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EXECUTIVE SUMMARY

During the first six months of the META-NORD project, all the project partners developed preliminary action plans for awareness, community mobilisation and dissemination to be undertaken in the respective countries during the project period. These plans were submitted in M6 (July 2011) as Deliverable D5.1.1. These plans have now been revised and extended and are presented here as Deliverable D5.1.2.

The goal of these plans is to maximise the impact of the project and to ensure its sustainability. The focus has been laid on three groups, the research community, the public sector and the economic sector (the language industry and other business sectors). People from these groups have been contacted by the project partners, the project introduced to them and they were asked for input.

The project partners all maintain websites with detailed information on META-NORD, META-NET and language technology in general, in addition to presenting papers and hosting meetings and conferences, sending e-mails, newsletters and brochures, and utilising social media such as Facebook and LinkedIn.

META-NORD dissemination activities have been co-ordinated and monitored, following a set of measurable qualitative and quantitative indicators that have been set up. LKI has been responsible for collecting and managing this data and the project partners have therefore reported to them on all their dissemination activities.

Partners in the META-NORD project come from eight different countries which differ widely with respect to the size of the research community, the nature of the LT industry, the level of technical support for the languages, etc. Therefore, it is neither practical nor possible to develop a uniform action plan for all the countries involved. Instead, each partner has developed an action plan for the country in question. These plans make up the bulk of this deliverable, preceded by a short summary where the main points are highlighted.

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Abbreviations

Table 1 Abbreviations

Abbreviation	Term/definition
DoW	Description of Work
EU	European Union
FP7 ICT	The Seventh Framework Programme Information and Communication Technology
ICT PSP	Information and Communication Technology Policy Support Programme
LT	Language Technology
MT	Machine Translation
NoDaLiDa	Nordic Conference on Computational Linguistics

1. Introduction

This document contains a summary of the action plans describing awareness, community mobilisation and dissemination actions that have been undertaken in the META-NORD countries during the project period and are planned in the near future, with the aim of maximising the impact of the project and ensuring its sustainability after the end of the ICT-PSP support.

The project partners have contacted key persons and organisations in the research community, industry, and public sector in their respective countries and presented the project to them and asked for their input[1]. They maintain websites where various information related to LT can be found. These websites will be maintained for at least one year after the project period. The project partners have also organised meetings and conferences with participants from academia, industry, government, public media and other actors to increase awareness of LT and its importance in the society. A number of such meetings and conferences are also planned in the near future.

2.   Target groups

At the beginning of the project, the partners identified a number of target groups, institutions, companies, organisations, and associations in their respective countries which have potential interests in LT (see Deliverable D5.1.1). The main target groups are research communities (universities, research institutions, etc.); society, government and other decision makers (ministries, parliaments, research funds, language councils, etc.); and the language industry and other business sectors (LT developers, LT vendors, LT users, translation bureaus, publishing houses, newspapers, dictionary makers, etc.). The target groups in each country are further described in the annexes.

3.   Performed and planned actions

This section summarises the awareness raising and dissemination actions that have already been carried out and are planned in the META-NORD countries in the near future. Most of these actions are directed towards one or more of the target groups mentioned in the previous section, but some of them are also directed towards the general public.

3.1   META-NORD websites

The main META-NORD website (http://meta-nord.eu) is technically developed and maintained by Tilde but LKI has been responsible for the website content and its update during the project. The project website will be maintained by Tilde for at least 2 years after the official end of the project.

Local META-NORD websites are run by the project partners in:
Denmark (http://cst.ku.dk/projekter/metanord/),
Estonia (http://www.cs.ut.ee/metanord/),
Finland (http://www.helsinki.fi/metanord),
Iceland (http://vefir.hi.is/metanord),
Lithuania (http://www.lki.lt/metanord/),
Norway (http://meta-nord.b.uib.no/) and

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[1] The description of third parties networks in the participating countries is represented in *D2.5 Description of third parties networks for each language covered in the project* (M6, July 2011/PU).

Sweden (http://spraakbanken.gu.se/eng/research/ meta-nord).

Furthermore, both the Icelandic and the Lithuanian partners maintain Facebook pages (https://www.facebook.com/pages/META-NORD-%C3%8Dsland/212937172075001?fref=ts and https://www.facebook.com/pages/Meta-Nord-Lietuva/321162284585799?fref=ts).
META-NORD LinkedIn group has also been created (http://www.linkedin.com/ groups?gid=4035532). In addition to maintaining local websites, all the project partners have contributed to the main META-NET website (http://www.meta-net.eu) by translating most of the web pages into their respective languages.

All the websites include descriptions of the project as well as links to various pages related to LT. They also list events and activities related to LT in the respective country and a list of available language tools and resources. Most of the local websites will be maintained for at least one year after the end of the project. In some cases, related initiatives will gradually take over the role of the websites. In Norway, for instance, it is expected that the website of CLARINO (Common Language Resources and Technology Infrastructure Norway) will be a follow-up for web-based dissemination.

3.2   Making contacts with target groups

In addition to the local websites, all participants have used different dissemination channels and means to raise awareness about META-NORD in the corresponding countries. This includes publishing articles about LT in papers and journals, holding and taking part in meetings and conferences, and contacting potential stakeholders personally by phone or e-mail. The local workshops that were held in all the participating countries in 2012 were crucial in making contacts with key people from the target groups. The Language White Papers were also sent to selected stakeholders and received considerable attention. Furthermore, the META-NORD newsletter has been distributed to target groups in all the countries.

During the project period, valuable contacts and communication channels have been established which the partners will continue to develop and extend after the project ends. This includes the CLARIN consortia which some of the partners lead or participate in (CLARIN-DK in Denmark, FIN-CLARIN in Finland, CLARINO in Norway). Some partners have also established contacts with the open data communities in their respective countries.

3.3   Publications – newsletters, articles, press releases

As mentioned in section 3.2, all the participants have published several articles in newspapers and journals, as documented in detail in Deliverable *D5.2.2 Awareness, mobilisation and dissemination actions.* This includes both articles presenting and promoting META-NORD and scientific articles on certain META-NORD activities or resources. The META-NET Language White Papers for all the languages in question (including two for different versions of Norwegian) were published in September 2012. Three volumes of the META-NORD newsletter, edited by LKI with contributions from all the partners, have been published and distributed to stakeholders in all the countries. Three press releases prepared by META-NET (in connection with META-FORUM 2011, the publication of the Language White Papers, and the publication of the Strategic Research Agenda) have been translated to all the META-NORD languages and distributed in the respective countries. The project partners will continue to publish articles promoting language technology and LT resources and some concrete plans for publication are mentioned in the annexes.

3.4   Workshops, conferences, presentations

National META-NORD workshops were held in all the participating countries in 2012, as

described in Deliverable *D5.4 Workshop report v2.0*. These workshops were attended by people from the main target groups and were a huge success. During the project period, the project partners have arranged or taken part in a number of local and international workshops and conferences and given presentations on META-NORD and related activities, as documented in the annexes and in Deliverable D5.2.2.

A number of workshops and presentations promoting language technology and language resources are planned in the future either organised by the project partners or with their participation. To name a few, a workshop on Nordic Language Research Infrastructure, organised by UIB, will be held at NoDaLiDa in Oslo in May 2013. The annual meeting of the Nordic Language Councils, which will be held in Iceland in August 2013, will have Nordic Language Technology Cooperation as its theme. UGOT and other members of the Centre for Language Technology in Gothenburg will organise the EACL conference in April 2014, which will be an excellent opportunity to present and promote the work started in META-NORD. Several other planned events are mentioned in the annexes.

4. Conclusion

META-NORD dissemination activities are documented and described in detail in *Deliverable D5.2.2, Awareness, mobilisation and dissemination actions*. On the whole, the plans for dissemination and awareness raising that were outlined in the first version of the Action Plan, Deliverable D5.1.1 (M6), have been carried out and been successful. The project partners have established valuable contacts with key stakeholders from the target groups - the research community, ministries, founding bodies, language councils, LT companies, etc. The partners will continue to utilise and extend these contacts in the future to further advance Language Technology in the Nordic and Baltic countries. Furthermore, the partners have already made concrete plans for organising and taking part in a number of LT related workshops, conferences and other events in the near future. The Language White Papers also provide an excellent basis for a successful dissemination campaign which the partners will continue to promote.

The following annexes describe the activities carried out and further plans to rise awareness after the end of the project on January 2013.

Annex 1: Action plan for Tilde (Latvia)

1. Target groups

The target groups were identified and described in D5.1.1 *Action plan.*

2. Planned actions

2.1 META-NORD website

META-NORD website

The META-NORD project website www.meta-nord.eu is the main project communication tool, where the latest and the most important information is stored (publications, posters, leaflets, contact information, links to the local META-NORD and other projects' websites). The META-NORD website has been constantly updated with most recent information and easy access to META-SHARE has been provided. The META-NORD website will be available after the end of the project and will be occasionally updated with most recent META-NET information and information from META-NORD countries.

Tilde local website

At the moment Tilde is upgrading their current public website and after the upgrade the separate part will be dedicated to direct access to META-SHARE through Tilde's main webpage: http://www.tilde.com/.

2.2 Workshops, conferences, presentations

Tilde has participated in more than 32 conferences and related events where META-NORD was disseminated (more detailed information is provided in D5.2.2 *Awareness, mobilisation and dissemination actions).* On September 21 an International Conference "Language, Technologies and the Future of Europe" (http://www.ltrigaconference2012.com/?lang=en) was organised by Tilde in Riga. The conference brought together leading European and Baltic specialists to gain an understanding and create a vision of the future role of national languages in Europe. The participants were equally represented by main target groups (Figure 1). More details on the conference is provided in D5.4 *META-NORD national workshops v2.0*
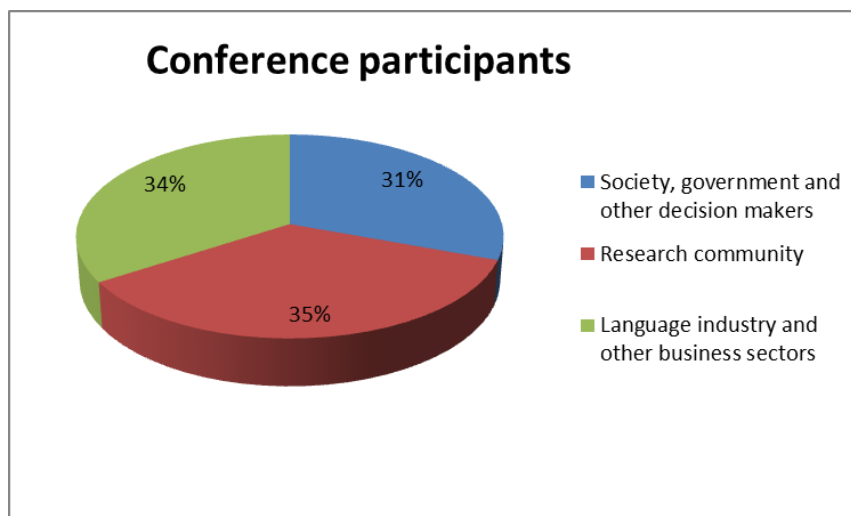

Figure 1 Target groups represented

The conference topic and the covered issues received high resonance in the society and initiated a wide-range of debate in the Latvian LT community and society in general. After the event, the LT community in Latvia started a discussion and established a working group that consists of representatives from leading research and governmental institutions and industry stakeholders providing solutions in this field. It is foreseen that this will result in recommendations and a roadmap for further political actions for research and development in the field of LT in Latvia. Tilde is participating in this working group and working on an initiative so that the outcomes (resources, tools etc.) of the publicly funded research and development activities have common data/meta-data and interoperable formats. The initiative presumes that outcomes of the activities of such funding must be freely available/shared across the community through existing open, secure, and interoperable infrastructures such as META-SHARE.

