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Executive Summary

The *map of resources* is the second milestone of the ETNA project: a Thematic Network whose overall goal is to establish a European Web Portal able to provide information on ICT-based assistive products and e-accessibility solutions which are available in Europe.

This deliverable is based on the work carried out within Workpackage 3 of the ETNA project. The objective was to create an inventory of public Internet resources – including databases of AT products, software repositories, online advice services, assessment centres, virtual communities – that will feed the knowledge base of the Portal.

In particular, WP3 has worked at 1) Finding out and classifying the available resources, 2) defining inclusion/exclusion criteria and quality indicators, and 3) identifying effective and sustainable linking strategies.

The *first chapter* of this Deliverable briefly describes the background of this work. It also clarifies that the term *resource* will be used to describe any “unit of contents” made available online through the Portal, while the term *provider* indicates any website or database or repository containing those resources.

The *second chapter* describes the three-step method adopted: 1) production of a first inventory of resources, based on literature search and partner consultations; 2) structured discussion within the second ETNA workshop (Maastricht, August 29-30, 2011) and 3) further elaboration of the inventory, and production of the deliverable through various iteration until achieving consensus.

The *third chapter* – the core of this Deliverable – presents the findings of the work done.

First, the resources to be linked to the Thematic Network Portal are classified around twelve categories: *Product records, Software applications, Software source codes, Articles, Case studies, Ideas, FAQs, Projects, Forums, Regulations, and References.*

Second, four possible approaches are investigated for linking the resources in an effective and sustainable manner. Based on this analysis, a linking strategy has been agreed that:

- enables the Portal to provide access to all the relevant information needed by the user, according to state-of-the-art accessibility standards;
- is technically feasible, within the time-frame and resources of the project, and sustainable in the long term;
- is able to work in a multilingual environment and across different technological platforms, without creating barriers or constraints to people who speak different languages or use different technologies;
- is flexible in relation to the continuously evolving world of resources.

Third, inclusion/exclusion criteria are identified to select the resources that will be linked to the Portal. These include *process-related* criteria, *technology-related* criteria and *contents-related* criteria. Indicators are also depicted to assess the quality of the information provided.

The *fourth chapter* draws the conclusions and summarizes the findings of the work done.

Finally, *Annex 1* provides an initial list of selected resources, while *Annex 2* offers a concise description of their providers. Overall, 39 providers have been identified so far. They will serve as test-bed for the next stages of the project – i.e. the development of the ontology and the implementation of the Portal search engine.

Background

The overall goal of the ETNA thematic network is to establish a European Web Portal able to provide information on assistive products based on ICT (information and communication technologies) and e-accessibility solutions which are available in Europe, and on related organizations and services. The Portal will be developed in collaboration with ATIS4All (Assistive Technologies and Inclusive Solutions for All) – another Thematic Network belonging to the same cluster.

The objective of WP3 was to create an inventory of public Internet resources, including databases of AT products, software repositories (whether proprietary software¹, free software², freeware³ or open source⁴), online advice services, assessment/counselling centres, virtual communities in the ICT AT and e-accessibility areas (forums, blogs, social networks etc.). This inventory will provide the starting point for the linking system that will feed the knowledge base of the Portal. In particular, WP3 has worked at:

- *Finding and classifying* the available resources;
- defining *inclusion/exclusion criteria* and *quality indicators*;
- identifying effective and sustainable *linking strategies*.

For the purpose of this document, the term **resource** will be used to describe any “unit of contents” made available online through the Thematic Network Portal: for instance, a fact-sheet – or a product record in a database – describing an assistive product; a case study that reports on the experience of a person who has used such a product, an article providing general information on a given category of products; an application software that can be downloaded to improve the accessibility performance of a device.

Conversely, the term **contents provider**, or simply **provider**, will be used to describe any website or database or repository containing those resources. For example the provider *Abledata* offers (through the website www.abledata.com) information on thousands of assistive technology products available in the US market, each product record in the *Abledata* website being a *resource*.

¹ **Proprietary software** can be defined as “Computer programs that are exclusive property of their developers or publishers, and cannot be copied or distributed without complying with their licensing agreements. Almost all commercial (shrinkwrapped) software is proprietary” (<http://www.businessdictionary.com/definition/proprietary-software.html>, 17.11.2011).

² **Free software** can be defined as “software that can be used, studied, and modified without restriction, and which can be copied and redistributed in modified or unmodified form either without restriction, or with restrictions that only ensure that further recipients can also do these things and that manufacturers of consumer-facing hardware allow user modifications to their hardware. Free software is generally available without charge, but can have a fee, such as in the form of charging for CDs or other distribution media.” (http://en.wikipedia.org/wiki/Free_software, 17.11.2011).

³ **Freeware** can be defined as “computer software that is available for use at no cost or for an optional fee but usually with one or more restricted usage rights” (<http://en.wikipedia.org/wiki/Freeware> 17.11.2011).

⁴ The term **Open Source** indicates software whose source code is freely available to the public (<http://www.techterms.com/definition/opensource>, 17.11.2010).

Method

The work that led to the production of this document proceeded in *three steps*.

First, a preliminary **inventory of resources** was compiled by asking each partner to indicate what are the online resources they use in their work or they think could be interesting for the Thematic Network Portal. A form was circulated where each partner had to fill in the names of the providers, a short description of the resources and services provided, the language(s) in which the resources or the services are delivered, the URL(s) and the language(s) of their websites. In this stage, about a hundred resources were identified and collected on a worksheet that was distributed during the *first ETNA workshop* (Milan, March 24-25, 2011), in order to give to every partner the possibility to revise or add resources.

Second, based on the analysis of this preliminary inventory, a tentative **classification of resources** was prepared by the team of the project coordinator, while a tentative set of **inclusion/exclusion criteria** and **quality indicators** was worked out by the team of the workpackage leader. This material formed the *instrumentum laboris* for the plenary consortium discussion that took place within the *second ETNA workshop* (Maastricht, August 29-30). Participants were presented with the proposals of inclusion/exclusion criteria, asked to evaluate the importance of each of them, and potentially to suggest new criteria; the discussion also focused on possible sustainable strategies to link the identified resources. The presentations delivered at the workshop and the outcomes of the various discussion rounds can be found in **Deliverable D3.1** "Proceedings of the Second ETNA Workshop".

Third, the project coordinator and the WP leader teams jointly worked at producing a first draft of this deliverable, based on the above-quoted preparatory work and the findings of the Maastricht workshop. A thorough analysis of the state-of-the-art technologies for linking web resources was also carried out at this stage, in order to identify feasible linking strategies; the findings were also included in the document. Then the draft was circulated to all Consortium partners in several iterations; remarks and contributions were collected and integrated until achieving consensus on this final version.

Results

The four main results of this work package

This *synopsis* is intended to define criteria for:

- *classifying* resources – according to their contents and format – that are candidate for inclusion in the Thematic Network Portal
- *linking* them in an effective, reliable and sustainable manner
- deciding on their *inclusion or exclusion*, and
- identifying possible *quality indicators* that could be helpful to the Portal users.

Based on the above criteria, an initial *list of resources* to be included in the Thematic Network Portal is provided in *Annex 1*, while the related providers are described in *Annex 2*. This list will continuously evolve in the course of the project and also beyond it, as new resources will appear every day while other ones will become obsolete and move backwards to history. The above criteria will drive this continuous process, thus ensuring that the Portal will always provide relevant, useful and up-to-date resources.

Classification of resources

This classification distinguishes resources according to the *type of contents*.

The technical structure – i.e. the way each resource is stored in a server somewhere in the world – is not a major issue at this stage, as there are plenty of methods to exchange resources across different platforms or convert into different formats. What's important at this stage is to point out that any resource – from a logical viewpoint – can be looked at as composed of a *dataset* containing basic information and metadata on the resource itself according to a given *ontology*, and one or more files hosted in a *repository*.

