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International Information Centre for Terminology ◆ *Centre international d'information pour la terminologie* ◆ *Internationales Informationszentrum für Terminologie*

30 YEARS OF INFOTERM

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The beginnings

Since the early thirties of the 20th century, a privately owned terminology centre existed in Wieselburg (Lower Austria). It was attached to the enterprise of Eugen Wüster, the founder of the General Theory of Terminology and one of the pioneers in terminology standardization. In 1951, he took over the Secretariat of ISO/TC 37 "Terminology (principles and co-ordination)" for the Austrian Standards Institute (ON). From this year onwards until 1963, two linguists, Friedrich and Anneliese Lang worked as librarians, lexicographers, terminologists and organizers of meetings and conferences for Wüster's centre. In October 1964, Helmut Felber became research assistant of Wüster, a function which he held until 1970. The Wieselburg Centre was among others engaged in projects with UNESCO and other international organizations and thus in contact with numerous experts world-wide. In this way, the Wieselburg Centre set up a considerable library which became the Wüster Archive when it was transferred to Infoterm in 1981. Today, the Eugen Wüster Archive is part of the Science Theory Archives of the University of Vienna. After the death of Wüster in 1977, the Austrian Standards Institute continued to host the International Information Centre for Terminology (Infoterm) and ISO/TC 37, another offspring of Wüster's activities, being taken care of by Infoterm. Infoterm was founded in 1971 on the basis of a contract between UNESCO and the Austrian Standards Institute.

Infoterm Today

In 1996, Infoterm was re-organized and established as an independent non-profit organization with the *Mission Statement*:

> The international Association Infoterm
> promotes and supports the co-operation of existing and the establishment of new terminology centres and networks with the general aim to improve specialist communication, knowledge transfer and provision of content with a view to facilitate the participation of all in the global multilingual knowledge society.

In order to achieve this objective, Infoterm Members co-operate in organizing a world-wide network of terminology centres and terminology networks with a view to:
- disseminating information on terminological activities as well as enhancing the awareness for the importance of terminology in all spheres of society,
- furthering the preparation of reusable terminologies by subject-field specialists in co-operation with terminologists,
- sharing the expertise regarding harmonized methods and guidelines for terminology management, the management of terminology centres, and for the use of terminological data, methods and tools in all applications where specialized information and knowledge are involved.

In discharging its functions Infoterm is co-operating with pertinent international, regional and national organizations and their respective members.

Infoterm members are either terminology organizations / institutions or specialized organizations / institutions with major terminological activities, which can be considered to be authorities in their field. Members co-operate in organizing a worldwide network of terminology centres and terminology networks. Besides the dissemination of information on their activities they are obliged to enhance the awareness for the importance of terminology within their sphere of action. Infoterm members which are exclusively public institutions, intergovernmental organizations and non-profit organizations, can be categorized as:

- Associate Infoterm Members
- Affiliate Infoterm Members
- Infoterm sponsors

Associate Infoterm Members are represented by delegates in the Infoterm General Assembly (IGA) and can also be elected to the Infoterm Executive Board (IEB).

Among the major Infoterm Associate Members one can find several standards institutes. This reveals the importance of Infoterm's activities for standardization in general and for terminology standardization in particular. The membership structure since 1996 allows a further decentralisation and an increased networking for the years to come.

Infoterm's ***vision*** is to organize the methodological and organizational basis for a most efficient and effective preparation of terminologies in the form of ***net-based distributed co-operative terminology work*** under a ***comprehensive content management*** approach guaranteeing ***semantic interoperability*** across all application fields. There are many kinds of content, comprising specialized content (representing domain specific knowledge in some way or other – including terminology). Terminology in specialized content is in most cases embedded in or combined with other kinds of content (mostly specialized texts). All content – in principle – must comply with the requirements concerning multilinguality, multimodality, multimedia, accessibility (incl. people with special needs) and multi-channel presentation.

In order to make content development less expensive (because of its labour-intensiveness), we need new methods of content creation (and the respective workflow management): net-based, distributed, cooperative preparation and maintenance of structured content. This needs standardized metadata methods and unified data modelling principles and requirements in order to fulfil the requirements of single-sourcing (for the sake of uninhibited re-usability), resource-sharing (using the necessary workflow management) and universal accessibility (adaptable also to persons with special needs).

This gives interoperability a new dimension – the fundamental requirement for achieving the aims of the Semantic Web. The terminology communities must bring in their competence and experience with the data modelling of terminologies and other language resources from the semantic point of view of 'content' complementary to the ICT approaches.

HISTORICAL OUTLINE

The foundation of Infoterm

As far back as in 1949, after having published a report on "International Scientific and Technical Dictionaries", UNESCO proposed that an "International Terminology Bureau" be founded under the common auspices of UNESCO and ISO. In the following years, this project appeared repeatedly on the agenda of the General Conferences of UNESCO without achieving any progress as to its implementation.

After the Second Congress of the International Federation of Translators (FIT) in Rome in 1956, FIT also started discussions on the possibility of establishing an international centre for scientific and technical terminology. Following resolution 2 of that Congress, the FIT Council was asked to take appropriate measures towards the creation of such a centre in co-operation with UNESCO.

Finally, the General Conference of UNESCO adopted at its 13th session in 1964 the project for establishing an "International Committee for the Co-ordination of Terminological Activities (ICCTA)" dedicated among other tasks to the recording of scientific literature, including dictionaries and thesauri, from all over the world. In 1969, the UNISIST Programme was launched, aiming at the exchange of scientific information at the international level. In this connection, Eugen Wüster was asked to submit the following two reports:
1. Inventory of sources of scientific and technical terminology
2. A plan for establishing an international information centre (clearing house) for terminology.