Conferences where Tilde disseminates the project and META-NET

Tilde will participate in the conference "Baltu valodas: VĒSTURE UN AKTUĀLIE PROCESI" ("The Baltic languages: HISTORY AND CURRENT PROCESSES"). The conference will take place in Riga on 21-22 February, 2013 and is organised by Latvian Language Institute of the University of Latvia. This event will provide a possibility to disseminate META-NORD and META-NET among highly recognised researchers in the field of Baltic languages.

META-NORD was one of the organisers of [CHAT 2011](#): Creation, Harmonization and Application of Terminology Resources workshop co-located with the NODALIDA 2011 conference held on May 11 at the University of Latvia, Riga, Latvia. The success of the first CHAT has urged to organise a second CHAT workshop "CHAT 2012: The Second Workshop on the Creation, Harmonization and Application of Terminology Resources". This workshop was organised in cooperation with FP7 projects TaaS (Terminology as a Service) and TTC (Terminology Extraction, Translation Tools and Comparable Corpora) and took place in Madrid, Spain on June 22 2012. It was decided to continue a series of successful meetings that started as the first CHAT 2011 workshop in Riga in May 2011 and organise the next CHAT during the Tcworld conference that will take place on Nov 6th – 8th, 2013 in Wiesbaden. The planned programme will include a topic on data sharing and benefits and opportunities provided by META-SHARE.

During the project's first year, META-NORD has participated in NODALIDA - Nordic Conference on Computational Linguistics. META-NORD was highly represented in NODALIDA 2011: 18th Nordic Conference on Computational Linguistics, held in Riga, Latvia on May 11–13.

Tilde presented META-NET during interventions at the Internet Governance Forum in Baku, November 5-8, 2012.

Tilde plans to disseminate META-NORD and META-SHARE in the upcoming NoDaLiDa 2013 : 19th Nordic Conference on Computational Linguistics on May 22, 2013 - May 24, 2013 in Oslo, Norway.

2.3 Other awareness raising and dissemination actions

Media

In cooperation with META-NET and other sibling projects (CESAR, METANET4U) the pan-European media campaign took place with the common slogan "At Least 21 European Languages in Danger of Digital Extinction", the campaign lead in overall 584 international and local media appearance, the figure (Figure 2) illustrates the part that was done by META-
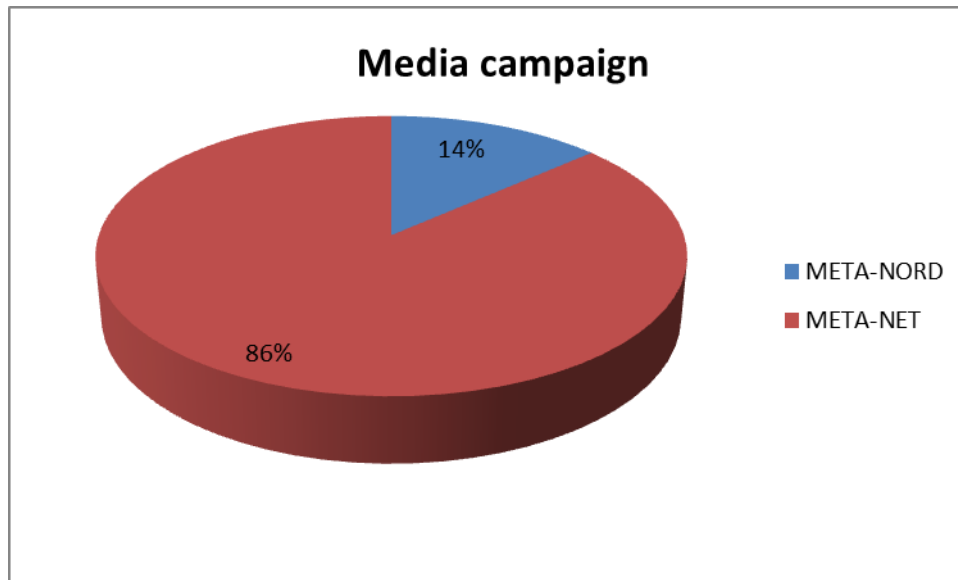
NORD to address identified target groups.

Figure 2 Media campaign

After the end of the project, Tilde (as one of the managing META-SHARE node holders) will keep up the media awareness of the developments of the META-SHARE and sharing issues related to the whole EU LT community. As META-NET and META-SHARE node holder, Tilde will become a main Point of contact and mediator between META-NET and media in Latvia.

Other dissemination/awareness raising channels

QTLaunchPad.

QT Launchpad project, an endeavour to improve translation technology through industry collaboration with European research institutes. In its pursuit of a more effective integration of intellectual skills and technological capabilities, the project also aims to define a new flexible umbrella quality metric for human and machine translation, addressing the confusion and uncertainty associated with the measurement of both. Tilde as member of the QTLaunchPad project's Extended Steering Board will use this channel for further META-SHARE and META-NORD/NET dissemination and awareness activities in the translation technologies community.

ELRA

ELRA's missions are to promote language resources for the Human Language Technology (HLT) sector, and to evaluate language engineering technologies. Tilde as a member of the ELRA board will use this channel for dissemination and raising awareness about META-SHARE and META-NORD/NET through various ELRA official events and members' community.

TAUS

TAUS is an innovation think tank and platform for industry-shared services, resources and research for the translation sector globally. Tilde as a member of TAUS will use this channel for dissemination and raising awareness about META-SHARE and META-NORD/NET through various TAUS official events and members' community.

LT-Innovate

LT-Innovate gathers top executives of European companies involved in developing products using intelligent content, speech and translation technologies. Tilde as a Full member of LT-Innovate will use this channel for dissemination and raising awareness about META-SHARE and META-NORD/NET through various LT-Innovate official events and members' community.

Dissemination in perspective of the solutions

At the final stage of the META-NORD project, Tilde has developed a methodology and tool-set for automated harvesting of meta-data on META-SHARE from third parties resource repositories. After the end of the project Tilde will continue to work on extending the functionality and applicability of the tool-set. The tool-set elements (e.g. meta-data converter) will be easy adaptable to the different meta-data schemas of different resources repositories and automatically harvested on META-SHARE through the META-SHARE API.

Cooperation with both EC and beyond EC supported projects

Cooperation and joint events with other EU projects currently implemented (TaaS, LT-Web) and upcoming projects in FP7 Call 10/11 and the SME-DCA Call are planned after the end of the project.

At the moment META-NORD has a strong cooperation with the TaaS project. The objective of the TaaS project is to establish a sustainable cloud-based platform for terminology resources acquisition, processing and sharing. One of the aims of the project is that new term data will be shared and be publicly available through the integration of the TaaS platform with other well-established tools and terminology portals such as EuroTermBank, TAUS Data Association, ELRA Catalogue, META-SHARE Repository, and others.

Annex 2: Action plan for UCPH (Denmark)

1. Target groups

1.1 *Research community*

Language technology research is performed at several research institutions in Denmark.

The Centre for Language Technology at the University of Copenhagen (UCPH) currently collaborates with all involved research institutions (except for Aalborg University) through research and infrastructure projects. Further, all the below mentioned institutions have been engaged in the authoring of the Danish white paper on Language Technology and thus form part of the national META-NORD network.

The Centre for Language Technology is the national centre for language technology. The Centre has the mission of carrying out and promoting strategic research and application development in the areas of language technology in Denmark. Apart from the of aim of assuring good language technology for Danish users - and other users of the Danish language, the centre aims at bringing new knowledge to Denmark through international co-operation. The Centre's main research topics are language resources and tools such as LSP corpora and wordnets, multilinguality (machine translation, controlled language etc.), multimodality, information retrieval, use of ontologies and incorporation of language technology in other application areas e.g. e-learning.

The Department of International Language Studies and Computational Linguistics, Copenhagen Business School, performs research in text technology, computational linguistics including tree banks, statistical machine translation, terminology and speech technology.

At the Institute of Language and Communication, University of Southern Denmark, several researchers work within the field of language technology and computational linguistics, for instance within the VISL project (Visual Interactive Syntax Learning). Aalborg University, Department of Electronic Systems, is a prime mover in research regarding speech technology. The Danish Language Council as well as the Society for Danish Language and Literature are also engaged in language technology-related research, especially with regards to the development of dictionaries and corpora and the corpus-based identification of new words in Danish.

The Danish CLARIN consortium, DK-CLARIN, which was concerned with the building of a Danish infrastructure for resources in the humanities, was led by UCPH and included the following partners: Southern University Denmark, Aarhus University, Copenhagen Business School, The Royal Library, The National Museum, The Danish Society for Language and Literature, and The Danish Language Council. DK-CLARIN work will be continued and further extended in the national DIGHUMLAB project lead by Aarhus University. The vision for DIGHUMLAB is to rejuvenate fields of research within the humanities and social sciences through broad access to digital sources and research data and through development of software-supported analysis methods in terms of language technology and other IKT technology.

1.2 *Society, government and other decision makers*

Central ministries related to Language Technology are the Ministry of Science, Innovation and Higher Education and the Ministry of Culture. The Danish Agency for Science, Technology and Innovation is an institution under the Ministry of Science, Innovation and Higher

Education which supervises the independent Research Councils. The mostly applied research councils by the language technology community are the Council of Culture and Communication and the Strategic Research Council.

Another institution relevant for Language Technology is the Danish National Advanced Technology Foundation founded by the Danish government. This institution has the general objective of enhancing growth and strengthening employment by supporting strategic and advanced technological priorities within the fields of research and innovation.

These target groups have been approached via the Danish White Paper and the Danish META-NORD workshop, as well as by press initiatives such as feature articles and reports (in all 12 news items on language technology related to the Danish White Paper). As a sign of successful dissemination, the Research Council was represented at the META-NORD workshop. Close collaboration on dissemination to society and decision makers has been performed with the Danish Language Council, which has included conclusions from the Danish White Paper into their recommendations presented to the Minister of Culture in November 2012. Furthermore, a suggestion for a Danish language law including support to language technology has been presented in the Danish parliament November 30, 2012. Activities that are crucial for META-NORD, such as lobbying for research exemption and open data, as well as updating metadata on META-SHARE will be carried out also after the end of the project.

1.3   *Language industry and other business sectors*

The SMEs operating in the field have been informed about major META-NORD activities such as the Danish Language White Paper, the META-NET Strategic Research Agenda, the META-NORD newsletter and have been invited to the Danish national META-NORD Workshop (23 industry partners attended the workshop). This group will be contacted also after the end of the project in order to inform them about LT activities, such as events in the planned National Language Technology Network.