For instance, an *article* is usually recorded as a file in a given format (.pdf, .doc, .odt ecc.); however, in case we wish to find it with other methods than simple “google-like” word-based full text search, a set of descriptors of the article should be provided in a dataset (usually: author, title, language etc). Likewise, an *assistive product* is described in the various national AT information systems as a record of a database, and associated enclosures (technical brochures, videos etc.) in a files repository. A downloadable *application software* is of course a file (or a folder with files), however it couldn't be found by any web search engine if no descriptors are provided in a dataset.

This document will not propose any *standard dataset* for each category of resources: only examples will be provided, just for the sake of a better understanding. The next ETNA workpackages (WP4 and WP5) will work at the *ontologies* which will drive the definition of the datasets, taking into account the state-of-the-art standards for resources descriptions⁵ and the various ontologies already developed by some partners in their specific domains of knowledge.

Armed with the above concepts, the following categories of resources have been identified:

- Product records
- Software applications (Apps)
- Software source codes

⁵ Such as e.g. the Dublin Core Metadata Initiative (<http://www.dublincore.org>)

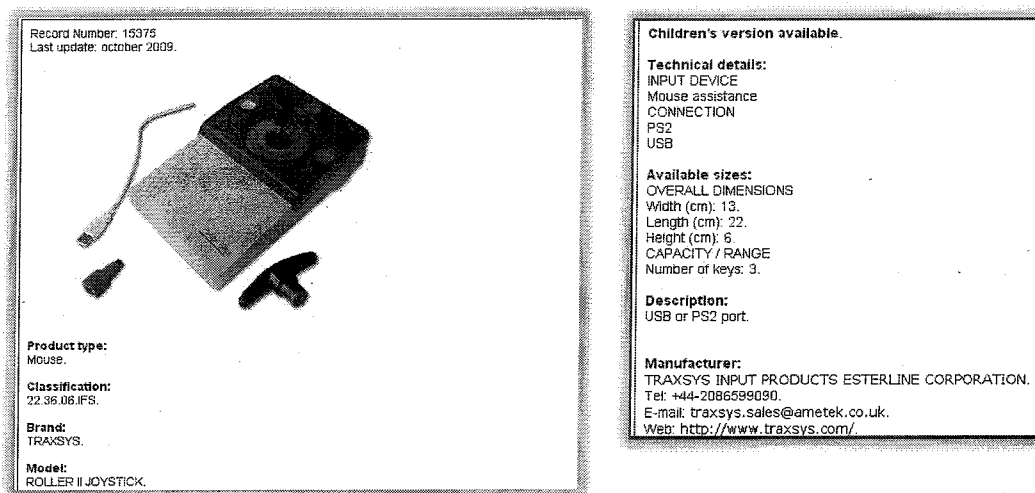
- Articles
- Case studies
- Ideas
- FAQs (frequently asked questions)
- Projects (links)
- Forums
- Regulations
- News
- References

We believe that the above twelve categories cover all the kinds of information that can be relevant for the ETNA Portal.

Product record

This resource consists of information on an available product. The term “*available product*” is used here in its broad sense, including not only commercial items but also freeware or open source software, and including also services, resources for development, etc... i.e. basically any component that can be part of an assistive solution.

Picture 1 shows an example of product record, containing data such as *product type* (according to a specific classification), *commercial name* (brand and model), *description* (technical details, dimensions and text description), *manufacturer/supplier* information, and an *image*.



Picture 1- Example of a product record (from www.portale.siva.it)

Software application (App)

This resource consists of a file, or a set of files, that can be downloaded from a repository associated to the website of a content provider. This can be, for example, an assistive software (e.g. a software for AAC), a resource for development (e.g. an authoring tool), a driver (e.g. a driver needed to make a special hardware work), etc...

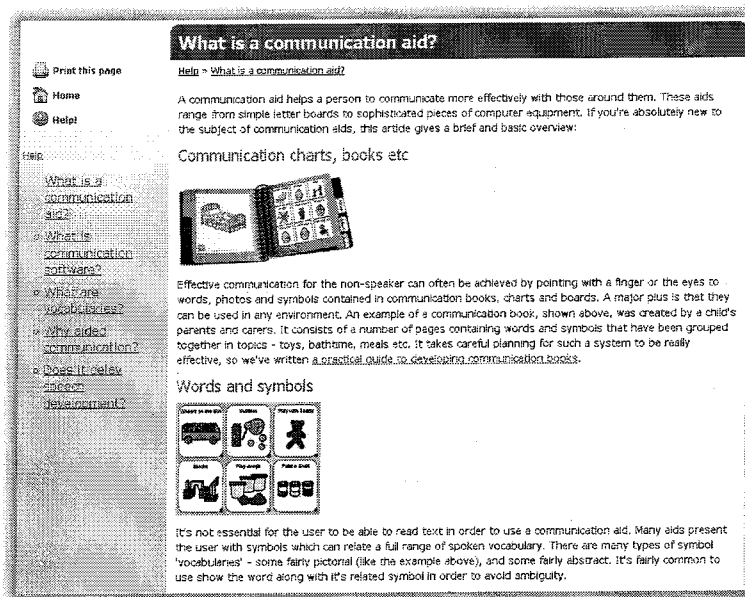
Software source code

Like a software application, this resource consists of a file or a set of files containing the

source code of a software application.

Article

This resource consists of a rich text, often including graphics, discussing a specific topic. For instance, several AT databases provide not only product information but also articles giving advice and describing issues to be aware of when using, seeking for, or developing an AT solution in a specific field. **Picture 2** shows an example of an article describing the communication aids. An article usually includes: a *title*, a list of *authors*, an *abstract*, a *body of text*, *references* to consult for further information, *illustrations / diagrams / photographs* to help illustrate the points made in the text, and links to other resources. Data such as the authors, the title and editorial info are usually recorded in a dataset to make the article searchable.



Picture 2 - example of an article (from www.speechbubble.org.uk/)

Case study

A case study reports on an individual experience (e.g. the story of a person who has used an assistive device: clinical data, context, initial situation, interventions that have been carried out, outcome of the intervention etc.) or on a practice (e.g. the story of a AT-related service provided by an organisation in a given community: target, context, initial situation, interventions that have been carried out, outcome of the intervention etc.).

Indeed, a case study might be looked at as a particular type of **article**; however, we prefer to consider this resource separately, due to the different kind of information needs it meets⁶.

Picture 3 shows an example of a case study, including both the dataset stored in the database and the related full document (PDF, video etc) hosted in the repository.

⁶ See Deliverable D2.2 "Synopsis of information needs" for matching resources to information needs

What is Alzheimer's disease?

Alzheimer's disease is a progressive condition that causes the destruction of brain cells. It is the most common cause of dementia, affecting over 500,000 people in the UK. Age is the biggest risk factor for dementia, which affects 1 in 20 of people over the age of 60 and 1 in 5 people over the age of 80. It can however occur in younger adults and there are approximately 18,000 people under the age of 65 with dementia in the UK.

Symptoms in the early stages of Alzheimer's often include difficulties with memory and word-finding. As the condition progresses people find it increasingly difficult to maintain daily living tasks and are likely to require increasing amounts of support and help.

For further information on Alzheimer's and other forms of dementia, and a confidential helpline, you may wish to contact the Alzheimer's Society.

[↑ back to top](#)

Picture 5 - example of FAQ (from www.alzheimersociety.org.uk)

Project

This resource (see example in **Picture 6**) consists of a link to an online external resource – for instance the website of an organization providing services in the AT field – along with data useful to classify that external resource (e.g. a brief *description* that illustrates the nature of the material available through the link, the name of its provider, a classification of the subject it deals with).

Project Details

Keywords: [Human Computer Interaction (HCI)] [Best Practice and Guidelines]

Name: CARDIAC : Coordination action in R&D in accessible and assistive ICT

Start Date: 1st Mar 10

End Date: 28th Feb 13

Total Project Fund: 562,449Euros

Background: There have been a number of EU-funded projects around accessible and assistive ICT technologies, but there has been little emphasis so far on creating a platform to bring together the various stakeholders in this area.