In addition, the Council of Europe showed interest in the co-ordination of terminology training and contacted Eugen Wüster on that matter. All these more or less concerted efforts finally led to the establishment of Infoterm. In autumn 1971, Infoterm was officially founded in Vienna, Austria, by contract with UNESCO, and the ON put in charge of its implementation. In 1973, the Federal Ministry for Construction and Technology (today's Federal Ministry of Economy and Labour) signed an agreement with the Austrian Economic Chamber (today's Austrian Federal Economic Chamber – WKO) regarding the funding of Infoterm. UNESCO provided some project money and – even more important – acted as a protector of the new entity which was fixed in a contract between UNESCO and the ON. In this document it was also stated that the latter "shall establish and develop an international information centre for terminology with the aim to co-ordinate and encourage the compilation, collection and dissemination of information on terminological standards, specialized dictionaries, projects, sources and studies". It was explicitly mentioned that Infoterm should become a permanent institution.

Until 1991, twenty-four further contracts were signed by UNESCO and the ON expanding the mandate of Infoterm according to the requirements of the international development in the field of terminology.

The evolution of the working programme

Since its foundation, the tasks and functions of Infoterm have undergone a constant development which was determined by the external requirements of science and economy as well as by internal opportunities and limitations. The thirty years under review were overshadowed by revolutionary achievements in the information and communication technologies (ICT) such as the development of the personal computer into a generally available tool and the creation of the Worldwide Web up to the convergence of mobile communication and mobile computing (into MCC). Infoterm not only has managed to stay abreast of these innovations for the information society, but also to considerably foster their applicability to terminology and related fields.

When Infoterm was founded in 1971 as an international information centre, its functions hardly exceeded the mere collection of information. At the First Infoterm Symposium in 1975 it was, therefore, decided to explore the possibilities of establishing a co-operation network, and to take the first steps towards its creation. From the early eighties of the previous century onwards, TermNet, the International Network for Terminology, began to take shape as one of Infoterm's activities. The workload of Infoterm, which, at the same time, functioned as the secretariat for ISO/TC37 on behalf of the Austrian Standards Institute, began to exceed its capacity.

Increasingly, terminological methods and data for

- Information management
- Knowledge transfer
- Knowledge data processing
- Coding for electronic data interchange (EDI)
- Data modelling

gained in importance in the administration as well as in the private sector. In order to cope with these new demands and needs and with a view to a fruitful division of labour at international and regional levels, Infoterm assumed a pivotal role in the emergence of a number of other terminological organizations. Thus, the "Association for Terminology and Knowledge Transfer" (Gesellschaft für Terminologie und Wissenstransfer – GTW) was founded in Trier in 1986. Originally, the intention was that this association would mainly organize congresses on terminology and knowledge engineering, but gradually it became a permanent institution with its own sphere of operation. In December 1988, TermNet was founded as an independent non-profit association; shortly afterwards, in January 1989, the "International Institute for Terminology Research" (Internationales Institut für Terminologieforschung – IITF) was established. While Infoterm initiated these associations, it actively supported the creation of other pertinent entities such as the:

- German Terminology Association (DTT) in 1987
- Iberoamerican Terminology Network (RITerm) in 1988
- Japan Terminology Association (JTA) in 1988
- Italian Association for Terminology (ASS.I.Term) in 1991
- European Association for Terminology (EAFT) in 1996
- East Asia Forum on Terminology (EAFTerm) in 1997

as well as many others.

The work of Infoterm was seen by UNESCO as that of a so-called "clearing house" that co-ordinates the activities and enhances co-operation of terminologists. Similar international clearing houses had already existed in Warsaw (Poland) and Cleveland, Ohio (USA), for information on thesauri. In addition, the production of directories of its own holdings and information on existing bibliographies was required. Already in 1973, Infoterm started to prepare its own bibliographies, and by 1975 pursued their computerization.

From 1977 onwards, the working programme was dominated by the development of TermNet. It was followed by a comparative study on data elements used in term banks and the proposal for an exchange format for terminological information. In 1981, efforts concentrated on guidelines for the recording of terminological data in machine-readable form. By 1987, the number of Infoterm bibliographies was increased to sixteen. In 1989, the preparation of "Guidelines for terminology work of subject specialists" was started by a highly qualified international working group.

In 1992, TermNet separated from its location next to Infoterm and set-up its own secretariat and infrastructure in another part of Vienna. Although it continued its close co-operation within the cluster of the GTW, IITF and ISO/TC37, it allowed Infoterm to concentrate more on its original tasks. Thus, Infoterm began to foster activities of public interest as a non-commercial and non-profit organization. Its main asset was its unbiased neutral expertise which was highly appreciated by governmental and intergovernmental organizations.

At the beginning of 1993, a group of experts, appointed by UNESCO, prepared an evaluation study of the original mandate of Infoterm, which emphasized the fact that Infoterm had fulfilled its mandate to the great satisfaction of the international community. It suggested for the next development phase a reorientation focussing on "the improvement of specialist information and

communication, especially with regard to knowledge transfer, through the promotion of terminological activities and co-operation in this field".

In 1994, European institutions embarked on implementing the so-called information super-highways. The report of EU Commissioner Bangemann , entitled "Europe and the Global Information Society", gave the impetus to all Member States of the European Union (EU) to study the implications of computerization and globalization in the EU. As a consequence, Infoterm convened a Subcommittee on Specialized Information and Knowledge Transfer within the framework of the Austrian National Commission for UNESCO and was asked by the Austrian government to identify and organize those terminological activities which would contribute to the efficient use of the future information superhighways. Upon invitation of the European Commission, Infoterm participated in high level expert groups discussing the prospects of the multilingual information society in Europe. It thus participated at European level in the planning and implementation of the Multilingual Action Plan (MLAP), Multilingual Information Society (MLIS) up to the eContent Programmes parallel to the Fourth and Fifth RTD Framework Programmes of the EU. Since that time, all EU projects must pay due recognition to multilingual and terminology aspects.