Danish SMEs in the field of Speech Technology are e.g. Max Manus A/S, MIRSK Digital ApS, and Prolog Development Center A/S (PDC). They have specialised in providing speech-based interfaces to a number of applications, e.g. within the health care sector. The systems are powered by either Loquendo or SpeechMagic(TM) (developed by Philips Speech Recognition Systems, which was acquired by Nuance in 2008). PDC and Max Manus A/S provide the speech recognition application that is used for speech recognition-based publishing of parliamentary speeches. Danmarks Radio uses PDC's system for television subtitling. Apart from Acapela, the Danish TTS market is also dominated by Loquendo and Speech Magic. IBM-Denmark stands for a major speech technology project in the Danish municipalities.

In the written domain, smaller companies like Ankiro ApS, LAT Consulting, Findwise, RDFined and others successfully develop and apply search technologies which include language technology and which are tailored to specific company needs. Focus on development lies, for instance for Ankiro ApS, on providing add-ons and advanced search engines for special-interest portals by exploiting topic-relevant semantics.

With regard to writing aids, Mikro Værkstedet is one of the prime players in the market for digital teaching facilities including reading tools for dyslexia clients. Also OpenOffice provides Danish language checking tools to a certain extent; Magenta ApS has integrated several open source Danish lexical resources into the document processing tool including writing aids such as synonymy look-up. Only a few Danish companies and Language Service Provid-

ers offer products in this area and they are mostly in-house products adjusted to specific company style guides.

With regard to machine translation, early MT systems for Danish, like the SYSTRAN prototype, were primarily developed by foreign companies. All these systems were rule-based. While there is nowadays significant research in this technology in national and international contexts, this situation has not substantially changed even if there are some Danish start-ups (such as Grammar Soft ApS and Languagelens ApS) providing rule-based and statistical machine translation systems for Danish. The majority of the available systems, like, e.g., Google Translate and ESTeam Translator, is still developed abroad.

2. Performed and planned actions

2.1 *META-NORD website*

The local META-NORD website at UCPH will be maintained until 2014.

2.2 *Making contacts with target groups*

Danish META-NORD target groups have been approached by means of emails, telephone calls, stand participation at relevant conferences where flyers are distributed, press, talks and invitations to relevant META-NORD or META-NET events and via distribution of the Language White Paper.

In spring 2011, a group of contacts were invited to participate in the writing of the Danish White Paper on language technology, and a meeting was set up with all involved in order to discuss the availability and quality of Danish language technology tools and resources. Furthermore, META-NORD has been represented by a talk at the Workshop on visibility and availability of LT resources in relation to the NODALIDA Conference in Riga, Latvia on May 11 2011 (chaired by UCPH) as well as at a stand at the biennial Language Technology Forum arranged by UCPH (May 17, 2011) where also Prof. Hans Uszkoreit, Universität des Saarlandes and DFKI, Germany presented META-NET in his invited talk. Danish META-NORD results were also presented at LREC2012 and at the Global WordNet Conference 2012, and UCPH gave a talk at META-FORUM 2012 on the Language Whtie Papers.

Relevant target groups (85 participants) met at the Danish National META-NORD Workshop on October 31, 2012, and agreed to embark an association in terms of a National Language Technology Network. The first planning meeting regarding this network was held at UCPH on November 16, 2012. The plan for the network is to have yearly meetings where new results on LT topics in Denmark and abroad can be presented and discussed. The more precise form of the meetings (reviews, proceedings, chair system etc.) is still to be decided.

Finally, UCPH has joined the Danish open data community by joining the public site digitaliser.dk, which is a united portal for the digitalisation of Denmark. Here central resources, recommendations and guides about information technology, publication and software development are united in one data forum. The forum is publicly accessible, and the goal is to enforce the collaboration between public institutions and private companies in Denmark. On digitaliser.dk UCPH has created a group for people interested in language resources. The group can be easily accessed (http://digitaliser.dk/group/2428866) and is open for all interested parties. Here we will announce news from the META-SHARE community and news relevant for parties interested in language resources for Danish.

 UCPH will continue to use the above mentioned communication channels actively also in 2013 and beyond. As a spin-off to the META-NORD multilingual action on wordnets, for

example, a NODALIDA workshop on lexical semantic resources has been accepted for NODALIDA 2013 in Oslo.

2.3 *Publications – newsletters, articles, press releases*

UCPH has compiled two press releases in META-NORD; one in September 2011 in relation to the European Day of Languages and one in September 2012 when the Danish language white paper was published.

Further dissemination actions have included articles in relevant journals, newsletters and conference proceedings as well as articles and interviews in the Danish press. These forums include the META-NORD newsletter, the META-NORD website (UCPH's and the project's), the LREC, NODALIDA and Global Wordnet conferences, the two largest newspapers in Denmark (Politiken, Berlingske Tidende), the national radio and a series of magazines and newsletters. All in all, 12 press items on META-NORD/NET and the Language White Papers have been published in the second half of 2012.

2.4 *Workshops, conferences, presentations*

The UCPH team has actively presented META-NORD, META-SHARE and the Danish White Paper in various conferences and workshops in 2011 and 2012 including LREC, NODALIDA and Global Wordnet conferences and the national META-NORD workshop. These activities (i.e. presenting META-SHARE and the results of META-NORD) will continue also in 2013, when the following planned events will offer the possibility of disseminating the relevant information:

- Sprogteknologisk Forum 2013 (organised by UCPH)
- NODALIDA Conference in Olso 2013 (UCPH takes part in the program committee)
- NODALIDA Workshop on lexical semantic resources in Oslo 2013 (UCPH takes part in the program committee)

Annex 3: Action plan for UT (Estonia)

1. Target groups

1.1 Research community

There is a critical mass of specialists to develop language resources, language software and its applications in Estonia. There are three main actors in the HLT research community in Estonia:

Research Group of Computational Linguistics (http://www.cl.ut.ee) at the **University of Tartu** (UT), with the following key research areas: morphological, syntactic, semantic and pragmatic analysis; spoken language and models of dialogue, machine translation and the creation of the relevant language resources (written language corpora, Estonian WordNet, corpora of dialogues and spontaneous speech, parallel corpora, treebanks of Estonian). Language software and resources have also been developed in other research groups: bioinformatics research group (fuzzy data mining, text algorithms) and phonetics research group (the phonetic database of spontaneous speech).

The research and development activities of the Research Group of Language Technology at the **Institute of the Estonian Language** (IEL, http://www.eki.ee) include resources for lexicographers and Estonian lexicon databases, methods of text-speech synthesis (TTS), including the analysis and synthesis of emotional speech.

The key research areas of the Laboratory of Phonetics and Speech Technology of the **Institute of Cybernetics at Tallinn University of Technology** (IOC, http://www.phon.ioc.ee) are experimental-phonetical research, speech analysis and synthesis, automatic speech recognition and the development of different speech corpora (read, spontaneous and dialogue speech, radio news and talk shows, foreign-accented speech, academic lectures, etc.) and speech databases as Estonian BABEL, Estonian SpeechDat etc

Both UT and IOC belong to the Centre of Excellence in Computer Science, doing cooperation with researchers in the field of information technology. The awareness of Estonian IT researchers about the importance of language technology is high.

All three institutions are represented in the steering committee of National Programme of Estonian Language Technology (NPELT).

UT, IEL and IOC together form the consortium of **Center of Estonian Language Resources** (CELR). This is the Estonian part of the CLARIN-ERIC building a research infrastructure for language resources and technology in Europe. The collaboration between these research groups will continue after the end of the META-NORD project.

1.2 Society, government and other decision makers

The issues rose by META-NET projects (availability and standardization of language resources, legal issues) are well known in the local community. The aim of META-NET projects and activities is well accepted.

Estonian Ministry of Education and Research acknowledges the importance of language technology and its role preserving language in the multicultural world. In order to achieve the objectives set forth in the Development Plan of the Estonian Language (2011–2017) – that language technology support for the Estonian language will be on an equal level with that of other languages in countries with advanced language technology (e.g. the Nordic countries) – and in order to develop the information and communication services used by language tech-

nology the **National Programme for Estonian Language Technology** (NPELT, www.keeletehnoloogia.ee) was launched in 2006.

The Language Council of Estonia has been commissioned by the Ministry of Education and Research. The Council gives advice to the government about language issues, and monitors objectives of the Development Plan of the Estonian Language.

The localization community of free software in Estonia is small but active. Their resources (lexicons, parallel corpora) should be welcome for language technology researchers. And vice versa, the resources and tools which are freely available would help them to localize software more efficiently.

The awareness of linguists on available resources and tools is sometimes not efficient. Keeping them informed is important.

1.3   Language industry and other business sectors

There are 2 companies in Estonia that are doing business in LT. They are Filosoft and Tilde Estonia. Both of them are tightly connected to META-NORD project activities.

2. Filosoft (http://www.filosoft.ee, founded in 1993) – the main products are the speller and the hyphenator for Estonian, a thesaurus for different operational systems (MS Windows, Unix, Mac OS) and software packages (MS Office, OpenOffice, Lotus Notes). Filosoft is also responsible for administrating the Internet portal Keeleveeb (http://www.keeleveeb.ee), through which a number of dictionaries and text corpora can be accessed for free.

3. Tilde Eesti (http://www.tilde.ee) is the Estonian branch of the Latvian company Tilde founded in 1991. Tilde is the biggest and best known company in the Baltic States in the field of language technology. The main products of the company are the word processing resources (localised fonts, spellers, grammar checkers), electronic dictionaries, resources for translators and interpreters, etc. adapted to the languages of Eastern Europe. Tilde Estonia offers services mainly for the localisation and translation of software.

4. Performed and planned actions

4.1   META-NORD website

Estonian (UT) META-NORD website in address http://www.cs.ut.ee/metanord/ consists of translated materials of META-NORD main web-site and META-NET web-site, but including also links to the CELR, META-NORD and Estonian partners, links to resources in META-SHARE and Estonian local node http://metashare.ut.ee.

4.2   Making contacts with target groups

As the number of target groups is so small, it was most effective to introduce META-NET, META-NORD, its goals and activities in meetings with the heads or project leaders of other institutions. Also, it was important to distribute the short description of the project and the link to the web site.

In META-NET campaign of Language White Papers, printed copies of report "Estonian in the Digital Age" were sent to selected stakeholders as ministries and Estonian Language Council.

The most straightforward approach for informing linguists was to introduce the project in national conferences of linguistics (annual conference of Estonian Association of Applied Linguistics) and language technology (conference of NPELT).

4.3   Publications – newsletters, articles, press releases

Weekly newspaper „Sirp" (15.06.2012) issued overview "Keele mõõtmed keeletehnoloogias" (Measures of language in LT) about CELR, language repositories, connected activities in Europe (META-NET, CLARIN) and conferences written by Kadri Vider.