Description: The aim of this project is to create a research agenda roadmap highlighting research priorities that will favour e-accessibility. Researchers aim to identify the state of the art in different areas, identify the gaps in current research and pinpoint the barriers to such research work. They will then develop suggestions for how the barriers can be overcome and produce a roadmap to help the European Commission focus on future ways to direct funding.

Objective: The aim is to strengthen the global position of European industry in assistive technologies.

General Info: Project consortium includes: EPFL (Switzerland); CNTI (Cyprus); University of the Basque Country (Spain); CNR (Italy); Evangelische Stiftung Volmarstein (Germany); Stichting Smart Homes (Netherlands); University of Oslo (Norway); Israel Institute of Technology (Israel); FORTH-ICS (Greece); University of Seville (Spain); University of Lisbon (Portugal); GSA (Australia)

Web Page: [view website](#)

Picture 6 - example of a project (from www.fastuk.org)

Forum

A forum (see example in **Picture 7**) is a virtual space where specific issues are discussed (usually among peers, e.g. end-users, developers, professionals, ...). Here the term **Forum** is intended in broad sense, including any social discussion space such as traditional forums, newsrooms, chats, email lists, social media groups etc. Forum discussions are usually clustered around *subjects*, and include sections, such as an *object* and a *short text*.

Commercial screen readers

2010-07-21 12:35
There are commercial screen readers which cost a lot of money and there are free alternatives. Which one do you use and why? What do you think is offered by the commercial ones that legitimates the high prices?

Comments

Comment by Abdel | 2010-07-24
I use NVDA as it is open source. Jaws is slightly better with Window Eyes being by far the best. But both window eyes and jaws are very expensive as well.

Add Comment

Name*

E-mail (not published)*

Website

What is the sum of 3 and 9?*

Picture 7 - example of a forum (from www.accessible-project.eu)

Regulation

This resource refers to the original text of standards, regulations and laws, not to papers summarizing or describing them (in that case it would fall within the category “articles”). The dataset describing a regulation may include data such as the *name* (or title) of the regulation, the *name of the issuing body* (e.g. the standardization organization) and *references* to related documents (see example in **Picture 8**).

Proposed revised version of EN 1332-4

Identification Card Systems - Man-Machine Interface - Part 4 : Coding of user requirements for people with special needs.

This draft incorporates the changes recommended by the Maintenance Secretariat but which are awaiting approval by CEN TC224 WG6.

CEN members are the national standard bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

**European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung**

Picture 8 - example of a regulation: in this case a standard (from www.snapi.org.uk)

News

This resource consists of time-dependent information on events (conferences, innovative products, funding opportunities, research project results, etc). See example in **Picture 9**. A news item is usually made up of a *title*, a short *text*, and possibly some *references* or link for further information. News items often have a limited lifespan, although there may be news items of more persistent nature.

5. Call for papers

› Call for papers for **Special Issue of Interacting with Computers on Presence and Interaction**. In an increasingly broad range of application domains, interactive presence is becoming a key aspect of user experience design. This special issue examines the relationship between the sense of presence and interaction in computer-mediated environments designed for a wide variety of purposes including, but not limited to: interaction with digital others (avatars, robots); interactive entertainment (games, the arts); as an experiential tool (psychotherapy, education); motor activity (physiotherapy, sports training). Abstracts of between 300-500 words to Dr. John Waterworth (jwworth@informatik.umu.se) and Dr. Giuseppe Riva (giuseppe.riva@unicatt.it) by 30th June 2011. More details [here](#).

Picture 9 - example of a news (from www.fastuk.org)

Reference

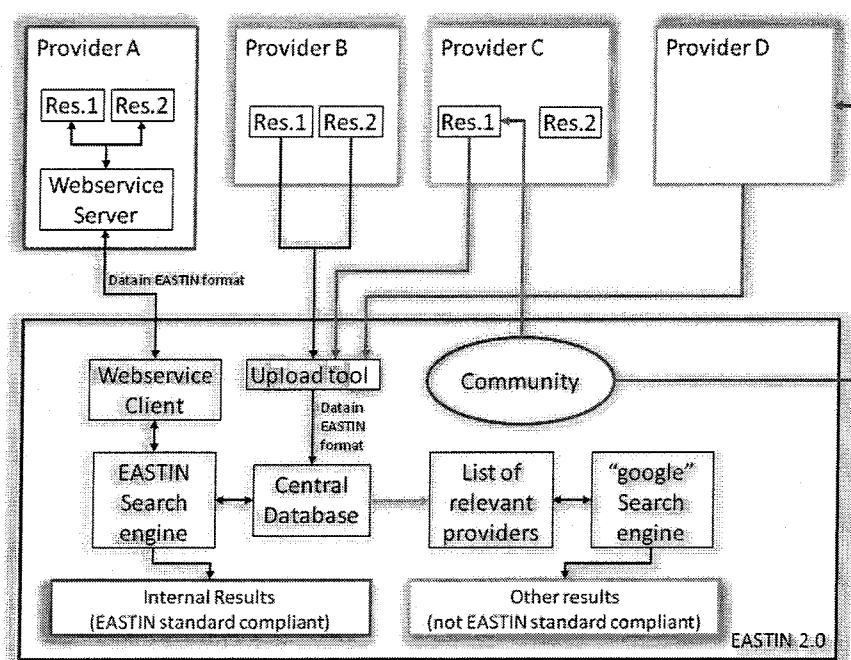
This resource provides just references to literature material, such as articles or books. The dataset describing a reference may include data such as *author(s)*, *title*, *editorial info*. See example in *Picture 10*.

Literature			
Search for author, title, content in summary, product group or classification code (e.g. 120606) or sort the content in the table by clicking on one of the column headlines. Click on a title in order to see all the information related to the reference - including the summary. Click on a related product group in order to find products belonging to the product group.			
Search literature <input type="text"/> <input type="button" value="Search"/> <input type="button" value="Reset"/>			
Author(s)	Title etc.	Language	Related product groups
Dansk Standard A/S	EN 12182:2002 technical aids for disabled persons - General requirements and test methods, 09-08-2002	Dansk	All product groups
Finlayson, M.; Guglielmo, L.; Liefer, K.	Describing and Predicting the Possession of Assistive Devices Among Persons With Multiple	Engelsk	Assistive products for personal
Kronlöf, G. H.	Participation in everyday life. Very old persons' experiences of daily occupation, occupation of interest and use of assistive devices. Göteborg: The Sahlgrenska Academy, 2007. ISBN: 978-91-628-7181-9	Engelsk	Assistive products for personal care and protection Assistive products for personal mobility
Salminen, A.; Toytari, O.; Brandt, Å.; Samuelsson, K.; Malmivaara, A.	Wheelchairs Increase Participation I: <i>Impakt</i> , 2008 (3(08)), s. 14-15	Engelsk	Assistive products for personal mobility

Picture 10 - example of literature references (from www.hmi-basen.dk)

Linking strategy

The term *linking strategy* refers to the methodologies for making the identified resources available through the ETNA search engine.



Picture 11 - Scheme of the ETNA linking strategy

The strategy depicted in this document was achieved through discussion and consensus among partners, after having analyzed the state-of-the-art-technologies for web search and data mining, the current experience of the EASTIN network and previous experiences of other members of the ETNA Consortium⁷.

⁷ In particular, the ShareTEC project www.share-tec.eu, represented in the ETNA Consortium through partner

The linking strategy should:

- enable the Portal to provide access to all the relevant information needed by the user, according to state-of-the-art accessibility standards;
- be technically feasible, within the time-frame and resources of the project, and sustainable in the long term;
- be able to work in a multilingual environment and across different technological platforms, without creating barriers or constraints to people who speak different languages or use different technologies;
- be flexible in relation to the continuously evolving world of resources.

For this purpose, three approaches have been identified as feasible and sustainable; a fourth approach (semantic search) has been also investigated and eventually discarded because of the unsustainable amount of editorial work involved.