Infoterm initiated the EU project "Proposals for an Operational Infrastructure for Terminology in Europe" (POINTER) within the MLAP framework. Under MLIS Infoterm organized the EU project "European Network of Terminology Information and Documentation Centres" (TDCnet). At the TDCnet Meeting in August 2002 in Vaasa, it was decided to continue the TDCnet Consortium operations and to entrust Infoterm with the TDCnet Consortium Secretariat. These activities had a considerable impact on the developments in other world regions. In 1997, the East Asia Forum on Terminology (EAFTerm) was founded upon the initiative of Infoterm by representatives of terminology organizations in China, Japan, Korea and Mongolia. In addition, these activities also positively influenced the working programme of ISO/TC 37.

From the time onwards (1996) when Infoterm became an independent association with high-level membership, it was able to concentrate on its function as a referral centre by passing on requests to those members most fit to answer them. In recent years, activities such as lobbying and PR activities for terminology as well as providing advice and consultancy on a non-profit and non-commercial basis have been added to the already rich agenda of the institution. Infoterm has finally become the ideal infrastructure for developing the methodology of net-based distributed co-operative terminology work on a scientific basis. It has gradually focussed its activities on strategic matters and non-commercial projects such as: co-ordinating the efforts of its members, drawing up terminology-related strategies and policies, developing universal tools and software as well as issuing guidelines and manuals, such as the UNESCO "Guidelines for the Formulations of a National Terminology Policy".

The final phase of reorientation of tasks started at the end of the year 2000, preparing Infoterm for the next century as a "virtual" information centre which combines the broad spectrum of expertise accumulated by its member organizations and co-operation partners. At the Infoterm Executive Board meeting in February 2001, it was agreed to focus Infoterm's activities on the establishment of terminology centres, networks and other elements of public or non-profit terminology infrastructure. With a view to ensure the interoperability of terminological activities world-wide, Infoterm always emphasized the need for international standards, and therefore, holds an official international liaison status with several technical committees of ISO, such as:
- ISO/TC 37 "Terminology and other language resources"
- ISO/TC 46 "Information and documentation"
- ISO/IEC JTC 1/SC1 "Terminology of Information Technology"

- ISO/TC 154 "Graphical symbols"
- ISO/TC 173/SC 2 "SC on Classification and terminology of the TC on Technical systems and aids for disabled or handicapped persons"
- ISO/TC 176/SC 1 "SC on Concepts and terminology of the TC on Quality management and quality assurance"

It represents ISO/TC 37 in the MoU/MG and

Is a member or associate in:

- CEN/ISSS/EC – CEN/ISSS Workshop "Electronic Commerce"
- CEN/ISSS/eCAT – CEN/ISSS Workshop "Multilingual e-catalogues"
- RaDT – Council for German Terminology

Last but not least, Infoterm participated actively in the development of basic standards for EDIFACT (electronic data interchange for administration commerce and trade), data modelling, SGML and others.

The development of services

From the start, Infoterm was conceived as a service-oriented institution. Considering the financial sources it lived on, it was clear right from its modest beginnings that it should lay emphasis on services for standardization and to the international community, especially in developing countries. Infoterm managed to develop its services in a most comprehensive and versatile way. This meant that students from universities, translators and language planners were beneficiaries of its products and services as well as politicians, industrial managers and vocational trainers.

In many countries of the world, irrespective of their level of development, Infoterm initiated and facilitated terminological activities, helped establish national institutions or organizations, provided guidance and assistance to co-operative efforts. Innumerable students, scholars and experts received valuable information, background material, organizational data and active support for their research or terminology work. Infoterm helped to fill the awareness gap between the importance of terminology and the necessity of a systematic approach and an institutional infrastructure in the field of terminology. Furthermore, it provided consultancy services to international organizations, especially to the UN system, organized scientific conferences and workshops and participated in projects concerning knowledge transfer, training of trainers, and terminology documentation.

The long series of advisory services to governments and their institutions was started in 1981 with a first mission to China. Since then, government institutions of many countries have made use of these services.

Since 1986, Infoterm had been managing and updating the Austrian Standards Institute's terminology data bank, thus allowing up-to-date access to the entire terminology contained in Austrian Standards. On the basis of this experience, Infoterm organized an informal international standardized terminology exchange network (STEN) comprising a subgroup of ISONET members. One of the primary aims of the STEN group was to cut costs in the creation of terminology standards by avoiding the duplication of efforts and by eliminating potential sources of misunderstanding due to insufficiently harmonized terminology. In 1989, the ISO Central Secretariat involved Infoterm in the elaboration of the data structure of the intended future ISO Terminology Databank which required an extension of the newly created "Standard Generalized Mark-up Language" (SGML). In the same year, a long lasting consultancy co-operation started with the European Centre for the Development of Vocational Training (CEDEFOP), focussing first of all on the application of UNESCO's freeware CDS/ISIS (also called "MicroISIS") for the administration of a multilingual thesaurus and finally culminating in

several tools for multilingual work in the field of professional training and the creation of a Multilingual European Vocational Information System.

In order to assist standards organizations in exchanging their terminologies, Infoterm has adapted MicroISIS for this purpose from 1991 onwards. In order to facilitate both the collection of information in the field of terminology and its dissemination on a worldwide basis, Infoterm, in co-operation with institutions in the USA, France, the USSR, China, Poland and Slovakia, developed a strategy for the adaptation of this software for various multilingual requirements in the form of a series of compatible software packages, which after 1997 were added to the Infoterm Library and Documentation System (LIS/DIS). In 2002-2003, Infoterm further developed its in-house information system into a generic Multilingual Content Management (MLCM) Platform under the freeware WinISIS for UNESCO.