META-NET LWP campaign received broader attention right after issuing META-NET press release in Estonian 25.09.2012. At first Estonian Public Broadcasting published news story under category "Research" referring META-NET press release on 27.09.2012

http://teadus.err.ee/artikkel?id=7688&cat=1&pg=1

LWP itself found much response in Estonian press, as the Estonian people tend to be vulnerable about all topics that concern future of Estonian language. The possible future of Estonian in the digital age is also one of the reasons why Estonian government has started to finance R&D activities that are aimed towards supporting Estonian language technology starting from 2006 already.

Also Postimees daily referred LWP campaign in its news story about danger of digital extinction of European languages (http://www.postimees.ee/987308/paljudele-euroopa-keeltele-ennustatakse-digitaalset-haabumist/) and asked comments from Kaili Müürisep and Kadri Muischnek as authors of Estonian LWP (http://www.postimees.ee/987638/teadlased-eesti-keele-digitaalne-olukord-on-parem-kui-uuringust-selgub/).

Kadri Vider talked about Estonian language in digital age in radio news at Radio Kuku (http://www.meta-net.eu/whitepapers/Digih22bumine_kukuAratajas28092012.mp3) and at Vikerraadio (Estonian Public Broadcasting) news (http://www.meta-net.eu/whitepapers/keeletehnoloogia_Vikerraadio02102012uudistes.mp3). She explained also the danger of digital extinction of Estonian language at Vikerraadio (Estonian Public Broadcasting) language special (http://vikerraadio.err.ee/helid?main_id=1893171)

META-NORD is mentioned also in foreword of conference proceedings "**Human Language Technologies – The Baltic Perspective"** (published by IOS Press in series "Frontiers in Artificial Intelligence and Applications" vol 247, online Open Access ISBN 978-1-61499-133-5) and 5 papers in proceedings are directly connected with or refer to META-NORD project.

Among others Kadri Vider, Krista Liin and Neeme Kahusk had poster presentation and paper „Strategic Importance of Language Technology in Estonia" in Proceedings (about national programmes of LT in Estonia, CELR and connected initiatives in Europe (META-NET, CLARIN)).

UT team has contributed to Meta-Nord newsletter (number 3) as well, giving overview of 2 LT conferences in Tartu in October 2012.

4.4   Workshops, conferences, presentations

- At National Library of Estonia in December 8, 2011 "Digital Memory – 4th International Seminar: Copyright in Changing Times" Kadri Vider was a panelist talking about IPR problems with language resources (http://www.nlib.ee/index.php?id=17495);

- February 1-2 2012 - Leigo - Institute of Computer Science (University of Tartu) Winter Seminar - presentation about Center of Estonian Language Resources (CELR);

- March 1 2012- Tartu - opening event of Center of Estonian Language Resources (CELR) - presentation about connected initiatives in Europe (CLARIN, META-NORD);

- March 6-7 2012 - Otepää - Winter Seminar of Estonian Memory Institutions (archives, libraries, museums etc) - presentation about CELR and connected initiatives in Europe;

- April 2 2012 - Tallinn - meeting of Estonian Language Council (it's governmental advisory board of Estonian language policies) - presentation of META-N Language report (white paper) about state of art in Estonian LT;

- April 26-27 2012 - Tallinn - 11th conference of Estonian Association for Applied Linguistics – presentation (in Estonian) „Measures of language in LT" about language archives, meta-data, CELR and connected initiatives in Europe (META-NET, CLARIN).

Conferences

Conference of National Programme of Estonian Language Technology (NPELT), 2-3 October 2012, Tartu, is a regular event for monitoring the progress of NPELT. The program of the conference include presentations and demos of projects of NPELT.

In a frame of the conference the Center of Estonian Language Resources (CELR) as important Estonian Research Infrastructure had a half-day business meeting. The national workshop of META-NORD project was a part of this event. Kadri Vider introduced META-NET and META-NORD in a frame of presenting Language White Paper for Estonian.

Also introduction of META-SHARE all-in network of repositories as metadata nodes attracted the attention of the audience. The node at University of Tartu (metashare.ut.ee) served as an on-site example of how easy it is to add into the repository the metadata of your own resources.

In a frame of NPELT Conference also a public seminar held on issues connected with legal framework of licencing language resources (both in CLARIN and META-NET). Most experienced experts and policy makers in the field of IP in Estonia explained bottlenecks of copyright in the context of LR-s and gave suggestions for best practices in licencing them.

Participants of this conference were promoters of NPELT projects, developers and decision makers in companies that work with or intend to work with LT, researchers in the field, decision makers from ministries and Estonian Language Council, as well as representatives from funding agencies – all together near 80 persons in both days.

The **conference "Human Language Technologies – the Baltic Perspective"** on 4.-5. October 2012 in Tartu was the fifth in the series. The main focus of the Baltic HLT conferences has always been language technology for the two Baltic languages - Latvian and Lithuanian, and one Finno-Ugric language - Estonian. The conference aims to bring together scientists, developers, providers and users to discuss state-of-the-art of HLT in the Baltic countries, to exchange information and to discuss problems, to find new synergies and to promote initiatives for international cooperation. The Tartu conference was not an exception in this regard: the vast majority of the presentations at the conference (14 oral presentations and 23 posters as total) discussed NLP problems of the Latvian, Lithuanian or Estonian language. There were also two invited speakers participating at the Baltic HLT 2012 conference. CLARIN ERIC Executive Director Steven Krauwer spoke in his presentation „A Multilingual Research Infrastructure for the Humanities" about his dreams and nightmares concerning language technology. Lori Lamel (senior reseacher at LIMSI) presented the Quaero Program in her talk

„Multilingual Speech Processing Activities in Quaero: Application to Multimedia Search in Unstructured Data".

4.5 Other awareness raising and dissemination actions

UT has proposed to include the logo of META-SHARE to the web pages of on-going local projects which results will be distributed by the project. Some Estonian LR-s represented in META-SHARE nodes have already little banners or M-S signs in their own web-sites, e.g http://www.cl.ut.ee/ressursid/teksaurus/index.php?lang=en and http://keeleressursid.ee/ressursid.html

4.6 Further activities beyond the project

UT signed Letter of Intent and promises to host META-SHARE node since 31.01.2015. CELR uses this node as (metadata) repository in first stage to build up bigger infrastructure for Estonian language resources and tools.

CELR as Estonian Research Infrastructure with national importance have in its objectives overlapping with META-NET and META-NORD objectives to establish an open linguistic infrastructure for Estonian as language lesser resourced and weakly technologically supported by market-oriented industry. CELR will assemble Estonian language resources and tools by documenting, processing, linking and upgrading them to agreed standards and guidelines and make them available for different categories of user communities in academia and industry.

Cooperation with relevant multi-national infrastructure CLARIN will ensure consistent approaches, practices and standards aimed at ensuring a wider accessibility of and easier access and reuse of quality language resources;

CELR and Steering Committee of NPELT mobilize continually national and regional actors, public bodies and funding agencies by raising awareness, organizing meetings and other focused events.

Annex 4: Action plan for UIB (Norway)

1. Target groups

UIB, the Norwegian partner in META-NORD, has addressed four main target groups:

- **Industry**: 60 developers and users or potential users of language technology were listed as contacts. These are mainly SMEs (such as Atbrox, UCA, Clue, Cognit, Comperio, Computas, Dictatr, Esis, Include, Kaldera, Lingit, MediaLT, Nynodata, Tansa, Texturgy, Tobii) but also include larger companies in the ICT sector (such as Opera, Telenor). Among industry contacts, 18 have become members of META.

- **Research community**: The following universities and research institutions host relevant research groups with activities in language technology.

    - *University of Tromsø* has a large Center of Excellence in linguistics including language resources and tools for Sami;

    - *Norwegian School of Economics* (Bergen) has a Department on Professional and Intercultural communication, active in research on Terminology;

    - *Norwegian University of Science and Technology* (Trondheim) has LT research in the Language, Computer Science and Engineering departments;

    - *University of Oslo* has LT research in the Department of Computer Science and at the Text Laboratory (Department of Linguistis and Scandinavian Studies);

    - *University of Bergen* has LT research at the LaMoRe research group (Department of Linguistic, Literary and Aesthetic Studies) and the Department of Foreign Languages;

    - *Uni Research* (Bergen) has a LT research group in its department Uni Computing;

    - *Narvik University College*;

    - *Vestfold University College* (Tønsberg);

    - *SINTEF* (Trondheim/Oslo).

- **Public institutions**

    - *The National Library of Norway* has the responsibility for *The Language Technology Resource Collection for Norwegian—Språkbanken* (henceforth: *Språkbanken*). *Språkbanken* is relevant for META-NORD because it addresses the need for a national infrastructure for language technology resources, addresses licensing issues (which is a major obstacle to integrate existing research-developed resources into *Språkbanken*) and focuses especially on resources for developing applications. They have received input from META-NORD on resource owners and we also cooperate on metadata standardisation;

    - *The Language Council of Norway* has been commissioned by the Ministry of Culture to implement and follow up the official Norwegian language policy, and is thus an important partner for META-NORD in Norway. The director participated in a panel at META-FORUM 2012 in Brussels;

    - *The Research Council of Norway (RCN)* has been positive to META-NORD,

since it may pave the way for improved contact among researchers and the industry nationally and internationally, which may in turn stimulate new research opportunities. They have participated at some META-NORD events;

- *The Norwegian Ministry of Culture* has overall responsibility for the Norwegian language and has been kept informed about META-NORD events and results;

- *The Norwegian Labour and Welfare Service* (NAV) has contributed to a national workshop on language technology, co-organised by META-NORD. UIB has also worked with NAV, with LT companies and user groups to raise awareness on the use of speech technology for persons with impaired mobility or vision;

- *The Agency for Public Management and eGovernment* (Difi) has a number of tasks in information and ICT in the public sector, and is an important player for open data in Norway. Difi contributed with a talk on open data at the national LT workshop co-hosted by META-NORD.

- **Associations** and organizations aimed at networking and standardization. These include *Abelia,* the Business Association of Norwegian knowledge and technology based enterprises; *Dataforeningen*, the largest special interest society for information technology (IT) in Norway; *Western Norway Research Institute* and *Standards Norway.*

For secondary target groups, we have also expanded our contact net in the following areas:

1. Publishing houses, publisher's associations, newspapers and online journals;
2. Translation bureaus;
3. Broadcast media (television and radio stations);
4. Libraries and museums.

The main target groups have been involved in META-NORD activities and have contributed in various ways to the Norwegian language white paper. In the following, the different ways in which these groups were involved in our awareness raising and dissemination activities are outlined.

2. Performed and planned actions

Most of the outreach and dissemination actions by UIB in META-NORD have been directed towards one or more of the target groups described in the previous section, but some of them are also directed towards the general public. In this section we present some highlights in our outreach and dissemination actions.

2.1 *META-NORD website*

The Norwegian META-NORD website has a blog format and is found at http://meta-nord.b.uib.no/. It was regularly updated with news and links to activities and results.

UIB also contributed to the META-NORD website maintained on the coordinator's server (http://meta-nord.eu).

Furthermore, we contributed to the European website (http://www.meta-net.eu) by translating selected materials into Norwegian, under the coordination of T4ME.

Further plans

The website of CLARINO (Common Language Resources and Technology Infrastructure Norway) will be a natural follow-up for web-based dissemination.