Approach 1

The first approach – that could be labeled as “EASTIN-like” because it reflects the current functioning of the EASTIN system – requires that *content providers* make their resources available to the ETNA search engine in a *standardized format* and described according to a *commonly agreed ontology*. The approach is platform-independent, in that is based on *webservices*: when the user performs a search on the Portal, a *webservice client* sends requests to all the providers according to a standardized format; each provider responds through a script (*webservice server*) that extracts the required info; then the Portal assembles all resources sent in this way by all providers, sorts them according to defined criteria and displays them to the user.

In *Picture 11* this approach is the one adopted by *provider A*.

The advantages of this approach are:

- the search engine is relatively simple; search results are perfectly predictable and can be more easily matched to the user’s information needs;
- multilingualism can be easily addressed: as far as the ontology is multilingual, the user can perform searches and get the result in any language;
- No maintenance effort is needed on the Thematic Network Portal side to cater for the evolution of resources: search results are obtained dynamically from the providers, while maintaining the resources up-to-date is their task.

Disadvantages of this approach are:

- Providers need to spend some effort to write their *webservices* scripts and maintain them in case of technical changes in their system;
- Providers that are not willing (or don’t have the technical expertise) to write their *webservices* scripts cannot be plugged to the Portal.

Approach 2

The second approach involves the establishment of a central database, and the development of a dedicated upload & editing tool, that allows any authorized user to upload resources, according to defined datasets based on the ETNA ontologies. In case the resource includes one or more files associated to the dataset, these files may be uploaded onto a central repository, or just linked to their original location through pointers (URLs) from the database.

In comparison to the previous approach, this approach requires considerable effort at central

level but no software development on the provider's side.

Provider B in *Picture 11* exemplifies this method: each resource is loaded “manually” onto the central database.

This approach could be used not only by contents providers, but also by individual members of the community who have developed interesting resources and wish to make them available, but have no website; or have found an interesting resource anywhere in the world and wish to upload it onto the Portal. This approach exploits the contribution of the community in keeping the information on the Portal abreast of new resources available online.

Provider C in *Picture 11* exemplifies this second method: a member of the community finds an interesting resource inside this provider, and uploads it onto the central database. Of course – as provider C may be unaware of that, or unwilling to take part in the network – clear safeguard procedures should be established for IPR rights.

The disadvantage of this approach is related to the governance of the central database. From the ETNA search engine perspective, the central database is like any other EASTIN-like provider (such as **provider A**), the difference being that it is hosted internally instead of externally. However, whereas any other EASTIN-like provider has somebody responsible for the resources, the central database is fully entrusted to a free community where there is nobody responsible for quality control (selection of resources, removal of obsolete resources, accessibility verification etc.). For this reason, search results may be less reliable and predictable, although some rules could be established, embodied in a “community code-of-conduct”, and to a certain extent implemented in the upload tool to filter inappropriate resources as much as possible.

Approach 3

The third approach consists of customizing a state-of-the-art text-based search engine – typically Google – in such a way that it searches only on a restricted set of relevant websites instead of on the whole Web. How this process can be technically implemented in the ETNA Portal is still under investigation; however, at this stage the main issue is how to identify and maintain the list of websites to be crawled by the search engine.

The most obvious solution is to restrict the search to the websites whose URL is indicated in the *projects* mapped by the ETNA engine. Indeed, the category of resources classified as “*projects*” – whether dynamically updated by the EASTIN-like providers (approach 1) or statically updated by the community in the central database (approach 2) – indicate exactly the websites that have been considered as relevant.

This approach makes it easy for any authorized person in the community to find out and include new relevant websites, such as the website of **provider D** in *Picture 11*. In this case a community member uploads the information on the website “D” as a “project” in the central database: this process is conceptually the same as uploading “resource 1” of provider “C”, the difference being that the whole provider “D” is considered as a single resource.

Approach 4

The ambition of this approach is to be able to find relevant results – by searching through the ETNA ontology – even in websites whose information is not organized according to the ETNA ontology and whose provider is not willing to make the resources available through approach 1 or 2. This approach could be labeled as *semantic search*.

This approach should rely on an *advanced search engine* that periodically *crawls and indexes the resources*. In order to provide an effective way of retrieving relevant information, the search engine should be able to *recognize the different type of resources* (product record, repository, article, idea, ...) and (automatically) *classify them according to a given ontology*. Moreover, to make it easier to compare the results, the retrieved resources should be re-

formatted into a standard format.

The main advantage is that no work would be required by the providers, who may, in principle, be unaware of the fact that their data are indexed by the search engine.

However, at the current state-of-the-art, there are also major disadvantages.

First, this approach is strictly language-dependent: it can hardly be used in a multilingual environment.

Second, instructing the search engine is not a trivial task: it poses technical and semantic challenges. Through interpretation tables, the search engine should be able to interpret the contents of the provider's website in such a way to extract and classify resources according to the ETNA ontology. The table should be purposely created for each website by a central editorial team, and revised each time the provider brings about technical changes in its website. On the market there are some (expensive) products able to assist this process and – once some semantic rules have been defined – make it semi-automatic⁸; however, considerable work would still be continuously required by an editorial team, which is not considered to be a sustainable long term strategy for the ETNA Project. What's more, results will never be fully predictable, as semantic rules deal with interpretation of concepts rather than data and facts.

In order to explain this approach, an example is given on how the resources from a content provider – in this case Emptech (www.emptech.info) – could be linked. This example uses an ontology based on the ETNA resources classification and on the ISO 9999 standard (Assistive products for people with disabilities - classification and terminology).

First, the various sections of the Emptech website should be mapped to the ETNA resources classification:

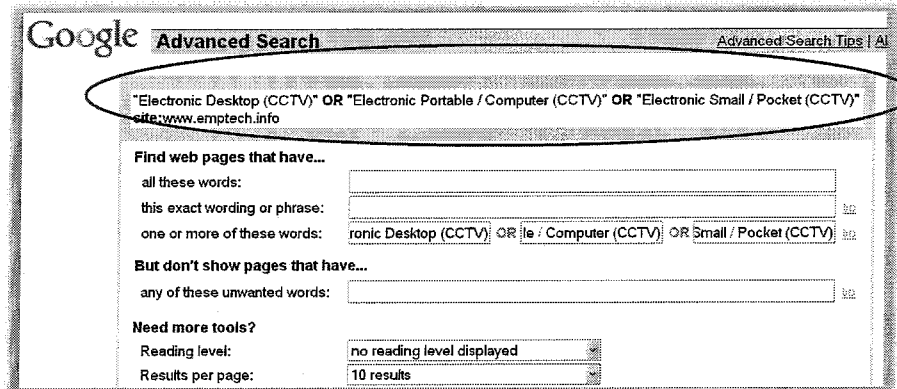
ETNA resource classification	Corresponding Emptech section
Assistive Technology Products	Products
Companies	Companies
Articles	Podcast
FAQ	-
Ideas	Hints and tips
...	...