In 1995, ISO designated Infoterm the Registration Authority for the International Standard ISO 639 "Code for the representation of names of languages". After the preparation of ISO 639-2 "Codes for the representation of names of languages – Part 2: Alpha-3 codes" and the establishment of the respective registration authority ISO 639-2/RA, the original standard ISO 639 was revised and changed to ISO 639-1 "Codes for the representation of names of languages – Part 1: Alpha-2 code". The related registration authority was renamed ISO 639-1/RA. A Joint Advisory Committee ISO 639/RAs-JAC was established, whose chair is rotating on a biannual basis between Infoterm and the Library of Congress (taking care of ISO 639-2/RA). The maintenance operation for the ISO/RAs-JAC is entrusted to a Secretariat hosted by Standards Norway (SN).

In addition, Infoterm functions as the International Thesaurus Information Centre within ISO, a task which it also carried out for the International Federation for Information and Documentation (FID) when it was still in existence. For some time it has also been the software development and services co-ordination centre for MTM (the multilingual thesaurus management system) under the auspices of OECD and UNESCO. The OECD "Macrothesaurus for Information Processing in the Field of Economic and Social Development" has been supported by the third version of the "Multilingual Thesaurus Management System" (MTM3) jointly developed by Infoterm, TermNet, OECD and the Canadian International Development and Research Centre (IDRC) on the basis of MicroISIS. MTM4 is widely used by the Food and Agricultural Organization (FAO), the United Nations Environment Programme (UNEP) and other organizations.

Since the spectrum of terminological activities became more complex and specialized, the various referral services of Infoterm became quite popular among the global players in terminology. The Localization Industry Standards Association (LISA) adopted the "Terminology Interchange Format" (TIF), which was developed by a working group of the Text Encoding Initiative (TEI) with considerable input from Infoterm. In the form of ISO 12200:1999 "Computer applications in terminology – Machine-readable terminology interchange format (MARTIF) – Negotiated interchange" TIF crystallized into an International Standard.

Infoterm has continually built up its reputation as a worldwide think tank for terminology. Infoterm services became highly acclaimed because they had a direct impact on the economic and technical development in countries such as China where several governmental bodies established large terminological data banks with the assistance of Infoterm. Other important organizations, such as ASTM, WHO and ISO profited in the same way from Infoterm's expertise when they launched their own term banks. These achievements for the international community were acknowledged at the highest level when Infoterm became affiliated as a NGO with the

Department of Public Information (UN/DPI) of the United Nations in New York. Other service functions include being the ISONET Focal Point for terminology standardization.

Co-operations and networks

As pointed out above, networking in terminology was recognized by Infoterm as one of the major keys to success at a very early stage. The first model in this respect was certainly TermNet. In 1977, the plans for TermNet were adopted by an expert group convened by UNESCO. In 1989, the newly founded TermNet became operational with 12 founding members; by now its membership has grown to over 50 institutions and companies.

By 1993, regional networks such as NORDTERM, ARABTERM, RITerm and Rint had come into existence, enhancing the promotion of terminology work and the co-operation with Infoterm in their member countries. In 1993, Infoterm was assigned the status of International Collaborating Centre for Terminology of the World Health Organization (WHO). In the same year, Infoterm launched the International Standardized Terminology Exchange Network (STEN) with a number of pioneering co-operation partners in the world of standardization. In 1993, the China Terminology Network (China TermNet) and, in 1997, the East Asia Forum on Terminology (EAFTerm) were founded, drawing upon the expertise of Infoterm.

In 1994, Infoterm participated in the preparatory work for the foundation of the "European Language Resources Association" (ELRA) and of a European Terminology Coordination Centre, which were to function under the auspices of the European Commission. On the occasion of its third meeting in 1995, the "Council for German Terminology" (Rat für deutschsprachige Terminologie – RaDT) welcomed Infoterm's initiative to foster linguistic diversity in Europe and thereby also German specialized language and terminology. It was also recognized with gratitude that Infoterm has supported the "German Terminology Association" (Deutscher Terminologietag - DTT) from its very foundation in 1987.

By 1995, Infoterm had signed approximately 20 formal co-operation agreements mostly with international institutions or organizations. About 40 liaisons or affiliations were maintained with all sorts of specialized associations on a regular basis. In addition, Infoterm maintained regular contacts with over 500 specialized organizations from all over the world. More than 100 agreements on publications exchange were to ensure that Infoterm accumulated one of the most comprehensive holdings of terminological literature in the world, which are since 2003 taken care of the German Terminology Information and Documentation Centre (DEUTERM) at Infoterm's German Office at the University of Applied Sciences Cologne.

In 1996, a working group convened to plan and implement the "European Terminology Information Server" (ETIS), since information on terminological activities and publications had been collected by several competent centres in Europe, but was not yet readily accessible electronically. The stakeholders of ETIS (including the European Association for Terminology, EAFT) joined forces within the TDCnet project to implement ETIS. This led up to the conception of the "European Network of Terminology Information and Documentation Centres" (TDCnet), which Infoterm set up 1998-2000 together with 15 partner organizations and with the assistance of the European Commission within the framework of the Multilingual Information Society (MLIS) Programme. The TDCnet project can be considered the major platform for establishing a terminology infrastructure in support of the multilingual information society in Europe. It managed to organize and optimize the co-operation among existing TDCs and to develop value-added information products and services in the field of terminology. The establishment of TDCs in language communities where they are lacking was encouraged. For instance, one of the outcomes of this project was the foundation in 1998 of the DANTERMcentret and of the German Terminology Information and Documentation Centre

(DEUTERM). The TDCnet Project was successfully completed in 2000 and was transformed into a private consortium of 12 organizations.

Research and training

Infoterm staff members had always been personally active in terminology research as can be seen by the rather impressive list of documents and publications. In addition, Infoterm has always been eager to organize platforms and forums for discussing results of terminology research. The Infoterm Symposia organized in 1975, 1981, 1991 and 1998 can be considered as milestones in the development of the subject field. Beside, numerous conferences, symposia and workshops on different scientific or practical topics were either organized or supported in all parts of the world.