2.2 *Making contacts with target groups*

In the initial stages of the META-NORD project, UIB contacted potential stakeholders primarily by telephone and email, but also in personal meetings and through events. We have distributed the META-NET flyers to all contacts and made groups aware of events such as META-FORUM.

We managed to get 31 Norwegian stakeholders to register as members in META (see http://www.meta-net.eu/participating-organisations/logos?country=Norway). Registration makes these contacts visible and available for future contacting directly by META-NET.

We have upheld the contact with our target groups by posting news on our META-NORD website and by following up by email and phone. We have involved relevant groups in work on the Norwegian language white paper and for the survey of third party resources.

On Sep. 20, 2012, UIB was invited to a site visit at Tansa, a LT company in Oslo. This company is well developed with respect to resources for its own development of server-based solutions for proofreading in various languages.

The main arena for networking with target groups was the national LT workshop in Oslo, 15-16 October, co-hosted by META-NORD. The workshop gathered people from the research community, the industry as well as policy makers and provided a valuable and fruitful gathering for the Norwegian LT community (see also *D5.4 META-NORD national workshops v2.0*).

The META Strategic Research Agenda was another opportunity for interacting with members of the research and business communities. Our contacts were approached by phone and email, and several contacts provided input to the SRA.

The Language White Paper for Norwegian was written with important input from contacts in research and the industry, as well as government representatives and non-governmental associations. These contacts made a crucial contribution to quality and the coverage of the LWP. In connection with the launch of the LWP we worked with representatives of the industry and user groups to create media coverage, with a particular emphasis on the need for improved speech technology for users with mobility or vision impairments.

Further plans

Through the META-NORD effort, the Norwegian META-NORD team at UIB has built an important network of contacts in the LT community, including research, industry, policy makers and NGOs. This network will be followed up in the context of CLARINO.

2.3 *Publications – newsletters, articles, press releases*

UIB has established successful contacts with the media through interviews, press releases, feature articles etc. and has spread public awareness of the need for national language technology through the media. This was achieved through 10 mass media publications and broadcasts including news stories and op-eds. Several interviews of UIB researchers by journalists resulted in articles in national and regional newspapers. Insufficient access to language resources and tools was a recurring theme in these articles, and the Norwegian language white paper was repeatedly mentioned. Concrete cases were sometimes used as examples, such as the case of a physically impaired Norwegian who needs to speak in English to her dialogue system because there is no adequate Norwegian system.

In 2011, a fruitful cooperation between academics from META-NORD, industry representatives and the printed media resulted in a feature article written by Gunn Inger Lyse and Anje Gjesdal (UIB), Knut Kvale (Telenor) and Torbjørn Nordgård (Lingit) and published in Ber-

gens Tidende. This article explained the necessity of developing natural language interaction, in particular speech recognition, for Norwegian. It stressed the need for better access to language technology and promoted META-NET.

We translated and localised several press releases provided by META-NET. Press releases were distributed to our network of press contacts (approximately 20 contacts) via email, with a follow-up phone call in some cases.

In 2012, the Norwegian language white paper was mentioned in the prime time radio program Kulturnytt when Gunn Inger Lyse (UIB) was interviewed on the impending digital death of the Norwegian language.

All Norwegian media dissemination is documented on the website (http://meta-nord.b.uib.no/i-media/).

In addition, UIB has contributed to the META-NORD newsletter edited and published by the Lithuanian partner.

Further plans

The Norwegian team has enhanced its dissemination skills and this will be followed up in CLARINO. The network of press contacts that was established in META-NORD will be transferred to CLARINO.

2.4 *Workshops, conferences, presentations*

- UIB contributed to the META-NORD presentation at *NoDaLiDa* in May 2011 and also to a presentation at the *Workshop on the Visibility and Availability of LT Resources,* linked to this conference;

- UIB also cooperated with the National Library of Norway towards the organisation of the *Språkbanken Summer Seminar* in Oslo in June 2011. Three presentations were given by META-NORD partners: Bolette Pedersen from UCPH, Koenraad De Smedt from UIB and Raivis Skadiņš from Tilde;

- Koenraad De Smedt (UIB) participated at the *Metadata Seminar* in Oslo on Aug. 17, 2011;

- Victoria Rosén presented a talk at *TLT10*, including information on META-NORD and resources in META-SHARE. Heidelberg, January 6, 2012;

- Gunn Inger Lyse participated at the *eMatch* networking event, a meeting for networking on semantic technology, language data bases and publication. 40 attendants, representatives were primarily LRT users and developers. META-NORD folders were distributed to all attendants. Oslo, March, 26, 2012;

- Koenraad De Smedt, Gunn Inger Lyse, and Carla Parra (UIB) held a presentation at the *Workshop on Describing Language Resources with Metadata, LREC 2012,* with the title *Applying Current Metadata Initiatives: The META-NORD Experience*, Istanbul, May 21, 2012. In addition, UIB participated in the *META-SHARE* and *IPR issues* tutorials at *LREC 2012*;

- UIB co-organised the *META-RESEARCH workshop on Advanced Treebanking* linked to *LREC 2012* in Istanbul (May 22) and contributed an oral presentation and a poster at this event;

- Jussi Piitulainen (UHEL), Gunn Inger Lyse (UIB), Koenraad De Smedt (UIB) and Gyri Smørdal Losnegaard (UIB) contributed with a presentation about META-NET and CLARIN on behalf of META-NORD at the *Workshop on the Interoperability of*

Metadata, Oslo, June 5, 2012.

- Koenraad De Smedt gave a presentation of META-NORD at the *2nd Trondheim Workshop on Language Description and Documentation*. This included a demo of META-SHARE;

- A *national workshop* co-organised by UIB on behalf of META-NORD was held in Oslo on Oct. 15-16 (see D5.4 for more details). Koenraad De Smedt and Gunn Inger Lyse gave talks on META-NORD, the Norwegian language white paper, the SRA and META-SHARE at the workshop.

Further plans

- UIB submitted a proposal for a workshop at *NoDaLiDa 2013* on *Nordic Language Research Infrastructure.* The program committee will be chaired by Koenraad De Smedt (UIB), Bente Maegaard (CPH), Lars Borin (UGOT), Krister Lindén (UHEL), Eiríkur Rögnvaldsson (HI), and Kadri Vider (UT).

- Workshop for school teachers at UIB's annual Teacher Training Day: *Muligheter med språkteknologi* organised by Koenraad De Smedt, Gunn Inger Lyse nd Anje Müller Gjesdal (UIB).

- Plans are made for a *2nd META-RESEARCH Workshop on Advanced Treebanking* at *ACL* in 2014.

Annex 5: Action plan for UHEL (Finland)

1. Target groups

1.1 *Research community*

The FIN-CLARIN consortium is the Finnish part of the international project CLARIN building an infrastructure for language resources and technology. The consortium is open to all Finnish institutions, and the members are:

- Aalto University;
- University of Eastern Finland;
- University of Helsinki;
- University of Jyväskylä;
- University of Oulu;
- University of Tampere;
- University of Turku;
- CSC IT Center for Science;
- The Institute for the Languages of Finland, KOTUS.

Language Technology at the Department of Modern Languages at the University of Helsinki has had a central role in creating the language technology community in Finland, and in enhancing collaboration and cooperation between the actors in HLT research. Several research projects at the department operate in close collaboration with FIN-CLARIN, e.g. the Finnish Treebank, the Finnish WordNet and the Helsinki Finite-State Transducer Technology. The FIN-CLARIN universities have ongoing projects where the research community is actively involved and easily reached by META-NORD, such as the TAUCHI (Tampere Unit for Computer Human Interaction) research group or HIIT (Helsinki Institute of Information Technology), a joint research institute of University of Helsinki and Aalto University, the members of which have been informed i.a. about META-NET's Strategic Agenda Research and have been invited to important events such as the META-NORD and FIN-CLARIN national workshop.

As part of the dissemination work within META-NORD, two research groups have been contacted as envisaged in D5.1.1, namely VARIENG and the project for the Bank of Finnish Terminology in Arts and Sciences, both at the University of Helsinki. The UHEL META-NORD team has had several meetings with VARIENG and has given both technical and IPR-related support to the project. Our team also had meetings with the project for the Bank of Finnish Terminology in Arts and Sciences and facilitated the collaboration between TILDE and the project on linking the Bank of Finnish Terminology with EuroTermBank. Furthermore, metadata describing The Helsinki Corpus of English Texts and the Bank of Finnish Terminology in Arts and Sciences were uploaded to META-SHARE. The collaboration with these research groups as well as with the other FIN-CLARIN institutions will continue after the end of the META-NORD project.

Language technology is a sub-programme at the Finnish doctoral programme in language studies Langnet (http://www.joensuu.fi/fld/langnet/). Thus Langnet has offered an option for META-NORD to contribute via the leaders of the sub-programme with information on language resources available for research at the Language Bank of Finland, and also with

providing information how the researcher can make resources created by him/her available to the HLT community. Langnet courses that introduce to students META-SHARE among other things will continue to be organised after the end of the META-NORD project.

1.2 *Society, government and other decision makers*

The target groups mentioned in D5.1.1 have been informed about major META-NORD activities such as the Finnish Language White Paper, the META-NET Strategic Research Agenda, the META-NORD newsletter (TIVIT and KONE signed up for it) etc., and invited to different events, as for example the META-NORD & FIN-CLARIN National Workshop in Finland (KONE took part in the event). With some of the stakeholders belonging to this category, e.g. with KONE Foundation there has been a close collaboration, as a result of which the UHEL team is going to organise together with KONE a seminar on language technology and IPR in spring 2013. The plan is to invite either the Minister of Culture and Sport or the Minister of Finance to deliver a speech at the beginning of the event. Activities that are crucial for META-NORD, such as lobbying for research exemption and open data, as well as updating metadata on META-SHARE will also be carried out after the end of the project.

1.3 *Language industry and other business sectors*

The SMEs operating in the field have been informed about major META-NORD activities such as the Finnish Language White Paper, the META-NET Strategic Research Agenda, the META-NORD newsletter (WordDive, Lingsoft, Bitlips and Sunda Systems signed up for it) etc., and invited to different events, as for example the META-NORD & FIN-CLARIN National Workshop in Finland (AAC Global, Kielikone, Lionbridge, Konttorityö and Lingsoft took part in the event). This group of new stakeholders for UHEL will be contacted also after the end of the project both in order to inform them about UHEL activities or events and for eventual cooperation.

2. Performed and planned actions

2.1 *META-NORD website*

The local META-NORD website at UHEL will be maintained until the end of 2013.

2.2 *Making contacts with target groups*

The LT community has been described in the FiLT Language Technology Documentation Centre in Finland. The information on the FiLT website (https://kitwiki.csc.fi/twiki/bin/view/FiLT/OrganizationsEn, https://kitwiki.csc.fi/twiki/bin/view/FiLT/_CompaniesEn) has been used as a basis for the dissemination actions and it has been continuously updated.

Private meetings with copyright owners (e.g. VARIENG, Bank of Finnish Terminology) have taken place and the UHEL team will continue this work in order to promote depositing new resources and tools in the Language Bank of Finland also after the end of the project.