Second, in section “products” the ISO classification should be mapped to the Emptech product ontology:

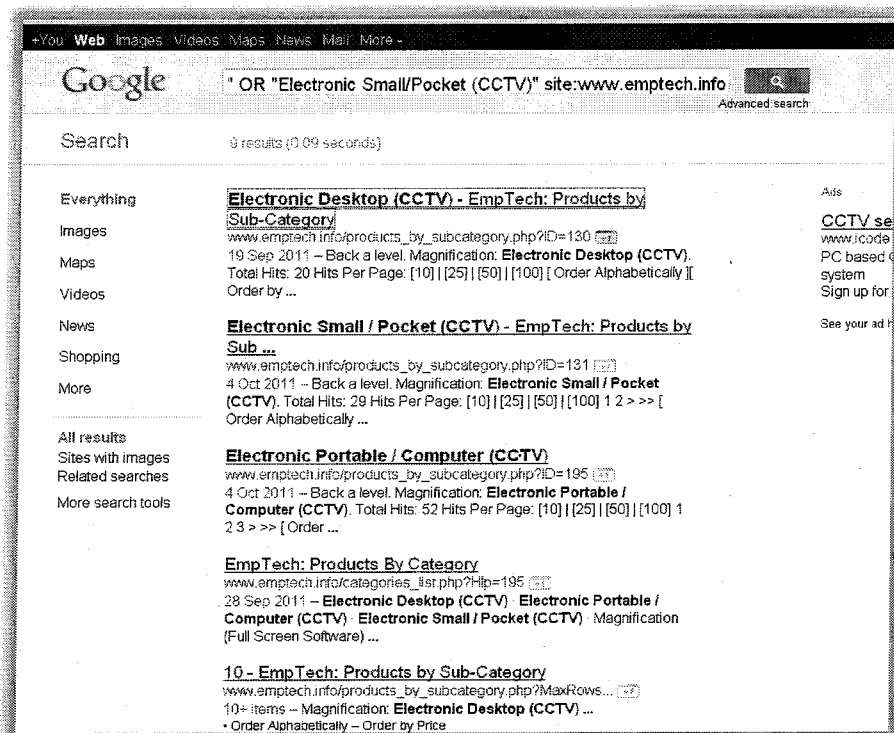
ETNA Ontology term	Current terms in Emptech ontology
22.03.18 Image-enlarging video systems	Electronic Desktop (CCTV) Electronic Portable / Computer (CCTV) Electronic Small / Pocket (CCTV)
22.15.09 Software for calculation	Calculators (Software)

This means that – when the user searches for products in ISO division 22.03.18 *Image-enlarging video systems* – besides the “standard” searches of the ETNA engine a “special” search is performed on Emptech, by using the terms that in our mapping correspond to code 22.03.18: Electronic Desktop (CCTV); Electronic Portable / Computer (CCTV); Electronic Small / Pocket (CCTV). This search might be powered by Google (advanced search facilities) as shown in *Picture 12* - Google advanced search based on the ontologies mapping tables and leads to results such as those shown in *Picture 13*.

⁸ For instance, FDGCO has experience with the *Cogito Focus* package by Expert System, Modena, Italy www.expertsystem.net. This system was used to power an experimental semantic web search engine on disability issues (the “*bussola*” project). The system was successfully implemented and field tested: however, it turned out to be heavy demanding in term of editorial staff, and was judged as providing limited added value in comparison with standard Google searches. For these reasons it was eventually abandoned.



Picture 12 - Google advanced search based on the ontologies mapping tables



Picture 13 - Final search results in the Emptech website

Implementing the linking strategy

The ETNA linking strategy will combine approaches 1, 2 and 3, in order to

- ensure the greatest reliability / predictability of search results;
- provide various alternative channels to maintain the resources, and
- exploit the full potential of the community.

When searching for information in the ETNA portal, the user will be presented *first* with all the resources that have been classified and organized according to the ETNA ontology. These will be provided dynamically by the EASTIN-like providers through their webservices (*approach 1*) and by the central database (*approach 2*). This process is *language-independent*.

Then the user will be given the opportunity to make a *language-dependent* search, in a google-like fashion, on other potentially relevant information, across the websites identified as "projects" among the found resources. As this search is powered by a standard search

- performing a “google-like” textual search within a project, or across all projects.

Selecting the resources: inclusion criteria

After defining the linking strategy and the way in which resources should be classified, criteria for *selecting the resources to be included or excluded* should be established. These criteria should be as much as possible clear and transparent so that there’s no doubt whether a resource is relevant and appropriate or not for the Thematic Network Portal.

Probably it is impossible to fully achieve this objective: as the sector is continuously evolving, it is reasonable to expect that there will always be some resources whose inclusion is questionable and requires discussion within the community. However, the clearer the rules are, the easier the discussion will be.

Following to the previous preparatory work and the discussion at the Maastricht workshop, the inclusion/exclusion criteria can be clustered around three categories:

- Process-related criteria, that refer only to the providers;
- Technology-related criteria, that refer to both the providers and the resources;
- Contents-related criteria, that refer only to the resources.

Process related criteria

The process related criteria refer to the awareness of the providers of complying with the ETNA standards and procedures.

As outlined above in the previous chapter, the linking strategy foresees different ways of disclosing content (resources) via the Portal search engine.

In all cases the direct content providers (whether they belong to type A, B or C) need to be aware of the scope of the portal, the classification of resources and of its “rules”. This will typically mean *being accredited by the portal* and signing (e.g. by clicking on a “I agree” button) an *explicit commitment* to respect formats, rules, quality procedures.

Providers of type D are not necessarily informed, aware or committed, as their resources are filtered by any other accredited content providers.

Technology-related criteria

Accredited providers should provide the resources *according to the ETNA format specifications*.

In the case of providers of *type A* this will mean developing communication protocols between the provider’s server and the ETNA server. In the case of provider B and C this will mean providing the information according to a standardized upload module.

Content-related criteria

The resources that can be found through the Portal must relate to *ICT-based assistive products and eAccessibility solutions* that are available in Europe (or are of interest in Europe), according to the definitions provided by *Deliverable D2.2 “Map of information needs”*. Any resources that fall outside this definition are not of interest for the Portal.

However – as pointed out in the *map of information needs* – in the ICT domain the borders between “assistive” and “mainstream” are somewhat blurred. The consortium is aware of the difficulty to define precise limitations to the potentially very wide range of products and solutions. Probably it doesn’t even make sense to exclude *a priori* resources that relate to

confining fields such as rehabilitation or medical technology, mainstream ICT devices, ambient assisted living solutions, etc. The risk would be to exclude innovative technologies or important mainstream products with special features which make them particularly interesting for people with disabilities, which would be against the “universal design” philosophy. Therefore, *experience-based evidence of effectiveness in overcoming functional limitations of persons with disabilities* might, for the time being, be sufficient as a general guideline for the resources provided by accredited content providers, although it is still unclear how this be evaluated and represented.

It is essential that the resource is written in *one of the European languages*.

It is essential that the portal provides *up-to-date information*. Monitoring the date of the last modification could be done quite easily. Nonetheless, this criterion should be evaluated depending on the type of resource: for instance, a *news* item turns obsolete in shorter time than a *product record*.

Accessibility will be a key design requirement of the Thematic Network Portal. However, despite all efforts spent in achieving the highest accessibility standard in the Portal web-pages and search interfaces, it is realistic to expect that some resources found by the Portal search engine turn out to be inconsistent with accessibility rules after clicking on them. The Consortium thinks that resources accessibility shouldn't be considered *a priori* as an inclusion or exclusion criterion. It should rather be looked at as a quality attribute of a resource. In case the resource is not fully accessible, a “warning” statement should be issued to the portal user. The accessibility issue should be turned into a potential, rather than an exclusion criterion, by stimulating the providers to compete with each other for best accessibility of their resources. Moreover the ETNA portal could provide assistance to make information accessible. In some cases the ETNA portal could represent a means to improve accessibility of contents provided by “non-accessible” resources.

The *amount* of available information of the same provider (in terms of Mb or pages) was also investigated as a possible inclusion/exclusion criterion – so as to distinguish between “worthwhile” and “not-worthwhile” providers - but was eventually discarded as not relevant, also because the identified linking strategy can easily cope with both big or small providers.

Assessing the resources: quality indicators

Once a provider and a resource have matched the inclusion criteria, some indicator should be attributed to each resource in order to allow the user to assess the background and the degree of reliability, relevance, accessibility etc. of each resource in relation to his or her information need. The way these quality indicators are communicated to the user is still under investigation: there should be a self-explanatory and easy-to-understand system that can be easily integrated with a rating system.

Table 1 shows a number of elements – identified by the project team and discussed with the consortium members during the workshop in Maastricht – that may contribute to establish quality indicators. Besides explaining them, the table analyses possible issues related to the feasibility of their adoption in the portal.