The support of a number of research projects has also to be mentioned in this respect. An early project to investigate, evaluate and make accessible the unfinished papers and draft manuscripts on terminology and related fields, left by Wüster as a legacy, was initiated in 1979 by Hildegund Bühler in co-operation with Infoterm and under the auspices of Prof. E. Weis of the University of Economics in Vienna. In the 1990ies, Infoterm's research activities focussed on the following topics:
- Methods of terminology planning
- Terminology management
- Multilingual information systems
- Methods for hypermedia knowledge base construction
- New methods of terminology teaching and training
- Copyright for terminological data, etc.

In 1997, the first Eugen Wüster Prize was awarded to the internationally renowned researcher and university teacher Heribert Picht for outstanding achievements in the field of terminology. Since the year 2000, two types of International Infoterm Awards for Outstanding Achievements in theoretical research (IIA/TFR) and in applied research and development (IIA/ARD) were granted to scholars from all over the world on an annual basis (ARD) and biennial basis (TFR). At the Infoterm Executive Board meeting in February 2001, it was agreed to change the International Infoterm Awards to International Terminology Awards (ITA) and to join forces with the EAFT, henceforth responsible for the award winner selection process.

There has always been a strong link between terminology research and terminology teaching. Wüster held an introductory lecture on the General Theory of Terminology at the Department of Linguistics of the University of Vienna from 1972 to 1974. This lecture was taken over by Helmut Felber and carried on until his retirement in 1985. Today Gerhard Budin, who once was a staff member of Infoterm for some years, continues research and teaching activities at the Vienna University on a regular basis.

One of the recommendations of the 1st European Symposium on Special Languages, which was convened in Vienna in August of 1977, suggested that summer courses on the general theory of terminology should be organized on a regular basis. The Infoterm Summer School had been held every year in Vienna since 1983 until 1999, when it was renamed to Terminology Summer Academy and henceforth organized by IITF. Lectures were given at various universities concerning translation-oriented terminology management, the structure of scientific terminologies and aspects of knowledge management. Furthermore, Infoterm has advised universities and public institutions in setting up curricula for terminology components of studies in information and library science, information and documentation, applied linguistics and

human language technologies, translation and interpretation, computer science, economics, science theory and related fields.

In the early 1980ies, plans for the establishment of an "International Institute for Advanced Studies in Terminology" were published. It was to concentrate on the organization of co-operation among university departments, terminology researchers as well as terminology teachers throughout the world. The institute was to dedicate itself to fundamental research in terminology science and its dissemination to students of all levels. Some of the elements of this planned Institute were taken up by IITF, others organized on an informal basis. From 1989 onwards, numerous courses and seminars were held in countries such as Malaysia, China, Japan, Venezuela, Brazil, USA, Spain, Italy, Tanzania, South Africa and Tunisia. In 1993, several model terminology courses were held in China, South Africa, Italy, Argentina, Venezuela and Brazil.

After 1998, pure training activities have been gradually delegated to Infoterm Members and other co-operation partners. Infoterm only contributes to certain modules of training activities concerning strategic aspects of terminology documentation and national terminology policies. Regarding the latter aspect, Infoterm assisted, for instance the newly founded KORTERM in organizing its first terminology training seminar for Korean experts in language engineering, which took place right after the EAFTerm meeting in Taejon in 1998.

During the thirty years of its existence, Infoterm always – depending on its capacity – took care of numerous visitors and in-house trainees from all over the world. The majority of them spent at least several days at Infoterm in order to take advantage of the expertise and rich holdings available.

From typewritten papers to electronic publishing

Since its foundation, Infoterm has built up quite a substantial publication programme, thus gaining considerable reputation as author, co-author and editor in terminology and also in its neighbouring fields. Especially the volumes of the Infoterm Series contributed much to the worldwide dissemination of terminological knowledge. Besides a shelf full of monographs, Infoterm staff members prepared innumerable papers and documents to be presented at meetings and to be published in specialized journals. In addition, Infoterm devised a 'primitive' kind of publishing-on-demand system which was later taken over by TermNet which functions also as the publisher of Infoterm publications.

In 1974, the Infoterm Series was launched as a major book publication. The results of an inquiry for a World Guide to Terminological Activities were published as volume 4 in 1977. A total of 8 volumes were published in the Infoterm Series. Another recommendation of the 1st European Symposium on Special Languages suggested the elaboration of a "generally comprehensible" introduction to the theory of terminology and its applications in several languages. In 1989, a series of advanced learners' textbooks on terminology with the title "Selected Readings in Terminology" was launched.

In 1989, Helmut Felber and Gerhard Budin published a monograph on "Terminology in theory and practice". In 1993, Helmut Felber published a comprehensive work with the title "General Theory of Terminology and Knowledge Engineering – Theoretical Principles" which is both a consolidation and a further development of the basic foundations laid by Wüster. In 2001, he summarized his research findings under the title "General theory of terminology, knowledge and knowledge engineering".

Thanks to the substantial assistance in kind by the General Directorate of Terminology and Documentation (DGTD) of the Canadian Government, Infoterm was able to launch TermNet News (TNN) in 1980 on a regular basis and to publish in addition three other current awareness periodicals:

- BiblioTerm (BIT) as from 1982, containing bibliographical data on newly published mono- and multilingual specialized vocabularies;
- StandardTerm (STT) as from 1986, containing bibliographical data on newly published standardized vocabularies all over the world;
- Terminology Standardization and Harmonization (TSH) as from 1989, containing current national, regional and international news on terminology standardization.

From 2002 onwards, the periodicals Infoterm Newsletter (INL), BiblioTerm (BIT), StandardTerm (STT) and Terminology Standardization and Harmonization (TSH) are being issued as electronic journals (e-journals) as part of TermNet News.

Outlook

Most users of the global information and communication infrastructures are interested not only in the (hardware and software) tools, but also in content. Therefore, the public interest in the emerging information and knowledge society will shift from technology to content in the near future.