There have been also protracted but eventually successful negotiations with the National Library of Finland and Kopiosto (the Finnish Copyright Society) regarding depositing language resources to the Language Bank of Finland. Similar negotiations with the Finnish Broadcasting Company are still on-going and will be finalised probably after the end of the META-NORD project.

The Language Bank User Community has been successfully activated via Kitwiki, a site for

those who have an interest in language technology, and via the software platform Moodle. We expect both forums to thrive also after the end of META-NORD.

UHEL has surveyed and identified the needs of actual and potential Language Bank users during the Langnet course already mentioned, as well as in the presentations and courses held at the Universities of Vaasa, Tampere, Turku and Jyväskylä to researchers and students interested in LT. These potential users had thus the chance to learn about the META-NORD project and its outcomes by attending courses on data gathering methods, annotation tools etc. These kind of presentations and courses will also be organised in 2013.

Regarding decision makers, the executive team of FIN-CLARIN (FinClarinJory), the Ministry of Education and Culture, and Tekes – the Finnish Funding Agency for Technology and Innovation have been contacted in order to find out their needs related to LT resources as well as to inform them about major META-NORD activities and events. UHEL will continue to use these communication channels actively also in 2013 and beyond.

2.3 *Publications – newsletters, articles, press releases*

Dissemination actions have included articles in relevant journals, newsletters and conference proceedings as well as periodicals and other publications. These forums include i.a. the META-NORD newsletter, the META-NORD website (UHEL's and the project's), the FIN-CLARIN newsletter, FIN-CLARIN's website, CSC News, the periodical of the University of Helsinki (Yliopisto), the LREC conference, the Knowledge Commons conference, Terminfo (the magazine of the Finnish Terminology Centre TSK), the blog of the Institute for the Languages of Finland, the website of the University of Helsinki, the website of the Department of Modern Languages of the University of Helsinki, the Finnish website Tietokone, the website of the science magazine Tiede and the biggest Finnish newspaper, Helsingin Sanomat. Information officers both at the department level and the faculty level were contacted for assistance in distributing META-NORD press releases.

As a result of the increased attention on IPR issues that the META-NORD project brought with it, the legal expert of the UHEL team, Ville Oksanen, initiated in autumn 2012 a motion on changing the Finnish copyright law so that it would include research exemption, in order to enhance the availability of LRs for researchers. Those in favour of the initiative can show their support in the form of an electronic signature at http://www.avoinministerio.fi/ideat/362. We hope that soon there will be enough signatures for gaining the right to propose the motion to the Finnish parliament in 2013.

The UHEL team has succeeded in separating the different project levels (CLARIN - FIN-CLARIN; META-NET - META-NORD) and ensuring that the information is efficiently distributed to all of the different target groups. The FIN-CLARIN newsletter will provide a forum for LT and, among other things, META-SHARE related news also after the end of the META-NORD project.

2.4 *Workshops, conferences, presentations*

The UHEL team has presented actively META-NORD, META-SHARE and the Finnish LWP in various conferences and workshops in 2012. These activities (i.e. presenting META-SHARE and the results of META-NORD will continue also in 2013, when the following events will offer the possibility of disseminating the relevant information:

- New Langnet course for researchers;
- KITES-seminars for LT industry.

Annex 6: Action plan for HI (Iceland)

1. Target groups

In the beginning of the project, we identified a number of target groups, institutions, companies, organisations, and associations which have potential interests in LT. In the following, the different roles and motivations of these groups in awareness raising and dissemination are outlined.

1.1 *Research community*

The Icelandic research community in Language Technology is very small. The researchers are based at three different institutions; the University of Iceland (HI), Reykjavik University, and the Árni Magnússon Institute for Icelandic Studies. In 2005, researchers from these institutions who had been involved in LT R&D projects decided to join forces in a consortium entitled Máltæknisetur (Icelandic Centre for Language Technology, ICLT, http://iclt.is). The Icelandic META-NORD partner, HI, is a member of this consortium and hence we have a very good relationship with the research community as a whole.

Language Technology is a highly interdisciplinary field and the members of the ICLT come both from linguistics and computer science. The University of Iceland has a strong linguistic community, whereas Reykjavik University is strong in computer science. One of the main departments of the Árni Magnússon Institute works on lexicography and has developed many valuable language resources. The Icelandic META-NORD participants from these institutions have succeeded in making some of their colleagues interested in LT, thus encouraging LT related research in both linguistics and computer science. Some of these colleagues have developed language resources which have been made accessible through META-SHARE.

1.2 *Society, government and other decision makers*

We have been in close contact with the government, especially the Ministry of Education, Science and Culture. Two representatives from the Icelandic Centre for Language Technology who both also work on META-NORD (Eiríkur Rögnvaldsson and Sigrún Helgadóttir) were members of an LT committee appointed by the Minister of Education, Science, and Culture. The role of this committee was to come up with ideas on how to implement the recently adopted Icelandic Language Policy with regards to software translation and localisation and the development of LT tools and resources. The committee handed its final report to the Minister of Education, Science and Culture in June 2012, with several concrete proposals. Some of these proposals are expected to be implemented this year (2013). Among them is that the Icelandic Language Council and the Icelandic Centre for Language Technology should receive a mandate to develop a plan for the advancement of Icelandic LT.

We have also approached the Science and Technology Policy Council to try to influence their policy. In the Science and Technology Policy for Iceland 2010-2012 (http://www.vt.is/files/S&T%20policy%202010-2012_302180683.pdf), strong emphasis is put on building research infrastructures and open access to databases. This of course falls in line with the main motivation behind META-NORD. It should also be mentioned here that just before Christmas, the Icelandic Parliament (Althingi) passed a new law on R&D funds that enables these funds to support infrastructure programs.

One important target group is those who are physically disabled. It is obvious that LT tools such as speech synthesisers, speech recognisers, etc., can drastically improve the quality of life of blind and deaf people, just to name two examples. We cooperated with the Icelandic

Organization of the Visually Impaired and the Icelandic Library for the Blind on the development of a new text-to-speech system for Icelandic which was introduced in 2012. We have on our mailing list the Organization of Disabled in Iceland and several of its member associations, and have approached some of these associations directly to discuss with them the potential usefulness of LT for their members. The same applies to several public institutions in the health and social sectors.

We have also established close contacts with the Icelandic Language Council. Each year, the Council selects a special theme which it emphasises in its activities that year. The theme in 2012 was Language Technology. In its annual resolution in connection with the Day of the Icelandic Language (November 16), the Council stressed its concerns regarding the low level of technical support for Icelandic and the danger of "digital death". This was even brought up in the Icelandic Parliament (Althingi) where the Minister of Science, Culture and Education and several MPs expressed their concerns.

1.3 *Language industry and other business sectors*

At the beginning of the century, the Icelandic Government established a special Language Technology Program with the aim of making Icelandic LT self-sustained. Institutions and companies received financial support for building basic language resources and tools. During the lifetime of this program, a number of commercial companies were active in the LT industry, such as Síminn (Iceland Telecom), Hex Software, Frisk Software, Nýherji (IBM Iceland), Spurl, and a few others. Both an isolated word speech recogniser and a text-to-speech system for Icelandic were developed in cooperation between the University of Iceland, commercial companies, and Nuance Inc. The plan was to use these applications in commercial products and services, but due to lack of interest among the companies, this has only been done on a very small scale.

There are only about 320,000 people speaking Icelandic and this is not enough to sustain costly development of new products. The companies do not see LT as a profitable field and as a result, the number of commercial companies in the language technology industry in Iceland is close to zero. The only company in Iceland currently developing revenue-generating LT products is Clara, a recent start-up company, which, by using the techniques of opinion mining, provides service to companies that want to know what people think of their products and services.

Publishing houses, newspapers, magazines, translation bureaus, dictionary makers and writers are among potential users of LT products and services. They could benefit greatly from the use of various kinds of authoring and translation software. Good connections with these groups are also extremely important for META-NORD since they own a lot of valuable language resources that can either be used directly or as training material for LT tools – monolingual texts, parallel texts, dictionary databases, etc. We will negotiate the possibilities of making some of these resources accessible through META-SHARE under some standard licenses.

2. Performed and planned actions

2.1 *META-NORD website*

We have established a website at http://vefir.hi.is/metanord. This website contains information on both META-NORD and META-NET, as well as information on Icelandic resources and tools, the language white papers, licences and legal issues, dissemination, publications, LT terminology, etc. Articles that we write in newspapers and journals to propagate

information on META-NORD will be accessible through the website, and the same goes for press releases and all other published material. The web has been updated regularly with information on the progress of the project, LT related events, etc. The website has an RSS feed which we will encourage our contacts to use. It will be maintained until the end of 2013.

We have also established the website http://www.málföng.is. It is directed towards Icelandic users and contains information on and links to many Icelandic resources and tools - both those that have been made available trough META-SHARE and others. This website will be maintained for at least five years. It will gradually take over the role of the Icelandic META-NORD website and the contents of that site will be transferred to this one.

META-NORD in Iceland also has a Facebook page (https://www.facebook.com/pages/ META-NORD-%C3%8Dsland/212937172075001?fref=ts) where news and information on LT related events is published.

Furthermore, we have translated most of the META-NET webpages into Icelandic.

2.2 *Making contacts with target groups*

Our first dissemination action was to send e-mails to almost 90 persons – directors, CEOs, or representatives of commercial companies, public organisations, research funds, ministries, etc. The purpose of this e-mail was to tell the recipients about META-NORD and META-NET, encourage them to join META, and informing them about the importance of LT for the future of the Icelandic language. Attached to this e-mail was a flyer with Icelandic translations of a few of the META-NET web pages. As a result of this e-mail, a few Icelandic organisations and companies joined META (META now has 9 Icelandic members which is relatively high given the low population of the country).

During the project period, we established personal contacts with several people on our contact list. Many of them attended the META-NORD workshop in April 2012. We will continue to develop cooperation with these people and make contacts with more people from our target groups.

We have also established contacts with proponents of the open data community in Iceland and have had fruitful discussions with them on licenses, IPRs and related matters.

2.3 *Publications – newsletters, articles, press releases*

META-NORD has been presented in several articles in Icelandic journals and newspapers, and also in radio programs in two of the largest Icelandic radio stations. Three press releases prepared by META-NET were translated into Icelandic and received considerable attention in the media, especially the one on the publication of the Language White Papers. Two editorials on the findings of the Language White Paper were published in Iceland's largest newspaper (*Fréttablaðið*), and several interviews with members of the Icelandic META-NORD group were published in newspapers and broadcast in TV and radio stations.

We have established good contacts with journalists at a number of newspapers and radio stations. We will continue to use these contacts to promote Icelandic Language Technology in newspaper articles, radio programs and interviews, etc.

Furthermore, we will contact business and industry organisations such as the Federation of Icelandic Industries, the Icelandic Chamber of Commerce, Innovation Center Iceland, etc., and ask for permission to publish introductory articles on LT in their newsletters or on their websites.

