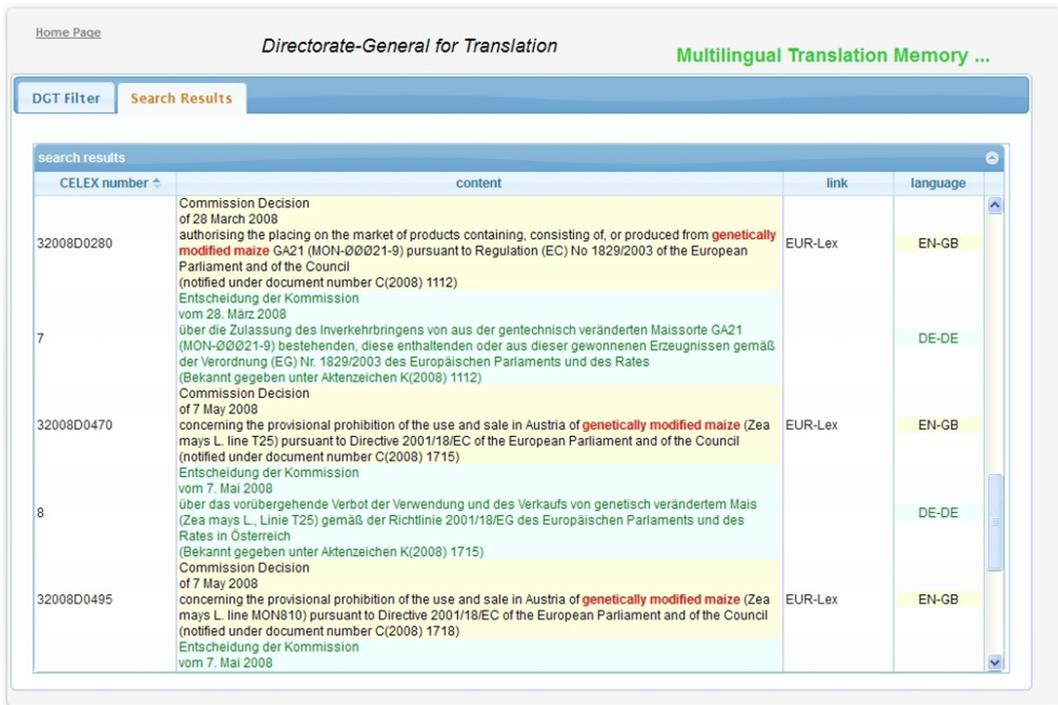


Figure 6: TES4IP service platform screenshot (traditional search results in “DGT-TM Search” module).

The above screenshot (Figure 6) shows the result of a search for the English term “genetically modified maize” in the DGT-TM repository, using the search criteria “target language = German” and “sector of EU law = secondary law.” The second column “content” contains the relevant segments in English and German, with the search expression being highlighted. The third column provides a direct link to the relevant legislative act on the public EUR-Lex portal (<http://eur-lex.europa.eu/>).

## g) Definition search in a translation memory repository

CELEX number	content	link	language
32010R1015	<b>'household washing machine'</b> means an automatic washing machine which cleans and rinses textiles using water which also has a spin extraction function and which is designed to be used principally for non-professional purposes; „Haushaltswaschmaschine“ bezeichnet einen Waschautomaten zum Säubern und Spülen von Textilien mit Wasser, der über eine Schleudernfunktion verfügt und zur Nutzung vorwiegend für nichtprofessionelle Zwecke konzipiert ist;	EUR-Lex	EN-GB DE-DE
32010R1015	<b>'built-in household washing machine'</b> means a household washing machine intended to be installed in a cabinet, a prepared recess in a wall or a similar location, requiring furniture finishing; „Einbau-Haushaltswaschmaschine“ bezeichnet eine Haushaltswaschmaschine, die zum Einbau in einen Schrank, eine vorbereitete Wandaussparung oder einen ähnlichen Ort bestimmt ist und eine Dekorabdeckung erfordert;	EUR-Lex	EN-GB DE-DE
32010R1015	'household combined washer-drier' means a <b>household washing machine</b> which includes both a spin extraction function and also a means for drying the textiles, usually by heating and tumbling; „Kombinierter Haushalts-Wasch-Trockenautomat“ bezeichnet eine Haushaltswaschmaschine, die sowohl eine Schleudernfunktion als auch die Möglichkeit zum Trocknen der Textilien — üblicherweise durch Erwärmung und Umwälzung in der Trommel — bietet;	EUR-Lex	EN-GB DE-DE
32010R1015	'rated capacity' means the maximum mass in kilograms stated by the manufacturer at 0.5 kg intervals kg of dry textiles of a particular type, which can be treated in a <b>household washing machine</b> on the selected programme, when loaded in accordance with the manufacturer's instructions; „Nennkapazität“ bezeichnet die in Kilogramm ausgedrückte und vom Hersteller in Intervallen von 0,5 kg angegebene Masse der Höchstmenge an trockenen Textilien einer bestimmten Art, die von einer Haushaltswaschmaschine in dem ausgewählten Programm bei Befüllung gemäß Herstelleranweisung behandelt werden kann;	EUR-Lex	EN-GB DE-DE
32010R1015	'partial load' means half of the rated capacity of a <b>household washing machine</b> for a given programme; „Teilbefüllung“ bezeichnet die Befüllung zur Hälfte der Nennkapazität einer Haushaltswaschmaschine für ein bestimmtes Programm;	EUR-Lex	EN-GB DE-DE
	'off-mode' means a condition where the <b>household washing machine</b> is switched off using		

Figure 7: TES4IP service platform screenshot (definition search results in “DGT-TM Search” module).

In Figure 7, we can see the results of a search for definitions in DGT-TM, with the term “household washing machine” denoting the concept to be defined. This type of search has been implemented exploiting two features of definitions in EU legislative texts:

1. standard wordings, such as “For the purposes of this Directive ...,” that must be used in definitions according to various EU guidelines, e.g. the ‘Interinstitutional Style Guide’ (European Union (2011)),
2. syntactic and punctuation patterns in definition clauses of EU legislative acts.

## 6 Conclusion and outlook

Technical writers’ information needs have not yet been researched on a major scale. Although there is a big body of pre-scientific knowledge based on real-world experience, no reliable data is available that software developing companies could exploit for creating new tailor-made reference tools or for adapting existing ones. Therefore, this is a research desideratum that should be addressed in technical commu-

nication studies. Using existing empirical research designs involving professional translators, we might come a bit closer to filling this gap.

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