There are many kinds of content, comprising specialized content (representing specialized knowledge in some way or other – including terminology). Terminology in specialized content is in most cases embedded in or combined with other kinds of content (mostly specialized texts). Infoterm will continue to emphasize the special role of terminology as

- representation of specialized knowledge (at the level of concepts)
- indispensable element of other levels of knowledge representation
- indexing and retrieval tool applied to specialized texts
- unavoidable in knowledge extraction and other processes of knowledge engineering,

to mention a few of the multifunctionalities of terminology.

In order to make content development less expensive (because of its labour-intensiveness), we need new types of content creation (and the respective workflow management): e.g. net-based, distributed, co-operative creation of structured content. Quite some R&D activities will be necessary in order to consolidate the respective methodologies and crystallize them into international standards. Infoterm will continue to organize R&D as well as standardizing activities in the field of content, duly taking into account the development from eContent to mContent and the role of terminology in this connection.

The ICT point of view of content, comprising only text (incl. alphanumeric data of all sorts), sound, image (incl. stills, graphs, etc.) and multimedia (incl. video, etc.) is completely insufficient from the semantic point of view. As content items – like industrial products – are increasingly prepared under a global perspective, but used locally, aspects of multilinguality, cultural diversity, multimodality and multimedia presentation have to be taken into account. User-friendliness and usability in the age of mobile computing and mobile communication (processing and transmitting mContent) require taking into account aspects of multi-channel presentation and accessibility (also for persons with special needs). Research and the development of methods to cope with special requirements for the data modelling of terminology embedded in other kinds of content are urgently needed. Ultimately, terminology – whether embedded in other kinds of content or not – must comply with the requirements of all-comprehensive semantic interoperability across all kinds of applications, especially the e-...s,

such as e-learning, e-government, e-health, e-business, etc. Infoterm will continue to emphasize the highly multidisciplinary nature of terminology science and terminological data.

Accessibility of content – including terminologies – not only for people with special needs, but also for many disadvantaged communities in the world is increasingly becoming a political issue at national and international level. Legal problems will arise, which need to be solved. In this connection Infoterm can look upon a long record of theoretical and practical experience, which can be shared with institutions and communities in need.

Chronology of activities

The record of Infoterm is a compound of thousands of individual achievements and as many endeavours that may have lost their relevance during the course of time, but ultimately contributed to the implementation of conceptions for the global information and knowledge society. It is the aim of a retrospective view to select and structure those events that will be considered as milestones also by future historians of the field and to mention those events that were typical for a particular period and thus enhance the understanding of what Infoterm stands for today. For structuring all this, a chronological approach was chosen which is most common for the history of institutions. Thus, it became obvious that the activities can be characterized by four distinct periods.

1971-1978 – Implementation and build-up

In this period, Infoterm concentrated on information and documentation activities regarding terminology work in the natural sciences and in technology, thus being in line with the scope of most standards institutes. As a first step, Infoterm had to establish first contacts with terminology producing institutions around the world. The data collected at the Wieselburg centre came in quite handy in this process. Special importance was given to the collection of terminology standards. During this period, Eugen Wüster was honorary scientific director of Infoterm, while Helmut Felber was the chief executive officer.

1972/73

A research project with the somehow clumsy title "Recording and analyzing the sources for the foundation and co-ordination of standardization of terminology in technology" was financed by the Austrian Ministry for Construction and Technology. The final report on this project formed the theoretical basis for the "International Bibliography of Standardized Vocabularies" (BT2), one of the main efforts of Infoterm during that period. The special challenge was to render this vast amount of data (over 7500 entries) in machine readable form. The task could be achieved with the support of the language service of Siemens in Munich, which adapted the TEAM software for this purpose. Another project was the recording of bibliographical information on theoretical literature on terminology in machine-readable form and its subsequent publication. Later in 1977, it was agreed with the adviser of the Canadian government, Prof. Guy Rondeau, that the publications in English and French were processed at the University of Ottawa, while the remainder was taken care of by Infoterm together with institutions in Germany and the Soviet Union.

1974

The number of staff could be raised from three to four and a half posts. This was a prerequisite for more labour intensive projects and also allowed that the First Infoterm Symposium "International Co-operation in Terminology" could be organized in 1975.

1976

Following the proposal of the UNISIST Steering Committee, UNESCO put an international group of experts in charge of evaluating the activities of Infoterm. The final report was submitted in this year including the approved working programme for the next ten years. In 1976 and the following year, Infoterm was involved in a study entitled "The development of a network of terminology preparing bodies and terminology documentation centres". This study formed the theoretical basis for the World Guide to Terminological Activities and ultimately the establishment of TermNet. During this period, the first issue of the Infoterm Newsletter appeared.

1978

Subsequently, a survey was made of the potential participation in TermNet and the specific fields of interest approaching more than 200 terminological institutions around the world. The results of this inquiry were submitted together with a first draft proposal for the three TermNet Programmes to the Infoterm Advisory Committee (IAC) at its first meeting in 1978.

Although UNESCO was making a considerable effort to increase its contribution towards the activities of Infoterm, its support was by no means sufficient to enable Infoterm to function at its optimal capacity. Therefore, the representative of UNESCO, Dr. Wolfgang Löhner, urged the Austrian government to continue their contributions after 1978, thus enhancing Austria's reputation as a leader and pioneer in the field of fundamental research in terminology and as a focal point of international terminology work.

1979-1988 – Outreach to new horizons

During this period, Infoterm on the one hand focussed its attention on the problems of computer-aided terminology and terminography. It was the time when the first large terminological data banks started to discuss questions of efficient data management and exchange, copyright, etc. In this connection it became clear that the concept of 'terminology documentation' had to be subdivided into a) the documentation/recording of terminological data, b) a systematic approach to references to the sources of terminological data and c) information and documentation in the field of terminology. This on the other hand led to a series of strategic projects with the EU Commission or other EU institutions, such as CEDEFOP.