2.4 *Workshops, conferences, presentations*

META-NORD and related activities were presented in 2011 at a workshop at the annual Humanities Conference arranged by the Institute of Humanities at the University of Iceland (http://stofnanir.hi.is/hugvisindastofnun/stefnumot_morkum_malfraedi_og_tolvutaekni).

The Icelandic national META-NORD workshop was held in April 2012, in cooperation with the Icelandic Language Council and the Icelandic Centre for Language Technology. The workshop was addressed by the Minister of Education, Science and Culture, and speakers came from the research community, the Icelandic Language Council, the disabled community, and the industry sector. The workshop was attended by around 70 people from all the target groups. It was a huge success and received considerable media attention.

Since 2006, the Icelandic Centre for Language Technology has held biennial conferences on Icelandic LT with the participation of both researchers and industry. This is an excellent occasion for promoting Icelandic LT and we expect to present the main results of the META-NORD project at the next conference in 2014.

Both in 2011 and 2012, META-NORD in Iceland participated in events arranged by the Vigdís Finnbogadóttir Institute on the European Day of Languages (September 26). We expect to continue to use this occasion for promoting Icelandic LT.

META-NORD and the Icelandic Language White Paper were presented at a public meeting arranged by the Icelandic Language Council in connection with the Day of the Icelandic Language in November.

Furthermore, we took part in the Workshop on Visibility and Availability of Language Resources at NoDaLiDa in Riga in 2011, and will take part in organising a workshop on Nordic Language Resource Infrastructure at NoDaLiDa in Oslo in May 2013.

At the initiative of the Icelandic Language Council (inspired by the work of the Icelandic META-NORD team), "Nordic Language Technology Cooperation" has been selected as the theme of the annual meeting of the Nordic Language Councils which will be held in Akureyri, Iceland, in August 2013.

2.5 *Other awareness raising and dissemination actions*

Language Technology is a relatively unknown field in Iceland and Icelandic terms for LT concepts and applications either do not exist or sound unfamiliar to most people. There is also a strong resistance in Iceland against adopting international terms for new concepts. Instead, new words are coined from domestic material – roots, prefixes and suffixes. In order to raise awareness of language technology among the general public, it is thus of utmost importance to build coherent and consistent terminology for the field.

We have initiated such work, with support from the Icelandic Student Innovation Fund. A graduate student of linguistics has collected Icelandic terms that have been coined in the past few years, and selected terms that need to be translated and defined. The student worked in close cooperation with the META-NORD team and this groundwork was essential in the translation of the Language White Paper into Icelandic. The Icelandic LT Terminology Collection has been made available through the Icelandic META-NORD website, and will hopefully also become a part of larger terminology collections such as the Icelandic Term Bank (http://www.ordabanki.hi.is).

Annex 7: Action plan for LKI (Lithuania)

1. Target groups

During the lifetime of the META-NORD project, the Institute of the Lithuanian Language has strengthened its positions in research community, society and government; attempts have been made to encourage the Language Technology industry to support language research and digitalisation programs. Those relations will be used further and the activities that have begun will continue into the future.

1.1. *Research community*

The Institute of the Lithuanian Language as a state language research institution has good experience and possibilities to work within the research community. There are more contacts, joint projects with other research institutions and language researchers. Though very often the visions and motivations are different, the preservation of language resources and further usage in Language Technology must be the unifying idea. It was carried out in all META-NORD deliverables and META-NET dissemination campaigns. LKI has been promoting this idea by means of discussions, meetings, presentations with representatives of the research community.

The Institute of Mathematics and Informatics at the Vilnius University (www.mif.vu.lt/en/) has been one of the most supporting META-NORD partners. LKI will work together with this institution in maintaining the META-SHARE node after the end of the project.

Vytautas Magnus University (www.vdu.lt/en), has 80 bilateral cooperation partners in 28 countries in Europe and all over the world. The Centre of Computational Linguistics (http://donelaitis.vdu.lt/) is the owner of the Corpus of Contemporary Lithuanian Language. This institution works within the boundaries of CLARIN. The representatives of this institution have taken part in national workshop and were invited to participate in META-NET and META-SHARE activities.

Kaunas University of Technology (www.en.ktu.lt/) is one of the largest technical universities in the Baltic States. Being one of the most dynamic schools of higher education in Lithuania, KTU often becomes a research and study leader in various fields.

1.2. *Society, government and other decision makers*

As a state institution taking active role in the state Language Policy, the Institute of the Lithuanian Language belongs to the Ministry of Education and Science. LKI is participating in the long term national program dedicated for developing the information society in Lithuania, which aims and vision could be combined with META-SHARE's vision in some aspects. LKI as one of the responsible partners of the state program has advised that technical aspects of the digitalized resources and databases would be prepared according to META-SHARE standards and the implementation of this has been started.

The State Commission on the Lithuanian Language, for which Daiva Vaišnienė has been newly elected in 2012 as chairperson, takes many responsibilities in forming language policy. The State Commission is responsible for the Consultancy Bank and Term Bank of Lithuania. The State Commission on the Lithuanian Language cooperates with the Language Commissions in Latvia and Estonia. The Language Commission has been involved in the EURO LANGUAGES NET project (http://www.euro-languages.net/lithuania). Researchers from the Institute of the Lithuanian Language, especially terminologists are members of the various

committees of the State Language Commission. During the second year of the META-NORD project, the support of the Language Commission influenced much in reaching the goals of the project.

META-NORD and META-NET initiatives have been presented to the Seimas (parliament) of the Republic of Lithuania (www.lrs.lt/) and to the Government of the Republic of Lithuania. The Seimas (parliament) of the Republic of Lithuania has hosted the national workshop of Lithuania and was one of the workshop organizers.

The Information Society Development Committee under the Ministry of Transport and Communications and the Ministry of Transport and Communications of the Republic of Lithuania are responsible for the implementation of the State Program of Information Society.

The Ministry of Education and Science is a founder of research and education institutions and is responsible for the evaluation of the institutions' work, assessments, future plans, national and international projects.

Though the main task for the Institute of the Lithuanian Language is research work, awareness of the work done in the society is a major concern. The Lithuanian Language Museum is a department of the LKI, which organises various events dedicated to the public. Information about META-NORD and a poster has been presented at the Lithuanian Language Museum to different types of participants. Information about META-NORD will remain in the Language Museum and will prolong awareness among the society.

The social groups that have been important for the dissemination of this project are councils, associations, societies, and forums, such as the Association of Lithuanian Language Experts, the Lithuanian Association of Literary Translators, and Lithuanian Union of Journalists.

1.3. *Language industry and other business sectors*

The Language Technology industry in Lithuania is represented by several companies with experience in the Lithuanian market, such as:

- TILDE IT (http://www.tilde.lt/en/);
- Fotonija (http://www.fotonija.lt/lt/);
- Electronic Publishing House (http://www.eln.lt/index_flash.html).

All these institutions work for the purpose of integrating the Lithuanian language into information technologies.

During the META-NORD project, LKI reached those companies by means of newsletters, seminars and personal meetings.

LKI will make further attempts to promote META-NORD results, to collaborate in maintaining the META-SHARE node, usage of language resources for creating new products and tools.

2. Performed and planned actions

2.1. *META-NORD website*

The national website of the LKI (http://www.lki.lt/metanord/) together with the meta-nord.eu website remains the main awareness channel for all project target groups, just as it was originally planned.

The information about the META-NORD project was placed on the LKI website at the beginning of the project. It will be updated by the end of the project including the newest in-

formation, concerning project results, resources at META-SHARE and important links.

The Lithuanian META-NORD website contains a description of the project activities and partners in Lithuania. It also provides links to the relevant websites of other countries and contact details of the institution taking part in the project. The visitors of the Lithuanian website are provided with a link to the META-NET website in order to promote a political discussion over the types of activities that would benefit the strengthening of the Lithuanian language within the information society the most.

The links to have easy access to META-NET press releases and other initiatives will be established and LKI will keep maintaining this website.

2.2. *Making contacts with target groups*

During the META-NORD project lifetime LKI has been performing activities in all target groups: researchers, politicians and decision makers, society and industry.

As the Language Whitepaper study indicated, Lithuania is a country where language technologies are supported on a very low level or support is very fragmented. The preparation of the Language Whitepaper study was combined with the task of approaching the research community and accomplished by organising workshops, holding seminars, distributing information in newsletters and news portals, face to face meetings and discussions. The results of META-NORD have been introduced at science seminars and conferences.

Sustaining META-SHARE's functionalities, by maintaining the META-SHARE node in LKI will be a good opportunity for LKI to get in touch with more and more language research and technology institutions.

Approaching society, government and public decision makers will involve presentations, demonstrating what is missing for Lithuania to move forward in LT, to encourage efforts, that the Lithuanian language might be best recognised, perhaps with newsletters, emails or private meetings where possible. Joint actions with META-NET organising the Language Whitepapers dissemination actions and press releases in the news portals have reached all the target groups and made a great impact.

The national workshop was organised with the intention to gather representatives of all the target groups in one place and to enlarge the network of the third parties.

2.3. *Publications – newsletters, articles, press releases*

LKI is responsible for updating information on the META-NORD website and producing the META-NORD newsletter.

The 4th issue of the META-NORD newsletter will be published in January 2013 containing information about all the project partners' activities.

At the beginning of the project, information about META-NORD had been published in the local newsletter of LKI:

(http://www.lki.lt/LKI_LT/images/naujienlaiskiu%20archyvas/naujienlaiskis_37.pdf; http://www.lki.lt/LKI_LT/images/naujienlaiskiu%20archyvas/naujienlaiskis_39.pdf) and had been sent out to the target groups introducing the activities carried by Lithuania and other project countries as well. The newsletter of the Institute of the Lithuanian Language is issued once a fortnight and it further contains information about META-NORD. It is regularly sent out to the LKI mailing list.

It was planned to prepare an article about the progress of META-NORD and META-SHARE

in the International journal „Terminology" in January 2013 where researchers are encouraged to join META-SHARE and to participate in all activities beyond the EU project funding stage. The journal is edited and produced by the Centre of Terminology in the Institute of the Lithuanian Language. The first short article introducing the META-NORD activities was written in the end of 2011.

2.4. *Workshops, conferences, presentations*

The main event consolidating all target groups was the national workshop in Lithuania which was organised as an international conference on Language Technologies: *European Languages in the Age of Technology: quo vadis?* This event took place on November 14, 2012, in the Parliament of the Lithuanian Republic.

During the two years of the project, the LKI META-NORD team organised a number of meetings and presentations for the Lithuanian Government and the members of the Parliament, the Head of the Lithuanian Language Department of European Commission Translation Center, representatives of Martynas Mažvydas National Library of Lithuania, etc.

LKI organised several seminars introducing META-NORD to business, research and society sectors, and workshops for the research community. Some of them were:

LWP presentation at the international scientific conference "Language Studies for the 21st century: from sound to text", 2012.

Presentation at the 6th International Conference on Languages, Culture and Globalization, June 2012, Vilnius, Lithuania. The conference was held in the Parliament of the Lithuanian Republic and Mykolas Romeris University and aimed to present the results of the study of multilingualism in Europe. Jolanta Zabarskaitė presented "Three Scenarios How We Will Communicate in a Multilingual Europe: META-NORD".