Table 1- Elements that may contribute to establish quality indicators

Element	Explanation - Indicators	Adoptability
Scientific evidence	The availability of scientific evidence impact on the reliability of the resource	Scientific evidence might be relevant for e.g. articles or FAQs; however, often no reference to scientific methods is provided, so the assessment should go through review by a scientific committee which is a time consuming and potentially exclusive process.
Peer	The availability of peer	Peer reviews could be an interesting tool to ensure quality, but

reviewed	reviews impacts on the reliability of the resource	would require a complex mechanism to generate formal acknowledgement while it would limit the level of democracy and openness of the portal to accommodate new resources.
Usability	Indicators could be: language simplicity; multilingualism; concreteness of information and indications; availability of instructions and/or guidelines	Definitely an important element. However, measuring usability is a challenge: it is hard to assess it automatically. It can be easier if based on very personal considerations, however "what is perceived usable for me, might not be usable for you", but this constitutes contemporarily its limit.
Accessibility	Matching internationally acknowledged standards	Information about the accessibility of the resource might be provided by the portal, if assessed by means of reliable tools.
Matching information needs	User satisfaction	It would be interesting to find out whether the presumed search profiles (see D2.1) actually exist and lead to corresponding user satisfaction. Although an interesting issue, it might be hard to match the user behaviour within the portal navigation with satisfaction. Nevertheless it could be possible to include evaluation forms where this can be assessed.
Appreciation of the information	User rating on the basis of fixed indicators such as: helpfulness, informative, completeness, etc.	Relevant for certain resources. User ratings are useful and might impact on the visibility of resources, however they should not lead to the exclusion of a resource because of low number of ratings, which would mean preventing it from getting any further visibility.

There are also other information items about the resource that are important for the portal user, to be aware of: for instance, the *nature* (governmental, company, NGO, etc.) and the *scope* (commercial vs. non commercial) of the information provider. However, strictly speaking, they cannot be related to quality indicators.

Table 2 provides a tentative overview of the presumed importance of the various elements for each resource. This information is relevant for the further portal development, the design of the navigation interfaces and the interactive facilities (feedback forms, rating systems, etc.).

Table 2 - Relevance of the various quality elements for each resource

	Scientific evidence	Peer reviewed	Usability	Accessibility	Matching info needs	User rating	Nature	Scope
Product records			X	X	X	X	X	X
Software App		X	X	X	X	X	X	X
Software codes			X	X	X			X
Articles	X			X	X		X	
Case studies	X			X	X		X	
Ideas			X	X	X	X	X	
FAQs	X		X	X	X	X	X	X
Projects (links)	X			X	X		X	
Forums				X	X			
Regulations				X	X		X	
News				X	X			
References	X			X	X			

Conclusions

The process that led to the production of this deliverable – driven by the project coordinator’s and the WP leader team in close collaboration – allowed the whole Consortium to achieve consensus on a number of key definitions and to identify the most appropriate approach for the development of the Thematic Network Portal.

All partners provided valuable contributions and suggestions that helped refine the Deliverable until achieving this final version through various iterations.

The following issues have been defined:

- the classification of the resources to be considered by the TN Portal;
- the linking strategy;
- the inclusion and exclusion criteria for both providers and resources;
- the elements that may contribute to establishing quality indicators for the resources;
- an initial list of providers containing resources that are considered relevant for the TN portal.

The term “initial” means that this list is not closed, but open also to other providers that will be later identified by the Consortium in the course of the project or will ask to join the network. What’s important is that we now avail a well-identified set of resources that will serve as test-bed for the next stages of the project – i.e. the development of the ontology and the implementation of the Portal search engine.

What has emerged in this work as a common understanding among the consortium members, is that the Portal will be an important web information resource, covering a wide range of themes related to disability and technology, open to include web resources from different providers and of different nature, having its own ontology but flexible enough to accommodate for resources that are based on different technological platforms, languages, ontologies. The portal aims at including, rather than excluding: it is intended as a trigger factor in promoting information sharing, network development and resources accessibility.

While access to the information delivered by portal will be public and free for anybody, without any need for accreditation and registration, those who wish to take part in the community – initially the ETNA and the ATIS4All partners, later anybody who accepts the community duties and rules and goes through an accreditation/registration procedure – will also take advantages of other services (participating in the community discussions, becoming content providers themselves, etc.).

The way the “community” virtual space of the TN Portal will work isn’t known yet, as it is a commitment of the ATIS4All whose implementation is scheduled later. The ETNA commitment is focused on the search engine that will aggregate the contents of all resources. However, the map of resources identified in this Deliverable already depicts a wealth of contents and a live community of expertise that is waiting for being exploited by the TN Portal.

Annex 1 - Initial list of selected resources

Name of the provider	TOPIC	Product records	Software	Software source	Articles	Case Studies	Ideas	FAQs	Projects	Forums	Regulations	News	Reference	Brief description of the resources provided	Language
Abledata	AT general	X			X			X		X			X	Public searchable database of products, companies, centres, fact sheets; online advice; forum	EN
ACCESSIBLE	EU research project				X				X	X	X	X	X	e-service	EN
AEGIS Open Accessibility Everywhere Group (OAE)	AT software repository; resources for development		X						X	X	X	X		Repository of open source AT and resources for development; information on accessibility standards; blog aggregator	EN
AIAS BOLOGNA	General AT				X				X	X	X	X	X	Website providing a wide variety of information on AT, including fact sheets, projects, news and regulations.	IT
AppsForAAC	AAC applications	X								X				Site containing a listing of iOS apps in the area of AAC – with short descriptions, and links to more detailed information, reviews and ratings.	EN
AssistIreland	AT general	X			X									Public searchable database of products and related documentation	EN
AT dementia - information on AT for people with dementia	AT for people with dementia	X			X	X		X	X	X	X	X		Public searchable database of products and suppliers; it also includes fact sheets, case studies, regulations and a discussion forum.	EN
ATWiki	AT wikipedia				X			X						Encyclopedia on assistive technology that anyone can edit (wiki). Articles contributed to this site will be viewable from the www.assistivetech.net website.	EN
Cardiac project	National research project				X				X		X	X	X	Site dealing with information about current and past research and development projects in the area of accessible and assistive ICT; guidelines for the design of accessible and assistive ICT systems; information about standards relevant for	EN

																			Comments and ratings based on a defined list of criteria.	
Italian Association of people with low-vision	AT for visual impairment		X		X					X		X	X						Public repository of software products, resources for development, mainstream products with built-in accessibility features	IT
Johannes Kepler University	Research Centre									X							X	Site illustrating research projects about ICT- AT	EN DE	
John Gill Technology	E-accessibility				X					X	X						X	Site providing educational material on sight impairment	EN	
LD Online	ADHD & learning disabilities				X	X	X	X				X					X	The site features hundreds of articles, multimedia, monthly columns by noted experts, first person essays, children's writing and artwork, a resource guide, very active forums, and a Yellow Pages referral directory of professionals, schools, and products as well.	EN	
OASIS	EU research project				X					X							X	e-service	EN	
Online-database accessible communication	ICT AT and related equipment	X								X								Public searchable database of products and suppliers	DE EN	
Open Source Assistive Technology Software (OATS)	AT software repository; resources for development		X	X						X	X							Online repository of open source AT software; it is a platform for users and open source AT developers	EN	
PAPUNET	AAC technologies				X					X								Website with information on speech disability and different means of communication	SV EN	
REHADAT Database	AT general	X	X		X					X		X	X	X				Public searchable database of products, companies, case studies, literature	DE EN	
Resources for communication and education	Educational technologies		X		X													Repository of free downloadable "grids" for AAC and education, to be used with the commercial software Clicker 4, Clicker 5 and MindExpress, and with the IntelliTools keyboard; examples of set of symbols for creating communication boards.	EN	
SIVA Portal on assistive technologies	AT general	X			X	X	X			X	X						X	Public searchable database of products, companies, centres, ideas, case studies, fact sheets; online advice; forum	IT EN	
SNAPI project	National research project	X			X					X		X						Site providing information on ICT devices for blind and partially sighted people	EN	
Sourceforge	General purpose open source		X	X								X						Repository of general purpose open source software (also including	EN	

	software; resources for development															Assistive software); online tools for development (SVN, Forum, Wikis,...)	
Speech Bubble	AAC products	X			X											Public searchable database of Communication Aids and AAC products and information. Speech Bubble resources are going to be provided through the DLF- DATA UK national portal of assistive equipment managed by the Disabled Living Foundation	EN
Technology in Care	Research Centre							X					X			Institutional website including several projects on technology in health care	NL EN
TNTU- Interactive Systems Research Group	Research Centre							X								Website illustrating projects on AT and serious games	EN
VERITAS	EU research project				X				X				X			e-service	EN
VLIBANK	AT general	X		X				X				X				Public searchable database of products, companies, fact sheets; online advice; forum	NL