1979

At a further meeting of the IAC, the following recommendations were adopted: (1) Infoterm was put in charge of implementing the suggestions made in regard to the development of TermNet and (2) a periodical was to be published to channel the flow of information within TermNet. In view of these new tasks, the regular staff of Infoterm was increased by the Austrian authorities financing Infoterm to six and a half posts comprising three and a half professionals and three assistants. In order to facilitate the exchange of terminological data, work on a "Terminology Manual" started in 1979. Its publication by UNESCO followed in 1982.

1980

The Newsletter "TermNet News" came into being with substantial support from the Canadian government. The latter had also a considerable impact on the "Expert Meeting on Terminological Data Elements" in September of this year. Furthermore, considerable progress was made regarding the expansion of an informal network of institutions, organizations and experts ready to co-operate on a voluntary basis. It was officially implemented as a joint programme of Infoterm and UNESCO with funds provided by UNESCO and contributions in kind by various TermNet partners, first of all by those of Canada.

1983

The Second Infoterm Symposium "International Co-operation of Terminology: Implementation of TermNet" was organized, being a milestone in the TermNet development phase. Work on the recording of Wüster's dictionary "The Machine Tool" under contract with the EU Commission started, in order to test the structure of the EU terminology database EURODICAUTOM.

1984

When the Austrian Standards Institute moved into a new building, Infoterm was able to enlarge its office and also to move the remaining stock of the Wüster Research Library from Wieselburg to Vienna. Wüster's car-file catalogues were put on microfiches as a

preservation measure. A long-term co-operation with the Centre for Vocational Training (CEDEFOP) in Berlin started.

1985

Co-operation with the EU Commission on another long-term project started: JAPANIFO for making specialized information from Japan, mostly in the form of so called grey literature, available to Europe by applying terminological approaches.

1986 - 1989

Infoterm was extremely busy with these parallel series of EU projects.

1989-1996 – Organization of international events and organizations

The third period in Infoterm's history was marked by a remarkable series of important conferences and meetings. The bringing together of two subject fields, terminology work and knowledge engineering has certainly been one of the most important innovations during this period. The first two successful congresses on "Terminology and Knowledge Engineering" (TKE) were organized by Infoterm together with the Association for Terminology and Knowledge Transfer (GTW) in 1987 and 1990. Hereafter, Infoterm continued to co-organize the conferences in 1993, 1996, 1999 and 2002 together with TermNet, which also published the proceedings of the later ones. It became obvious that anything like knowledge engineering could not do without terminology.

1989

In March of this year, an International Conference on terminology standardization and unification was organized by Infoterm in co-operation with the Tunisian Standards Institute (INNORPI). In several adjoining workshops, which were also held in Tunis, more than 100 participants from several Arab countries became familiar with the possibilities to achieve the ambitious aim of creating a unified special language for the Arab world. Furthermore, Infoterm assisted in organizing the First TermNet Symposium "Terminology in Advanced Microcomputer Applications (TAMA)" in Vienna. At its 9th meeting in May of this year, the IAC expressed its concern with regard to the future of Infoterm and set up a task force for planning how Infoterm could be turned into a legally independent international institution. Thus, several models were presented and discussed allowing foreign governments to contribute to Infoterm's overall activities or to individual programmes financially or in kind, so that Infoterm services could meet existing needs and demands.

1990

From this year onwards, terminology planning was increasingly recognized as a decisive factor of controlled terminology development both in science and technology planning as well as in language planning of developing and developed countries. Guidelines for a terminology planning policy were issued on the occasion of TERMPLAN '90, an international conference on terminology planning, convened in Kuala Lumpur in November.

1991

The Third Infoterm Symposium on "Terminology work in subject fields" was convened in Vienna from 12 to 14 November. Almost 200 participants from 30 countries reported on the development of terminology work in biology, engineering, law, economics, medicine and information technology. In addition, Infoterm analyzed and evaluated the terminology software of a large Swiss bank and established, for testing purposes, terminological data in the field of banking. In this year, Infoterm was associated as an NGO to the United Nations Department of Public Information in New York. This official recognition of Infoterm's achievements by the United Nations coincided with Infoterm's 20th anniversary and gave a new impetus to its endeavours.

At the 26th General Conference of UNESCO in 1991, a resolution was adopted inviting its Member States to intensify co-operation on terminological matters, in particular with Infoterm, operating in collaboration with UNESCO's General Information Programme (PGI).

1992

The conception of multilingual user-interfaces to distributed heterogeneous databases was launched. One of the core elements of such an interface would be a multiple multilingual documentation language (MMDL) system consisting of a meta- or supra-thesaurus linking a certain number of other system-dependent thesauri, classification schemes or other documentation languages with or without (partial) concordances among each other. This system was developed for UNIDO in order to make valuable economic and scientific/technical data mainly from Russian and Chinese databases of available to experts not familiar with the respective languages without having to rely on costly translations. The MMDL system was further refined in studies relating to the feasibility of networking of vocational training institutions in Europe and of the unification of thesauri for environmental information. Since 1992, Infoterm has been assisting the Localization Industry Standards Association (LISA) in the implementation of international standards in the field of terminology and documentation for information technology products of. Consequently, LISA adopted the "Terminology Interchange Format" (TIF).

1993

Referring to this resolution and to the results of a "Study of the re-assessment of the original mandate of Infoterm", the Infoterm Advisory Committee recommended at its annual meeting that Infoterm be provided with a new independent legal status. For this purpose, new statutes were drafted which would allow international organizations and foreign governments to participate actively in Infoterm activities and make the necessary contributions. At the "International Workshop on Copyright in Terminology", held in Cologne in August 1993, it was decided to prepare an annotated model contract which accommodates the specificities for any kind of terminological activity involving a data supplier and a data user. This "Guide to Terminology Agreements", published in 1996, was supplemented by a "Code of Good Practice" and was published in 2000 with the assistance of the European Language Resource Association (ELRA). The following language versions are available: English, French, German and Spanish.