The results of the first year of META-NORD were presented at the session of the Committee of the Development of Information Society of the Parliament of Lithuania, September 5, 2012.

"META-NORD and Creation of Digital Resources", International conference in Riga, Latvia on 15-16 of March, 2012.

2.5. *Other awareness raising and dissemination actions*

The creation and implementation of the META-NORD brand has been also very important for all the direct tasks of the project.

From the beginning of the project the visual identity of the project has been worked out by project management. The META-NORD project website was created by TILDE and further maintained by LKI.

LKI was responsible for implementation of META-NORD's visual identity by preparing and producing posters, flyers and other advertising materials for various events.

The layouts of the dissemination materials are on the project's extranet and each partner could produce them in their own language while keeping the corporate brand.

Maintaining the project's booth at LREC 2012: LKI was responsible for the preparation of dissemination materials and work in the conference exhibition village together with other META-NET projects. The unique visualisation was worked out by the META-NET Communication Group to provide appropriate information for the participants of the conference about all the sister projects.

The META-NORD project visual identity has been very important during national workshops

and has been implemented by all the partners.

Further awareness activities

Under the auspices of the Lithuanian Presidency of the EU Council in the second half of 2013, the Institute of the Lithuanian Language, the Department of Translation and Interpreting Studies of Vilnius University and the State Commission of the Lithuanian Language, in collaboration with the Ministry of Education and Science, the Ministry of Culture and the Ministry of Foreign Affairs have initiated a conference on "Unity through Diversity: Political and Social Aspects of EU Linguistic and Cultural Development). It will be held in Vilnius on 25-26 September 2013 in the framework of the European Day of Languages. The following themes are planned to address/cover:

- Dissemination of EU multilingual content in the digital domain;
- The influence of multilingualism in strengthening economic competitiveness;
- The development of multilingual skills among EU citizens.

The META-NORD Consortium partners will be invited to take part in this event. Andrejs Vasiljevs from Tilde is invited to take part in the Conference Scientific Committee.

LKI is as a partner participating in State funded Program of Information Society according to which further digitalization of Lithuanian Language Resources will be supported and implemented. The standards suitable for META-SHARE have been negotiated and adopted for the program, digitalization of Language Resources will be made according of recommendations ISO 24613:2008 "Language resource management – Lexical mark-up framework (LMF)".

Models of Metadata will be synchronized with recommendations of European initiatives META-NET (http://www.meta-net.eu/presentations/meta-share/metadata-schema), META-NORD (http://www.meta-nord.eu) and CLARIN (Common Language Resources and Technology Infrastructure, http://www.clarin.eu).

The work in this program has been already started. Implementation of this program will provide for LKI a possibility to participate in META-SHARE after the EU funding stage.

The META-NORD project activities are always presented during various events, which are taking place at the Institute of the Lithuanian Language. A poster for META-NORD has been prepared in the Lithuanian language and is always visible in the lobby of the LKI. The flyers are also available in the Lithuanian language to be distributed during various occasions.

The LKI will produce a poster presenting META-SHARE to the target groups at an appropriate event, a seminar or a discussion after the end of the project funding stage.

The webpage of the Lithuanian national workshop can also be found in the website of LKI (http://www.lki.lt) section *Conferences*.

LKI will update information in the projects' local website and continue maintaining it and informing about META-NET activities, taking part in the META-NET initiatives.

Annex 8: Action plan for UGOT (Sweden)

1. Target groups

1.1 *Research community*

The role of the research community is vital to the advancement of LT. This group generally raises awareness through publications in peer-reviewed journals and at national and international LT conferences. The task of approaching the research community in Sweden may be accomplished e.g. by organising workshops, holding seminars and distributing information in newsletters or articles in LT journals.

In Sweden there is a clear national academic network for LT research going back to the late 1960s. After a slow but steady progress through the 1970s and 1980s, quite a lot of resources were invested in LT research in the 1990s. The investments have contributed to a relatively well-developed Swedish research community with good organisation.

In 2001 the National Graduate School of Language Technology (GSLT) was established by the Swedish government as one of sixteen national graduate schools. The graduate school is a collaboration between the following centres:

- University of Gothenburg (host institution);
- University College of Borås;
- Chalmers University of Technology (Gothenburg);
- KTH (Royal Institute of Technology; Stockholm);
- Linköping University;
- Lund University;
- Stockholm University;
- Uppsala University.

Supervision is also available from SICS (Swedish Institute of Computer Science; Stockholm) (http://www.sics.se/). Between 2001 and 2010 the University College of Skövde and Linnaeus University (Växjö University) were part of GSLT. At the time of writing, 35 PhD degrees have been awarded in the framework of GSLT, in a number of academic subjects, but with a concentration in Linguistics, Computer Science, and Speech Processing. GSLT has contributed significantly to the development of LT in Sweden bringing different research centers and researchers together. It has made it possible to hold national courses and provide high-quality supervision. The PhD courses have also been offered to Nordic and Baltic PhD students through the NGSLT (Nordic Graduate School of Language Technology) network, funded by NorFA in the years 2004–2009. Through its national networking aspect GSLT has also contributed to several new research collaborations and joint proposals to national research funding agencies. Although the funding of new GSLT PhD positions and joint activities was discontinued in 2012, there are still about 10 PhD candidates with GSLT funding expected to earn their PhD degrees within the next three years.

Currently there are two master's programs in LT, one in Gothenburg and one at Uppsala University. Up until recently several universities also had undergraduate programs in computational linguistics (for example Lund University, University of Gothenburg, Uppsala University, Stockholm University) but the number of students has been declining for several years, which is why new initiatives have been taken with the master's programs.

Sweden has a number of excellent LT research centres:

Speech and Dialogue Technology:
- KTH, Royal Institute of Technology
    - CTT (Centre for Speech Technology);
    - School of Computer Science and Communication (department of Speech, Music and Hearing).
- University of Gothenburg
    - CLT (Centre for Language Technology);
    - Dialogue Lab, mainly at Department of Philosophy, Linguistics and Theory of Science.

Text Based Language Technology Research:
- University of Gothenburg, CLT, including several departments and units:
    1. Faculty of Arts:
        - The Swedish Language Bank (Språkbanken);
        - Department of Swedish;
        - Department of Philosophy, Linguistics and Theory of Science.
    2. IT faculty
        - Department of Applied IT.
- Chalmers University of Technology
    - Department of Computer Science and Engineering (also part of CLT)
- University of Borås
    - The Swedish School of Library and Information Science
- Linköping University
    - Department of Computer and Information Science
- Lund University
    - Department of Linguistics and Phonetics;
    - Department of Computer Science.
- Stockholm University
    - Department of Computer and Systems Sciences;
    - Department of Linguistics.
- Royal Institute of Technology (KTH)
    - School of Computer Science and Communication
- Uppsala University
    - Department of Linguistics and Philology

Research Institutes:
- Swedish Institute of Computer Science (SICS)

Language Technology Consortia:
- Centre for Language Technology, University of Gothenburg (CLT)
- The Human Language Technology Center, Uppsala University, Stockholm University, KTH

Language Council:
- The Swedish Language Council (Språkrådet)

The different research centers are very active in both international and national conferences creating national meeting points. Through different networks such as GSLT, the research groups already have tight connections and communication strategies, which make the promotion of META in the academic community rather easy.

1.2 *Society, government and other decision makers*

The existing decision maker bodies in Sweden are well aware of the domestic language technology community. However, when it comes to awareness on a more general political level, the importance needs to be stressed and applications made to push the development further with guidance of the META-NET goals, since the decision makers are generally leading legislation and funding regarding LT.

Examples of methods for approaching this target group could be holding presentations, demonstrating what is missing for Swedish LT to move forward, suggesting to the group how and where their efforts to fortify the Swedish language might be best recognised with newsletters, emails and private meetings where possible. Suitable target groups and individuals are currently being investigated.

1.3 *Language industry and other business sectors*

The existence of a comparatively lively LT industry in Sweden can in part be traced back to major national LT programs organised in the last decades. For some years the Swedish Language council and GSLT have cooperated in building and maintaining språkteknologi.se (http://sprakteknologi.se/), a web portal for Swedish LT about activities, resources, products and actors, both academic and commercial.

The business sectors have benefited from the initial push from the research community, but are no less an important factor in the field of LT. This target group is generally more attuned to the necessity of raising awareness but is often more reluctant to relinquish their efforts without compensation. Therefore, besides emailing and contacting important actors in the decision making part of the society, attempts will be made to organise information meetings with both political and commercial actors for them to see the benefit of exchange.

2. Performed and planned actions

2.1 *META-NORD website*

The META-NORD project webpages at UGOT (http://spraakbanken.gu.se/eng/research/ meta-nord) provide information regarding the objectives of the META-NORD project, who the project partners are and links to their respective organisations as well as a map view displaying the partners' geographical locations. A mind map of UGOT's level of involvement in the project's work packages, a calendar indicating META-NORD activities and a timeline for UGOT's participation are also available here as well as the results of the Swedish national workshop and a listing of all META-NORD deliverables. Furthermore, the META-NET Twitter feeds are displayed on this website.

2.2 *Making contact with target groups*

The task of approaching the research community in Sweden will be accomplished by organising workshops, holding seminars, distributing information in newsletters and articles in LT journals and other directed media.

Examples of methods for approaching society, government and public decision makers will involve presentations, demonstrating what is missing for Swedish LT to move forward, suggesting to the group how and where their efforts to fortify the Swedish language might be best recognised, perhaps with newsletters, emails or private meetings where possible.

Besides emailing and contacting important actors in the decision making part of the society, attempts will be made to organise information meetings with both political and commercial actors for them to see the benefit of exchange.

In 2011–2012 UGOT was involved in preparing a report commissioned by the Swedish Ministry of Culture on a future LT infrastructure for Sweden. In the report, META-NORD and META-NET are described as important existing initiatives in this area. The work on the report was coordinated by the Swedish Language Council. In November 2012, partly as a follow-up on the report, UGOT and the Swedish Language Council jointly organised the national META-NORD workshop, which gathered about 50 participants representing industry, research funders, media, accessibility organisations, academia, and the interested public.

2.3 *Workshops, conferences, presentations*

In 2012 the fourth Swedish Language Technology Conference (SLTC) (http://nlp.cs.lth.se/events/sltc_2012/) was held in Lund, gathering representatives from most of the language technology centres in Sweden, as well as some international participants. The META-NORD work was promoted at SLTC, both in informal networking contexts and in presentations.

The direct and indirect outcomes of the META-NORD work will be presented at future conferences. For example, two of the META-NORD partners (UGOT and UCPH) are co-organisers of a workshop to be held at NoDaLiDa 2013 (22nd May 2013 in Oslo) on lexical-semantic resources, as a direct follow-up of the META-NORD work on linked wordnets.

2.4 *Other awareness raising and dissemination actions*

UGOT will undertake to maintain the Swedish META-SHARE node for at least two years after the end of the META-NORD project, and to continue to add resources to it during this time.

The Centre for Language Technology at the University of Gothenburg, of which the UGOT group forms a part, will organise the EACL conference in April 2014, which will be an excellent opportunity to present and promote the work started in META-NORD.