Annex 2 – Description of the related providers

Name of the provider	Brief description
Abledata	www.abledata.com . ABLEDATA provides information on assistive technology and rehabilitation equipment to people with disabilities, their family members and caregivers, disability organizations, rehabilitation and medical professionals, and a variety of other audiences within the United States and around the world. ABLEDATA's central asset is a database of over 33,000 assistive products from over 4,000 companies. In addition to assistive products, ABLEDATA's Web site offers information on other disability-related organizations, conferences, news items and publications. ABLEDATA is sponsored by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education.
ACCESSIBLE	www.accessible-project.eu . ACCESSIBLE Project is meant to contribute for better accessibility for all citizens, to increase the use of standards, and to develop an assessment simulation environment (including a suite of accessibility analysing tools as well as developer-aid tools) to assess efficiently, easily and rapidly the accessibility and viability of software applications for all user groups.
AEGIS Open Accessibility Everywhere Group (OAEG)	www.oaeg.eu . The key industrial partners of the AEGIS consortium, together with users' representatives and the active support of the Scientific Advisory Board have developed an Open Accessibility Everywhere Group (OAEG) with the aim to promote the uptake of the AEGIS accessibility open source solutions through a coherent set of incentives and ultimately standardisation, and maintain and upgrade the AEGIS Open Accessible Framework and the individual open source software resulting from the project, after the project's lifetime.
AIAS BOLOGNA	www.aiasbo.it/ AIAS BOLOGNA is a charity organization aimed at the social inclusion of people with disabilities, their families and carers. It works closely with the territorial network of social and health services and regional specialists; it trains operators, develops and disseminates new skills, techniques and knowledge; it supports public bodies, contributing to the definition of social and health policies and strategies through research, surveys and needs analyses; it draws on cutting edge experience and best practice in Europe and contributes to the promotion of policies favouring disabled people and their families and quality in the services at their disposal.
AppsForAAC	www.appsforaac.net . This site, developed to complement SpeechBubble, is designed to help individuals requiring independent information regarding the current apps out on the market.
AssistIreland	www.assistireland.ie . This national database of assistive products is provided by the Citizens Information Board – the Irish national agency responsible for supporting the provision of information, advice and advocacy on social services.
AT dementia	www.atdementia.org.uk . AT Dementia brings together information about assistive technology and other products that can help supporting the independence and leisure opportunities of people with dementia.
ATWiki	http://atwiki.assistivetechnet.net/index.php/ATWiki_Home . This site contains more than 1000 articles on AT devices, topics, legislation, ...
Cardiac project	www.cardiac-eu.org . Cardiac (Advancing research and development in the area of accessible and assistive ICT) is a project founded by the EU, aimed at creating a platform that can bring together the various stakeholders in the area of accessible and assistive ICT with a view to identifying Research & Development gaps and emerging trends and generating a research agenda roadmap.
Catalogo de Ayudas Tecnicas	www.catalogo-ceapat.es . The National Centre for Personal Autonomy and Technical Aids is a technical centre from IMSERSO, Ministry of Labour and Social Affairs, created by means of Ministerial Order on 7 April 1989. Ceapat's mission is to contribute to improve the quality of life of all citizens, with special support to people with disabilities and elderly people, by means of accessibility, design for all and assistive technology.
Cavendish Lab. Cambridge	www.inference.phy.cam.ac.uk/is/ . David MacKay's group works on machine learning and information theory. The website includes, among others, projects in the field of Assistive ICT
DART	www.dart-gbg.org/ DART is part of the Regional Habilitation for Children and Youth at the Queen Silvia Children's Hospital, Göteborg, Sweden. It is composed by is a team of speech and language pathologists, occupational therapists, educational consultants, computational linguist, technician and administrative personnel, all specialized within the field of AAC and AT. DART's objective is to develop and maintain the best possible knowledge base so as to provide high quality services to stakeholders at different levels.

Disability Now (ANAIHPPIA ΤΩΠΑ)	http://www.disabled.gr Disability NOW is a supportive Non-Profit, Non-Governmental organisation in Greece, with an established European profile, and is mostly managed by people with severe disabilities. It constitutes a major source of peer support and counselling, empowering people with disabilities with the appropriate knowledge and skills to self-advocate and exercise their civil rights, to manage their needs and to establish their own terms and choices in their lives.
DLF-DATA	www.dlf.org.uk . DLF Data, run by the UK leading charity Disabled Living Foundation, is the UK's most comprehensive database of assistive technologies. This resource is used by the DLF's Helpline advisors to offer free and impartial advice to older and disabled people and their carers, and is available on subscription for use by health and social care professionals.
eAccess+	http://www.eaccessplus.eu/ . eAccess+ is a project aimed at establishing and systematically developing a cooperative platform for co-ordinating, supporting and improving the implementation of eAccessibility throughout Europe by involving a most diverse set of stakeholders in three domains: Web Accessibility, Total Communication and Self Service Terminals.
EASPD	http://easpd.eu . EASPD, the European Association Of Service Providers For Persons With Disabilities, represents close to 9,000 social service provider organisations across Europe and across disability. Its main objective is to promote the equalisation of opportunities for people with disabilities through effective and high quality service systems.
Educational freeware	www.ivana.it . It is a repository of freeware educational software for the primary school.
E-Inclusion Unit of the European Commission	http://ec.europa.eu/information_society/activities/einclusion/index_en.htm . This site provides a information on ICT and AT at EU level (policies, events, research, etc.)
EmpTech	www.emptech.info . It provides information resources on ICT assistive technologies and related equipment.
Essediquadro /Sd2 educational software documentation service	http://sd2.itd.ge.cnr.it . Essediquadro is an experimental online service that provides comprehensive, up-to-date information on educational software, together with support for integrating software into teaching and learning. The service was established in 1999 by the Institute for Educational Technology (ITD) in conjunction with Italy's Ministry for Education and Research.
Facilitoffice project	www.facilitoffice.org/j/ Facilitoffice is a project, funded by the Italian Ministry of Education, aimed at improving accessibility of word processing software.
FAIDD	http://kehitysvammaliitto.fi/en The Finnish Association on Intellectual and Developmental Disabilities (FAIDD) is a non-profit, non-governmental organisation that promotes good life, equality and participation for people with intellectual disabilities and others who need support with learning, understanding and communicating
FAST - Foundation for Ass. Technology	www.fastuk.org . The Foundation for Assistive Technology (FAST) works with the AT community to support innovation in product development and good practice in service provision.
FTB- Forschungsinstitut Technologie Behindertenhilfe	www.ftb-net.com/ The Research Institute of Technology and Disability focuses on assistive technology, barrier-free access and universal design. In the areas of technology and disability, FTB acts as a key contact for the government (local, federal and European), for the support groups of people with disabilities, and for industry.
HANDICAT	www.handicat.com . Hacavie is a resource, information and advice centre on assistive technology products for people with disabilities and elderly people. Handicat, one of the main Hacavie activities, is a nation-wide database on assistive technologies, freely accessible through the Internet, currently including approximately 9000 assistive technology products, each described with pictures, technical information, price and funding schemes, and about 400 manufacturers/importers.
Handitecno – Tecnologie per la disabilità a scuola	www.handitecno.indire.it . This website, developed by INDIRE (the Italian Agency for Independence of Educational Institutes), includes a set of resources on technology for disability in the primary and secondary schools.
Hjelpemiddeldatabasen	www.hjelpemiddeldatabasen.no . It is the Norwegian national database of assistive technology product, operated by NAV, the Norwegian Labour and Welfare Service
HMI-BASEN	www.hmi-basen.dk . Hjælpemiddelbasen is the Danish information system providing information on assistive products from Danish suppliers. It is run by The Danish Centre for Assistive Technology which is a nation-wide, coordinating knowledge centre charged with supporting the effort to integrate and ensure the best possible accessibility for people with disabilities in society.
Hulpmiddelenwijzer	www.vindeenhulpmiddel.nl . Vilans is an independent expertise centre for long term care, based in Utrecht, The Netherlands. Among other research, consultancy and services activities, it operates the Hulpmiddelenwijzer, a Dutch national database on AT products.
IBM alphaWorks	www.alphaworks.ibm.com/tech . This website provides direct access to IBM's emerging