1994

Under the auspices of UNESCO, Infoterm convened the First International MicroISIS Conference on the premises of the Vienna International Centre (VIC) in November of this year. This conference was also devoted to the management of multilingual specialized information. In addition, the International Conference on "Electronic Publishing" (EP'94) which was organized in Beijing, China, received strong support from Infoterm. Work on the project POINTER (Proposals for an Operational Infrastructure for Terminology in Europe) started in spring 1994 and was carried through until the end of 1995. In conjunction with this project, a study was carried out for the Austrian Ministry for Economic Affairs (BMWA) on the future role of Infoterm within the European terminology infrastructure. In line with the results of the above-mentioned study commissioned by UNESCO regarding the evaluation of Infoterm activities, efforts had been undertaken in Austria since the end of 1994 to affiliate Infoterm to the Austrian Academy of Sciences.

1995

During this period, Infoterm had been also actively involved in various projects and initiatives in the field of environmental terminology and its application to environmental information systems. In order to enhance its expertise in this area, Infoterm organized the First International Workshop on Catalogues of Data Sources (CDS) and Thesauri in

Vienna in November 1995. Infoterm helped to launch and organize the International Congress on "Intellectual Property Rights for Specialized Information, Knowledge and New Technologies" (KnowRight'95), which was held in Vienna.

1996

The Fourth International Congress on "Terminology and Knowledge Engineering" (TKE'96) was co-organized with the GTW. Finally, Infoterm was transformed into an international non-profit association and moved to new premises at the SIG Technology Centre in the Simmeringer Hauptstraße in Vienna. This required a complete re-engineering of Infoterm after 25 years of development. At the end of June a contract was signed between the Federal Ministry for Economic Affairs and the Department for Philosophy of Science and Social Studies of Science at the University of Vienna, which offered the legal basis for the continuation of Infoterm's activities as an international clearing house and referral centre for terminology. On behalf of the Austrian Standards Institute, Infoterm carried on certain standardizing activities including the secretariat of ISO/TC 37 "Terminology (principles and coordination)", a technical committee which celebrated the 60th anniversary of the beginning of the standardization of terminological principles and methods under ISA 37 "Terminology" in Budapest in August.

1997-2002 – Re-engineering of the organization and operation

During this period, the new aim was the creation of theoretical and methodological principles for the development of powerful information systems as required by the multilingual information society. Thus, Infoterm was able to maintain its special relationship with the United Nations and the specialized organizations of the UN system as well as further develop its active working relationship with the European Commission and simultaneously to establish close ties with its members.

1997

It became essential for Infoterm to figure out which types of institutions/organizations would best fit into the Infoterm member community and under which conditions. Model contracts for co-operation between Infoterm and its members were elaborated, negotiated and finally signed. In order to attract new members, special efforts were dedicated to PR activities. Infoterm participated in several exhibitions and trade fairs. For this purpose a video film on its activities and a new folder in German and English were prepared, followed by its first promotion CD-ROM. This year was also marked by a number of high-level consultancy services e.g. to institutions in East Asia (CSICCI, KAIST etc.) as well as to the Hellenic Organization for Standardization (ELOT) aiming at establishing a national terminology infrastructure from scratch in Greece.

In 1997, Prof. Heribert Picht from the Copenhagen Business School was appointed Chairman of the Jury for the newly created International Infoterm Awards. In the same year, the Twin Conference on "Professional Communication and Knowledge Transfer" (ProCom'98) was organized in Vienna, which combined the scientific Conference on "Professional Communication, Terminology and Planned Languages" with the 4th Infoterm Symposium on "Terminology Work and Knowledge Transfer". This event also coincided with the celebration of the 100th anniversary of Eugen Wüster's birthday.

1998

The Austrian section of the German Terminology Association (DTT) was established.

1999

The name of "Infoterm" became protected as a registered trademark. The modernization of the library and documents collection turned out to be as one of the main tasks of Infoterm in the same year. This went along with an improvement of the retrieval of bibliographic data as well as of the service to the members by producing a new CD-ROM version of Infoterm's databases. The Eugen Wüster Archive was merged with parts of

the legacy of Sir Karl Popper and moved to the University of Vienna, where the Department for the Philosophy of Science and Social Studies of Science took over the scientific responsibility and future preservation by agreement with Infoterm.

2000

This year was marked by organizing the consortia for two new EU projects: the "Central and Eastern Terminology Centres Network" (CETnet) and the Eastern Terminology Provision Project" (ETPpro). Both projects were not approved as presented, but nevertheless had a considerable impact on the development of terminological activities in the CEECs. Many features contained in the project proposals but rejected by the panel were implemented in different form in the framework of other projects.

2001

Infoterm moved its office to new premises in the Aichholzgasse in the 12th district in Vienna. On this occasion, the Infoterm documents collection and the Infoterm archive were handed over to the University of Vienna and incorporated in the Eugen Wüster Archive. In addition, Infoterm intensified existing co-operation with language boards in African countries, first of all with the NLS (National Language Service) in South Africa as well as with institutions in Tanzania and Nigeria. At the end of 2001, a branch office of Infoterm was established at the University of Applied Sciences Cologne, Germany, housing now also the Infoterm Library.

2002

By contract with UNESCO, Infoterm organized the development of a full-fledged Multilingual Content Management (MLCM) Platform comprising a number of application programmes and tools to be used as standalone or as a combination of integrated programmes on a local PC or in a LAN. In the same year, Infoterm also signed a co-operation agreement with the Polish Information Processing Centre (OPI) in Warsaw, providing full assistance to OPI in establishing the Terminology Information and Documentation Centre TERMinPOL which consequently would join the TDCnet.