	technology. It is a place where one can find the latest technologies from IBM Research. Among others, assistive ICT are also available (e.g. mouse smoother).
ImPaCT Network	www.impact-in-europe.eu . ImPaCT- Improving Person Centred Technology-in Europe is a networking project whose objective is to “accelerate the effective participation of target groups at risk of exclusion and improving their quality of life” as outlined in the European i2010 initiative on e-Inclusion by stimulating the effective use of ICT-enabled services and providing competence building opportunities for the end users of Person Centred Technology (PCT) via education and training services.
Inst. Integriert Studieren-University Linz	http://www.integriert-studieren.jku.at/ The Institute of Integriert Studieren undertakes research in the fields of "eAccessibility", "Mathematics & Games" and "Social Integration".
Int'l Encyclopedia of Rehabilitation	http://cirrie.buffalo.edu/encyclopedia/en . The International Encyclopedia of Rehabilitation is the result of a collaborative effort by the Center for International Rehabilitation Research Information and Exchange (CIRRIE), at the University at Buffalo, SUNY, and the Laboratoire d'Informatique et de Terminologie de la Réadaptation et de l'Intégration Sociale (LITRIS), at the Institut de Réadaptation en Déficience Physique de Québec (IRDPQ). On its completion, the encyclopaedia will include four hundred articles on rehabilitation and disability topics identified through terms found in the CIRRIE and REHABDATA Thesauri, the ICF and the International Index and Dictionary of Rehabilitation and Social Integration (IIDRIS). Links among the encyclopedia, CIRRIE and REHABDATA databases, the dictionary and other databases will create an integrated information system and a comprehensive synthesis of the field of rehabilitation in a free multilingual encyclopaedia in English, French, and Spanish.
Interactive Systems Research Group	http://isrg.org.uk/ Nottingham Trent University's Interactive Systems Research Group is aimed at developing virtual environments, serious games, assistive technology and accessibility guidelines to promote social inclusion.
iPhone/iPad Apps for AAC	www.spectronicsinoz.com/article/iphoneipad-apps-for-aac . This site includes a quite comprehensive listing of iOS apps in the area of AAC in the form of a comparison table over supported features
Italian Association of people with low-vision	www.subvedenti.it . Besides being the institutional website of the national association of people with sight impairment, this website hosts a repository of free-download software products for people with low-vision, resources for customization of assistive or mainstream products to the individual needs, useful mainstream products such as recommended web browsers etc
John Gill Technology	www.johngilltech.com/ It specialises in the needs of disabled and elderly people, including AT and inclusive design. It provides consultancy on the accessibility of information and communication technology systems including smart cards and biometric systems; lectures on accessibility; assistance on preparation of grant application for research projects.
LD Online	www.ldonline.org . This is a leading website on learning disabilities and ADHD, serving more than 200,000 parents, teachers, and other professionals each month.
OASIS	www.oasis-project.eu . OASIS (Open architecture for Accessible Services Integration and Standardizatio) is an Integrated Project with the scope to revolutionise the interoperability, quality, breadth and usability of services for all daily activities of older people. More specifically, OASIS targets to utilise ICT and other key technologies in order to provide holistic services to older people to support their physical and psychological independence, stimulate their social or psychological engagement and foster their emotional well-being. In doing so, OASIS thus addresses key areas of their activities encompassing: independent living and socialising, autonomous mobility, and flexible work-ability
Online-database accessible communication	www.barrierefrei-kommunizieren.de/datenbank . This online database contains a collection of disability-compensating techniques and technologies for computers and the internet. It is completely independent of all producers and manufacturers
Open Source Assistive Technology Software (OATS)	www.oatsoft.org . OATS provides a one-stop “shop” for end users, clinicians and open-source developers to meet, exchange notes, promote new ideas, develop new software and download open-source AT software.
PAPUNET	http://papunet.net/tikoteekki/in-english.html . It is run by the Communication and Technology Centre Tikoteekki (part of FAIDD centre), whose objective is to gather and distribute knowledge concerning AAC methods and the newest technical solutions in communication devices. Tikoteekki also offers training to the teaching, therapy and caretaking professionals.
REHADAT Database	www.rehadat.de . Rehadat is an information system supporting the vocational integration of disabled persons. It was commissioned by the Bundesministerium für Arbeit und Soziales (Federal Ministry of Labour and Social Affairs) and established by the Institut der deutschen Wirtschaft

	Köln. Detailed information about various aspects of the vocational rehabilitation is available from eight databases designed for use by disabled people as well as professionals involved in rehabilitation. The largest and most frequently used database is the Technical Aids database with more than 22,000 product descriptions and additional information.
Research Centre for Technology in Care	www.technologyincare.nl The Research Centre for Technology in Care at Zuyd University plays an important role in initiating and stimulating innovation in long term care. Together with carers, professionals, businesses, and clients from care settings, they perform research and innovation, thereby developing knowledge in new ways to benefit professionals in care and the training provided by the university.
Resources for communication and education	www.iocomunico.it . The website is maintained by a group of Italian primary school teachers. It includes a set of resources for augmentative and alternative communication (AAC) and education.
SIVA Portal on assistive technologies	www.portale.siva.it . It contains information on assistive technology products available on the Italian market, belonging not only to the ICT domain but to any category considered by the ISO 9999 classification (about 8000 products); it also contains information on related companies (manufacturers, suppliers, resellers), assessment centres, ideas of how to solve daily life problems by means of AT, case studies of problems solved through AT, educational material, guidance material for end-users, professionals, industrialists and policy makers.
SNAPI project	www.snapi.org.uk . SNAPI is a project intended to implement systems for coding user requirements to enable adaptable user interfaces.
Sourceforge	www.sourceforge.net . Sourceforge is a resource for open source software development and distribution. SourceForge.net is owned and operated by Geeknet, Inc., a publicly traded US-based company.
Speech Bubble	www.speechbubble.org.uk . Speechbubble is the result of a three-year ACE Centre project to produce a comparison website containing details of the communication aid technology available in the UK.
VERITAS	www.veritas-project.eu . VERITAS (Virtual and Augmented Environments and Realistic User Interactions To achieve Embedded Accessibility DesignS) is a project intended to develop, validate and assess tools for built-in accessibility support at all stages of ICT and non-ICT product development, including specification, design, development and testing. The goal is to introduce simulation-based and virtual reality testing at all stages of assistive technologies product design and development into the automotive, smart living spaces (buildings & construction, domotics), workplace, e-health and infotainment applications areas.
VLIBANK	www.vlibank.be . The Flemish AT database (VLIBANK) is maintained by the Knowledge Centre of Assistive Technology (KOC) and provides information and advice on assistive devices, to professionals as well as to individuals. The Flemish Agency for Disabled Persons (VAPH) promotes the participation and integration of disabled persons in all areas of social life and equal opportunities for all, towards an independent life. The VAPH tries to achieve this by financially supporting facilities, services, equipment and modifications and providing a budget for personal assistance.

